Technical Specification Group Terminals Meeting #17, Biarritz, France, 4-6 September 2002

Source:	T1
Title:	CR's to TS 34.121 v3.9.0 for approval
Agenda item:	5.1.3
Document for:	Approval

This document contains 33 CRs to TS 34.121 v3.9.0. These CRs have been agreed by T1 and are put forward to TSG T for approval.

# CRs related to corrections to R99 test cases:

Spec	CR	Rev	Release	Subject	Cat	Version	Version	Doc-2nd-
					_	Current	-New	Level
34.121	180	-	R99	Maintenance of Re-selection and handover test cases	F	3.9.0	3.10.0	T1-020456
34.121	181	-	R99	Correction of test parameters of Handover to inter-frequency cell test case	F	3.9.0	3.10.0	T1-020457
34.121	183	-	R99	Corrections to clause 6 and 7 for editorial errors	F	3.9.0	3.10.0	T1-020459
34.121	184	-	R99	Correction to clause 8.2.2 Cell Re-Selection	F	3.9.0	3.10.0	T1-020460
34.121	185	-	R99	Correction to clause 8.3.1 FDD/FDD Soft Handover	F	3.9.0	3.10.0	T1-020461
34.121	187	-	R99	Correction to clause 8.6.1.1 Event triggered reporting in AWGN propagation conditions	F	3.9.0	3.10.0	T1-020463
34.121	188	-	R99	Correction to clause 8.6.1.2 Event triggered reporting of multiple neighbours in AWGN propagation condition	F	3.9.0	3.10.0	T1-020464
34.121	189	-	R99	Correction to clause 8.6.1.3 Event triggered reporting of two detectable neighbours in AWGN propagation	F	3.9.0	3.10.0	T1-020465
34.121	190	-	R99	Correction to clause 8.6.1.4 Correct reporting of neighbours in fading propagation condition	F	3.9.0	3.10.0	T1-020466
34.121	191	-	R99	Correction to clause 8.6.2.1 Correct reporting of neighbours in AWGN propagation condition	F	3.9.0	3.10.0	T1-020467
34.121	192	-	R99	Correction to clause 8.7.1 CPICH RSCP	F	3.9.0	3.10.0	T1-020468
34.121	193	-	R99	Correction to clause 8.7.2 CPICH Ec/lo	F	3.9.0	3.10.0	T1-020469
34.121	194	-	R99	Correction of test case 'Rx-Tx time difference type 1'.	F	3.9.0	3.10.0	T1-020470
34.121	197	-	R99	Correction to clause 8.3.7 Cell Re-selection in URA_PCH and Improvements to the test procedure to cope with error recovery	F	3.9.0	3.10.0	T1-020475
34.121	198	-	R99	Segmented Measurement to be allowed for Inner Loop Power Control test	F	3.9.0	3.10.0	T1-020476
34.121	199	-	R99	Correction to clause 8.4.1 RRC Re-establishment delay	F	3.9.0	3.10.0	T1-020477
34.121	200	-	R99	Correction to clause 8.7.3 UTRA Carrier RSSI	F	3.9.0	3.10.0	T1-020478
34.121	201	-	R99	Correction to clause 8.7.4 and 8.7.5 SFN-CFN/SFN observed time difference	F	3.9.0	3.10.0	T1-020479
34.121	202	-	R99	Addition of a set of Compressed mode reference pattern 2 parameters	F	3.9.0	3.10.0	T1-020480
34.121	203	-	R99	Correction of Compressed Mode Performance Requirement	F	3.9.0	3.10.0	T1-020481
34.121	204	-	R99	Tx Power level control during Rx testing	F	3.9.0	3.10.0	T1-020482
34.121	206	-	R99	Correction to clause 8.3.5 Cell Re-selection in CELL_FACH	F	3.9.0	3.10.0	T1-020484
34.121	209	-	R99	Clarification of the definition of 90 % success rate	F	3.9.0	3.10.0	T1-020491
34.121	210	-	R99	Update of test requirement derivation of Downlink compressed mode test case	F	3.9.0	3.10.0	T1-020492

# CRs related to new RRM test cases:

Spec	CR	Rev	Release	Subject	Cat	Version	Version	Doc-2nd-
-						Current	-New	Level

34.121	177	-	R99	Addition of sub clause 8.7.6.2 – UE Rx-Tx time difference type 2	F	3.9.0	3.10.0	T1-020453
34.121	178	-	R99	Addition of test case Cell reselection in CELL_PCH	F	3.9.0	3.10.0	T1-020454
34.121	179	-	R99	Addition of test case Transport format combination selection in UE	F	3.9.0	3.10.0	T1-020455
34.121	182	-	R99	Addition of details for RRM test case 8.7.3C (UE transmitted power)	F	3.9.0	3.10.0	T1-020458
34.121	195	-	R99	FDD/TDD Handover Test Case	F	3.9.0	3.10.0	T1-020471

# CRs related to introduction of test tolerance:

Spec	CR	Rev	Release	Subject	Cat	Version Current	Version -New	Doc-2nd- Level
34.121	196	-	R99	Test Requirements for Cell Re-Selection in URA_PCH	F	3.9.0	3.10.0	T1-020474
34.121	207	-	R99	Test Requirements for Cell Re-Selection in CELL-FACH	F	3.9.0	3.10.0	T1-020485
34.121	208	-	R99	Calculation of Test Requirements for Cell Re-Selection in CELL_FACH, CELL_PCH and URA_PCH	F	3.9.0	3.10.0	T1-020486

# CRs related to test time optimisation:

Spec	CR	Rev	Release	Subject	Cat	Version Current	Version -New	Doc-2nd- Level
34.121	205	-	R99	Deletion of some sub-clauses from F.6.1 Statistical testing of receiver BER/BLER performance	F	3.9.0	3.10.0	T1-020483

			C	CHANGE	REQ	UE	ST				CR-Form-v7
¥		34.121	CR	177	жrev	-	Ħ	Current vers	ion:	3.9.0	ж
For <u>HELP</u> or	n us	sing this for	m, see	bottom of this	s page or	look	at th	e pop-up text	over	the X syn	nbols.
Proposed chang	ye a	affects:	JICC a	ррѕж	MEX	Rad	dio A	ccess Networ	'k	Core Ne	twork
Title:	ж	Addition of	o <mark>f sub c</mark>	lause 8.7.6.2	– UE Rx-	Tx tir	<mark>ne d</mark>	ifference type	2		
Source:	ж	T1-RF									
Work item code:	: X	-						Date: ೫	22/	07/2002	
Category:	Ħ	F Use <u>one</u> of F (con A (cor B (add C (fun D (edi Detailed exp be found in	the follo rection) respond dition of ctional r torial mo blanation 3GPP <u>T</u>	wing categories ls to a correctio feature), modification of f odification) ns of the above <u>R 21.900</u> .	s: n in an eal ēature) categorie:	rlier re s can	elease	Release: % Use <u>one</u> of 2 8) R96 R97 R98 R99 Rel-4 Rel-5 Rel-6	R9 the fo (GSN (Rele (Rele (Rele (Rele (Rele (Rele	9 bllowing rele A Phase 2) pase 1996) pase 1997) pase 1998) pase 1999) pase 4) pase 5) pase 6)	pases:

Reason for change: ೫	Sub clause 8.7.6.2 – Tx-Rx time difference type 2 is missing from the current version of TS 34.121
Summary of change: भ	Addition of sub clause 8.7.6.2 – UE Rx-Tx time difference type 2
Consequences if अ not approved:	TS 34.121 will be inconsistent with 25.133
Clauses affected: #	8.7.6.2
	YN

		Υ	Ν			
Other specs	ж			Other core specifications	ж	
affected:				Test specifications		
				O&M Specifications		
				-		
Other comments:	ж					

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

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.

# 8.7.6.2 UE Rx-Tx time difference type 2

Void

8.7.7 Observed time difference to GSM cell

Void

8.7.8 P-CCPCH RSCP

Void

	CHANGE REQUEST	CR-Form-v7
ж	34.121 CR 178	urrent version: <b>3.9.0</b> <sup>#</sup>
For <u>HELP</u> or	using this form, see bottom of this page or look at the p	op-up text over the X symbols.
Proposed chang	e affects: UICC apps # ME X Radio Acce	ess Network Core Network
Title:	# Addition of test case Cell reselection in CELL_PCH	
Source:	ង T1-RF	
Work item code:	¥ -	<i>Date:</i>
Category:	<ul> <li>F R</li> <li>Use <u>one</u> of the following categories:</li> <li>F (correction)</li> <li>A (corresponds to a correction in an earlier release)</li> <li>B (addition of feature),</li> <li>C (functional modification of feature)</li> <li>D (editorial modification)</li> <li>Detailed explanations of the above categories can be found in 3GPP <u>TR 21.900</u>.</li> </ul>	elease: # 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) Rel-6 (Release 6)

Reason for change: #	Test case Cell Re-selection in CELL_PCH is missing from the current version of TS 34.121.
Summary of change: #	Adittion of test case Cell Re-selection in CELL_PCH.
Consequences if #	34.121 will be inconsistent with 25.133.
not approved:	
Clauses affected: #	8.3.6
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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.

#### 8.3.5.2.4.2 Procedure

- 1) The RF parameters for cell 1 are set up according to T1.
- 2) The UE is switched on.
- 3) An RRC connection is set up according to the signalling sequence in the generic set-up procedure specified in TS 34.108 [3] subclause 7.4.2 to place the UE in CELL\_FACH.
- 4) After 15 seconds, the SS shall switch the power settings from T1 to T2.
- 5) The SS waits for random access requests from the UE. If the UE responds on cell 1 within 1.6 s then the number of successful tests is increased by one.
- 6) After another 15 s, the parameters are changed as described for T1.
- 7) The SS waits for random access requests from the UE. If the UE responds on cell 2 within 1.6 s then the number of successful tests is increased by one.
- 8) Repeat step 4) to 7) [TBD] times.

## 8.3.5.2.5 Test requirements

For the test to pass, the total number of successful attempts shall be more than 90% with a confidence level of [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.

# 8.3.5.3 Cell Reselection to GSM

Void.

# 8.3.6 Cell Re-selection in CELL\_PCH

# 8.3.6.1 One frequency present in the neighbour list

Void

## 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 makes the UE camp on a new cell, and starts to send preambles on the PRACH for the CELL UPDATE message with cause value "cell reselection" in the new cell.

The requirements and this test apply to the FDD UE.

8.3.6.1.2 Minimum requirements

The cell re-selection delay shall be less than 8 s with a DRX cycle length of 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:

TevaluateFDD	See table 4.1 in TS 25.133 [2] clause 4.2.2.
T <sub>SI</sub>	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 25.133 [2] clauses 5.6.2 and A.5.6.1.

## 8.3.6.1.3 Test purpose

To verify that the UE meets the minimum requirements.

## 8.3.6.1.4 Method of test

8.3.6.1.4.1 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.

This scenario implies the presence of 1 carrier and 6 cells as given in tables 8.3.6.1.1 and 8.3.6.1.2. The UE is requested to monitor neighbouring cells on 1 carrier. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1280 ms.

### Table 8.3.6.1.1: General test parameters for Cell Re-selection in CELL\_PCH

	Parameter	Unit	Value	Comment
initial	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3,Cell4,	
	-		Cell5, Cell6	
final	Active cell		Cell1	
condition				
Access Se	Access Service Class (ASC#0)			Selected so that no additional delay is caused by the
<ul> <li>Persisten</li> </ul>	<u>ce value</u>	=	<u>1</u>	random access procedure. The value shall be used for
				all cells in the test.
HCS				Not used
DRX cycle	length	<u>s</u>	<u>1.28</u>	The value shall be used for all cells in the test.
<u>T1</u>		<u>S</u>	<u>15</u>	T1 need to be defined so that cell re-selection reaction
				time is taken into account.
<u>T2</u>		<u>S</u>	<u>15</u>	T2 need to be defined so that cell re-selection reaction
				time is taken into account.

# Table 8.3.6.1.2: Cell specific test parameters for Cell re-selection in CELL PCH state

	Demonstration	Unit	Ce	ell 1	Ce	12	Cel	13	Ce	ell 4	Ce	ell 5	Ce	16
	Parameter	Unit	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	T2	<u>T1</u>	<u>T2</u>
<u>U</u> ח Nנ	<u>RA RF Channel</u> Imber		<u>Chann</u>	<u>el 1</u>	Channe	<u>el 1</u>	<u>Chann</u>	el 1	Chann	<u>nel 1</u>	Chann	<u>nel 1</u>	Chann	<u>nel 1</u>
CF	PICH_Ec/lor	<u>dB</u>	<u>-10</u>		<u>-10</u>		<u>-10</u>		<u>-10</u>		<u>-10</u>		-10	
PC	CPCH_Ec/lor	<u>dB</u>	<u>-12</u>		-12		<u>-12</u>		<u>-12</u>		-12		-12	
SC	CH_Ec/lor	<u>dB</u>	<u>-12</u>		-12		<u>-12</u>		<u>-12</u>		-12		-12	
Pl	<u>CH_Ec/lor</u>	<u>dB</u>	<u>-15</u>		<u>-15</u>		<u>-15</u>		<u>-15</u>		-15		-15	
00	CNS_Ec/lor	<u>dB</u>	<u>-0.941</u>		<u>-0.941</u>		<u>-0.941</u>		<u>-0.941</u>	-	<u>-0.941</u>	-	<u>-0.941</u>	
$\hat{I}_{c}$	$r/I_{oc}$	<u>dB</u>	<u>7.3</u>	<u>10.27</u>	<u>10.27</u>	<u>7.3</u>	<u>0.27</u>		<u>0.27</u>		<u>0.27</u>		<u>0.27</u>	
$I_o$	<u>c</u>	<u>dBm/</u> <u>3.84MHz</u>	<u>-70</u>											
CF	PICH_Ec/lo	<u>dB</u>	<u>-16</u>	-13	<u>-13</u>	-16	-23		<u>-23</u>		-23		-23	
Pr Co	opagation Indition		AWGN											
Ce re: me	Il selection and selection quality easure		<u>CPICH</u>	<u>E<sub>c</sub>/N<sub>0</sub></u>	<u>CPICH</u>	<u>E<sub>c</sub>/N<sub>0</sub></u>	CPICH E <sub>c</sub> /N <sub>0</sub>	<u>I</u>	CPICH	<u>H E<sub>c</sub>/N<sub>0</sub></u>	CPICH	<u>H E<sub>c</sub>/N<sub>0</sub></u>	CPICH E <sub>c</sub> /N <sub>0</sub>	<u>+</u>
Q	ualmin	dB	-2	<u>20</u>	-2	0	-2	0	-4	20	-	<u>20</u>	-2	0
Qr	<u>xlevmin</u>	<u>dBm</u>	<u>-1</u>	<u>15</u>	<u>-1</u>	1 <u>5</u>	<u>-11</u>	<u>5</u>	<u>-1</u>	<u>15</u>	-1	1 <u>15</u>	-11	1 <u>5</u>
UE M/	<u>TXPWR</u> X_RACH	<u>dBm</u>	4	<u>21</u>	2	<u>1</u>	<u>2</u>	<u>1</u>	2	<u>21</u>	4	<u>21</u>	2	<u>1</u>
<u>Q</u> (	offset2 <sub>s, n</sub>	<u>dB</u>	<u>C1,</u> <u>C1,</u> <u>C1,</u> <u>C1,</u> <u>C1,</u> <u>C1,</u>	<u>C2: 0</u> C3: 0 C4: 0 C5: 0 C6: 0	<u>C2, 0</u> <u>C2, 0</u> <u>C2, 0</u> <u>C2, 0</u> <u>C2, 0</u>	<u>21: 0</u> 23: 0 24: 0 25: 0 26: 0	<u>C3, C</u> <u>C3, C</u> <u>C3, C</u> <u>C3, C</u> <u>C3, C</u>	2:0 2:0 2:0 2:0 5:0 5:0 6:0	<u>C4,</u> <u>C4,</u> <u>C4,</u> <u>C4,</u> <u>C4,</u> <u>C4,</u>	C1: 0 C2: 0 C3: 0 C5: 0 C6: 0	<u>C5,</u> <u>C5,</u> <u>C5,</u> <u>C5,</u> <u>C5,</u>	C1: 0 C2: 0 C3: 0 C4: 0 C6: 0	<u>C6, 0</u> <u>C6, 0</u> <u>C6, 0</u> <u>C6, 0</u> <u>C6, 0</u>	21:0 22:0 23:0 24:0 25:0
Qł	nyst2	dB		0	C	)	0		(	0		0	<u>C</u>	)
Tr	eselection	S		0	C	)	0		(	0		0	C	)
Si	ntrasearch	dB	not	sent	not s	sent	not s	sent	not	sent	not	sent	not s	sent

# 8.3.6.1.4.2 Procedure

1) The SS activates cell 1-6 with T1 defined parameters in table 8.3.6.1.3 and monitors cell 1 and 2 for random access requests from the UE.

2) The UE is switched on.

- 3) A RRC connection is set up according the generic set-up procedure specified in TS 34.108 [3] subclause 7.4.2 to place the UE in CELL PCH state.
- 4) The SS waits for random access requests from the UE on cell 2.
- 5) After 15 s, the parameters are changed as described for T2 in table 8.3.6.1.3.
- 6) The SS waits for random access requests from the UE.
- 7) If the UE responds on cell 1 within 8 s then the number of successful tests is increased by one.
- 8) After another 15 s, the parameters are changed as described for T1 in table 8.3.6.1.3.
- 9) The SS waits for random access requests from the UE.
- 10) If the UE responds on cell 2 within 8 s then the number of successful tests is increased by one.
- 11) Repeat step 5) to 10) [50] times.

# 8.3.6.1.5 Test requirements

For the test to pass, the total number of successful attempts shall be more than 90% with a confidence level of [FFS]% of the cases.

## Table 8.3.6.1.3: Test parameters for Cell re-selection single carrier multi cell

Denemator	11 11	0		0-				0.1					
Parameter	Unit		<u>1 1</u>	<u>Ce</u>	<u>11 2</u>	<u> </u>			4	<u> </u>	<u>eli 5</u>	<u> </u>	<u> 911 6</u>
		<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>
UTRA RF Channel		Chanr	nel 1	Channe	el 1	Chan	nel 1	Channe	əl 1	Chan	nel 1	Chan	nel 1
Number			. <u></u>		 T						<u> </u>		
<u>CRICH_Ec/lor</u>	<u>dB</u>	<u>-10.1</u>	<u>-9.9</u>	<u>-9.9</u>	<u>-10.1</u>	<u>-10</u>		<u>-10</u>		<u>-10</u>		<u>-10</u>	
PCCPCH_Ec/lor	<u>dB</u>	<u>-12</u>		<u>-12</u>		<u>-12</u>		<u>-12</u>		<u>-12</u>		<u>-12</u>	
<u>SCH_Ec/lor</u>	<u>dB</u>	<u>-12</u>		<u>-12</u>		<u>-12</u>		<u>-12</u>		<u>-12</u>		<u>-12</u>	
<u>PICH_Ec/lor</u>	<u>dB</u>	<u>-15</u>		-15		-15		<u>-15</u>		<u>-15</u>		-15	
OCNS_Ec/lor	<u>dB</u>	-0,928	0.953	-0,953	-0.928	<u>-0.94</u> 2	<u> </u>	<u>-0.941</u>		<u>-0.94</u> 2	1	<u>-0.94</u> 2	<u> </u>
$\hat{I}_{or}/I_{oc}$	<u>dB</u>	<u>7</u>	0,57	<u>10,57</u>	<u>7</u>	<u>0,27</u>		<u>0,27</u>		<u>0,27</u>		<u>0,27</u>	
I <sub>oc</sub>	<u>dBm /</u> 3,84 MHz	<u>-70</u>	2										
CPICH_Ec/lo	dB	-16.4	-12.7	-12.7	-16.4	-23.1		-23.1		-23.1		-23.1	
Propagation													
Condition							AVV	אוכ					
Cell_selection_and_													
reselection_quality_		CPICH	<u> </u>	<u>CPICH</u>	<u>E<sub>c</sub>/N<sub>0</sub></u>	CPICH E <sub>c</sub> /N <sub>0</sub>		<u>CPICH</u>	<u>E<sub>c</sub>/N<sub>0</sub></u>	<u>CPICI</u>	Η <u>Ε</u> <sub>c</sub> /Ν <sub>0</sub>	CPIC	Η <u>Ε_/Ν</u> 0
<u>measure</u>													
Qqualmin	<u>dB</u>	-4	<u>20</u>	-2	<u>20</u>	-	<u>20</u>	-2	0	-	<u>20</u>	-	20
Qrxlevmin	<u>dBm</u>	-1	<u>15</u>	-1	<u>15</u>	-1	15	-11	5	-1	1 <u>5</u>	-^	15
<u>UE_TXPWR_MAX_</u> RACH	<u>dB</u>	2	<u>21</u>	2	<u>21</u>	4	<u>21</u>	<u>2'</u>	<u>1</u>	4	<u>21</u>	4	<u>21</u>
		<u>C1,</u>	C2: 0	<u>C2,</u>	C1: 0	<u>C3,</u>	C1: 0	C4, C	C1: 0	<u>C5,</u>	C1: 0	<u>C6,</u>	C1: 0
		C1,	<u>C3: 0</u>	<u>C2,</u>	<u>C3: 0</u>	<u>C3,</u>	<u>C2: 0</u>	<u>C4, C</u>	<u>2: 0</u>	<u>C5,</u>	<u>C2: 0</u>	<u>C6,</u>	C2: 0
<u>Qoffset2<sub>s, n</sub></u>	<u>dB</u>	C1,	C4: 0	C2,	C4: 0	C3,	C4: 0	C4, C	<u>3: 0</u>	C5,	C3: 0	C6,	C3: 0
		C1,	<u>C5: 0</u>	C2,	<u>C5: 0</u>	C3,	<u>C5: 0</u>	<u>C4, C</u>	<u> 5: 0</u>	<u>C5,</u>	C4: 0	<u>C6,</u>	C4: 0
		<u>C1,</u>	<u>C6: 0</u>	C2,	<u>C6: 0</u>	C3,	<u>C6: 0</u>	<u>C4, C</u>	<u> 6: 0</u>	<u>C5,</u>	<u>C6: 0</u>	C6,	C5: 0
Qhyst2	dB		0		0		0	0			0		0
Treselection	S		0		0		0	0			0		0
Sintrasearch	dB	not	sent	not	sent	not	sent	not s	sent	not	sent	not	sent

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.

# 8.3.6.2 Two frequencies present in the neighbour list

Void

# 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 makes the UE camp on a new cell, and starts to send preambles on the PRACH for the CELL UPDATE message with cause value "cell reselection" in the new cell.

The requirements and this test apply to the FDD UE.

8.3.6.2.2 Minimum requirement

The cell re-selection delay shall be less than 8 s with a DRX cycle length of 1.28 s.

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

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

 TevaluateFDD
 See table 4.1 in TS 25.133 [2] clause 4.2.2.

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

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

The normative reference for this requirement is TS 25.133 [2] clauses 5.6.2 and A.5.6.2.

# 8.3.6.2.3 Test purpose

To verify that the UE meets the minimum requirement.

# 8.3.6.2.4 Method of test

8.3.6.2.4.1 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.

This scenario implies the presence of 2 carriers and 6 cells as given in tables 8.3.6.2.1 and 8.3.6.2.2. The UE is requested to monitor neighbouring cells on 2 carriers. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1 280 ms.

## Table 8.3.6.2.1: General test parameters for Cell Re-selection in CELL\_PCH

	Parameter	Unit	Value	Comment
<u>initial</u>	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5,	
			<u>Cell6</u>	
final condition	Active cell		Cell1	
Access Ser	<u>vice Class (ASC#0)</u>			Selected so that no additional delay is
- Persisten	<u>ce value</u>	-	<u>1</u>	caused by the random access
				procedure. The value shall be used for
НСС				all cells in the test.
DBX avala	longth	0	1.29	The value shall be used for all calls in
	lengun	2	1.20	the test.
<u>T1</u>		<u>s</u>	<u>30</u>	T1 need to be defined so that cell re-
				selection reaction time is taken into
				account.
<u>T2</u>		<u>s</u>	<u>15</u>	T2 need to be defined so that cell re-
				selection reaction time is taken into
				account.

## Table 8.3.6.2.2: Cell specific test parameters for Cell re-selection in CELL PCH state

Parameter	Unit	Ce	1	Ce	ell 2	Cel	13	Ce	4	Cel	l <u>5</u>	Ce	ell 6
		<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>
<u>UTRA RF Channel</u> Number		Channel 1 Channel 2		<u>Chann</u>	<u>el 1</u>	Channel 1		<u>Channel 2</u>		<u>Chanr</u>	<u>nel 2</u>		
CPICH_Ec/lor	<u>dB</u>	-10		-10		<u>-10</u>		-10		-10		-10	
PCCPCH_Ec/lor	<u>dB</u>	-12		-12		<u>-12</u>		<u>-12</u>		-12		<u>-12</u>	
<u>SCH_Ec/lor</u>	<u>dB</u>	<u>-12</u>		<u>-12</u>		<u>-12</u>		<u>-12</u>		<u>-12</u>		<u>-12</u>	
PICH_Ec/lor	<u>dB</u>	<u>-15</u>		<u>-15</u>		<u>-15</u>		<u>-15</u>		<u>-15</u>		<u>-15</u>	
OCNS_Ec/lor	<u>dB</u>	<u>-0.94</u>	<u> </u>	<u>-0.94</u>	1	<u>-0.941</u>		<u>-0.941</u>		<u>-0.941</u>		<u>-0.941</u>	-
$\hat{I}_{or}/I_{oc}$	<u>dB</u>	<u>-3.4</u>	<u>2.2</u>	<u>2.2</u>	<u>-3.4</u>	<u>-7.4</u>	<u>-4.8</u>	<u>-7.4</u>	<u>-4.8</u>	<u>-4.8</u>	<u>-7.4</u>	<u>-4.8</u>	<u>-7.4</u>
I <sub>oc</sub>	<u>dBm/3.8</u> <u>4 MHz</u>	-70											
CPICH_Ec/lo	<u>dB</u>	<u>-16</u>	-13	<u>-13</u>	<u>-16</u>	-20		-20		-20		-20	
Propagation Condition			AWGN										
Cell selection and reselection guality measure		<u>CPIC</u> <u>E<sub>c</sub>/N₀</u>	<u> </u>	<u>CPIC</u> <u>E<sub>c</sub>/N<sub>0</sub></u>	H	CPICH Ec/No	<u>I</u>	CPICH	I E <u>c∕N</u> ₀	<u>CPICH E</u>	<u>∃c/N₀</u>	CPICI	<u>⊣ E<sub>c</sub>/N₀</u>
Qqualmin	dB	-2	20	-:	20	-2	0	-20		-20		-;	20
Qrxlevmin	dBm	-1	15	-1	15	-11	5	-1	15	-11	5	-1	15
<u>UE_TXPWR_</u> MAX_RACH	<u>dBm</u>	2	<u>1</u>	2	<u>21</u>	<u>2</u> ′	<u>l</u>	2	<u>1</u>	<u>21</u>	<u>l</u>	2	<u>21</u>
Qoffset2 <sub>s, n</sub>	<u>dB</u>	<u>C1, 0</u> <u>C1, 0</u> <u>C1, 0</u> <u>C1, 0</u> <u>C1, 0</u>	<u>C2: 0</u> C3: 0 C4: 0 C5: 0 C6: 0	<u>C2,</u> <u>C2,</u> <u>C2,</u> <u>C2,</u> <u>C2,</u> <u>C2,</u>	<u>C1: 0</u> <u>C3: 0</u> <u>C4: 0</u> <u>C5: 0</u> <u>C6: 0</u>	<u>C3, C</u> <u>C3, C</u> <u>C3, C</u> <u>C3, C</u> <u>C3, C</u>	2:0 2:0 4:0 5:0 6:0	<u>C4, 0</u> <u>C4, 0</u> <u>C4, 0</u> <u>C4, 0</u> <u>C4, 0</u>	<u>C1: 0</u> C2: 0 C3: 0 C5: 0 C6: 0	<u>C5, C</u> <u>C5, C</u> <u>C5, C</u> <u>C5, C</u> <u>C5, C</u>	<u>:1:0</u> :2:0 :3:0 :4:0 :6:0	<u>C6,</u> <u>C6,</u> <u>C6,</u> <u>C6,</u> <u>C6,</u>	<u>C1: 0</u> <u>C2: 0</u> <u>C3: 0</u> <u>C4: 0</u> <u>C5: 0</u>
Qhyst2	dB	(	<u>)</u>		0	0		(	)	0			0
Treselection	S	(	)		0	0		(	)	0			0
Sintrasearch	dB	not	sent	not	sent	not s	ent	not	sent	not s	ent	not	sent
Sintersearch	dB	not	sent	not	sent	not s	ent	not	sent	not s	ent	not	sent

## 8.3.6.2.4.2 Procedure

- 1) The SS activates cell 1-6 with T1 defined parameters in table 8.3.6.2.3 and monitors cell 1 and 2 for random access requests from the UE.
- 2) The UE is switched on.
- 3) A RRC connection is set up according the generic set-up procedure specified in TS 34.108 [3] subclause 7.4.2 to place the UE in CELL PCH state.
- 4) The SS waits for random access requests from the UE on cell 2.
- 5) After 30 s, the parameters are changed as described for T2 in table 8.3.6.2.3.
- 6) The SS waits for random access request from the UE. If the UE responds on cell 1 within 8 s then the number of successful tests is increased by one.
- 7) After another 15 s, the parameters are changed as described for T1 in table 8.3.6.2.3.
- 8) The SS waits for random access requests from the UE. If the UE responds on cell 2 within 8 s then the number of successful tests is increased by one.
- 9) Reduce T1 to 15 s and repeat step 5) to 8) [50] 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

For the test to pass, the total number of successful tests shall be more than 90% with a confidence level of [FFS]% of the cases.

Parameter Parameter	<u>Unit</u>	<u>Ce</u>	<u>   1</u>	<u>Ce</u>	<u>ll 2</u>	<u>Cel</u>	<u> 3</u>	<u>Ce</u>	ell 4	<u>Cel</u>	<u>  5</u>	<u>Ce</u>	ell 6
		<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>
<u>UTRA RF Channel</u> Number		<u>Char</u>	Channel 1		Channel 2		Channel 1		nnel 1	<u>Chan</u>	<u>nel 2</u>	<u>Channel 2</u>	
CPICH_Ec/lor	<u>dB</u>	-10.1	-9.9	-9.9	<u>-10.1</u>	-10		10		<u>-10</u>		-10	
PCCPCH_Ec/lor	<u>dB</u>		12	-	12	-1	2	-	<u>12</u>	-1	2	-12	
<u>SCH_Ec/lor</u>	<u>dB</u>		<u>12</u>	-	<u>12</u>	-1	2	-	<u>12</u>	-1	2	-	12
<u>PICH_Ec/lor</u>	<u>dB</u>		<u>15</u>	-	1 <u>5</u>	-1	<u>5</u>	-	<u>15</u>	-1	5	-	<u>15</u>
OCNS_Ec/lor	<u>dB</u>	-0.928	-0.953	-0.953	-0.928	-0.9	<u>41</u>	-0.	<u>941</u>	-0.9	<u>41</u>	-0.	<u>941</u>
$\hat{I}_{or}/I_{oc}$	<u>dB</u>	<u>-3.7</u>	<u>2.5</u>	<u>2.5</u>	<u>-3.7</u>	<u>-7.4</u>	<u>-4.8</u>	<u>-7.4</u>	<u>-4.8</u>	<u>-4.8</u>	<u>-7.4</u>	<u>-4.8</u>	-7.4
Ioc	<u>dBm / 3.84</u> <u>MHz</u>		<u>-70</u>										
CPICH_Ec/lo	dB	-16.3	-12.8	<u>-12.8</u>	-16.3	<u>-19.9</u>	-20.2	-19.9	-20.2	-20.2	<u>-19.9</u>	-20.2	<u>-19.9</u>
Propagation Condition			AWGN										
Cell selection and reselection_quality_			<u>I E<sub>c</sub>/N<sub>0</sub></u>		<u>I E<sub>c</sub>/N<sub>0</sub></u>	<u>CPICH E<sub>c</sub>/N<sub>0</sub></u>		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		<u>CPICI</u>	<u> H E<sub>c</sub>/N<sub>0</sub></u>
Qqualmin	<u>dB</u>	-2	<u>20</u>	-2	<u>20</u>	-2	0	-2	<u>20</u>	<u>-2</u>	0		<u>20</u>
<u>Qrxlevmin</u>	dBm	-1	<u>15</u>	-1	1 <u>5</u>	-11	5	-1	<u>15</u>	-11	5	-1	1 <u>5</u>
<u>UE_TXPWR_MAX_</u> RACH	<u>dB</u>	2	<u>:1</u>	2	<u>:1</u>	<u>2</u> ′	<u>1</u>	2	<u>21</u>	<u>2</u> ′	<u>1</u>	2	<u>21</u>
Qoffset2 <sub>s, n</sub>	dB	<u>C1, 0</u> <u>C1, 0</u> <u>C1, 0</u> <u>C1, 0</u> <u>C1, 0</u>	<u>C2: 0</u> <u>C3: 0</u> <u>C4: 0</u> <u>C5: 0</u> <u>C6: 0</u>	$\begin{array}{c} \underline{C2, C1: 0} \\ \underline{C2, C3: 0} \\ \underline{C2, C4: 0} \\ \underline{C2, C5: 0} \\ \underline{C2, C6: 0} \end{array}$		<u>C3, C1: 0</u> <u>C3, C2: 0</u> <u>C3, C4: 0</u> <u>C3, C5: 0</u> C3, C6: 0		<u>C4, C1: 0</u> <u>C4, C2: 0</u> <u>C4, C3: 0</u> <u>C4, C5: 0</u> <u>C4, C6: 0</u>		<u>C5, C1: 0</u> <u>C5, C2: 0</u> <u>C5, C3: 0</u> <u>C5, C4: 0</u> <u>C5, C6: 0</u>		<u>C6, C1: 0</u> <u>C6, C2: 0</u> <u>C6, C3: 0</u> <u>C6, C4: 0</u> <u>C6, C5: 0</u>	
Qhyst2	dB	(	)	0		0		0		0			0
Treselection	S	(	0	(	)	0			0	0		0	
Sintrasearch	dB	not	sent	not	sent	not s	sent	not	sent	not sent		not sent	
Sintersearch	dB	not	sent	not	sent	not s	not sent		not sent		not sent		sent

## Table 8.3.6.2.3: Test parameters for Cell re-selection multi carrier multi cell

<u>NOTE:</u> 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.

	CHANGE R	EQUEST			CR-Form-v7
ж	<mark>34.121</mark> CR <mark>179</mark> жі	ev - <sup># C</sup>	Current versi	on: <b>3.9.0</b>	ж
For <u>HELP</u> on	sing this form, see bottom of this pa	ge or look at the <sub>l</sub>	pop-up text (	over the X syn	nbols.
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Source:	T1-RF				
Work item code:	-		Date:	22/07/2002	
Category:	<ul> <li>F</li> <li>Use <u>one</u> of the following categories:</li> <li>F (correction)</li> <li>A (corresponds to a correction in</li> <li>B (addition of feature),</li> <li>C (functional modification of feature)</li> <li>D (editorial modification)</li> <li>Detailed explanations of the above cate be found in 3GPP <u>TR 21.900</u>.</li> </ul>	<b>H</b> an earlier release) re) egories can	Release: # Use <u>one</u> of t 2 ( R96 ( R97 ( R98 ( R99 ( Rel-4 ( Rel-5 ( Rel-6	R99 he following rele (GSM Phase 2) (Release 1996) (Release 1997) (Release 1998) (Release 1999) (Release 4) (Release 5) (Release 6)	ases:

Reason for change: ೫	Test case 'Transport format combination selection in UE' is missing from the current version of TS 34.121.
Summary of change: #	Adittion of test case 'Transport format combination selection in UE'.
Consequences if अ not approved:	34.121 will be inconsistent with 25.133.
Clauses affected: #	8.4.3

Other specs affected:	¥ 1 #	<ul> <li>Other core specifications</li> <li>Test specifications</li> <li>O&amp;M Specifications</li> </ul>	ж	
Other comments:	ж			

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

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

# 8.4.3 Transport format combination selection in UE

# 8.4.3.1 Interactive or Background, PS, UL: 64 kbps

# 8.4.3.1.1 Definition and applicability

When the UE estimates that a certain TFC would require more power than the maximum transmit power, it shall limit the usage of transport format combinations for the assigned transport format set, according to the functionality specified in section 11.4 in TS25.321 [13]. This in order to make it possible for the network operator to maximise the coverage. Transport format combination selection is described in section 11.4 of TS 25.321 [13].

# 8.4.3.1.2 Minimum requirements

The UE shall continuously evaluate based on the *Elimination, Recovery* and *Blocking* criteria defined below, how TFCs on an uplink DPDCH can be used for the purpose of TFC selection. The evaluation shall be performed for every TFC in the TFCS using the estimated UE transmit power of a given TFC. The UE transmit power estimation for a given TFC shall be made using the UE transmitted power measured over the measurement period, defined in 9.1.6.1 of TS 25.133 [2] as one slot, and the gain factors of the corresponding TFC.

The UE shall consider the *Elimination* criterion for a given TFC to be detected if the estimated UE transmit power needed for this TFC is greater than the Maximum UE transmitter power for at least X out of the last Y successive measurement periods immediately preceding evaluation. The MAC in the UE shall consider that the TFC is in Excess-Power state for the purpose of TFC selection.

<u>MAC in the UE shall indicate the available bit rate for each logical channel to upper layers within  $T_{notify}$  from the moment the *Elimination* criterion was detected.</u>

The UE shall consider the *Recovery* criterion for a given TFC to be detected if the estimated UE transmit power needed for this TFC has not been greater than the Maximum UE transmitter power for the last Z successive measurement periods immediately preceding evaluation. The MAC in the UE shall consider that the TFC is in Supported state for the purpose of TFC selection.

<u>MAC in the UE shall indicate the available bitrate for each logical channel to upper layers within  $T_{notify}$  from the moment the *Recovery* criterion was detected.</u>

The evaluation of the *Elimination* criterion and the *Recovery* criterion shall be performed at least once per radio frame.

The definitions of the parameters X,Y and Z which shall be used when evaluating the *Elimination* and the *Recovery* criteria when no compressed mode patterns are activated are given in Table 8.4.3.1.1.

# Table 8.4.3.1.1: X, Y, Z parameters for TFC selection

<u>X</u>	<u>Y</u>	<u>Z</u>
<u>15</u>	<u>30</u>	<u>30</u>

The UE shall consider the *Blocking* criterion for a given TFC to be fulfilled at the latest at the start of the longest uplink TTI after the moment at which the TFC will have been in Excess-Power state for a duration of:

 $(T_{notify} + T_{modify} + T_{L1_proc})$ 

where:

Tnotify equals 15 ms

T<sub>modify</sub> equals MAX(T<sub>adapt max</sub>,T<sub>TTI</sub>)

T<sub>L1 proc</sub> equals 15 ms

<u>T<sub>adapt max</sub> equals MAX(T<sub>adapt 1</sub>, T<sub>adapt 2</sub>, ..., T<sub>adapt N</sub>)</u>

N equals the number of logical channels that need to change rate

 $T_{adapt n}$  equals the time it takes for higher layers to provide data to MAC in a new supported bitrate, for logical channel n. Table 8.4.3.1.2 defines  $T_{adapt}$  times for different services. For services where no codec is used  $T_{adapt}$  shall be considered to be equal to 0 ms.

# Table 8.4.3.1.2: T<sub>adapt</sub>

<u>Service</u>	<u>T<sub>adapt</sub> [ms]</u>
UMTS AMR	<u>40</u>
UMTS AMR2	<u>60</u>

T<sub>TTI</sub> equals the longest uplink TTI of the selected TFC (ms).

The Maximum UE transmitter power is defined as follows

Maximum UE transmitter power = MIN(Maximum allowed UL TX Power, UE maximum transmit power)

where

Maximum allowed UL TX Power is set by SS and defined in TS 25.331 [8], and

UE maximum transmit power is defined by the UE power class, and specified in TS 25.101 [1].

The normative reference for these requirements is TS 25.133 [2] clauses 6.4.2 and A.6.4.1.

8.4.3.1.3 Test purpose

The purpose is to verify the UE blocks (stops using) a currently used TFC when the UE output power is not sufficient to support that TFC. The test will verify the general requirement on TFC selection in section 8.4.3.1.2 for a RAB intended for packet data services, i.e. Interactive or Background, PS, UL: 64kbps as defined in TS 34.108 [3].

8.4.3.1.4 Method of test

8.4.3.1.4.1 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.

The test parameters are given in Table 8.4.3.1.3, 8.4.3.1.4 and Table 8.4.3.1.5 below. The test consists of 2 successive time periods, with a time duration of T1 and T2 respectively.

Details on the UL reference RAB in table 8.4.3.1.3 and 8.4.3.1.4 can be found in TS 34.108 [3] section "Interactive or background / UL:64 DL: 64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH".

#### Table 8.4.3.1.3: UL reference RAB, Interactive or Background

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

<u>TFCI</u>	<u>(64 kbps RAB, DCCH)</u>
UL_TFC0	<u>(TF0, TF0)</u>
UL_TFC1	<u>(TF0, TF1)</u>
UL_TFC2	<u>(TF1, TF0)</u>
UL_TFC3	<u>(TF1, TF1)</u>
UL_TFC4	<u>(TF2, TF0)</u>
UL_TFC5	<u>(TF2, TF1)</u>
UL_TFC6	<u>(TF3, TF0)</u>
UL_TFC7	<u>(TF3, TF1)</u>
UL_TFC8	<u>(TF4, TF0)</u>
UL_TFC9	<u>(TF4, TF1)</u>

## Table 8.4.3.1.4: UL TFCI

### Table 8.4.3.1.5: General test parameters

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

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

The amount of available user data shall be sufficient to allow uplink transmission at the highest bit rate (UL\_TFC8 or UL\_TFC9) during the entire test and it shall be ensured that the UE is using UL\_TFC8 or UL\_TFC9 at the end of T1.

8.4.3.1.4.2 Procedure

- 1) The UE is switched on.
- 2) The SS shall signal to the UE the allowed TFCS according to table 8.4.3.1.5.
- 3) For T1=30 secs the SS shall command the UE output power to be between 14 and 15 dB below the UE Maximum allowed UL Tx power (table 8.4.3.1.5).
- 4) The SS shall start sending continuously TPC\_cmd=1 to the UE for T2=10 secs (see NOTE).
- 5) The time from the beginning of T2 until the UE blocks (stops using) UL TFC8 and UL TFC9 shall be measured by the SS. The UE shall stop using UL TFC8 and UL TFC9 within 140 ms from beginning of time period T2.
- 6) Repeat steps 3-5 [50] times.

<u>NOTE:</u> This will emulate that UL\_TFC8 to UL\_TFC9 can not be supported because the UE reaches the maximum UL Tx power and still SS is sending power-up commands.

8.4.3.1.5 Test requirements

For the test to pass, the total number of successful tests shall be more than 90% with a confidence level of [FFS]% of the cases.

<u>Note:</u> 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.

CHANGE REQUEST										
ж	<b>34.121</b> CR <b>180 # rev</b> - <b>#</b> Current version: <b>3.9.0</b>									
For <b>HELP</b> on using this form, see bottom of this page or look at the pop-up text over the <b>#</b> symbols.										
Proposed change affects: UICC apps# ME X Radio Access Network Core Network										
Title:	Mainten	ance of Re-selection	n and hando	ver tes	t cases					
Source:	t1/RF									
Work item code:	f -				Date	e:	/07/2002			
Category:	#       F       Release: #       R99         Use one of the following categories:       Use one of the following release         F (correction)       2       (GSM Phase 2)         A (corresponds to a correction in an earlier release)       R96       (Release 1996)         B (addition of feature),       R97       (Release 1997)         C (functional modification of feature)       R98       (Release 1998)         D (editorial modification)       R99       (Release 1999)         Detailed explanations of the above categories can be found in 3GPP TR 21.900.       Rel-4       (Release 5)         Rel-6       (Release 6)       Rel-5       Release 6)									

Reason for change: #	34.121 is updated based on 25.133 changes
-	
Summary of change: ₩	1) General re-selection test parameter tables: To indicate that HCS is not used (based on 25.133 CR 364r1). Initial conditions and final conditions are added for some test cases according to the 25.133 and for consistency with other re-selection test cases in 34.121.
	<ol> <li>RF parameters: Deletion of Penalty_time and Temporary_offset (based on 25.133 CR 364r1)</li> </ol>
	3) UTRAN to GSM Cell Re-selection, Scenario 1: The time T1 is set to 45 s and the time T2 is set to 35 (based on 25.133 CR367r1).
	4) UTRAN to GSM Cell Re-selection, Scenario 2: CRX cycle length is included in the formulas and re-selection delay is updated accordingly. The time T2 is updated from 10 s to 12 s (based on 25.133 CR 358r1). Border around procedure step 4) was removed.
	5) FDD/TDDCell Re-selection: Updated according to the 25.133 CR401.
	6) Inter-system Handover from UTRAN to GSM: To indicate that that this test is also applicable for UE not requiring compressed mode (based on 25.133 CR340r1). Table 8.3.4.3: N Identity about and T Reconfirm values updated according to the 25.133 CR392r1.
	7) Cell Re-selection in URA_PCH: Titles of tables are corrected.
Consequences if % not approved:	34.121 and 25.133 are inconsistent

Clauses affected:	<b>8.2.2</b> , <b>8.2.3</b> , <b>8.2.4</b> , <b>8.3.4</b> . <b>8.3.5</b> , <b>8.3.7</b>
Other specs affected:	YN%XXOther core specificationsXTest specificationsXO&M Specifications
Other comments:	¥

#### How to create CRs using this form:

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

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

# 8 Requirements for support of RRM

- 8.1 General
- 8.2 Idle Mode Tasks
- 8.2.1 Cell Selection

Void.

- 8.2.2 Cell Re-Selection
- 8.2.2.1 Scenario 1: Single carrier case
- 8.2.2.1.1 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 makes the UE camp on a new cell, and starts to send preambles on the PRACH for the RRC CONNECTION REQUEST message to perform a Location Registration on the new cell.

The requirements and this test apply to the FDD UE.

## 8.2.2.1.2 Minimum requirement

The cell re-selection delay shall be less than 8 s with a DRX cycle length of 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:

TevaluateFDD	See table 4.1 in TS 25.133 [2] clause 4.2.2.
T <sub>SI</sub>	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 25.133 [2] clauses 4.2.2.2 and A.4.2.1.

## 8.2.2.1.3 Test purpose

To verify that the UE meets the minimum requirement.

## 8.2.2.1.4 Method of test

8.2.2.1.4.1 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.

This scenario implies the presence of 1 carrier and 6 cells as given in tables 8.2.2.1.1 and 8.2.2.1.2. The UE is requested to monitor neighbouring cells on 1 carrier. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1 280 ms. 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		Value	Comment
Initial	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3, Cell4, Cell5, Cell6	
Final condition	Active cell		Cell1	
Access Se - Persisten	rvice Class (ASC#0) ce value	-	1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.
HCS				Not used
DRX cycle	length	s	1,28	The value shall be used for all cells in the test.
T1		S	15	T1 need to be defined so that cell re- selection reaction time is taken into account.
T2		S	15	T2 need to be defined so that cell re- selection reaction time is taken into account.

Parameter	Unit	C	ell 1	Cell 2		Ce	ell 3	3 Cell 4		Cell 5		Cell 6	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1		Channe	Channel 1		Channel 1 Channel 1		el 1	Channel 1		Channel 1	
CPICH_Ec/lor	dB	-10		-10		-10		-10		-10	-10		
PCCPCH_Ec/lor	dB	-12		-12		-12		-12		-12	-12		
SCH_Ec/lor	dB	-12		-12		-12		-12		-12	-12		
PICH_Ec/lor	dB	-15		-15		-15		-15		-15		-15	
OCNS_Ec/lor	dB	-0,94	1	-0,941		-0,941		-0,941		-0,941		-0,941	
$\hat{I}_{or}/I_{oc}$	dB	7,3	10,27	10,27	7,3	0,27		0,27		0,27		0,27	
I <sub>oc</sub>	dBm / 3,84 MHz	-70											
CPICH_Ec/lo	dB	-16	-13	-13	-16	-23		-23		-23		-23	
Propagation Condition							AW	GN					
Cell_selection_and_ reselection_quality_ measure		CPICH E <sub>c</sub> /N <sub>0</sub> CPICH E <sub>c</sub> /N <sub>0</sub>		E <sub>c</sub> /N <sub>0</sub>	CPIC	H E₀/N₀	CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH	IE₀/N₀	
Qqualmin	dB	-	20	-2	20	-:	20	-20		-	20	-2	20
Qrxlevmin	dBm	-'	115	-1	15	-1	15	-115		-115		-1	15
UE_TXPWR_MAX_ RACH	dB		21	2	1	2	21	21		21		2	:1
Qoffset2 <sub>s, n</sub>	dB	C1, C2: 0         C2, C           C1, C3: 0         C2, C           C1, C3: 0         C2, C           C1, C4: 0         C2, C           C1, C5: 0         C2, C           C1, C5: 0         C2, C           C1, C5: 0         C2, C		C1: 0 C3: 0 C4: 0 C5: 0 C6: 0	1:0       C3, C1:0         3:0       C3, C2:0         24:0       C3, C4:0         5:0       C3, C5:0         6:0       C3, C6:0		C4, C C4, C C4, C C4, C C4, C	C4, C1: 0         C           C4, C2: 0         C           C4, C3: 0         C           C4, C5: 0         C           C4, C5: 0         C           C4, C6: 0         C		C1: 0 C2: 0 C3: 0 C4: 0 C6: 0	C6, 0 C6, 0 C6, 0 C6, 0 C6, 0	C1: 0 C2: 0 C3: 0 C4: 0 C5: 0	
Qhyst2	dB		0	0			0	0	)		0	(	0
PENALTY_TIME	<del>S</del>		θ	4	Ð		θ	Ð		θ		θ	
TEMPORARY_OFF SET2	dB	θ		θ		θ θ θ		θ θ		θ	Ģ	Ð	
Treselection	S		0		0		0	0	0 0		0	(	0
Sintrasearch	dB	not	sent	not	sent	not	sent	not s	sent	not	sent	not	sent

# Table 8.2.2.1.2: Test parameters for Cell re-selection single carrier multi cell

#### 8.2.2.1.4.2 Procedure

- 1) The SS activates cell 1-6 with T1 defined parameters in table 8.2.2.1.3 and monitors cell 1 and 2 for random access requests from the UE.
- 2) The UE is switched on.
- 3) The SS waits for random access requests from the UE on cell 2.
- 4) After 15 s, the parameters are changed as described for T2 in table 8.2.2.1.3.
- 5) The SS waits for random access requests from the UE. If the UE responds on cell 1 within 8 s then the number of successful tests is increased by one.
- 6) After another 15 s, the parameters are changed as described for T1 in table 8.2.2.1.3.
- 7) The SS waits for random access requests from the UE. If the UE responds on cell 2 within 8 s then the number of successful tests is increased by one.
- 8) Repeat step 4) to 7) [TBD] times.

#### 8.2.2.1.5 Test requirements

For the test to pass, the total number of successful attempts shall be more than 90% with a confidence level of [FFS]% of the cases.

Parameter	Unit	C	ell 1	Cell 2		С	Cell 3 Cell 4		С	Cell 5		Cell 6	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel		Ob an unal 4		Chann	Oh ann al 4		Channel 4		al 1	Ob a secold		Channel 4	
Number		Chan	neri	Channe	Channel I		Channel I		Channel I		neri	Channel	
CPICH_Ec/lor	dB	-10.1	-9.9	-9.9	-10.1	-10		-10		-10		-10	
PCCPCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12	
SCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12	
PICH_Ec/lor	dB	-15		-15		-15		-15		-15		-15	
OCNS_Ec/lor	dB	-0.928	-0.953	-0.953	-0.928	-0.94	1	-0.941		-0.94	1	-0.941	1
$\hat{I}_{or}/I_{oc}$	dB	7	10.57	10.57	7	0.27		0.27		0.27		0.27	
I <sub>oc</sub>	dBm / 3.84 MHz	-70											
CPICH_Ec/lo	dB	-16.4	-12.7	-12.7	-16.4	-23.1		-23.1		-23.1		-23.1	
Propagation							۵\۸/	GN					
Condition						-	/						
Cell_selection_and_													
reselection_quality_		CPIC	H E₀/N₀	CPICH	E <sub>c</sub> /N <sub>0</sub>	CPIC	H E₀/N₀		I E <sub>c</sub> /N <sub>0</sub>	CPIC	H E₀/N₀	CPIC	H E <sub>c</sub> ∕N₀
measure													
Qqualmin	dB	-	20		20		-20 -20		20		-20	-	20
Qrxlevmin	dBm	-'	115	-1	15	-	-115 -115		-	115	-1	15	
UE_TXPWR_MAX_ RACH	dB		21	2	21		21	21		21		2	21
		C1, C2: 0		C2, C1: 0		C3, C1: 0		C4, C1: 0		C5,	C1: 0	C6,	C1: 0
		C1, C3: 0		C2, C3: 0		C3, C2: 0		C4, C2: 0		C5,	C2: 0	C6,	C2: 0
Qoffset2 <sub>s, n</sub>	dB	C1,	C4: 0	C2,	C4: 0	C3,	C3, C4: 0 C4, C3		C3: 0	C5,	C3: 0	C6,	C3: 0
		C1,	C5: 0	C2,	C5: 0	C3,	, C5: 0	C4, 0	C5: 0	C5,	C4: 0	C6,	C4: 0
C1, C6: 0 C2, C6: 0		C3,	, C6: 0	C4, 0	C6: 0	C5,	C6: 0	C6,	C5: 0				
Qhyst2	dB		0	0			0	(	)		0		0
PENALTY_TIME	<del>\$</del>		θ		<del>0</del>		Ð	(	•		θ		0
TEMPORARY_OFF SET2	dB		θ		<del>0</del>		θ	(	•		θ		θ
Treselection	S		0		0		0	0 0		0		0	
Sintrasearch	dB	not	sent	not	sent	no	t sent	not	sent	not	t sent	not	sent

#### Table 8.2.2.1.3: Test parameters for Cell re-selection single carrier multi cell.

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: Multi carrier case

#### 8.2.2.2.1 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 makes the UE camp on a new cell, and starts to send preambles on the PRACH for the RRC CONNECTION REQUEST message to perform a Location Registration on the new cell.

The requirements and this test apply to the FDD UE.

#### 8.2.2.2.2 Minimum requirement

The cell re-selection delay shall be less than 8 s with a DRX cycle length of 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:

TevaluateFDD	See table 4.1 in TS 25.133 [2] clause 4.2.2.
Tsi	Maximum repetition period of relevant system info blocks that needs to be received by
	the UE to camp on a cell. 1280 ms is assumed in this test case.

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

The normative reference for this requirement is TS 25.133 [2] clauses 4.2.2.3 and A.4.2.2.

#### 8.2.2.2.3 Test purpose

To verify that the UE meets the minimum requirement.

#### 8.2.2.2.4 Method of test

#### 8.2.2.2.4.1 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.

This scenario implies the presence of 2 carriers and 6 cells as given in tables 8.2.2.2.1 and 8.2.2.2.2. The UE is requested to monitor neighbouring cells on 2 carriers. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1 280 ms. 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	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3,Cell4,	
			Cell5, Cell6	
Final	Active cell		Cell1	
condition				
Access Ser	Access Service Class (ASC#0)			Selected so that no additional delay is caused by
- Persistend	ce value	-	1	the random access procedure. The value shall be
				used for all cells in the test.
HCS				Not used
DRX cycle	length	S	1,28	The value shall be used for all cells in the test.
T1		T1s		T1 need to be defined so that cell re-selection
				reaction time is taken into account.
T2		S	15	T2 need to be defined so that cell re-selection
				reaction time is taken into account.

Parameter	Unit	Cel	11	Cel	Cell 2 Cell 3		Cell 4		Cell 5		Cell 6		
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1 Channel 2		Chan	Channel 1 Channel 1		Chan	Channel 2		nnel 2			
CPICH Ec/lor	dB	-1	0	-1	0	-1	0	-	10	-1	0	-	·10
PCCPCH_Ec/lor	dB	-1	2	-1	2	-1	2	-	12	-1	2	-	·12
SCH_Ec/lor	dB	-1	2	-1	2	-1	2	-	12	-1	2	-	·12
PICH_Ec/lor	dB	-1	5	-1	5	-1	5	-	15	-1	5	-	·15
OCNS_Ec/lor	dB	-0.9	41	-0.9	941	-0.9	941	-0	941	-0.9	41	-0.	941
$\hat{I}_{or}/I_{oc}$	dB	-3.4	2.2	2.2	-3.4	-7.4	-4.8	-7.4	-4.8	-4.8	-7.4	-4.8	-7.4
I <sub>oc</sub>	dBm / 3.84 MHz		-70										
CPICH_Ec/lo	dB	-16	-13	-13	-16	-2	0	-	20	-2	0	-	20
Propagation Condition		AWGN											
Cell_selection_and_ reselection_quality_ measure		CPICH	E <sub>c</sub> /N <sub>0</sub>	CPICH	E <sub>c</sub> /N <sub>0</sub>	CPICH	E <sub>c</sub> /N <sub>0</sub>	CPIC	Η Ε <sub>σ</sub> /Ν₀	CPICH	E <sub>c</sub> /N <sub>0</sub>	CPIC	H E₀/N₀
Qqualmin	dB	-2	0	-2	0	-2	0	-20		-2	0	-	20
Qrxlevmin	dBm	-11	5	-11	15	-11	15	-115		-11	5	-1	15
UE_TXPWR_MAX_ RACH	dB	2'	1	2 <sup>.</sup>	1	2'	1	:	21	21		2	21
Ooffoot?	dP	C1, C C1, C	2:0 3:0	C2, C C2, C	C1: 0 C3: 0	C3, C C3, C	C1: 0 C2: 0	C4, C1: 0 C4, C2: 0		C5, C C5, C	2: 0	C6, C6,	C1: 0 C2: 0
	ub	C1, C	5:0 6:0	C2, C4: 0 C2, C5: 0 C2, C6: 0		C3, C C3, C	25:0 26:0	C4, C4, C4	C5: 0 C6: 0	C5, C	24: 0 26: 0	C6, C6	C4: 0
Qhvst2	dB	0		0 02,00.0		00,0	)	• .,	0	00,0		,	0
PENALTY TIME	<del>S</del>	θ		<u> </u>		Ð	)		0	G	L .		0
TEMPORARY_OFF	dB	θ		Ð	)	e	)		θ	G	L.		θ
Treselection	S	0		0	)	0			0	0			0
Sintrasearch	dB	not s	sent	not s	sent	not s	sent	not	sent	not s	sent	not	sent
Sintersearch	dB	not s	ent	not s	sent	not s	sent	not	sent	not s	sent	not	sent

# Table 8.2.2.2.2: Test parameters for Cell re-selection multi carrier multi cell

## 8.2.2.2.4.2 Procedures

- 1) The SS activates cell 1-6 with T1 defined parameters in table 8.2.2.2.3 and monitors cell 1 and 2 for random access requests from the UE.
- 2) The UE is switched on.
- 3) The SS waits for random access requests from the UE on cell 2.
- 4) After 30 s, the parameters are changed as described for T2 in table 8.2.2.2.3.
- 5) The SS waits for random access request from the UE. If the UE responds on cell 1 within 8 s then the number of successful tests is increased by one.
- 6) After another 15 s, the parameters are changed as described for T1 in table 8.2.2.2.3.
- 7) The SS waits for random access requests from the UE. If the UE responds on cell 2 within 8 s then the number of successful tests is increased by one.
- 8) Reduce T1 to 15 s and repeat step 4) to 7) [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

For the test to pass, the total number of successful tests shall be more than 90% with a confidence level of [FFS]% of the cases.

Parameter	Unit	Cell 1 Cell 2 Cell 3		Cell 4		Cell 5		Cell 6					
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Char	nel 1	Char	inel 2	Char	nel 1	Channel 1		Channel 2		Channel 2	
CPICH_Ec/lor	dB	-10.1	-9.9	-9.9	-10.1	-'	10	- '	10	-*	10	-	10
PCCPCH_Ec/lor	dB	- '	12	-'	12	-	12	-'	12	- '	12	-	12
SCH_Ec/lor	dB	-'	12	-*	12	-	12	-'	12	- '	12	-	12
PICH_Ec/lor	dB	-*	15	-*	15	-	15	-	15	-*	15	-	15
OCNS_Ec/lor	dB	-0.928	-0.953	-0.953	-0.928	-0.	941	-0.9	941	-0.9	941	-0.	941
$\hat{I}_{or}/I_{oc}$	dB	-3.7	2.5	2.5	-3.7	-7.4	-4.8	-7.4	-4.8	-4.8	-7.4	-4.8	-7.4
I <sub>oc</sub>	dBm / 3.84 MHz						70	)					
CPICH_Ec/lo	dB	-16.3	-12.8	-12.8	-16.3	-19.9	-20.2	-19.9	-20.2	-20.2	-19.9	-20.2	-19.9
Propagation Condition							AW	GN					
Cell_selection_and_ reselection_quality_ measure		CPICH	I E <sub>c</sub> /N <sub>0</sub>	CPICH	IE₀/N₀	CPICH	IE₀/N₀	CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		CPIC	ΗE₀/N₀
Qqualmin	dB	-2	20	-2	20	-2	20	-20		-2	20	-1	20
Qrxlevmin	dBm	-1	15	-1	15	-1	15	-115		-115		-1	15
UE_TXPWR_MAX_ RACH	dB	2	1	2	1	2	1	2	1	2	1	2	1
		C1, 0 C1, 0	C2: 0 C3: 0	C2, 0 C2, 0	C1: 0 C3: 0	C3, 0 C3, 0	C1: 0 C2: 0	C4, 0 C4, 0	C1: 0 C2: 0	C5, 0 C5, 0	C1: 0 C2: 0	C6, C6,	C1: 0 C2: 0
Qoffset2 <sub>s, n</sub>	dВ	C1, 0 C1, 0 C1, 0	C4: 0 C5: 0 C6: 0	C2, 0 C2, 0 C2, 0	C4: 0 C5: 0 C6: 0	C3, ( C3, ( C3, (	C4: 0 C5: 0 C6: 0	C4, C3: 0 C4, C5: 0		C5, 0 C5, 0 C5, 0	C3: 0 C4: 0 C6: 0	C6, C6, C6,	C3: 0 C4: 0 C5: 0
Qhvst2	dB				)	(	)	(	)	,	)		
PENALTY TIME	<del>5</del>			4	<del>)</del>	(	<del>)</del>	(	<del>)</del>		<del>)</del>		
TEMPORARY_OFF	dB	0 0		4	Ð	θ		(	<del>)</del>		Ð		
Treselection	S	(	0 0 0 0 0		)		0						
Sintrasearch	dB	not	sent	not	sent	not	sent	not	sent	not	sent	not	sent
Sintersearch	dB	not	sent	not	sent	not	sent	not sent		not	sent	not	sent

Table 8.2.2.2.3: Test parameters for Cell re-selection multi carrier multi cell

# 8.2.3 UTRAN to GSM Cell Re-Selection

# 8.2.3.1 Scenario 1: Both UTRA and GSM level changed

#### 8.2.3.1.1 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 makes the UE camp on a new cell and starts to send the RR Channel Request message for location update to the new cell.

The requirements and this test apply to the combined FDD and GSM UE.

#### 8.2.3.1.2 Minimum requirement

The cell re-selection delay shall be less than  $26 \text{ s} + T_{BCCH}$ , where TBCCH is the maximum time allowed to read BCCH data from GSM cell TS 05.08 [20].

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:  $4 \text{ * } T_{\text{measureGSM}} + T_{\text{BCCH}}$ , where:

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.

 $T_{measureGSM}$  See table 4.1 in TS 25.133 [2] clause 4.2.2.

T<sub>BCCH</sub> Maximum time allowed to read BCCH data from GSM cell TS 05.08 [20]. According to [20], the maximum time allowed to read the BCCH data, when being synchronized to a BCCH carrier, is 1.9 s.

This gives a total of 25.6 s +  $T_{BCCH}$ , allow 26 s +  $T_{BCCH}$  in the test case.

The normative reference for this requirement is TS 25.133 [2] clauses 4.2.2 and A.4.3.1.

#### 8.2.3.1.3 Test purpose

To verify that the UE meets the minimum requirement.

#### 8.2.3.1.4 Method of test

8.2.3.1.4.1 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.

This scenario implies the presence of 1 UTRAN serving cell, and 1 GSM cell to be re-selected. The UE is requested to monitor neighbouring cells on 1 UMTS carrier and 12 GSM cells. Cell 1 and cell 2 shall belong to different Location Areas.

#### Table 8.2.3.1.1: General test parameters for UTRAN to GSM Cell Re-selection

Pa	Parameter		Value	Comment
Initial	Active cell		Cell1	
condition	Neighbour cell		Cell2	
Final	Active cell		Cell2	
condition				
HCS				Not used
DRX cycle	length	S	1.28	
T1		S	<del>[TBD]<u>45</u></del>	
T2		S	<del>[TBD]<u>35</u></del>	

Parameter	Unit	Cell 1 (UTRA)		
		T1	T2	
UTRA RF Channel Number		Channel 1		
CPICH_Ec/lor	dB	-10		
PCCPCH_Ec/lor	dB	-12		
SCH_Ec/lor	dB	-12		
PICH_Ec/lor	dB	-15		
OCNS_Ec/lor	dB	-0.941		
$\hat{I}_{or}/I_{oc}$	dB	0	-5	
I <sub>oc</sub>	dBm/3.84 MHz	-70		
CPICH_Ec/lo	dB	-13	-16.2	
CPICH_RSCP	dBm	-80	-85	
Propagation Condition		AWGN		
Cell_selection_and_ reselection_quality_measure		CPICH E <sub>c</sub> /I	No	
Qqualmin	dB	-20		
Qrxlevmin	dBm	-115		
UE_TXPWR_MAX_RACH	dBm	21		
Qoffset1 <sub>s, n</sub>	dB	C1, C2: 0		
Qhyst1	dB	0		
PENALTY_TIME	<del>S</del>	<del>C2: 0</del>		
TEMPORARY_OFFSET1	d₿	<del>C2: 0</del>		
Treselection	S	0		
Ssearch <sub>RAT</sub>	dB	not sent		

Table 8.2.3.1.2: Cell re-selection UTRAN to GSM cell case (cell 1)

#### Table 8.2.3.1.3: Cell re-selection UTRAN to GSM cell case (cell 2)

Paramator	Unit	Cell 2 (GSM)		
Farameter	Unit	T1	T2	
Absolute RF Channel Number		ARFCN 1		
RXLEV	dBm	-90	-75	
RXLEV_ACCESS_MIN	dBm	-104		
MS_TXPWR_MAX_CCH	dBm	33		

#### 8.2.3.1.4.2 Procedure

- 1) The SS activates cell 1 and 2 with T1 defined parameters in tables 8.2.3.1.4 and 8.2.3.1.5 and monitors cell 1 and 2 for random access requests from the UE.
- 2) The UE is switched on.
- 3) 3) The SS waits for random access requests from the UE on cell 1.
- 4) After 45 s, the parameters are changed as described for T2 in tables 8.2.3.1.4 and 8.2.3.1.5.

4) After T1 s, the parameters are changed as described for T2 in tables 8.2.3.1.4 and 8.2.3.1.5.

- 5) The SS waits for random access requests from the UE. If the UE responds on cell 2 within 28 s then the number of successful tests is increased by one.
- 6) After <u>T2-35</u> s, the parameters are changed as described for T1 in tables 8.2.3.1.4 and 8.2.3.1.5.
- 7) The SS waits for random access requests from the UE on cell 1.
- 8) Repeat step 4) to 7) [TBD] times.

# 8.2.3.1.5 Test requirements

Parameter	Unit	Cell 1 (UTRA)		
		T1	T2	
UTRA RF Channel Number		Channel	1	
CPICH_Ec/lor	dB	-9.9	-10.1	
PCCPCH_Ec/lor	dB	-12		
SCH_Ec/lor	dB	-12		
PICH_Ec/lor	dB	-15		
OCNS_Ec/lor	dB	-0.953	-0,928	
$\hat{I}_{or}/I_{oc}$	dB	0.3	-5.3	
$I_{oc}$ (Note 1)	dBm/3.84 MHz	-70		
CPICH_Ec/lo (Note 2)	dB	-12.8	-16.5	
CPICH_RSCP (Note2)	dBm	-79.6	-85.4	
Propagation Condition		AWGN		
Cell_selection_and_ reselection_quality_measure		CPICH E <sub>c</sub> /N <sub>0</sub>		
Qqualmin	dB	-20		
Qrxlevmin	dBm	-115		
UE_TXPWR_MAX_RACH	dBm	21		
Qoffset1 <sub>s, n</sub>	dB	C1, C2: 0		
Qhyst1	dB	0		
PENALTY_TIME	<del>6</del>	<del>C2: 0</del>		
TEMPORARY_OFFSET1	dB	<del>C2: 0</del>		
Treselection	S	0		
Ssearch <sub>RAT</sub>	dB	not sent		

#### Table 8.2.3.1.4: Cell re-selection UTRAN to GSM cell case (cell 1)

Table 8.2.3.1.5: Cell re-selection UTRAN to GSM cell case (cell 2)

Paramotor	Unit	Cell 2 (GSM)		
Farameter	Unit	T1	T2	
Absolute RF Channel Number		ARFCN 1		
RXLEV (Note 1)	dBm	-90	-75	
RXLEV_ACCESS_MIN	dBm	-104		
MS_TXPWR_MAX_CCH	dBm	33		

NOTE 1: For T1 the the ratio (Ioc/Rxlev)<sub>test requirement</sub> = (Ioc/Rxlev)<sub>minimum requirement</sub> + 0.3 dB

For T2 the the ratio  $(Ioc/Rxlev)_{test requirement} = (Ioc/Rxlev)_{minimum requirement} - 0.3 dB$ 

NOTE 2: CPICH\_Ec/Io and CPICH\_RSCP levels have been calculated from other parameters for information purposes. They are not settable parameters themselves.

For the test to pass, the total number of successful tests shall be at least 90% of the cases with a confidence level of [FFS]%.

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.

# 8.2.3.2 Scenario 2: Only UTRA level changed

## 8.2.3.2.1 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 makes the UE camp on a new cell and starts to send the RR Channel Request message for location update to the new cell.

The requirements and this test apply to the combined FDD and GSM UE.

# 8.2.3.2.2 Minimum requirement

The cell re-selection delay shall be less than  $\frac{6.57.7}{5}$  s + T<sub>BCCH</sub>, where TBCCH is the maximum time allowed to read BCCH data from GSM cell TS 05.08 [20].

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: Max  $(3*T_{measureFDD}, T_{measureGSM}+DRX cycle length) + T_{BCCH}$ , where:

$T_{\text{measureFDD}}$	See table 4.1 in TS 25.133 [2] clause 4.2.2.
T <sub>measureGSM</sub>	See table 4.1 in TS 25.133 [2] clause 4.2.2.
DRX cycle length	1.28s see Table A.4.7.A in TS 25.133 [2] clause A.4.3.2.
T <sub>BCCH</sub>	Maximum time allowed to read BCCH data from GSM cell TS 05.08 [20]. According to [20], the maximum time allowed to read the BCCH data, when being synchronized to a BCCH carrier, is 1.9 s.

This gives a total of  $\frac{6.47.68}{5.47.68}$  s + T<sub>BCCH</sub>, allow  $\frac{6.57.7}{5.57.7}$  s + T<sub>BCCH</sub> in the test case.

The normative reference for this requirement is TS 25.133 [2] clauses 4.2.2 and A.4.3.2.

### 8.2.3.2.3 Test purpose

To verify that the UE meets the minimum requirement.

#### 8.2.3.2.4 Method of test

#### 8.2.3.2.4.1 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.

This scenario implies the presence of 1 UTRAN serving cell, and 1 GSM cell to be re-selected. The UE is requested to monitor neighbouring cells on 1 UMTS carrier and 12 GSM cells. Cell 1 and cell 2 shall belong to different Location Areas.

1

Pa	arameter	Unit	Value	Comment
Initial	Active cell		Cell1	
condition	Neighbour cell		Cell2	
Final condition	Active cell		Cell2	
HCS				Not used
DRX cycle	length	S	1.28	
T1		S	45	
T2		S	<del>10<u>12</u></del>	

Table 8.2.3.2.1: General test parameters for UTRAN to GSM Cell Re-selection

## Table 8.2.3.2.2: Cell re-selection UTRAN to GSM cell case (cell 1)

Parameter	Unit	Cell 1	(UTRA)
		T1	T2
UTRA RF Channel Number		Channel 1	
CPICH_Ec/lor	dB	-10	
PCCPCH_Ec/lor	dB	-12	
SCH_Ec/lor	dB	-12	
PICH_Ec/lor	dB	-15	
OCNS_Ec/lor	dB	-0.941	
$\hat{I}_{or}/I_{oc}$	dB	20	-9
I <sub>oc</sub>	dBm/3.84 MHz	-81	
CPICH_Ec/lo	dB	-10.0	-19.5
CPICH_RSCP	dBm	-70	-100
Propagation Condition		AWGN	
Cell_selection_and_ reselection_guality_measure		CPICH E	/N <sub>0</sub>
Qqualmin	dB	-20	
Qrxlevmin	dBm	-115	
UE_TXPWR_MAX_RACH	dBm	21	
Qoffset1 <sub>s, n</sub>	dB	C1, C2: 0	
Qhyst1	dB	0	
PENALTY_TIME	<del>S</del>	<del>C2: 0</del>	
TEMPORARY_OFFSET1	dB	<del>C2: 0</del>	
Treselection	S	0	
Ssearch <sub>RAT</sub>	dB	not sent	

Table 8.2.3.2.3: 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	-80
RXLEV_ACCESS_MIN	dBm	-104	
MS_TXPWR_MAX_CCH	dBm	33	

#### 8.2.3.2.4.2 Procedure

- 1) The SS activates cell 1 and 2 with T1 defined parameters in tables 8.2.3.2.4 and 8.2.3.2.5 and monitors cell 1 and 2 for random access requests from the UE.
- 2) The UE is switched on.
- 3) The SS waits for random access requests from the UE on cell 1.
- 4) After 45 s, the parameters are changed as described for T2 in tables 8.2.3.2.4 and 8.2.3.2.5.

- 5) The SS waits for random access requests from the UE. If the UE responds on cell 2 within 8.59.7 s then the number of successful tests is increased by one.
- 6) After 10-12 s, the parameters are changed as described for T1 in tables 8.2.3.2.4 and 8.2.3.2.5.
- 7) The SS waits for random access requests from the UE on cell 1.
- 8) Repeat step 4) to 7) [TBD] times.

#### 8.2.3.2.5 Test requirements

Parameter	Unit	Cell 1 (UTRA)		
		T1	T2	
UTRA RF Channel Number		Channel 1		
CPICH_Ec/lor	dB	-9.9	-10.1	
PCCPCH_Ec/lor	dB	-12		
SCH_Ec/lor	dB	-12		
PICH_Ec/lor	dB	-15		
OCNS_Ec/lor	dB	-0.953	-0.941	
$\hat{I}_{or}/I_{oc}$	dB	20.3	-9.3	
$I_{oc}$ (Note1)	dBm/3.84 MHz	-81		
CPICH_Ec/lo (Note2)	dB	-9.9	-19.9	
CPICH_RSCP (Note2)	dBm	-70.6	-100.4	
Propagation Condition		AWGN		
Cell_selection_and_ reselection_quality_measure			/N <sub>0</sub>	
Qqualmin	dB	-20		
Qrxlevmin	dBm	-115		
UE_TXPWR_MAX_RACH	dBm	21		
Qoffset1 <sub>s, n</sub>	dB	C1, C2: 0		
Qhyst1	dB	0		
PENALTY_TIME	<del>\$</del>	<del>C2: 0</del>		
TEMPORARY_OFFSET1	d₿	<del>C2: 0</del>		
Treselection	S	0		
Ssearch <sub>RAT</sub>	dB	not sent		

Table 8.2.3.2.4: Cell re-selection UTRAN to GSM cell case (cell 1)

Table 8.2.3.2.5: Cell re-selection UTRAN to GSM cell case (cell 2)

Parameter	Unit	Cell 2	(GSM)
		T1	T2
Absolute RF Channel Number		ARFCN 1	
RXLEV (Note1)	dBm	-80	-80
RXLEV_ACCESS_MIN	dBm	-104	
MS_TXPWR_MAX_CCH	dBm	33	

NOTE 1: For T1 the the ratio (Ioc/Rxlev)<sub>test requirement</sub> = (Ioc/Rxlev)<sub>minimum requirement</sub> + 0.3 dB

For T2 the the ratio  $(Ioc/Rxlev)_{test requirement} = (Ioc/Rxlev)_{minimum requirement} - 0.3 dB$ 

NOTE 2: CPICH\_Ec/Io and CPICH\_RSCP levels have been calculated from other parameters for information purposes. They are not settable parameters themselves.

For the test to pass, the total number of successful tests shall be at least 90% of the cases with a confidence level of [FFS]%.

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.
## 8.2.4 FDD/TDD cell <u>reRe</u>-selection

## 8.2.4.1 Definition and applicability

The cell re-selection delay is defined as the time from the cell quality levels change to the moment when this change makes the UE reselect a better ranked cell, and starts to send 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 an FDD cell and reselects to a TDD cell.

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

## 8.2.4.2 Minimum requirement

The cell re-selection delay shall be less than 8 s with a DRX cycle length of 1,28 s. 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 25.133 [2] clauses 4.2.2.4 and A.4.4.

## 8.2.4.3 Test purpose

To verify that the UE meets the minimum requirement for the case where the UE camps on an FDD cell and reselects to a TDD cell.

## 8.2.4.4 Method of test

## 8.2.4.4.1 Initial conditions

This scenario implies the presence of  $\frac{1}{\text{UTRA}}$  FDD and 1 <u>UTRA</u> TDD cell as given in tables 8.2.4.1, 8.2.4.2 and 8.2.4.2<u>3</u>. The maximum repetition period of the relevant system information blocks that need to be received by the UE to camp on a cell shall be 1280 ms.

For this test environment the ranking/mapping function indicated in the broadcast of cell 1 shall be in such a way as to enable the UE to evaluate that the FDD cell 1 is better ranked than the TDD cell 2 during T1 and the TDD cell 2 is better ranked than the FDD cell 1 during T2. Cell 1 and cell 2 shall belong to different Location Areas.

Table 8.2.4.1: General test parameters for FDD/TDD cell\_cell\_reRe-selection

Parameter		Unit	Value	Comment		
Initial	Active cell		Cell1	FDD cell		
condition	Neighbour cells		Cell2	TDD cell		
Final condition	Active cell		Cell2	TDD cell		
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.		
HCS				Not used		
DRX cycle length		S	1.28	The value shall be used for all cells in the test.		
T1		S	15	Cell 1 better ranked than cell 2		
	T2	S	15	Cell2 better ranked than cell 1		

## Table 8.2.4.2: Cell 1 specific Test test parameters for FDD/TDD cell reRe-selection

Parameter	Unit	Cell 1			Ce	<del>   2</del>	
Timeslot Number		n.a n.a.		<del>0</del>		8	
		<del>1</del> 1	<del>T 2</del>	<b>T1</b>	<del>T2</del>	<del>11</del>	<del>T 2</del>
UTRA RF Channel		Char	nnel 1	Channel 2			
Number					Unar		
CPICH_Ec/lor	dB	<del>-10</del>	<del>-10</del>	<del>n</del> .	<del>a.</del>	n.	<del>a.</del>
PCCPCH_Ec/lor	dB	<del>-12</del>	<del>-12</del>	<del>_3</del>	<del>က</del> ု		
SCH_Ec/lor	dB	<del>-12</del>	<del>-12</del>	<del>-9</del>	<del>-9</del>	<del>-9</del>	<del>-9</del>
SCH_t <sub>offset</sub>		<del>n.a.</del>	<del>n.a.</del>	θ	θ	θ	θ
PICH_Ec/lor		<del>-15</del>	<del>-15</del>			-3	-3
<del>ocns</del>	d₿	<del>-0,941</del>	<del>-0,941</del>	<del>-4,28</del>	<del>-4,28</del>	<del>-4,28</del>	<del>-4,28</del>
$\frac{\hat{I}_{or}}{I_{oc}}$	d₿	\$	-2	-2	3	-2	3
I	dBm/3.						
100	84 MHz		<del>-70</del>			-	
CPICH_RSCP	dBm	<del>-77</del>	<del>-82</del>	<del>n.a.</del>		<del>n</del> .	<del>a.</del>
PCCPCH_RSCP	dBm	<del>n.a.</del>	<del>n.a.</del>	<del>-75</del>	<del>-70</del>		
Cell_reselection_and		CPICH	I <u>_RSCP</u>				
quality _measure							
<b>Treselection</b>	<del>8</del>	θ				•	
Propagation Condition		AWGN			AW	' <del>GN</del>	

Parameter	<u>Unit</u>	Cell 1	
		<u>T1</u>	<u>T2</u>
UTRA RF Channel Number		Char	nel 1
CPICH_Ec/lor	<u>dB</u>	-1	10
P-CCPCH_Ec/lor	<u>dB</u>	-1	12
SCH_Ec/lor	<u>dB</u>	<u>-1</u>	12
PICH_Ec/lor	<u>dB</u>	<u>-1</u>	<u>15</u>
OCNS_Ec/lor	<u>dB</u>	<u>-0.</u>	<u>941</u>
$\hat{I}_{or}/I_{oc}$	<u>dB</u>	<u>9</u>	<u>3</u>
I <sub>oc</sub>	<u>dBm /</u> <u>3.84 MHz</u>	<u>-7</u>	<u>70</u>
CPICH_RSCP	<u>dBm</u>	<u>-71</u>	<u>-77</u>
Propagation Condition		AWGN	
Cell selection and reselection quality mea		CPICH Ec/No	
<u>sure</u>			
<u>Qrxlevmin</u>	<u>dBm</u>	<u>-1</u>	<u>15</u>
<u>Qoffset1<sub>s.n</sub></u>	<u>dB</u>	(	<u>0</u>
<u>Qhyst1</u>	<u>dB</u>	<u>0</u>	
Treselection	<u>S</u>	(	0
Sintrasearch	dB	not	sent
Sintersearch	dB	not	sent

Parameter Unit Cell 2						
DL timeslot number		<u>0</u>		8	3	
		<u>T1 T2</u>		<u>T1</u>	<u>T2</u>	
UTRA RF Channel Number			<u>Cha</u>	<u>nnel 2</u>		
P-CCPCH_Ec/lor	<u>dB</u>		<u>3</u>	<u>n.</u>	.a.	
PICH_Ec/lor	<u>dB</u>	<u>n.</u>	<u>a.</u>	-	<u>3</u>	
SCH_Ec/lor	<u>dB</u>			<u>.9</u>		
<u>SCH_t</u> offset	<u>dB</u>			0		
OCNS_Ec/lor	<u>dB</u>		<u>-3</u>	. <u>12</u>		
$\hat{I}_{or}/I_{oc}$	<u>dB</u>	<u>-4</u>	<u>2</u>	<u>-4</u>	<u>2</u>	
P-CCPCH RSCP	<u>dBm</u>	<u>-77</u>	<u>-71</u>	<u>n.a.</u>	<u>n.a.</u>	
I <sub>oc</sub>	<u>dBm/ 3,84</u> <u>MHz</u>		É	<u>70</u>		
Propagation Condition		AWGN				
<u>Qrxlevmin</u>	<u>dBm</u>		-1	<u>03</u>		
<u>Qoffset2<sub>s,n</sub></u>	<u>dB</u>			<u>0</u>		
<u>Qhyst2</u>	<u>dB</u>			<u>0</u>		
<u>Treselection</u>	<u>s</u>	<u>0</u>				
Sintrasearch	<u>dB</u>		<u>not</u>	<u>sent</u>		
Sintersearch <u>dB</u> <u>not sent</u>						
Note that the transmit energy per PN chip for the SCH is averaged over the 256 chip duration when the SCH is present in the time slot.						

## Table 8.2.4.3: Cell 2 specific test parameters for FDD/TDD Cell Re-selection

### 8.2.4.4.2 Procedures

- a) The SS activates cell 1 and cell 2 with T1 defined parameters and monitors them for random access requests from the UE.
- b) The UE is switched on.
- c) The SS waits for random access requests from the UE.
- d) After 15 s, the parameters are changed as described for T2.
- e) The SS waits for random access request from the UE.
- f) After another 15 s, the parameters are changed as described for T1.
- g) The SS waits for random access requests from the UE.
- h) Repeat step d) to g) [TBD] times.

## 8.2.4.5 Test requirements

- 1) In step c), after the UE has responded on cell 1, it shall not respond on any other cell (cell selection).
- 2) In step e), the UE shall respond on cell 2 within 8 s in more than [FFS]% of the cases.
- 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.

## 8.3.4 Inter-system Handover from UTRAN FDD to GSM

## 8.3.4.1 Definition and applicability

The UTRAN to GSM cell handover delay is defined as the time from the end of the last TTI containing an RRC message implying hard handover to the transmission on the channel of the new RAT.

The requirements and this test apply to the combined FDD and GSM UE.

### 8.3.4.2 Minimum requirement

The hard handover delay shall be less than 40 ms. The rate of correct handovers observed during repeated tests shall be at least 90% with a confidence level of [FFS]%.

The hard handover delay as listed in table 8.3.4.1 equals the RRC procedure delay plus the interruption time listed in table 8.3.4.2. The UE shall process the RRC procedures for the RRC HANDOVER FROM UTRAN COMMAND within 50 ms.

### Table 8.3.4.1: FDD/GSM handover - handover delay

UE synchronisation status	handover delay [ms]
The UE has synchronised to the GSM cell before the	90
HANDOVER FROM UTRAN COMMAND is received	
The UE has not synchronised to the GSM cell before	190
the HANDOVER FROM UTRAN COMMAND is received	

### Table 8.3.4.2: FDD/GSM handover - interruption time

Synchronisation status	Interruption time [ms]
The UE has synchronised to the GSM cell before the	40
HANDOVER FROM UTRAN COMMAND is received	
The UE has not synchronised to the GSM cell before	140
the HANDOVER FROM UTRAN COMMAND is received	

The normative reference for this requirement is TS 25.133 [2] clauses 5.4.2 and A.5.4.

## 8.3.4.3 Test purpose

To verify that the UE meets the minimum requirement.

### 8.3.4.4 Method of test

8.3.4.4.1 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.

[Editor's Note: Annex G.2 must be specified also for GSM; for instance as a reference to TS 51.010-1 clause A1.2]

The test parameters are given in table 8.3.4.3, 8.3.4.4 and 8.3.4.5 below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 3C shall be used.. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a HANDOVER FROM UTRAN COMMAND well in advance to T3 with activation time at T3. In GSM Handover command contained in that message, IE starting time shall not be included.

The requirements are also applicable for a UE not requiring compressed mode, in which case no compressed mode pattern should be sent for the parameters specifed in table 8.3.4.3.

Parameter	Unit	Value	Comment
DCH parameters		DL Reference Measurement Channel 12.2 kbps	As specified in TS 34.121 clause C.3.1
Power Control		On	
Target quality value on DTCH	BLER	0.01	
Compressed mode patterns			Only applicable for UE requiring compressed mode patterns
- GSM carrier RSSI measurement		DL Compressed mode reference pattern 2 in Set 2	As specified in TS 34.121 [1] clause C.5, table C.5.2
- GSM Initial BSIC identification		Pattern 2	As specified in clause TS 25.133 [2] 8.1.2.5.2.1 table 8.7.
- GSM BSIC re- confirmation		Pattern 2	As specified in clause TS 25.133 [2] 8.1.2.5.2.2 table 8.8.
Active cell		Cell 1	
Inter-RAT		GSM Carrier RSSI	
measurement			
quantity			
BSIC verification required		Required	
Threshold other system	dBm	-80	Absolute GSM carrier RSSI threshold for event 3B and 3C.
Hysteresis	dB	0	
Time to Trigger	ms	0	
Filter coefficient		0	
Monitored cell list size		24 FDD neighbours on Channel 1 6 GSM neighbours including ARFCN 1	Measurement control information is sent before the compressed mode patterns starts.
N Identify abort		<u>6566</u>	Taken from TS 25.133 [2] 8.1.2.5.2.1 table 8.7.
T Reconfirm abort		5. <u>05</u>	Taken from TS 25.133 [2] 8.1.2.5.2.2 table 8.8.
T1	S	20	
T2	S	5	
Т3	S	5	

# Table 8.3.4.3: General test parameters for Correct reporting of GSM neighbours in AWGN propagation condition

## Table 8.3.4.4: Cell Specific Parameters for Handover UTRAN to GSM cell case (cell 1)

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

Baramatar	Unit	Cell 2 (GSM)		
Farameter	Unit	T1	T2, T3	
Absolute RF Channel Number		ARFCN 1		
RXLEV	dBm	-85	-75	

#### Table 8.3.4.5: Cell Specific Parameters for Handover UTRAN to GSM cell case (cell 2)

#### 8.3.4.4.2 Procedure

- 1) The RF parameters for cell 1 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
- 4) The RF parameters for cell 2 are set up according to T1 and the SS configures a traffic channel
- 5) SS shall transmit a MEASUREMENT CONTROL message to cell 1
- 6) After 20 seconds, the SS shall switch the power settings from T1 to T2
- 7) UE shall transmit a MEASUREMENT REPORT message triggered by event 2C
- 8) SS shall transmit a HANDOVER FROM UTRAN COMMAND message with activation time at T3 and indicating the traffic channel of the target GSM cell to the UE through DCCH of the serving UTRAN cell.
- 9) After 5 seconds, the SS shall switch the power settings from T2 to T3
- 10) UE shall transmit a burst on the traffic channel of cell 2 implying that it has switched to the GSM cell. The UE sends a HANDOVER ACCESS message. If the UE transmits access bursts on the new DCCH of the target cell less than 40 ms from the beginning of time period T3, then the number of successful tests is increased by one.

[Editor's note: TS 34.108, 7.3.4 shall specify the messages HANDOVER ACCESS, PHYSICAL INFORMATION, SABM, UA and HANDOVER COMPLETE]

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

12)Repeat step 1-11 [TBD] times

### Specific Message Contents

All messages indicated belowabove shall use the same content as described in the default message content in clause 9 of 34.108 [3] and in Annex A of 34.123-1 [21], with the following exceptions:

MEASUREMENT CONTROL message (step 5):

Information Element/Group name	Value/Remark
Message Type (10.2.17)	
UE information elements	
-RRC transaction identifier	0
-Integrity check info	Not Present
Measurement Information elements	
-Measurement Identity	1
-Measurement Command (10.3.7.46)	Modify
-Measurement Reporting Mode (10.3.7.49)	,
-Measurement Report Transfer Mode	AM RLC
-Periodical Reporting / Event Trigger Reporting Mode	Event trigger
-Additional measurements list (10.3.7.1)	Not Present
-CHOICE Measurement type	Inter-RAT measurement
-Inter-RAT measurement (10.3.7.27)	
-Inter-RAT measurement objects list (10.3.7.23)	Not Present
-Inter-RAT measurement quantity (10.3.7.29)	
<ul> <li>Measurement quantity for UTRAN quality estimate</li> </ul>	
(10.3.7.38)	
-Filter coefficient	0
-CHOICE mode	FDD
-Measurement quantity	CPICH Ec/N0
-CHOICE system	GSM
-Measurement quantity	GSM Carrier RSSI
-Filter coefficient	0
-BSIC verification required	Required
-Inter-RAT reporting quantity (10.3.7.32)	Not Present
-Reporting cell status (10.3.7.61)	
-CHOICE reported cell	Report cells within active set or within
	virtual active set or of the other RAT
-Maximum number of reported cells	2
-CHOICE report criteria	Inter-RAT measurement reporting criteria
-Inter-RAT measurement reporting criteria (10.3.7.30)	
-Parameters required for each event	1
-Inter-RAT event identity (10.3.7.24)	Event 3C
- I hreshold own system	Not Present
-VV	
- I nresnoid other system	-80 dBm
-Hysteresis	0 dB
Penerting coll status (10.2.7.61)	0 1115
CHOICE reported coll	Papart calls within active act or within
	virtual active set or of the other PAT
Maximum number of reported colls	
Physical channel information elements	<u>∠</u>
DPCH comproseed mode status info (10.2.6.24)	Not Present
-DFCH compressed mode status into (10.3.6.34)	NUL PIESEIIL

### HANDOVER FROM UTRAN COMMAND message (step 8):

Information Element	Value/remark
Message Type	
UE information elements	
-RRC transaction identifier	0
-Integrity check info	Not Present
-Activation time	At T3
RB information elements	
-RAB information list	1
-RAB Info	Not present
Other information elements	
-CHOICE System type	GSM
-Frequency Band	GSM/DCS 1800 Band
-GSM message	
-Single GSM message	[TBD]
-GSM message List	GSM HANDOVER COMMAND formatted
	the HANDOV/EP COMMAND see port
	table

### HANDOVER COMMAND

Same as the HANDOVER COMMAND for M = 2 in clause 26.6.5.1 of TS 51.010, except that the CHANNEL MODE IE is included with value = speech full rate or half rate version 3

### MEASUREMENT REPORT message for Inter-RAT test cases

This message is common for all inter RAT frequency test cases in clause 8.7 and is described in Annex I.

### 8.3.4.5 Test requirements

For the test to pass, the total number of successful tests shall be more than 90% with a confidence level of [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.

## 8.3.5 Cell Re-selection in CELL\_FACH

## 8.3.5.1 One frequency present in neighbour list

### 8.3.5.1.1 Definition and applicability

The cell re-selection delay is defined as the time between the occurrence of an event which will trigger Cell Reselection process and the moment in time when the UE starts sending the the preambles on the PRACH for sending RRC CELL UPDATE message to the UTRAN.

### 8.3.5.1.2 Minimum requirements

The cell re-selection delay shall be less than 1.6 s.

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

If a cell has been detectable at least  $T_{identify,intra}$ , the cell reselection delay in CELL\_FACH state to a cell in the same frequency shall be less than

 $T_{\text{reselection, intra}} = T_{\text{Measurement}_{\text{Period Intra}}} + T_{\text{IU}} + 20 + T_{\text{SI}} + T_{\text{RA}}$  ms

where

 $T_{\text{Measurement Period Intra}} = 200 \text{ ms.}$ 

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

 $T_{SI}$  = The 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. 1280 ms is assumed in this test case.

 $T_{RA}$  = The additional delay caused by the random access procedure.  $T_{RA}$  is a delay is caused by the physical random access procedure described in TS 25.214 clause 6.1. A persistence value is assumed to be 1 in this test case and therefore  $T_{RA}$  in this test case is 40 ms.

These requirements assume radio conditions to be sufficient, so reading of system information can be done without errors.

The normative reference for this requirement is TS 25.133 [2] clauses 5.5.2.1.1 and A.5.5.1.

### 8.3.5.1.3 Test purpose

The purpose of this test is to verify the requirement for the cell re-selection delay in CELL\_FACH state in the single carrier case

### 8.3.5.1.4 Method of test

### 8.3.5.1.4.1 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 8.3.5.1.1 to 8.3.5.1.4. The UE is requested to monitor neighbouring cells on 1 carrier. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1280 ms.

Table 8.3.5.1.1: General test parameters for Cell Re-selection in CELL\_FACH

Parameter		Unit	Value	Comment
initial	Active cell		Cell2	
Initial condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5, Cell6	
final Final condition	Active cell		Cell1	
Access Service Class (ASC#0) – Persistence value		-	1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.
HCS				Not used
T1		S	15	
T2		S	15	

The transport and physical parameters of the S-CCPCH carrying the FACH are defined in table 8.3.5.1.2 and table 8.3.5.1.3.

Parameter	Unit	Level
Channel bit rate	kbps	60
Channel symbol rate	ksps	30
Slot Format #I	-	4
TFCI	-	OFF
Power offsets of TFCI and Pilot fields relative to data field	dB	0

Table 8.3.5.1.2: Physical channel parameters for S-CCPCH.

Table 8.3.5.1.3:	Transport	channel	parameters	for	S-CCPCH
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Parameter	FACH
Transport Channel Number	1
Transport Block Size	240
Transport Block Set Size	240
Transmission Time Interval	10 ms
Type of Error Protection	Convolution Coding
Coding Rate	1/2
Rate Matching attribute	256
Size of CRC	16
Position of TrCH in radio frame	Fixed

## Table 8.3.5.1.4: Cell specific test parameters for Cell Re-selection in CELL\_FACH

Parameter	Unit	Ce	ell 1	Cell 2		Cel	13	С	ell 4	Ce	Cell 5		II 6				
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2				
UTRA RF Channel		Char	anal 1	Chan	nol 1	Chan		Cha	nnol 1	Cho	nnol 1	Chan	nol 1				
Number		Unar			Channel I					Cha		Charmer					
CPICH_Ec/lor	dB	-	10	-1	0	-10		-10			-10	-1	10				
PCCPCH_Ec/lor	dB	-	12	-1	2	-1	2		-12		-12	-1	12				
SCH_Ec/lor	dB	-	12	-1	2	-1	2		-12		-12	-1	12				
PICH_Ec/lor	dB	-	15	-1	5	-1	5		-15		-15	-1	15				
S-CCPCH_Ec/lor	dB	i.	12	-1	2	-1:	2		12	-	12	-1	2				
OCNS_Ec/lor	dB	-1.	295	-1.2	95	-1.2	95	-1	.295	-1	.295	-1.2	295				
$\hat{I}_{or}/I_{oc}$	dB	7.3	10.27	10.27	7.3	0.2	27	C	.27	0	.27	0.2	27				
I <sub>oc</sub>	dBm/3.84 MHz						-7	0									
CPICH_Ec/lo	dB	-16	-13	-13	-16	-2	3		-23		-23	-2	23				
Propagation Condition							AW	GN									
Cell_selection_and_ reselection_quality_ measure		CPIC	CPICH E <sub>c</sub> /N <sub>0</sub>		E <sub>c</sub> /N <sub>0</sub>	CPI E <sub>c</sub> /I	CPICH E <sub>0</sub> /N <sub>0</sub> CPICH E <sub>0</sub> /N <sub>0</sub>				CPI E <sub>c</sub> /	ICH ′N₀					
Qqualmin	dB	-:	20	-20		-2	0		20	-20		-2	20				
Qrxlevmin	dBm	-1	-115		-115		-115		-115		-115		-115		-115		15
UE_TXPWR_ MAX_RACH	dBm	2	21	21		21		21		:	21	2	1				
		C1, C1,	C1, C2: 0 C1, C3: 0		C1, C2: 0 C1, C3: 0		C1, C2: 0 C1, C3: 0		C2, C1: 0 C2, C3: 0		C3, C1: 0 C4, C1: 0 C3, C2: 0 C4, C2: 0		C5, C5,	C1: 0 C2: 0	C6, 0 C6, 0	C1: 0 C2: 0	
Qoffset 2 <sub>s, n</sub>	dB	C1,	C4: 0	C2, C	24: 0	C3, C	4: 0	C4,	C3: 0	C5,	C3: 0	C6, 0	C3: 0				
		C1,	C5: 0	C2, C	25: 0	C3, C	5: 0	C4,	C5: 0	C5,	C4: 0	C6, 0	C4: 0				
		C1,	C6: 0	C2, C	C6: 0	C3, C	6: 0	C4,	C6: 0	C5,	C6: 0	C6, 0	C5: 0				
Qhyst	dB		0	0		0			0		0	(	)				
PENALTY_TIME	<del>\$</del>		0	Ģ		0			0		0	(	•				
TEMPORARY_OFF	d₿		0	e	L.	0	i i		θ		θ	÷	)				
Treselection	S		0	0		0			0		0	(	)				
Sintrasearch	dB	not	sent	not s	sent	not s	ent	no	sent	not	sent	not	sent				
IE "FACH Measurement occasion info"		not	sent	not s	not sent		not sent		not sent		not sent not		sent	not	sent	not	sent

#### 8.3.5.1.4.2 Procedure

- 1) The SS activates cell 1-6 with RF parameters set up according to T1.
- 2) The UE is switched on.
- 3) An RRC connection is set up according to the signalling sequence in the generic set-up procedure specified in TS 34.108 [3] subclause 7.4.2 to place the UE in CELL\_FACH.
- 4) After 15 seconds, the SS shall switch the power settings from T1 to T2.
- 5) The SS waits for random access requests from the UE. If the UE responds on cell 1 within 1.6 s then the number of successful tests is increased by one.
- 6) After another 15 s, the parameters are changed as described for T1.
- The SS waits for random access requests from the UE. If the UE responds on cell 2 within 1.6 s then the number of successful tests is increased by one.
- 8) Repeat step 4) to 7) [TBD] times.

### 8.3.5.1.5 Test requirements

For the test to pass, the total number of successful attempts shall be more than 90% with a confidence level of [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.

## 8.3.5.2 Two frequencies present in the neighbour list

### 8.3.5.2.1 Definition and applicability

The cell re-selection delay is defined as the time between the occurrence of an event which will trigger Cell Reselection process and the moment in time when the UE starts sending the the preambles on the PRACH for sending RRC CELL UPDATE message to the UTRAN.

### 8.3.5.2.2 Minimum requirements

The cell re-selection delay shall be less than 1.9 s.

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

If a cell has been detectable at least  $T_{identify,inter}$ , the cell reselection delay in CELL\_FACH state to a FDD cell on a different frequency shall be less than

$$T_{\text{reselection, inter}} = T_{\text{Measurement inter}} + T_{\text{IU}} + 20 + T_{\text{SI}} + T_{\text{RA}} \text{ ms}$$

where

T<sub>Measurement inter</sub> is 480 ms in this case

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

 $T_{SI}$  = The 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. 1280 ms is assumed in this test case.

 $T_{RA}$  = The additional delay caused by the random access procedure.  $T_{RA}$  is a delay is caused by the physical random access procedure described in TS 25.214 clause 6.1. A persistence value is assumed to be 1 in this test case and therefore  $T_{RA}$  in this test case is 40 ms.

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These requirements assume radio conditions to be sufficient, so that reading of system information can be done without errors.

The normative reference for this requirement is TS 25.133 [2] clauses 5.5.2.1.2 and A.5.5.2.

### 8.3.5.2.3 Test purpose

The purpose of this test is to verify the requirement for the cell re-selection delay in CELL\_FACH state in the single carrier case

### 8.3.5.2.4 Method of test

#### 8.3.5.2.4.1 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.

The test parameters are given in table 8.3.5.2.1 to 8.3.5.2.4. The UE is requested to monitor neighbouring cells on 1 carrier. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1280 ms

Table 8.3.5.2.1: General test parameters for Cell Re-selection in CELL\_FACH

	Parameter	Unit	Value	Comment
initial	Active cell		Cell2	
Initial condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5, Cell6	
final Final condition	Active cell		Cell1	
Access Sei – Persisten	rvice Class (ASC#0) ace value	-	1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.
HCS				Not used
T1		S	15	
T2		S	15	

The transport and physical parameters of the S-CCPCH carrying the FACH are defined in table 8.3.5.2.2 and table 8.3.5.2.3.

### Table 8.3.5.2.2: Physical channel parameters for S-CCPCH.

Parameter	Unit	Level
Channel bit rate	kbps	60
Channel symbol rate	ksps	30
Slot Format #I	-	4
TFCI	-	OFF
Power offsets of TFCI and Pilot	dB	0
fields relative to data field		

Parameter	FACH
Transport Channel Number	1
Transport Block Size	240
Transport Block Set Size	240
Transmission Time Interval	10 ms
Type of Error Protection	Convolution Coding
Coding Rate	1/2
Rate Matching attribute	256
Size of CRC	16
Position of TrCH in radio frame	Fixed

## Table 8.3.5.2.3: Transport channel parameters for S-CCPCH

## Table 8.3.5.2.4: Cell specific test parameters for Cell re-selection in CELL\_FACH state

Parameter	Unit	Ce	ell 1	Cell 2		Cell 3		Cell 4		Cell 5		Cell 6	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel		Channel 1 Channel 2		Channel 1 Channel 1		Channel 2		Channel 2					
Number		10		- 10		40		10		10		10	
	dB 0B	-10		-10		-10		-10		-10		-10	
PCCPCH_EC/IOr	dB 0B	-12		-12		-12		-12		-12		-12	
SCH_EC/IOF	dB 0B	-12		-12		-12		-12		-12		-12	
	dB	-15		-15		-15		-15		-15		-15	
S-CUPUH_EC/IOF	dB dB	-12	-	-12	-	-12		-12		-12		-12	
	uБ	-1.29	5	-1.29		-1.295		-1.295		-1.295		-1.290	)
$I_{or}/I_{oc}$	dB	-3.4	2.2	2.2	-3.4	-7.4	-4.8	-7.4	-4.8	-4.8	-7.4	-4.8	-7.4
I <sub>oc</sub>	dBm/3.8 4 MHz	-70											
CPICH_Ec/lo	dB	-16	-13	-13	-16	-2	0	-2	20	-2	0	-	20
Propagation Condition		AWG	N										
Cell_selection_		CPIC	Н	CPIC	Н	CPICH		0.5101		0.01011	- / .	0.0101	
and_reselection_		E <sub>c</sub> /N <sub>0</sub>		E <sub>c</sub> /N <sub>0</sub>		E <sub>c</sub> /N <sub>0</sub>		CPICH	E <sub>c</sub> /N <sub>0</sub>	CPICHE	: <sub>c</sub> /N₀	CPICH	$H E_c/N_0$
Qqualmin	dB	-20		-20		-20		-20		-20		20 -20	
Qrxlevmin	dBm	-115		-115		-115		-115		-115	-115 -115		
UE_TXPWR_	dBm	21		21		21 21		21		21			
MAX_RACH		01.0	0.0	00.0	4.0	00.04	2 01:0 01:0		CE C1:0		00.01.0		
			2:0	$C_{2}, C_{1}; 0$		$C_3, C_1; 0$ $C_3, C_2; 0$		C4, C1, 0		C5, C1, 0		C6, C1, 0 C6, C2; 0	
Ooffeet2	dB		3.0	$C_{2}, C_{2}$	3.0	$C_3, C_2; 0$		C4, C2, 0 C4, C3, 0		$C_{5}, C_{2}, 0$		$C_{0}, C_{2}, 0$	
QUISELZS, n	uВ		4.0 5.0	$C_{2}, C_{4}; 0$		C3, C4, 0		C4, C5, 0		C5, C3, 0 C5, C4: 0		C6, C3, 0 C6, C4: 0	
		C1 C	6.0	C2, C	:6·0	C3, C5, 0 $C4, 0C3, C6, 0$ $C4, 0$		C4, C6: 0 C5, C6: 0		0	C6, C5: 0		
Ohvst2	dB	0	0.0	02,0	0.0	0 0		0		0			
PENALTY TIME	<u>8</u>	Ω Ω		Ω Ω		Ω Ω			<u>р</u>		0		
TEMP_OFFSET	dB	θ.		θ Ω		θ Ω		Δ		θ		0 0	
Treselection	s	0		0		0		0		0		0	
Sintrasearch	dB	not se	ent	not se	ent	not se	nt	not ser	nt	not sent		not se	nt
Sintersearch	dB	not se	ent	not se	ent	not se	nt	not ser	nt	not sent		not se	nt
IE "FACH													
Measurement		sent		sent		sent		sent		Sent		sent	
occasion info"													
FACH													
Measurement		3 3		3		3		3		3			
occasion cycle		3	5		3		3		3		3		
length coefficient													
Inter-frequency													
FDD measurement		TRUE		TRUE		TRUE		TRUE		TRUE		TRUE	
indicator													
Inter-frequency			-	<b>F</b> A1 <b>2</b>	-	<b>FAL 6</b>	-	<b>FAL 6</b>	-	EAL 05		<b>_</b>	_
IDD measurement		FALS	E	FALS	E	FALSE		FALSE	=	FALSE		FALS	E
indicator													

### 8.3.5.2.4.2 Procedure

- 1) The RF parameters for cell 1 are set up according to T1.
- 2) The UE is switched on.
- 3) An RRC connection is set up according to the signalling sequence in the generic set-up procedure specified in TS 34.108 [3] subclause 7.4.2 to place the UE in CELL\_FACH.
- 4) After 15 seconds, the SS shall switch the power settings from T1 to T2.
- 5) The SS waits for random access requests from the UE. If the UE responds on cell 1 within 1.6 s then the number of successful tests is increased by one.
- 6) After another 15 s, the parameters are changed as described for T1.
- 7) The SS waits for random access requests from the UE. If the UE responds on cell 2 within 1.6 s then the number of successful tests is increased by one.
- 8) Repeat step 4) to 7) [TBD] times.

### 8.3.5.2.5 Test requirements

For the test to pass, the total number of successful attempts shall be more than 90% with a confidence level of [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.
- 8.3.5.3 Cell Reselection to GSM

Void.

- 8.3.6 Cell Re-selection in CELL\_PCH
- 8.3.6.1 One frequency present in the neighbour list

Void

8.3.6.2 Two frequencies present in the neighbour list

Void

- 8.3.7 Cell Re-selection in URA\_PCH
- 8.3.7.1 One frequency present in the neighbour list

## 8.3.7.1.1 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 makes the UE camp on a new cell, and starts to send preambles on the PRACH for the URA UPDATE message with cause value "URA reselection" in the new cell.

The requirements and this test apply to the FDD UE.

### 8.3.7.1.2 Minimum requirement

The cell re-selection delay shall be less than 8 s with a DRX cycle length of 1.28 s.

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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:

TevaluateFDDSee table 4.1 in TS 25.133 [2] clause 4.2.2.TSIMaximum 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 25.133 [2] clauses 5.7.2 and A.5.7.1.

### 8.3.7.1.3 Test purpose

To verify that the UE meets the minimum requirement.

### 8.3.7.1.4 Method of test

8.3.7.1.4.1 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.

This scenario implies the presence of 1 carrier and 6 cells as given in tables 8.3.7.1.1 and 8.3.7.1.2. The UE is requested to monitor neighbouring cells on 1 carrier. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1 280 ms. Cell 1 and cell 2 shall belong to different Location Areas.

# Table 8.3.7.1.1: General test parameters for Cell Re-selection single carrier multi-cell casein URA\_PCH

	Parameter	Unit	Value	Comment
Initial	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		Cell1	
Access Sei - Persisten	rvice Class (ASC#0) ce value	-	1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.
HCS				Not used
DRX cycle	length	s	1,28	The value shall be used for all cells in the test.
T1		s	15	T1 need to be defined so that cell re- selection reaction time is taken into account.
T2		S	15	T2 need to be defined so that cell re- selection reaction time is taken into account.

Parameter	Unit	C	ell 1	Ce	Cell 2		3	3 Cell 4		Cell 4 Cell 5		Cell 6	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Chan	nel 1	Channe	Channel 1		el 1	Chann	Channel 1		Channel 1		nel 1
CPICH_Ec/lor	dB	-10		-10		-10		-10		-10		-10	
PCCPCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12	
SCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12	
PICH_Ec/lor	dB	-15		-15		-15		-15		-15		-15	
OCNS_Ec/lor	dB	-0,94	1	-0,941		-0,941		-0,941		-0,94	1	-0,941	
$\hat{I}_{or}/I_{oc}$	dB	7,3	10,27	10,27	7,3	0,27		0,27		0,27		0,27	
I <sub>oc</sub>	dBm / 3,84 MHz	-70											
CPICH_Ec/lo	dB	-16	-13	-13	-16	-23		-23		-23		-23	
Propagation Condition							AWO	GN					
Cell_selection_and_ reselection_quality_ measure		CPIC	H E <sub>c</sub> /N <sub>0</sub>	CPICH	E <sub>c</sub> /N <sub>0</sub>	CPICH	E <sub>c</sub> /N <sub>0</sub>	CPICH	E <sub>c</sub> /N <sub>0</sub>	CPIC	H E <sub>c</sub> /N <sub>0</sub>	CPIC	∃ E <sub>c</sub> /N₀
Qqualmin	dB		·20	-2	20	-2	-20 -20		-	20	-;	20	
Qrxlevmin	dBm	-	115	-115 -115 -115 -11!		15	-1	15					
UE_TXPWR_MAX_ RACH	dB		21	2	21	2	21 21		1	21		2	21
Qoffset2 <sub>s, n</sub>	dB	C1, C1, C1, C1, C1, C1,	C2: 0 C3: 0 C4: 0 C5: 0 C6: 0	C2, C2, C2, C2, C2, C2,	C2, C1: 0 C2, C3: 0 C2, C4: 0 C2, C5: 0 C2, C6: 0		C3, C1: 0         C4, C1:           C3, C2: 0         C4, C2:           C3, C4: 0         C4, C3:           C3, C5: 0         C4, C5:           C3, C6: 0         C4, C6:		C1: 0 C2: 0 C3: 0 C5: 0 C6: 0	C5, C5, C5, C5, C5, C5,	C1: 0 C2: 0 C3: 0 C4: 0 C6: 0	C6, C6, C6, C6, C6,	C1: 0 C2: 0 C3: 0 C4: 0 C5: 0
Qhyst2	dB		0		0	C	)	C	)		0		0
PENALTY_TIME	<del>S</del>		θ		θ	Ę	)	e			0		0
TEMPORARY_OFF SET2	dB		θ	ə <del>0</del> <del>0</del> <del>0</del>		θ		θ	θ				
Treselection	S		0		0	C	)	C			0		0
Sintrasearch	dB	no	t sent	not	not sent		sent	not s	not sent		not sent		sent

# Table 8.3.7.1.2: Test parameters for Cell re-selection single carrier multi cell Cell specific test parameters for Cell re-selection in URA\_PCH state PCH state

### 8.3.7.1.4.2 Procedure

- 1) The SS activates cell 1-6 with T1 defined parameters and monitors cell 1 and 2 for random access requests from the UE.
- 2) The UE is switched on.
- 3) A RRC connection is set up according the generic set-up procedure specified in TS 34.108 [3] subclause 7.4.2 to place the UE in URA\_PCH state.
- 4) The SS waits for random access requests from the UE on cell 2.
- 5) After 15 s, the parameters are changed as described for T2.
- 6) The SS waits for random access requests from the UE.
- 7) If the UE responds on cell 1 within 8 s then the number of successful tests is increased by one.
- 8) After another 15 s, the parameters are changed as described for T1.
- 9) The SS waits for random access requests from the UE.
- 10) If the UE responds on cell 2 within 8 s then the number of successful tests is increased by one.
- 11)Repeat step 5) to 10) [TBD] times.

### 8.3.7.1.5 Test requirements

For the test to pass, the total number of successful attempts shall be more than 90% with a confidence level of [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.

## 8.3.7.2 Two frequencies present in the neighbour list

### 8.3.7.2.1 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 makes the UE camp on a new cell, and starts to send preambles on the PRACH for the URA UPDATE message with cause value "URA reselection" in the new cell.

The requirements and this test apply to the FDD UE.

## 8.3.7.2.2 Minimum requirement

The cell re-selection delay shall be less than 8 s with a DRX cycle length of 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:

TevaluateFDD	See table 4.1 in TS 25.133 [2] clause 4.2.2.
Tsi	Maximum repetition period of relevant system info blocks that needs to be received by
	the UE to camp on a cell. 1280 ms is assumed in this test case.

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

The normative reference for this requirement is TS 25.133 [2] clauses 5.7.2 and A.5.7.2.

### 8.3.7.2.3 Test purpose

To verify that the UE meets the minimum requirement.

### 8.3.7.2.4 Method of test

8.3.7.2.4.1 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.

This scenario implies the presence of 2 carriers and 6 cells as given in tables 8.3.7.2.1 and 8.3.7.2.2. The UE is requested to monitor neighbouring cells on 2 carriers. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1 280 ms. Cell 1 and cell 2 shall belong to different Location Areas.

### Table 8.3.7.2.1: General test parameters for Cell Re-selection in multi carrier caseURA\_PCH

	Parameter	Unit	Value	Comment
Initial	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3,Cell4,	
			Cell5, Cell6	
Final	Active cell		Cell1	
condition				
Access Ser	rvice Class (ASC#0)			Selected so that no additional delay is caused by
- Persisten	ce value	-	1	the random access procedure. The value shall be
				used for all cells in the test.
HCS				Not used
DRX cycle	length	S	1,28	The value shall be used for all cells in the test.
T1		S	30	T1 need to be defined so that cell re-selection
				reaction time is taken into account.
T2		S	15	T2 need to be defined so that cell re-selection
				reaction time is taken into account.

# Table 8.3.7.2.2: Test parameters for Cell re-selection multi carrier multi cell Cell specific test parameters for Cell Re-selection in URA\_PCH state

Parameter	Unit	Cell 1		Cell 2		Cell 3		Cell 4		Cell 5		Ce	ell 6
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel		Chan	Channel 1		Channel 2		Channel 1		Channel 1		Channel 2		nnol 2
Number		Chan	Charmer 1					Gha		Chan		Chai	
CPICH_Ec/lor	dB	-1	0	-1	0	-1	0	-	10	-1	0	-	10
PCCPCH_Ec/lor	dB	-1	2	-1	2	-1	2		12	-1	2	-	12
SCH_Ec/lor	dB	-1	2	-1	2	-1	2	-	12	-1	2	-	12
PICH_Ec/lor	dB	-1	5	-1	5	-1	5		15	-1	5	-	15
OCNS_Ec/lor	dB	-0.9	41	-0.9	41	-0.9	41	-0	941	-0.9	41	-0.	941
$\hat{I}_{or}/I_{oc}$	dB	-3.4	2.2	2.2	-3.4	-7.4	-4.8	-7.4	-4.8	-4.8	-7.4	-4.8	-7.4
I <sub>oc</sub>	dBm / 3.84 MHz		-70										
CPICH_Ec/lo	dB	-16	-13	-13	-16	-2	0	-	20	-2	0	-2	20
Propagation Condition			AWGN										
Cell_selection_and_ reselection_quality_ measure		CPICH	CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		E <sub>c</sub> /N <sub>0</sub>	CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICI	⊣ E₀/N₀
Qqualmin	dB	-2	0	-20		-2	0	-20		-20		-2	20
Qrxlevmin	dBm	-11	5	-115		-11	5	5 -115		-11	5	-1	15
UE_TXPWR_MAX_ RACH	dB	21	I	21		2′	l	21		21		2	21
		C1, C	2: 0	C2, C	:1:0	C3, C	:1:0	C4,	C1: 0	C5, C	:1:0	C6,	C1: 0
		C1, C	3: 0	C2, C	3: 0	C3, C	2:0	C4,	C2: 0	C5, C	2:0	C6,	C2: 0
Qoffset2 <sub>s, n</sub>	dB	C1, C	:4: 0	C2, C	24: 0	C3, C	4: 0	C4,	C3: 0	C5, C	3: 0	C6,	C3: 0
		C1, C	5: 0	C2, C	5: 0	C3, C	5:0	C4,	C5: 0	C5, C	24: 0	C6,	C4: 0
		C1, C	C1, C6: 0 C2, C6: 0		C3, C	6: 0	C4, C6: 0		C5, C	6: 0	C6,	C5: 0	
Qhyst2	dB	0		0		0			0	0			0
PENALTY_TIME	<del>S</del>	θ		θ		θ			θ	θ			<del>0</del>
TEMPORARY_OFF SET	dB	θ		θ		θ			θ	θ			θ
Treselection	S	0	0			0			0	0			0
Sintrasearch	dB	not s	ent	not s	sent	not s	ent	not	sent	not s	ent	not	sent
Sintersearch	dB	not s	ent	not s	sent	not s	ent	not	sent	not s	ent	not	sent

### 8.3.7.2.4.2 Procedures

- 1) The SS activates cell 1-6 with T1 defined parameters and monitors cell 1 and 2 for random access requests from the UE.
- 2) The UE is switched on.

- 3) A RRC connection is set up according the generic set-up procedure specified in TS 34.108 [3] subclause 7.4.2 to place the UE in URA\_PCH state.
- 4) The SS waits for random access requests from the UE on cell 2.
- 5) After 30 s, the parameters are changed as described for T2.
- 6) The SS waits for random access request from the UE. If the UE responds on cell 1 within 8 s then the number of successful tests is increased by one.
- 7) After another 15 s, the parameters are changed as described for T1.
- 8) The SS waits for random access requests from the UE. If the UE responds on cell 2 within 8 s then the number of successful tests is increased by one.
- 9) Reduce T1 to 15 s and repeat step 5) to 8) [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.

### 8.3.7.2.5 Test requirements

For the test to pass, the total number of successful tests shall be more than 90% with a confidence level of [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.

CHANGE REQUEST								
ж	<b>34.121 CR 181 # rev</b> - <sup># Cu</sup>	Current version: <b>3.9.0</b> <sup>#</sup>						
For <u>HELP</u> or	o using this form, see bottom of this page or look at the p	pop-up text over the # symbols.						
Proposed chang	e affects: UICC apps <b>೫</b> ME Ⅹ Radio Acce	ess Network Core Network						
Title:	# Correction of test parameters of Handover to inter-fr	requency cell test case						
Source:	ដ T1/RF							
Work item code:	¥ <mark>-</mark>	<i>Date:</i>						
Category:	<ul> <li>F Reference of the following categories:</li> <li>F (correction)</li> <li>A (corresponds to a correction in an earlier release)</li> <li>B (addition of feature),</li> <li>C (functional modification of feature)</li> <li>D (editorial modification)</li> <li>Detailed explanations of the above categories can be found in 3GPP <u>TR 21.900</u>.</li> </ul>	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) Rel-6 (Release 6)						

Reason for change:	This change was already approved in 34.121 CR163, but change was not incorporated in 34.121 v.3.9.0.
Summary of change:	lor/loc parameter "Infinity" is replaced by "-Infinity" in table 8.3.2.2.2.
Consequences if	Test parameters are incorrect.
Clauses affected:	§ 8.3.2.2

Other specs affected:	ж	Υ	N X X X	Other core specifications Test specifications O&M Specifications	Ħ	
Other comments:	ж					

### How to create CRs using this form:

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

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

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

## 8.3.2.2 FDD/FDD Hard Handover to inter-frequency cell

### 8.3.2.2.1 Definition and applicability

The hard handover delay 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.

The requirements and this test apply to the FDD UE.

### 8.3.2.2.2 Minimum requirement

The hard handover delay shall be less than 100 ms in CELL\_DCH state in the dual carrier case. The rate of correct handovers observed during repeated tests shall be at least 90% with a confidence level of [FFS]%.

The hard handover delay  $D_{handover}$  equals the RRC procedure delay defined in TS 25.331 clause 13.5.2 plus the interruption time stated in TS 25.133 clause 5.2.2.2 as follows:

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

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

In the interruption requirement T<sub>interrupt2</sub> a cell is known if:

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

The phase reference is the primary CPICH.

The normative reference for this requirement is TS 25.133 [2] clauses 5.2.2 and A.5.2.2.

### 8.3.2.2.3 Test purpose

To verify that the UE meets the minimum requirement.

### 8.3.2.2.4 Method of test

### 8.3.2.2.4.1 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 8.3.2.2.1 and 8.3.2.2.2 below. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A and 2C shall be used. The CPICH Ec/I0 of the best cell on the unused frequency shall be reported together with Event 2C reporting. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a PHYSICAL CHANNEL RECONFIGURATION with activation time at beginning of T3 with one active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE so that the whole message is available at the UE the RRC procedure delay prior to the beginning of T3. The RRC procedure delay is defined in TS 25.331 [8].

Parameter		Unit	Value	Comment
DCH parameters			DL Reference Measurement Channel 12.2 kbps	As specified in TS 34.121 clause C.3.1
Power Contr	ol		On	
Target quality value on DTCH		BLER	0.01	
Compressed	l mode		A.22 set 1	As specified in TS 34.121 clause C.5.
Initial	Active cell		Cell 1	
conditions	Neighbour cell		Cell 2	
Final	Active cell		Cell 2	
conditions				
Threshold non used		dB	-18	Absolute Ec/I0 threshold for event 2C
frequency				
Reporting ra	nge	dB	4	Applicable for event 1A
Hysteresis		dB	0	
W			1	Applicable for event 1A
W non-used	frequency		1	Applicable for event 2C
Reporting deactivation			0	Applicable for event 1A
threshold				
Time to Trigger		ms	0	
Filter coefficient			0	
T1		S	5	
T2		S	10	
T3		S	5	

### Table 8.3.2.2.1: General test parameters for Handover to inter-frequency cell

### Table 8.3.2.2.2: Cell Specific parameters for Handover to inter-frequency cell

Parameter	Unit	Cell 1			Cell 2				
		T1	T2	T3	T1	T2	T3		
UTRA RF Channel			Channel 1			Channel 2			
Number									
CPICH_Ec/lor	dB		-10			-10			
PCCPCH_Ec/lor	dB		-12			-12			
SCH_Ec/lor	dB		-12			-12			
PICH_Ec/lor	dB		-15			-15			
DPCH_Ec/lor	dB	Note1	Note1	Note3	N/A	N/A	Note1		
OCNS		Note2	Note2	Note2	-0.941	-0.941	Note2		
$\hat{I}_{or}/I_{oc}$	dB	0			-1.8 -1.8				
Lac	dBm/		-70						
	3.84								
	MHz								
CPICH_Ec/lo	dB	-13 -Infinity -14					4		
Propagation		AWGN							
Condition									
Note 1: The DPCH level is controlled by the power control loop									
Note 2: The powe	Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to I								
Note 3: The DPCH may not be power controlled by the power control loop.									

### 8.3.2.2.4.2 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 with Compressed mode parameters as in Table 8.3.2.2.1.
- 4) SS shall transmit two MEASUREMENT CONTROL messages, one for each event type.
- 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 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 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

### Specific Message Contents

All messages indicated belowabove shall use the same content as described in the default message content in clause 9 of 34.108 [3] and in Annex A of 34.123-1 [21], with the following exceptions:

First MEASUREMENT CONTROL message, event 2C (step 4):

Information Element/Group name	Value/Remark
Message Type (10.2.17)	
UE information elements	
-RRC transaction identifier	0
-Integrity check info	Not Present
Measurement Information elements	
-Measurement Identity	1
-Measurement Command (10.3.7.46)	Modify
-Measurement Reporting Mode (10.3.7.49)	-
-Measurement Report Transfer Mode	AM RLC
-Periodical Reporting / Event Trigger Reporting Mode	Event trigger
-Additional measurements list (10.3.7.1)	Not Present
-CHOICE Measurement type	Inter-frequency measurement
-Inter-frequency measurement (10.3.7.16)	
-Inter-frequency measurement objects list (10.3.7.13)	Not Present
-Inter-frequency measurement quantity (10.3.7.18)	
-CHOICE reporting criteria	Inter-frequency reporting criteria
-Inter-frequency reporting criteria	
-Filter coefficient	0
-CHOICE mode	FDD
-Measurement quantity for frequency quality estimate	CPICH Ec/N0
-Inter-frequency reporting quantity (10.3.7.21)	
-UTRA Carrier RSSI	FALSE
-Frequency quality estimate	FALSE
-Non frequency related cell reporting quantities (10.3.7.5)	
-SFN-SFN observed time difference reporting indicator	Type 1
-Cell synchronisation information reporting indicator	TRUE
-Cell Identity reporting indicator	TRUE
-CHOICE mode	FDD
-CPICH Ec/N0 reporting indicator	TRUE
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	TRUE
-Reporting cell status (10.3.7.61)	
-CHOICE reported cell	Report cells within monitored set on non-
	used frequency
-Maximum number of reported cells per reported non-used	1
frequency	
-Measurement validity (10.3.7.51)	Not Present
-Inter-frequency set update (10.3.7.22)	Not Present
-CHOICE report criteria	Inter-frequency measurement reporting
	criteria
-Inter-frequency measurement reporting criteria (10.3.7.19)	
-Parameters required for each event	1
-Inter-frequency event identity (10.3.7.14)	Event 2C
-Threshold used frequency	Not Present
-W used frequency	Not Present
-Hysteresis	0 dB
-Time to trigger	0 ms
-Reporting cell status (10.3.7.61)	
-CHOICE reported cell	Report cells within monitored set on non-
	used frequency
-Maximum number of reported cells per reported non-used	1
frequency	
-Parameters required for each non-used frequency	
- I hreshold non-used frequency	-18 dB
-W non-used frequency	1
Physical channel information elements	
-DPCH compressed mode status into (10.3.6.34)	I NOT Present

Second MEASUREMENT CONTROL message, event 1A (step 4):

Information Element/Group name	Value/Remark
Message Type (10.2.17)	
UE information elements	
-RRC transaction identifier	0
-Integrity check info	Not Present
Measurement Information elements	
-Measurement Identity	1
-Measurement Command (10.3.7.46)	Modify
-Measurement Reporting Mode (10.3.7.49)	
-Measurement Report Transfer Mode	AM RLC
-Periodical Reporting / Event Trigger Reporting Mode	Event trigger
-Additional measurements list (10.3.7.1)	Not Present
-CHOICE Measurement type	Inter-frequency measurement
-Inter-frequency measurement (10.3.7.16)	
-Inter-frequency measurement objects list (10.3.7.13)	Not Present
-Inter-frequency measurement quantity (10.3.7.18)	
-CHOICE reporting criteria	Inter-frequency reporting criteria
-Inter-frequency reporting criteria	
-Filter coefficient	0
-CHOICE mode	FDD
-Measurement quantity for frequency quality estimate	CPICH Ec/N0
-Inter-frequency reporting quantity (10.3.7.21)	
-UTRA Carrier RSSI	FALSE
-Frequency quality estimate	FALSE
-Non frequency related cell reporting quantities (10.3.7.5)	
-SFN-SFN observed time difference reporting indicator	Type 1
-Cell synchronisation information reporting indicator	TRUE
-Cell Identity reporting indicator	TRUE
-CHOICE mode	FDD
-CPICH Ec/N0 reporting indicator	TRUE
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	TRUE
-Reporting cell status (10.3.7.61)	
-CHOICE reported cell	Report cells within monitored set on non-
	used frequency
-Maximum number of reported cells per reported non-used	1
frequency	
-Measurement validity (10.3.7.51)	Not Present
-Inter-frequency set update (10.3.7.22)	Not Present
-CHOICE report criteria	Intra-frequency measurement reporting
	criteria
-Intra-frequency measurement reporting criteria (10.3.7.39)	
-Parameters required for each event	1
-Intra-frequency event identity	Event 1A
-Triggering condition 2	Active set cells and monitored set cells
-Reporting Range Constant	4 dB
-Cells forbidden to affect Reporting Range	Not Present
-CHOICE mode	FDD
-Primary CPICH info (10.3.6.60)	
-W	1.0
-Hysteresis	0 dB
-Threshold used frequency	Not Present
-Reporting deactivation threshold	0
-Replacement activation threshold	Not Present
-Time to trigger	0 ms
-Amount of reporting	Not Present (Note 1)
-Reporting interval	0 ms (Note 2)
-Reporting cell status	Not Present
Physical channel information elements	
-DPCH compressed mode status info (10.3.6.34)	Not Present
Note 1: This IE is not needed as "Intra-frequency reporting cri	iteria" is included in the IE "Inter-frequency
measurement"	
Note 2: Reporting interval = 0 ms means no periodical reporti	ng

## PHYSICAL CHANNEL RECONFIGURATION message (step 7):

Information Element	Value/Remark
Message Type	
UE Information Elements	
-RRC transaction identifier	0
-Integrity check info	Not Present
-Integrity protection mode info	Not Present
-Ciphering mode info	Not Present
-Activation time	At T3
-New U-RNTI	Not Present
-New C-RNTI	Not Present
-RRC State Indicator	CELL_DCH
-UTRAN DRX cycle length coefficient	Not Present
CN Information Elements	
-CN Information info	Not Present
UTRAN mobility information elements	Not Descent
-URA Identity	Not Present
RB information elements	Not Dropont
-Downlink counter synchronisation into	Not Present
>RB with PDCP information	Not Present
PhyCH information elements	
-Frequency info (10.3.6.36)	
-CHOICE mode	FDD
-UARFCN uplink(Nu)	Same uplink UARECN as used for cell 2
-UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 2
Uplink radio resources	
-Maximum allowed UL TX power	33 dBm
-CHOICE channel requirement	Uplink DPCH info
-Uplink DPCH info (10.3.6.88)	
-Uplink DPCH power control info (10.3.6.91)	
-CHOICE mode	FDD
-DPCCH power offset	-6dB
- PC Preamble	1 frame
- SRB delay	7 frames
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
-CHOICE mode	FDD
-Scrambling code type	Long
-Scrambling code number	0 (0 to 16777215)
-Number of DPDCH	Not Present(1)
-Spreading factor	SF is reference to 1534.108 clause 6.10
TECI aviatan as	Parameter Set
- IFUI existence	IRUE Not Brocont(0)
-Number of FBI bit	Not Present(0) Reference to TS24 108 clouce 6 10
-Puncluring Limit	Reference to 1534.106 clause 6.10
Downlink radio resources	
-CHOICE mode	FDD
-Downlink PDSCH information	Not Present
-Downlink information common for all radio links (10.3.6.24)	Norrresent
-Downlink DPCH info common for all RI (10.3.6.18)	
-Timing indicator	Initialise
-CFN-targetSFN frame offset	Not Present
-Downlink DPCH power control information (10.3.6.23)	
-DPC mode	0 (single)
-CHOICE mode	FDD
-Power offset P <sub>Pilot-DPDCH</sub>	TBD
-DL rate matching restriction information	Not Present
-Spreading factor	Reference to TS34.108 clause 6.10
	Parameter Set
-Fixed or Flexible Position	Flexible
-TFCI existence	TRUE
-CHOICE SF	Not Present
-Number of bits for Pilot bits(SF=128,256)	Not Present
-CHOICE mode	FDD
<ul> <li>-DPCH compressed mode info (10.3.6.33)</li> </ul>	Not Present (Note 1)

Information Element	Value/Remark					
-TX Diversity mode (10.3.6.86)	None					
-SSDT information (10.3.6.77)	Not Present					
-Default DPCH Offset Value (10.3.6.16)	0					
-Downlink information per radio link list	1					
-Downlink information for each radio link (10.3.6.27)						
-CHOICE mode	FDD					
-Primary CPICH info (10.3.6.60)						
-Primary scrambling code	350					
-PDSCH with SHO DCH info (10.3.6.47)	Not Present					
-PDSCH code mapping (10.3.6.43)	Not Present					
-Downlink DPCH info for each RL (10.3.6.21)						
-CHOICE mode	FDD					
<ul> <li>Primary CPICH usage for channel estimation</li> </ul>	Primary CPICH may be used					
-DPCH frame offset	0 chips					
-Secondary CPICH info	Not Present					
-DL channelisation code						
-Secondary scrambling code	1					
-Spreading factor	Reference to TS34.108 clause 6.10					
	Parameter Set					
-Code number	SF-1(SF is reference to TS34.108 clause					
	6.10 Parameter Set)					
-Scrambling code change	No change					
-TPC combination index	0					
- SSDT Cell Identity	-a					
<ul> <li>Closed loop timing adjustment mode</li> </ul>	Not Present					
- SCCPCH information for FACH (10.3.6.70)	Not Present					
Note 1: IE "DPCH compressed mode info" is not needed as default values are applied that have previously been received in RADIO BEARER SETUP or RRC CONNECTION SETUP						

### MEASUREMENT REPORT message for Inter frequency test cases

This message is common for all inter frequency test cases in clause 8.7 and is described in Annex I.

### 8.3.2.2.5 Test requirements

For the test to pass, the total number of successful tests shall be more than 90% with a confidence level of [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.

CHANGE REQUEST									CR-Form-v7		
ж	TS	<mark>634.121</mark>	CR	182	жrev	-	ж	Current vers	ion:	3.9.0	ж
For <u>HELP</u> o	n u:	sing this fo	rm, see	bottom of this	s page or	look	at the	e pop-up text	over	the ¥ syr	nbols.
Proposed chang	ge a	affects:	JICC a	pps#	ME X	Rac	dio Ad	ccess Networ	'k	Core Ne	twork
Title:	ж	Addtion c	f detai	s for RRM tes	t case 8.7	.3C (	UE t	ransmited po	wer)		
Source:	ж	T1/RF									
Work item code	: X	-						<i>Date:</i>	31/	/07/2002	
Category:	Ħ	F Use <u>one</u> of F (cor A (cor B (add C (fun D (edi Detailed ex be found in	the follo rection) respond dition of ctional torial m olanatio 3GPP	owing categories of to a correctio feature), modification of f odification) ns of the above <u>FR 21.900</u> .	s: n in an ear ēeature) categories	lier re	elease	Release: # Use <u>one</u> of 2 (P) R96 R97 R98 R99 Rel-4 Rel-5 Rel-6	R9 (GSN (Rele (Rele (Rele (Rele (Rele (Rele	9 M Phase 2) Pase 1996) Pase 1997) Pase 1997) Pase 1998) Pase 1999) Pase 4) Pase 5) Pase 6)	eases:

Reason for change: अ	Test case description of RRM test case 8.7.3C is missing in TS 34.121.				
Summary of change: ೫	Addition of test case 8.7.3C - Measurements Performance Requirements; UE transmited power				
Consequences if अ not approved:	Test case description of 8.7.3C remains incomplete.				
Clauses affected: ж	8.7.3C, Annex F.1.5, F.2.4				
Other specs ℜ affected:	Y       N         X       Other core specifications         X       Test specifications         X       O&M Specifications				

### How to create CRs using this form:

Other comments:

ж

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

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

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

## 8.7.3C UE transmitted power

Void.

## 8.7.3C.1 Definition and applicability

The UE transmitted power absolute accuracy is defined as difference between the UE reported value and the UE transmitted power measured by test system. The reference point for the UE transmitted power shall be the antenna connector of the UE.

The requirements and this test apply to all types of UTRA for the FDD UE.

## 8.7.3C.2 Minimum requirements

The measurement period in CELL DCH state is 1 slot.

Table 8.7.3C.2.1 UE transmitted power absolute accuracy
---------------------------------------------------------

Parameter		Accuracy [dB]	
<u>r arameter</u>	<u>om</u>	PUEMAX 24dBm	PUEMAX 21dBm
UE transmitted power=PUEMAX	<u>dBm</u>	<u>+1/-3</u>	<u>±2</u>
UE transmitted power=PUEMAX-1	<u>dBm</u>	<u>+1.5/-3.5</u>	<u>±2.5</u>
UE transmitted power=PUEMAX-2	<u>dBm</u>	<u>+2/-4</u>	<u>±3</u>
UE transmitted power=PUEMAX-3	<u>dBm</u>	<u>+2.5/-4.5</u>	<u>±3.5</u>
PUEMAX-10 UE transmitted power <puemax-3< td=""><td><u>dBm</u></td><td><u>+3/-5</u></td><td><u>±4</u></td></puemax-3<>	<u>dBm</u>	<u>+3/-5</u>	<u>±4</u>

NOTE 1: User equipment maximum output power, PUEMAX, is the maximum output power level without tolerance defined for the power class of the UE in TS 25.101 [1] section 6.2.1.

NOTE 2: UE transmitted power is the reported value.

For each empty slot created by compressed mode, the UE L1 shall respond with a value of -50 dBm.

The normative reference for this requirement is TS 25.133 [2] clause 9.1.6.

## 8.7.3C.3 Test purpose

The purpose of this test is to verify that for any reported value of UE Transmitted Power in the range PUEMAX to PUEMAX-10 that the actual UE mean power lies within the range specified in clause 8.7.3C.2.

## 8.7.3C.4 Method of test

8.7.3C.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.

1) Connect SS to the UE antenna connector as shown in figure A.1.

The test parameters are given in Table 8.7.3C.4.1 and 8.7.3C.4.2 below. In the measurement control information it shall be indicated to the UE that periodic reporting of the UE transmitted power measurement shall be used.

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Parameter	Unit		Value	<u>Comment</u>
DCH parameters		DL Referer	nce Measurement	As specified in TS 25.101 section A.3.1
		Channel 12	2.2 kbps	
Power Control		<u>On</u>		
Target quality value	on <u>BLER</u>	<u>0.01</u>		
DTCH				
	<u>Table 8.7.3C.4.2: (</u>	Cell Specific par	ameters for UE ti	ansmitted power
Г	Parameter	Unit	C	ell <u>1</u>
	CPICH_Ec/lor	<u>dB</u>	-	10
	PCCPCH_Ec/lor	<u>dB</u>	-	<u>12</u>
	SCH_Ec/lor	<u>dB</u>		<u>12</u>
	PICH_Ec/lor	<u>dB</u>	-	<u>15</u>
	DPCH_Ec/lor	<u>dB</u>	N	ote1
	<u>OCNS</u>		No	ote 2
	$\hat{I}_{or}/I_{oc}$	<u>dB</u>		<u>0</u>
	I <sub>oc</sub>	<u>dBm/3.84 MHz</u>	-	<u>70</u>
	CPICH_Ec/lo	<u>dB</u>	-	13
	Propagation Condition		<u>AV</u>	VGN
	Note 1: The DPCH le	vel is controlled by	pop	
	Note 2: The power of the OCNS channel that is added shall make the total			make the total

### Table 8.7.3C.4.1: General test parameters for UE transmitted power

## 8.7.3C.4.2 Procedure

- 1) A call is set up according to the test procedure specified in TS 34.108 [3] subclause 7.3.2.3. The RF parameters are set up according to table 8.7.3C.4.1 and 8.7.3C.4.2. Set the UE power and Maximum allowed UL TX power to the maximum power for the UE power class.
- 2) SS shall send continuously during the entire test Up power control commands to the UE.

power from the cell to be equal to I

3) SS shall transmit the MEASUREMENT CONTROL message as defined in the specific message contents below.

4) Decode the UE Transmitted power reported by the UE in the next available MEASUREMENT REPORT message.

- 5) Measure the mean power of the UE over a period of one timeslot.
- 6) Steps 4 and 5 shall be repeated [100] times.
- 7) Decrease the Maximum allowed UL TX power by 1 dB. The SS shall transmit the PHYSICAL CHANNEL RECONFIGURATION message, as defined in the specific message contents below.
- 8) SS shall wait for the PHYSICAL CHANNEL RECONFIGURATION COMPLETE message from the UE.
- 9) Repeat from step 4) until the Maximum allowed UL TX Power reaches PUEMAX-11.

### Specific Message Contents

All messages indicated above shall use the same content as described in default message content in clause 9 of 34.108 [3] and Annex A of 34.123-1 [21] with the following exceptions:

## MEASUREMENT CONTROL message:

Information Element	Value/Remark
Message Type	
LIE information elements	
-RPC transaction identifier	0
-Integrity check info	Not Present
Measurement Information elements	
-Measurement Identity	1
-Measurement Command	Modify
-CHOICE Measurement type	UE Internal measurement
-UE Internal measurement quantity	
-CHOICE mode	FDD
-Measurement quantity	UE Transmitted power
-Filter coefficient	0
-UE Internal reporting quantity	
-UE Transmitted power	TRUE
-CHOICE mode	<u>FDD</u>
-UE Rx-Tx time difference	FALSE
-CHOICE report criteria	Periodical reporting criteria
-Amount of reporting	<u>Infinity</u>
-Reporting interval	<u>250</u>
-Measurement Reporting Mode	
-Measurement Report Transfer Mode	AM RLC
-Periodical Reporting / Event Trigger Reporting Mode	Periodical reporting
Physical channel information elements	
-DPCH compressed mode status info	Not Present

MEASUREMENT REPORT message:

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

## PHYSICAL CHANNEL RECONFIGURATION message:

Information Element	Value/Remark
Message Type	
LIE Information Elements	
-RRC transaction identifier	0
-Integrity check info	Not Present
-Integrity protection mode info	Not Present
-Ciphering mode info	Not Present
-Activation time	Not Present
-New U-RNTI	Not Present
-New C-RNTI	Not Present
-RRC State Indicator	CELL_DCH
-UTRAN DRX cycle length coefficient	Not Present
CN Information Elements	
-CN Information info	Not Present
UTRAN mobility information elements	
-URA identity	Not Present
RB information elements	
-Downlink counter synchronisation info	Not Present
PhyCH information elements	
-Frequency info	Not Present
Uplink radio resources	
-Maximum allowed UL TX power	At the first time this value is set to PUEMAX-1.
	After the second time this value is
	decreased•with 1 dB from previous value.
Downlink radio resources	
-CHOICE mode	FDD
-Downlink PDSCH information	Not Present
-Downlink information common for all radio links	Not Present
-Downlink information per radio link list	Not Present

## 8.7.3C.5 Test requirements

<u>Compare each of the UE transmitted power reports against the following mean power measurement. At least 90% of the mean power measurements for any one value of reported UE transmitted power shall be within the range specified in table 8.7.3C.5.</u>

<u>NOTE</u> It is not expected or required that the distribution of UE transmitted power reports is even for the 11 possible reported values.

<u>Parameter</u>		Mean Power range [dB]	
	Unit	PUEMAX 24dBm	PUEMAX 21dBm
UE transmitted power=PUEMAX	<u>dBm</u>	+1.7/-3.7	<u>±2.7</u>
UE transmitted power=PUEMAX-1	<u>dBm</u>	+2.2/-4.2	<u>±3.2</u>
UE transmitted power=PUEMAX-2	<u>dBm</u>	+2.7/-4.7	<u>±3.7</u>
UE transmitted power=PUEMAX-3	<u>dBm</u>	+3.2/-5.2	<u>±4.2</u>
UE transmitted power=PUEMAX-4	<u>dBm</u>	+3.7/-5.7	<u>±4.7</u>
UE transmitted power=PUEMAX-5	<u>dBm</u>	+3.7/-5.7	<u>±4.7</u>
UE transmitted power=PUEMAX-6	<u>dBm</u>	+3.7/-5.7	±4.7
UE transmitted power=PUEMAX-7	dBm	+3.7/-5.7	<u>±4.7</u>
UE transmitted power=PUEMAX-8	<u>dBm</u>	+3.7/-5.7	<u>±4.7</u>
UE transmitted power=PUEMAX-9	<u>dBm</u>	+3.7/-5.7	±4.7
UE transmitted power=PUEMAX-10	dBm	+3.7/-5.7	±4.7

## Table 8.7.3C.5 UE transmitted power test requirements

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

## F.1.5 Requirements for support of RRM

## Table F.1.5: Maximum Test System Uncertainty for Radio Resource Management Tests

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
8.2 Idle Mode Tasks		
8.2.2 Cell Re-Selection		
8.2.2.1 Scenario 1: Single carrier case	$ \frac{\hat{I}_{or}/I_{oc}}{I_{oc}} \pm 0.3 \text{ dB} \\ \frac{I_{oc}}{I_{oc}} \pm 1.0 \text{ dB} \\ \frac{CPICH\_E_c}{I_{or}} \pm 0.1 \text{ dB} $	0.1 dB uncertainty in CPICH_Ec ratio 0.3 dB uncertainty in $\hat{I}_{or}/I_{oc}$ based on power meter measurement after the combiner The absolute error of the
		AWGN is specified as 1.0 dB.
8.2.2.2 Scenario 2: Multi carrier case	$ \hat{I}_{or}/I_{oc} = \pm 0.3 \text{ dB} $ $ I_{oc} = \pm 1.0 \text{ dB} $ $ I_{oc} = -1.0 \text{ dB} $	0.1 dB uncertainty in CPICH_Ec ratio
	$I_{oc1}/I_{oc2}$ ±0.3 dB	0.3 dB uncertainty in $I_{or}/I_{oc}$
	$\frac{CPICH\_E_c}{I_{or}} = \pm 0.1 \text{ dB}$	based on power meter measurement after the combiner
		0.3 dB uncertainty in loc1/loc2 based on power meter measurement after the combiner
		Overall error for the CPICH_Ec/lo is the sum of the $\hat{I}_{or}/I_{oc}$ ratio error and the CPICH_Ec/lor ratio.
		The absolute error of the AWGN is specified as 1.0 dB.
8.2.3 UTRAN to GSM Cell Re-Selection		
Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
----------------------------------------------------------	--------------------------------------------------	----------------------------------------------------------------------------------------------
8.2.3.1 Scenario 1: Both UTRA and GSM	$\hat{I}_{ac}/I_{ac}$ ±0.3 dB	0.1 dB uncertainty in
level changed	$I_{\perp}/RXLEV$ ±0.3 dB	CPICH_Ec ratio
	<i>I</i> +1.0 dB	
	RXLEV ±1.0 dB	<u>^</u> /
		0.3 dB uncertainty in $I_{\it or}/I_{\it oc}$
	$\frac{CPICH\_E_c}{I_{or}} = \pm 0.1 \text{ dB}$	based on power meter measurement after the combiner
		0.3 dB uncertainty in loc/RXLEV based on power meter measurement after the combiner
		The absolute error of the AWGN is specified as 1.0 dB.
		The absolute error of the RXLEV is specified as 1.0 dB.
8.2.3.2 Scenario 2: Only UTRA level	$\hat{I}_{or}/I_{oc}$ ±0.3 dB	Same as 8.2.3.1
changed	$I_{oc}/RXLEV$ ±0.3 dB	
	<i>I<sub>oc</sub></i> ±1.0 dB	
	RXLEV ±1.0 dB	
	CDICIL E	
	$\frac{CPICH\_E_c}{\pm 0.1 \text{ dB}}$	
	I <sub>or</sub>	
8.2.4 FDD/TDD cell re-selection	$\hat{I}_{or}/I_{or}$ ±0.3 dB	Same as 8.2.2.2
	$I_{ac}$ ±1.0 dB	
	$\frac{1}{L_{1}}/L_{2}$ +0.3 dB	
	$\frac{CFICH_E_c}{1}$ ±0.1 dB	
	I <sub>or</sub>	
8.3 UTRAN Connected Mode Mobility		No tost caso
8.3.2 FDD/FDD Hard Handover	TBD	
8.3.3 FDD/TDD Handover	TBD	
8.3.4 Inter-system Handover form	TBD	
8.3.5 Cell Re-selection in CELL_FACH		
8.3.5.1 One frequency present in the	TBD	
neighbour list 8.3.5.2 Two frequencies present in the	TBD	
neighbour list		
8.3.6 Cell Re-selection in CELL_PCH	100	
8.3.6.1 One frequency present in the neighbour list	IBD	
8.3.6.2 Two frequencies present in the	ТВD	
8.3.7 Cell Re-selection in URA PCH		
8.3.7.1 One frequency present in the	ТВD	
neighbour list		
neighbour list		
8.4 RRC Connection Control	ТВО	
8.4.1 RRC Re-establishment delay		

Clause	Maximum Test System Uncertainty	Derivation of Test System
8.4.2 Random Access	$\hat{I}_{or}/I_{oc}$ ±0.3 dB	0.1 dB uncertainty in AICH_Ec
	<i>I<sub>oc</sub></i> ±1.0 dB	ratio
	AICH $\_E_c$	0.3 dB uncertainty in $\hat{I}_{or}/I_{oc}$
	$I_{or}$ ±0.1 dB	based on power meter measurement after the combiner
		Overall error is the sum of the
		$\hat{I}_{or} ig   I_{oc}$ ratio error and the AICH_Ec/lor ratio.
		The absolute error of the AWGN is specified as 1.0 dB
8.5 Timing and Signalling Characteristics		
8.5.1 UE Transmit Timing	$I_{or}$ ±1.0 dB $I_{or1}/I_{or2}$ ±0.3 dB	DPCH_Ec ratio
	$\frac{DPCH\_E_c}{I_{or}} = \pm 0.1 \text{ dB}$	0.3 dB uncertainty in lor1/lor2 based on power meter measurement after the combiner
		The absolute error of the lor is specified as 1.0 dB.
8.6 UE Measurements Procedures		
8.6.1 FDD intra frequency measurements		
8.6.1.1 Event triggered reporting in AWGN propagation conditions	IBD	
8.6.1.2 Event triggered reporting of multiple neighbours in AWGN propagation condition	TBD	
8.6.1.3 Event triggered reporting of two detectable neighbours in AWGN	TBD	
8.6.1.4 Correct reporting of neighbours in fading propagation condition	ТВО	
8.6.2 FDD inter frequency measurements		
8.6.2.1 Correct reporting of neighbours in AWGN propagation condition	TBD	
8.6.2.2 Correct reporting of neighbours in Eading propagation condition	ТВО	
8.6.3 TDD measurements	TBD	
8.6.3.1Correct reporting of TDD	TBD	
neighbours in AWGN propagation condition		
8.7 Measurements Performance		
871 CPICH RSCP		
8.7.1.1 Intra frequency measurements		Same as 8.2.2.1
accuracy	$I_{or}/I_{oc}$ ±1.0 dB	
	$CPICH \_E_c$	
	$I_{or}$ ±0.1 dB	

I

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
8.7.1.2 Inter frequency measurement	$\hat{I}_{u}/I_{u}$ ±0.3 dB	Same as 8.2.2.2
accuracy	I + 10  dB	
	$I_{oc1}/I_{oc2}$ ±0.3 dB	
	$CPICH \_E_c$ +0.1 dB	
8.7.2 CPICH Ec/lo	07	
8.7.1.1 Intra frequency measurements	$\hat{I}_{or}/I_{oc}$ ±0.3 dB	Same as 8.2.2.1
accuracy	<i>I<sub>oc</sub></i> ±1.0 dB	
	CPICH E	
	$\frac{UTUTL_c}{L} = \pm 0.1 \text{ dB}$	
	1 <sub>or</sub>	
8.7.1.2 Inter frequency measurement	$\hat{I}_{or}/I_{oc}$ ±0.3 dB	Same as 8.2.2.2
	<i>I<sub>oc</sub></i> ±1.0 dB	
	$I_{ac1}/I_{ac2}$ ±0.3 dB	
	CPICH E	
	$\frac{U + U + U}{U} = \frac{U}{U} = \frac{U}{U} + \frac{U}{U} = \frac{U}{U} + \frac{U}{U} + \frac{U}{U} = \frac{U}{U} + \frac{U}{U$	
8.7.3 <u>A</u> UTRA Carrier RSSI	$\hat{I}_{or}/I_{oc}$ ±0.3 dB	0.3 dB uncertainty in $\hat{I}_{or}/I_{oc}$
	<i>I<sub>oc</sub></i> ±1.0 dB	based on power meter
	$I_{ac1}/I_{ac2}$ ±0.3 dB	measurement after the
		combiner
		0.3 dB uncertainty in loc1/loc2
		based on power meter
		combiner
		The absolute error of the
		AWGN is specified as 1.0 dB
8.7.3B Transport channel BLER	TBD	
8.7.3C UE Transmitted power	Mean power measurement ±0,7 dB	Downlink parameters are
		unimportant.
8.7.4 SEN-CEN observed time difference	TBD	
8.7.5 SFN-SFN observed time difference	TBD	
8.7.6 UE Rx-Tx time difference	$\hat{I}_{or}/I_{oc}$ ±0.3 dB	0.3 dB uncertainty in $\hat{I}_{u}/I_{u}$
	<i>I<sub>oc</sub></i> ±1.0 dB	based on power meter
		measurement after the
	Rx-Tx Timing Accuracy[±0.5 chip]	combiner
		The absolute error of the
		AWGN is specified as 1.0 dB.
8.7.7. Observed time difference to CSM		
cell		
8.7.8 P-CCPCH RSCP	TBD	

# F.2.4 Requirements for support of RRM

## Table F.2.4: Test Tolerances for Radio Resource Management Tests

Clause	Test Tolerance
8.2 Idle Mode Tasks	
8.2.2 Cell Re-Selection	
8.2.2.1 Scenario 1: Single carrier case	$0.2 dD tor \hat{L} / L$
	0.3 dB for $I_{or}/I_{oc}$
	0.1 dB for CPICH_Ec/lor
8.2.2.2 Scenario 2: Multi carrier case	0.3 dB for $\hat{I}$ /I
	0.1 dB for CPICH_Ec/lor
8.2.3 UTRAN to GSM Cell Re-Selection	<b>^</b> /
6.2.3.1 Scenario T. Both UTRA and GSM	0.3 dB for $I_{or}/I_{oc}$
level changed	0.1 dB for CPICH_Ec/lor
	0.3 dB for loc/RXLEV
8.2.3.2 Scenario 2: Only UTRA level	$\hat{L}$
changed	0.3 dB for $I_{or}/I_{oc}$
	0.1 dB for CPICH_Ec/lor
	0.3 dB for loc/RXLEV
8.2.4 FDD/TDD cell re-selection	0.3 dB for $\hat{I}$ /I
	0.1 dP for CPICH Eq/lor
	0.1 dB for loc1/loc2
8.3 UTRAN Connected Mode Mobility	
8.3.1 EDD/EDD Soft Handover	
8 3 2 EDD/EDD Hard Handover	TBD
8 3 3 EDD/TDD Handover	TBD
8.3.4 Inter-system Handover form	TBD
UTRAN FDD to GSM	
8.3.5 Cell Re-selection in CELL_FACH	
8.3.5.1 One frequency present in the	TBD
neighbour list	
8.3.5.2 Two frequencies present in the	TBD
neighbour list	
8.3.6 Cell Re-selection in CELL_PCH	
8.3.6.1 One frequency present in the	TBD
neighbour list	700
8.3.6.2 Two frequencies present in the	IBD
Regnoour list	
8.3.7 Cell Re-selection in URA_FCH	
neighbour list	
8.3.7.2 Two frequencies present in the	TBD
neighbour list	
8.4 RRC Connection Control	
8.4.1 RRC Re-establishment delay	TBD
8.4.2 Random Access	0.3 dB for $\hat{I}$ /I
	$rac{1}{2}$
0.5 Timing and Oignalling Observatoristics	0.1 dB for AICH_EC/Ior
8.5 Timing and Signalling Characteristics	
8.6 LE Magguramenta Procedures	
8.6.1 EDD intra frequency measurements	
8.6.1.1 Event triggered reporting in	TBD
AWGN propagation conditions	
8.6.1.2 Event triggered reporting of	TBD
multiple neighbours in AWGN	
propagation condition	
8.6.1.3 Event triggered reporting of two	TBD
detectable neighbours in AWGN	
propagation condition	
8.6.1.4 Correct reporting of neighbours in	TBD
rading propagation condition	
0.0.2 FUD Inter frequency measurements	

8.6.2.1 Correct reporting of neighbours in AWGN propagation condition       TBD         8.6.2.2 Correct reporting of neighbours in Fading propagation condition       TBD         8.6.3.1 Correct reporting of TDD neighbours in AWGN propagation condition       TBD         8.6.3.1 Correct reporting of TDD neighbours in AWGN propagation condition       TBD         8.7.1 CPICH RSCP       TBD         8.7.1 CPICH RSCP       0.3 dB for $\hat{f}_{or}/I_{oc}$ 8.7.1.1 Intra frequency measurements accuracy       0.3 dB for $\hat{f}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurement accuracy       0.3 dB for $\hat{f}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurement accuracy       0.3 dB for $\hat{f}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurements accuracy       0.3 dB for $\hat{f}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurements accuracy       0.3 dB for $\hat{f}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurements accuracy       0.3 dB for $\hat{f}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurement accuracy       0.3 dB for $\hat{f}_{or}/I_{oc}$ 8.7.3 LUTRA Carrier RSSI       0.3 dB for $\hat{f}_{or}/I_{oc}$ 8.7.3 LUTRA Carrier RSSI       0.3 dB for $\hat{f}_{or}/I_{oc}$ 8.7.3 EV CFN observed time difference       8.7.4 SFN-CFN observed time difference         8.7.4 SFN-CFN observed time difference       0.3 dB for $\hat{f}_{or}/I_{oc}$	Clause	Test Tolerance
AWGN propagation condition8.6.2.2 Correct reporting of neighbours in Fading propagation conditionTBD8.6.3 TDD measurementsTBD8.6.3.1Correct reporting of TDD neighbours in AWGN propagation conditionTBD8.7.10 EnvironmentsTBD8.7.1.2 Intra frequency measurement accuracy0.3 dB for $\hat{f}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor 1.0 dB for loc8.7.1.2 Inter frequency measurement accuracy0.3 dB for $\hat{f}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor 1.0 dB for loc8.7.1.2 Inter frequency measurement accuracy0.3 dB for $\hat{f}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor 0.3 dB for $\hat{f}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor 0.3 dB for $\hat{f}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor8.7.1.2 Inter frequency measurements accuracy0.3 dB for $\hat{f}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor8.7.1.2 Inter frequency measurements accuracy0.3 dB for $\hat{f}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor8.7.1.2 Inter frequency measurement accuracy0.3 dB for $\hat{f}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor8.7.3 UTRA Carrier RSSI0.3 dB for $\hat{f}_{or}/I_{oc}$ 1.0 dB for loc8.7.3 UTRA Carrier RSSI0.3 dB for $\hat{f}_{or}/I_{oc}$ 1.0 dB for loc8.7.4 SFN-CFN observed time difference 8.7.6 UE Rx-Tx time difference0.3 dB for $\hat{f}_{or}/I_{oc}$ 1.0 dB for loc [0.5 chip] for Rx-Tx Timing Accuracy8.7.7 Observed time difference eTBD8.7.8 P-CCPCH RSCPTBD	8.6.2.1 Correct reporting of neighbours in	TBD
8.6.2.2 Correct reporting of neighbours in Fading propagation condition       TBD         8.6.3.1 TDD measurements       8.6.3.1 Correct reporting of TDD         Neighbours in AWGN propagation condition       TBD         8.7.10 Exercence       TBD         8.7.10 Exercence       TBD         8.7.11 Intra frequency measurements accuracy       0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurement accuracy       0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurement accuracy       0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurement accuracy       0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurements accuracy       0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurements accuracy       0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurements accuracy       0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurement accuracy       0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurement accuracy       0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurement accuracy       0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.3 LUTRA Carrier RSSI       0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.3 LUTRA Carrier RSSI       0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.3 CUE Transmitted power       0.7 dB for mean power measurement by test system	AWGN propagation condition	
Fading propagation condition8.6.3 TDD measurements8.6.3.1Correct reporting of TDD neighbours in AWGN propagation condition8.7 Measurements PerformanceRequirements8.7.1 CPICH RSCP8.7.1.1 Intra frequency measurements accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor 1.0 dB for loc8.7.1.2 Inter frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor 0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.4 dB for loc8.7.1.1 Intra frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.4 dB for loc8.7.1.2 Inter frequency measurements accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.4 dB for CPICH_Ec/lor 0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc8.7.1.2 Inter frequency measurements accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor8.7.1.2 Inter frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc8.7.3 LUTRA Carrier RSSI0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc8.7.3 DUTRA Carrier RSSI0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc8.7.3 SFN-CFN observed time difference8.7.4 SFN-CFN observed time difference8.7.6 UE Rx-Tx time difference8.7.7 Observed time difference to GSM cellRelR.7.7 Observed time difference to GSM cellR.7.8 P-CCPCH RSCPTBD	8.6.2.2 Correct reporting of neighbours in	TBD
8.6.3 TDD measurements         8.6.3.1 Correct reporting of TDD neighbours in AWGN propagation condition         8.7 Measurements Performance Requirements         8.7.1 CPICH RSCP         8.7.1.1 Intra frequency measurements accuracy         0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor         1.0 dB for loc         8.7.1.2 Inter frequency measurement accuracy         0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor         0.3 dB for loc1/loc2         1.0 dB for loc         8.7.1.1 Intra frequency measurement accuracy         0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor         0.3 dB for loc1/loc2         1.0 dB for loc         8.7.1.2 Inter frequency measurements accuracy         0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.3 dB for CPICH_Ec/lor         8.7.1.2 Inter frequency measurement accuracy         0.3 dB for CPICH_Ec/lor         8.7.3.4 UTRA Carrier RSSI         0.3 dB for loc         8.7.3.5 Transport channel BLER         8.7.4 SFN-CFN observed time difference         8.7.5 SFN-SFN observed time difference         8.7.6 UE Rx-Tx time difference         8.7.7 Observed time difference to GSM         8.7.8 P-CCPCH RSCP       TBD   <	Fading propagation condition	
8.6.3.1Correct reporting of TDD       TBD         neighbours in AWGN propagation       TBD         8.7.14 Besurements       TBD         8.7.1.1 Intra frequency measurements       0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurement       0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurements       0.3 dB for CPICH_Ec/lor         8.7.1.1 Intra frequency measurements       0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurement       0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurement       0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurement       0.3 dB for $\hat{I}_{or}/I_{oc}$ 9.3 dB for OPICH_Ec/lor       0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurement       0.3 dB for $\hat{I}_{or}/I_{oc}$ 9.3 dB for Ioc       0.3 dB for Ioc         8.7.1.2 Inter frequency measurement       0.3 dB for $\hat{I}_{or}/I_{oc}$ 9.3 dB for Ioc       0.3 dB for Ioc         8.7.3.5 UTRA Carrier	8.6.3 TDD measurements	
neighbours in AWGN propagation conditionTBD8.7 Measurements Performance RequirementsTBD8.7.1 CPICH RSCP0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.1.1 Intra frequency measurements accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.2 CPICH Ec/lo0.3 dB for loc1/loc2 1.0 dB for loc8.7.1.1 Intra frequency measurements accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.2 CPICH Ec/lo0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurements accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.2 Linter frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.3 Linter frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.3 LUTRA Carrier RSSI0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.3 B Transport channel BLERTBD8.7.3 C UE Transmitted power s.7.5 SFN-SFN observed time difference0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.4 SFN-CFN observed time difference0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.6 UE Rx-Tx time difference0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.7 Observed time difference0.3 dB for $\hat{I}_{or}$ 8.7.7 Observed time difference to GSM cellTBD8.7.8 P-CCPCH RSCPTBD	8.6.3.1Correct reporting of TDD	TBD
conditionTBD8.7 Measurements Performance RequirementsTBD8.7.1 CPICH RSCP0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.1.1 Intra frequency measurements accuracy0.3 dB for $\hat{O}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurement accuracy0.3 dB for $\hat{O}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurement accuracy0.3 dB for $\hat{O}_{or}/I_{oc}$ 8.7.2 CPICH Ec/lo0.3 dB for loc8.7.1.1 Intra frequency measurements accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.2 CPICH Ec/lo0.3 dB for CPICH_Ec/lor8.7.1.1 Intra frequency measurements accuracy0.3 dB for CPICH_Ec/lor8.7.1.2 Inter frequency measurements accuracy0.3 dB for CPICH_Ec/lor8.7.1.2 Inter frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.3 <u>A</u> UTRA Carrier RSSI0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc0.7 dB for mean power measurement by test system8.7.4 SFN-CFN observed time difference0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.4 SFN-CFN observed time difference0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.6 UE Rx-Tx time difference0.3 dB for loc [0.5 chip] for Rx-Tx Timing Accuracy8.7.7 Observed time difference to GSM cellTBD8.7.8 P-CCPCH RSCPTBD	neighbours in AWGN propagation	
8.7 MeasurementsTBDRequirements8.7.1.1 Intra frequency measurements accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor 1.0 dB for loc8.7.1.2 Inter frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor 0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor 0.3 dB for loc8.7.2 CPICH Ec/lo0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor 0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.1.1 Intra frequency measurement accuracy0.3 dB for $\hat{P}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor8.7.1.2 Inter frequency measurement accuracy0.3 dB for $\hat{P}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor8.7.3 UTRA Carrier RSSI0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc8.7.3 B Transport channel BLER 8.7.3 STN-SFN observed time difference 8.7.6 UE Rx-Tx time difference0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc 1.0 dB for loc8.7.7 Observed time difference 8.7.7 Observed time difference to GSM cell0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc 1.0 d	condition	
Requirements8.7.1 CPICH RSCP8.7.1.1 Intra frequency measurements accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor 1.0 dB for loc8.7.1.2 Inter frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.3 dB for loc8.7.2 CPICH Ec/lo8.7.2 CPICH Ec/lo8.7.1.1 Intra frequency measurements accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor8.7.3 UTRA Carrier RSSI0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc8.7.35 Transport channel BLER 8.7.3 SFN-SFN observed time difference8.7.4 SFN-CFN observed time difference8.7.5 SFN-SFN observed time difference8.7.6 UE Rx-Tx time difference8.7.7 Observed time difference to GSM cell8.7.8 P-CCPCH RSCPTBD	8.7 Measurements Performance	TBD
8.7.1 CPICH RSCP8.7.1.1 Intra frequency measurements accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor 1.0 dB for loc8.7.1.2 Inter frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor 0.3 dB for loc1/loc2 1.0 dB for loc8.7.2 CPICH Ec/lo0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor8.7.1.1 Intra frequency measurements accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor8.7.1.2 Inter frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor8.7.3_0 UTRA Carrier RSSI0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc8.7.3_0 UTRA Carrier RSSI0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc 8.7.3 ETransport channel BLER 8.7.4 SFN-CFN observed time difference 8.7.5 SFN-SFN observed time difference8.7.6 UE Rx-Tx time difference 8.7.7 Observed time difference to GSM cell0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc [0.5 chip] for Rx-Tx Timing Accuracy8.7.7 Dbserved time difference to GSM cellTBD	Requirements	
8.7.1.1 Intra frequency measurements accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor 1.0 dB for loc0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor 0.3 dB for CPICH_Ec/lor 0.3 dB for loc1/loc2 1.0 dB for loc0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.2 CPICH Ec/lo 8.7.1.1 Intra frequency measurements accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.3 LITRA Carrier RSSI0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.3 LITRA Carrier RSSI0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.3 C UE Transmitted power0.7 dB for mean power measurement by test system8.7.4 SFN-CFN observed time difference 8.7.6 UE Rx-Tx time difference0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.7 Observed time difference to GSM cell0.3 dB for Ic ac8.7.8 P-CCPCH RSCPTBD	8.7.1 CPICH RSCP	
accuracy $I = I + I + I + I + I + I + I + I + I + $	8.7.1.1 Intra frequency measurements	0.3 dB for $\hat{I}$ /I
0.1 dB for CPICH_Ec/lor 1.0 dB for loc8.7.1.2 Inter frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.3 dB for CPICH_Ec/lor 0.3 dB for loc1/loc2 1.0 dB for loc8.7.2 CPICH Ec/lo8.7.1.1 Intra frequency measurements accuracy8.7.1.1 Intra frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor8.7.1.2 Inter frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor8.7.3 UTRA Carrier RSSI0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc8.7.3B Transport channel BLER 8.7.3 C UE Transmitted powerTBD 0.7 dB for mean power measurement by test system8.7.6 UE Rx-Tx time difference 8.7.6 UE Rx-Tx time difference to GSM cell0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc 1.0 dB for loc 1	accuracy	$r_{or}/r_{oc}$
1.0 dB for foc8.7.1.2 Inter frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/Ior 0.3 dB for loc1/Ioc2 1.0 dB for loc8.7.2 CPICH Ec/Io0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/Ior8.7.1.1 Intra frequency measurements accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/Ior8.7.1.2 Inter frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/Ior8.7.1.2 Inter frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for CPICH_Ec/Ior8.7.3A UTRA Carrier RSSI0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc8.7.3B Transport channel BLER 8.7.3C UE Transmitted powerTBD 0.7 dB for mean power measurement by test system8.7.4 SFN-CFN observed time difference 8.7.6 UE Rx-Tx time difference0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc [0.5 chip] for Rx-Tx Timing Accuracy8.7.7 Observed time difference to GSM cellTBD8.7.8 P-CCPCH RSCPTBD		0.1 dB for CPICH_EC/lor
8.7.1.2 inter frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor 0.3 dB for loc0.3 dB for loc1/loc2 1.0 dB for loc8.7.2 CPICH Ec/lo0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.1.1 Intra frequency measurements accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.3 Inter frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.3 Inter frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.3 M UTRA Carrier RSSI0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.3 dB for loc0.7 dB for mean power measurement by test system8.7.4 SFN-CFN observed time difference0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.6 UE Rx-Tx time difference0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.7 Observed time difference to GSM cellTBD8.7.8 P-CCPCH RSCPTBD	0.7.1.0 later frequency measurement	
accuracy0.1 dB for CPICH_Ec/lor 0.3 dB for loc2 1.0 dB for loc2 1.0 dB for loc28.7.2 CPICH Ec/lo	8.7.1.2 Inter frequency measurement	0.3 dB for $I_{ar}/I_{ac}$
8.7.2 CPICH Ec/lo8.7.1 Intra frequency measurements accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.3 dB for $\hat{P}_{or}/I_{oc}$ 0.3 dB for $\hat{P}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor8.7.1.2 Inter frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor8.7.3 d UTRA Carrier RSSI0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc8.7.3B Transport channel BLER8.7.3C UE Transmitted power0.7 dB for mean power measurement by test system8.7.4 SFN-CFN observed time difference8.7.6 UE Rx-Tx time difference8.7.7 Observed time difference to GSM cell8.7.8 P-CCPCH RSCPTBD	accuracy	0.1 dB for CPICH_Ec/lor
1.0 dB for loc8.7.2 CPICH Ec/lo8.7.1.1 Intra frequency measurements accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor8.7.1.2 Inter frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor8.7.3 UTRA Carrier RSSI0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc8.7.3B Transport channel BLER8.7.3C UE Transmitted power8.7.4 SFN-CFN observed time difference8.7.5 SFN-SFN observed time difference8.7.6 UE Rx-Tx time difference8.7.7 Observed time difference to GSM cell8.7.8 P-CCPCH RSCPTBD		0.3  dB for loc1/loc2
8.7.2 CPICH Ec/loInstruction8.7.1.1 Intra frequency measurements accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor8.7.1.2 Inter frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor8.7.3 d UTRA Carrier RSSI0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc8.7.3B Transport channel BLERTBD 8.7.3C UE Transmitted power8.7.4 SFN-CFN observed time difference0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc8.7.5 SFN-SFN observed time difference0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc8.7.6 UE Rx-Tx time difference0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc8.7.7 Observed time difference to GSM cellTBD8.7.8 P-CCPCH RSCPTBD		1.0 dB for loc
8.7.1.1 Intra frequency measurements accuracy       0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor         8.7.1.2 Inter frequency measurement accuracy       0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor         8.7.3 d UTRA Carrier RSSI       0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc         8.7.3 D Transport channel BLER       TBD         8.7.3 C UE Transmitted power       0.7 dB for mean power measurement by test system         8.7.4 SFN-CFN observed time difference       0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.6 UE Rx-Tx time difference       0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.7 Observed time difference to GSM cell       TBD         8.7.8 P-CCPCH RSCP       TBD	8.7.2 CPICH Ec/lo	
accuracy0.3 dB for $I_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.1.2 Inter frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.3 d UTRA Carrier RSSI0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.3 D Transport channel BLERTBD8.7.3 C UE Transmitted power0.7 dB for mean power measurement by test system8.7.4 SFN-CFN observed time difference0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.6 UE Rx-Tx time difference0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.7 Observed time difference to GSM cellTBD8.7.8 P-CCPCH RSCPTBD	8.7.1.1 Intra frequency measurements	
0.1 dB for CPICH_Ec/lor8.7.1.2 Inter frequency measurement accuracy0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor8.7.3A UTRA Carrier RSSI0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc8.7.3B Transport channel BLERTBD 8.7.3C UE Transmitted power8.7.4 SFN-CFN observed time difference0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc8.7.6 UE Rx-Tx time difference0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc [0.5 chip] for Rx-Tx Timing Accuracy8.7.7 Observed time difference to GSM cellTBD8.7.8 P-CCPCH RSCPTBD	accuracy	0.3 dB for $I_{or}/I_{oc}$
8.7.1.2 Inter frequency measurement accuracy       0.3 dB for $\hat{I}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor         8.7.3 <u>A</u> UTRA Carrier RSSI       0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc         8.7.3B Transport channel BLER       TBD         8.7.3C UE Transmitted power       0.7 dB for mean power measurement by test system         8.7.4 SFN-CFN observed time difference       8.7.5 SFN-SFN observed time difference         8.7.6 UE Rx-Tx time difference       0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc       [0.5 chip] for Rx-Tx Timing Accuracy         8.7.7 Observed time difference to GSM cell       TBD	-	0.1 dB for CPICH_Ec/lor
accuracy0.3 dB for $I_{or}/I_{oc}$ 8.7.3A UTRA Carrier RSSI0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.3E Transport channel BLERTBD8.7.3C UE Transmitted power0.7 dB for mean power measurement by test system8.7.4 SFN-CFN observed time difference8.7.5 SFN-SFN observed time difference8.7.6 UE Rx-Tx time difference0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc [0.5 chip] for Rx-Tx Timing Accuracy8.7.7 Observed time difference to GSM cellTBD8.7.8 P-CCPCH RSCPTBD	8.7.1.2 Inter frequency measurement	0.2 dB for $\hat{I}$ /I
0.1 dB for CPICH_Ec/lor         8.7.3 <u>A</u> UTRA Carrier RSSI       0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc         8.7.3 <u>B</u> Transport channel BLER       TBD         8.7.3 <u>C</u> UE Transmitted power       0.7 dB for mean power measurement by test system         8.7.4 SFN-CFN observed time difference       0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.6 UE Rx-Tx time difference       0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc       [0.5 chip] for Rx-Tx Timing Accuracy         8.7.7 Observed time difference to GSM cell       TBD	accuracy	
8.7.3A UTRA Carrier RSSI       0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc         8.7.3B Transport channel BLER       TBD         8.7.3C UE Transmitted power       0.7 dB for mean power measurement by test system         8.7.4 SFN-CFN observed time difference       0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.5 SFN-SFN observed time difference       0.3 dB for $\hat{I}_{or}/I_{oc}$ 8.7.6 UE Rx-Tx time difference       0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc       [0.5 chip] for Rx-Tx Timing Accuracy         8.7.7 Observed time difference to GSM cell       TBD		0.1 dB for CPICH_Ec/lor
and the sec of the sec	8.7.3 <u>A</u> UTRA Carrier RSSI	0.3 dB for $\hat{I}_{\rm m}/I_{\rm m}$
8.7.3B Transport channel BLER       TBD         8.7.3C UE Transmitted power       0.7 dB for mean power measurement by test system         8.7.4 SFN-CFN observed time difference       8.7.5 SFN-SFN observed time difference         8.7.6 UE Rx-Tx time difference       0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc       [0.5 chip] for Rx-Tx Timing Accuracy         8.7.7 Observed time difference to GSM cell       TBD         8.7.8 P-CCPCH RSCP       TBD		$\frac{1}{0} \frac{dP}{dP}$ for loc
B.7.3D Transport chariner BLER       TBD         8.7.3C UE Transmitted power       0.7 dB for mean power measurement by test system         8.7.4 SFN-CFN observed time difference       8.7.5 SFN-SFN observed time difference         8.7.6 UE Rx-Tx time difference       0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc       [0.5 chip] for Rx-Tx Timing Accuracy         8.7.7 Observed time difference to GSM cell       TBD         8.7.8 P-CCPCH RSCP       TBD	8 7 28 Transport channel BLEP	
8.7.5 CFN observed time difference         8.7.6 UE Rx-Tx time difference         0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc         [0.5 chip] for Rx-Tx Timing Accuracy         8.7.7 Observed time difference to GSM cell         8.7.8 P-CCPCH RSCP	8.7.30 HE Transmitted power	<u>IBD</u> 0.7 dB for mean power measurement by
8.7.4 SFN-CFN observed time difference         8.7.5 SFN-SFN observed time difference         8.7.6 UE Rx-Tx time difference         0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc         [0.5 chip] for Rx-Tx Timing Accuracy         8.7.7 Observed time difference to GSM cell         8.7.8 P-CCPCH RSCP	6.7.3C DE Transmilled power	0.7 dB for mean power measurement by
8.7.5 SFN-SFN observed time difference         8.7.6 UE Rx-Tx time difference         0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc         [0.5 chip] for Rx-Tx Timing Accuracy         8.7.7 Observed time difference to GSM cell         8.7.8 P-CCPCH RSCP	8.7.4 SEN-CEN observed time difference	
8.7.6 UE Rx-Tx time difference       0.3 dB for $\hat{I}_{or}/I_{oc}$ 1.0 dB for loc       [0.5 chip] for Rx-Tx Timing Accuracy         8.7.7 Observed time difference to GSM cell       TBD         8.7.8 P-CCPCH RSCP       TBD	8.7.5 SEN-SEN observed time difference	
0.3 dB for $I_{or}/I_{oc}$ 1.0 dB for loc       [0.5 chip] for Rx-Tx Timing Accuracy       8.7.7 Observed time difference to GSM       cell       8.7.8 P-CCPCH RSCP	8.7.6 LIF Ry-Ty time difference	<u>^</u> /_
1.0 dB for loc       [0.5 chip] for Rx-Tx Timing Accuracy       8.7.7 Observed time difference to GSM cell       8.7.8 P-CCPCH RSCP		0.3 dB for $I_{or}/I_{oc}$
[0.5 chip] for Rx-Tx Timing Accuracy       8.7.7 Observed time difference to GSM cell       8.7.8 P-CCPCH RSCP		1.0 dB for loc
8.7.7 Observed time difference to GSM     TBD       cell		[0.5 chip] for Rx-Tx Timing Accuracy
cell       8.7.8 P-CCPCH RSCP     TBD	8.7.7 Observed time difference to GSM	TBD
8.7.8 P-CCPCH RSCP TBD	cell	
	8.7.8 P-CCPCH RSCP	TBD

## Table F.4.4: Derivation of Test Requirements (RRM tests)

Test	Test Parameters in TS 25.133	Test Tolerance (TT)	Test Requirement in TS 34.121
8.2 Idle Mode Tasks			
8.2.2 Cell Re-Selection			
8.2.2.1 Scenario 1: Single carrier case	$\frac{CPICH_E_c}{I_{or}} = -10 \text{ dB}$ $I_{oc} = -70 \text{ dBm}$ $Ior/Ioc = 7.3 \text{ dB}$ Note: Parameters are valid for cell 1 at time T1 and cell 2 at time T2	0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$ 0.3 dB for lor/loc	Formulas: $\frac{CPICH \_ E_c}{I_{or}} = \text{ratio} - \text{TT}$ lor/loc = ratio - TT $I_{oc} \text{ unchanged}$ lor/loc = 7 dB $\frac{CPICH \_ E_c}{I_{or}} -10.1 \text{ dB}:$

Test	Test Parameters in TS 25.133	Test Tolerance (TT)	Test Requirement in TS 34.121
8.2.2.2 Scenario 2: Multi carrier case	TS 25.133 $\frac{CPICH_{-}E_{c}}{I_{or}} = -10 \text{ dB}$ $I_{oc} = -70 \text{ dBm}$ $Ior/Ioc = 10.27 \text{ dB}$ Note: Parameters are valid for cell 1 at time T2 and cell 2 at time T1 $\frac{CPICH_{-}E_{c}}{I_{or}} = -10 \text{ dB}$ $I_{oc} = -70 \text{ dBm}$ $Ior/Ioc = -2.4 \text{ dB}$	$(TT)$ 0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$ 0.3 dB for lor/loc $0.1 dB for$ $\frac{CPICH\_E_c}{I_{or}}$ 0.3 dB for lor/loc	Formulas: $\frac{CPICH\_E_c}{I_{or}} = \text{ratio} + \text{TT}$ $\text{lor/loc} = \text{ratio} + \text{TT}$ $\text{loc unchanged}$ $\text{lor/loc} = 10.57 \text{ dB}$ $\frac{CPICH\_E_c}{I_{or}} -9.9 \text{ dB}:$ Formulas: $\frac{CPICH\_E_c}{I_{or}} = \text{ratio} - \text{TT}$ $\text{lor/loc} = \text{ratio} - \text{TT}$
	lor/loc = -3.4 dB Note: Parameters are valid for cell 1 at time T1 and cell 2 at time T2 $\frac{CPICH\_E_c}{I_{or}} = -10 \text{ dB}$ $I_{oc} = -70 \text{ dBm}$ lor/loc = 2.2 dB Note: Parameters are valid for cell 1 at time T2 and cell 2 at time T1	0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$ 0.3 dB for lor/loc	loc unchanged loc ratio unchanged lor/loc = -3.7 dB $\frac{CPICH \_ E_c}{I_{or}} -10.1 \text{ dB:}$ Formulas: $\frac{CPICH \_ E_c}{I_{or}} = \text{ratio} + \text{TT}$ lor/loc = ratio + TT loc unchanged loc ratio unchanged loc ratio unchanged lor/loc = 2.5 dB
823 LITRAN to GSM	TBD		
Cell Re-Selection			-
8.2.3.1 Scenario 1: Both UTRA and GSM level changed	$\frac{CPICH\_E_c}{I_{or}} = -10 \text{ dB}$ lor/loc = 0 dB	0.1 dB for <u>CPICH_E<sub>c</sub></u> I <sub>or</sub> 0.3 dB for lor/loc 0.3 dB for loc/RXLEV	Formulas: $\frac{CPICH\_E_c}{I_{or}} = ratio + TT$ $lor/loc = ratio + TT$ $(loc/Rxlev)_{test requirement} =$ $(loc/Rxlev)_{minimum requirement} + TT$ $lor/loc = 0.3 dB$ $\frac{CPICH\_E_c}{I_{or}} = -9.9 dB$

Test	Test Parameters in TS 25.133	Test Tolerance (TT)	Test Requirement in TS 34.121
	$\frac{CPICH_E_c}{I_{or}} = -10 \text{ dB}$ lor/loc = - 5 dB	0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$ 0.3 dB for lor/loc 0.3 dB for loc/RXLEV	Formulas: $\frac{CPICH\_E_c}{I_{or}} = \text{ratio} - \text{TT}$ $\text{lor/loc} = \text{ratio} - \text{TT}$ $(\text{loc/Rxlev})_{\text{test requirement}} = (\text{loc/Rxlev})_{\text{minimum requirement}} - \text{TT}$ $\text{lor/loc} = -5.3 \text{ dB}$ $\frac{CPICH\_E_c}{I_{or}} -10.1 \text{ dB}:$
8.2.3.2 Scenario 2: Only UTRA level changed	$\frac{CPICH\_E_c}{I_{or}} = -10 \text{ dB}$ lor/loc = 20 dB	0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$ 0.3 dB for lor/loc 0.3 dB for loc/RXLEV	Formulas: $\frac{CPICH \_ E_c}{I_{or}} = ratio + TT$ $lor/loc = ratio + TT$ $(loc/Rxlev)_{test requirement} =$ $(loc/Rxlev)_{minimum requirement} + TT$ $lor/loc = 20.3 dB$ $\frac{CPICH \_ E_c}{I_{or}} = -9.9 dB:$
	$\frac{CPICH\_E_c}{I_{or}} = -10 \text{ dB}$ lor/loc = 20 dB	0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$ 0.3 dB for lor/loc 0.3 dB for loc/RXLEV	Formulas: $\frac{CPICH\_E_c}{I_{or}} = \text{ratio} + \text{TT}$ $\text{lor/loc} = \text{ratio} + \text{TT}$ $(\text{loc/Rxlev})_{\text{test requirement}} = (\text{loc/Rxlev})_{\text{minimum requirement}} + \text{TT}$ $\text{lor/loc} = 20.3 \text{ dB}$ $\frac{CPICH\_E_c}{I_{or}} = -9.9 \text{ dB}:$
8.2.4 FDD/TDD cell re- selection	TBD		
8.3 UTRAN Connected Mode Mobility	TBD		
8.3.1 FDD/FDD Soft Handover	IBD		
8.3.2 FDD/FDD Hard Handover	IBD		
8.3.3 FDD/TDD Handover	IBD		
8.3.4 Inter-system Handover form UTRAN FDD to GSM	IBD		
8.3.5 Cell Re-selection in CELL_FACH	TBD		
8.3.5.1 One frequency present in the neighbour list	TBD		

Test	Test Parameters in TS 25,133	Test Tolerance (TT)	Test Requirement in TS 34.121
8352 Two	TBD	()	
frequencies present in	100		
the neighbour list			
8.3.6 Cell Re-selection	TBD		
in CELL_PCH			
8.3.6.1 One frequency	TBD		
present in the			
neighbour list			
8.3.6.2 Two	TBD		
frequencies present in			
the neighbour list	700		
8.3.7 Cell Re-selection	IBD		
IN URA_PCH			
present in the	לשו		
neighbour list			
8 3 7 2 Two	TBD		
frequencies present in	100		
the neighbour list			
8.4 RRC Connection	TBD		
Control			
8.4.1 RRC Re-	TBD		
establishment delay			
8.4.2 Random Access	TBD		
8.5 Timing and	TBD		
Signalling			
Characteristics			
8.5.1 UE Transmit	TBD		
	700		
8.6 UE Measurements	IBD		
Plocedules 8.6.1 EDD intro	TPD		
frequency			
measurements			
8 6 1 1 Event triggered	TBD		
reporting in AWGN	100		
propagation conditions			
8.6.1.2 Event triggered	TBD		
reporting of multiple			
neighbours in AWGN			
propagation condition			
8.6.1.3 Event triggered	TBD		
reporting of two			
detectable neighbours			
In AWGN propagation			
8 6 1 4 Correct			
reporting of peighbours	160		
in fading propagation			
condition			
8.6.2 FDD inter	TBD		
frequency			
measurements			
8.6.2.1 Correct	TBD		
reporting of neighbours			
in AWGN propagation			
condition	700		
0.0.2.2 Correct	עאו		
in Eading propagation			
condition			
8.6.3 TDD	ТВО		
measurements			

Test	Test Parameters in TS 25 133	Test Tolerance (TT)	Test Requirement in TS 34.121
8.6.3.1Correct	TBD	(11)	
reporting of TDD			
neighbours in AWGN			
8 7 Measurements	TBD		
Performance			
Requirements			
8.7.1 CPICH RSCP	TBD		
8.7.1.1 Intra frequency	TBD		
accuracy			
8.7.1.2 Inter frequency	TBD		
measurement accuracy			
8.7.2 CPICH Ec/lo	TBD		
8.7.1.1 Intra frequency	IBD		
accuracy			
8.7.1.2 Inter frequency	TBD		
measurement accuracy			
8.7.3 <u>A</u> UTRA Carrier	IBD		
8.7.3B Transport	ТВД		
channel BLER			
8.7.3C UE Transmitted	Accuracy upper limit	<u>0.7 dB</u>	Formula: Upper accuracy limit + TT
power	Accuracy lower limit		Lower accuracy limit – 11
	table 8.7.3C.2.1		in table 8.7.3C.2.1.
8.7.4 SFN-CFN	TBD		
observed time			
difference			
observed time			
difference			
8.7.6 UE Rx-Tx time	Io -10.9 dB = Ioc,	1 dB for loc	Test 1: lo = -92.7 dBm,
difference	Test 1: $10 = -94 \text{ dBm}$ Test2 : $10 = -72 \text{ dBm}$	0.3 dB for lor/loc	loc = -103.6 dBm
	Test3 : $Io = -50dBm$		Formula:
		[0.5 chip for timing	$\log^{(1-TT_{1-2}+(\log/\log -TT_{1-2}))}$
	Timing Accuracy ± 1.5 chip	accuracy]	-94
			Test 2: unchanged (no critical RF
			parameters)
			Test 3: lo = -51.3 dBm, loc =
			-62.2 dBm
			Formula:
			$loc^*(1+TT_{loc}+(lor/loc+TT_{loc})) <$
			-50
			Timing accuracy [±2.0] chip
			Formulae:
			rumulas.
			Upper limit +TT
			Lower limit –TT
8.7.7 Observed time	TBD		
difference to GSM cell			
8.7.8 P-CCPCH RSCP	TBD		

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

# Tdoc T1-020459

· •	CR-Form-v5.1		
	CHANGE REQUEST		
¥	<b>34.121</b> CR <b>183 # rev</b> - <b>#</b> Current version: <b>3.9.0 #</b>		
For <u>HELP</u> on us	sing this form, see bottom of this page or look at the pop-up text over the $#$ symbols.		
Proposed change a	affects: # (U)SIM ME/UE X Radio Access Network Core Network		
Title: #	Corrections to clause 6 and 7 for editorial errors		
Source: #	T1/RF		
Work item code: ₭	- Date: # 2002-07-17		
Category: Ж	FRelease: %R99Use one of the following categories:Use one of the following releases:F (correction)2A (corresponds to a correction in an earlier release)R96B (addition of feature),R97C (functional modification of feature)R98D (editorial modification)R99D (editorial modifications of the above categories canREL-4be found in 3GPP TR 21.900.REL-5		
Reason for change	ድ ¥ 1. Editorial correction		
Summary of chang	<ul> <li>In clause 6.5</li> <li>In Table6.5.2 and 6.5.5 the reference clause is taken from TS25.101, it is propose to refer to the relevant sub-clause(s) in TS 34.121 directly. Clause 7.5.1 → 6.5.2 Clause 7.6.1 → 6.4.2</li> <li>In clause 6.7.1</li> <li>" FDD UE supporting Band II and Band II." is an editorial mistake. Band II and Band II → Band II and Band III</li> <li>In clause 7.2.1.4.1 and 7.7.1.4.2</li> <li>A non-existent test number in table 7.2.1.3 and 7.7.1.3 is specified.</li> <li>3). Corrected the test parameters for test 1-5 as specified in table 7.2.1.3 and 7.7.1.3. → test 1-4</li> <li>Annex.F</li> <li>In Table F2.3, the row with clause "7.7.2 Combining of TPC commands Test 8" is wrong because test 8 is not included in subclause 7.7.2. Instead of test 8, test 2 should be referred.</li> </ul>		
Consequences if not approved:	第 1. The reference is not found.		

Clauses affected:	<mark>ដ 6.5, 6.7.1, 7.2.1,7.7.1</mark>
Other specs affected:	#       Other core specifications       #         Test specifications       O&M Specifications
Other comments:	ж

#### How to create CRs using this form:

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

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

#### << START OF MODIFICATION >>

## 6.5.2 Minimum Requirements

## 6.5.2.1 Minimum Requirements (In-band blocking)

The BER shall not exceed 0,001 for the parameters specified in table 6.5.1.

The normative reference for this requirement is TS 25.101 [23] clause 7.6.1.

NOTE: I<sub>blocking</sub> (modulated) consists of the common channels needed for tests as specified in table E.4.1 and 16 dedicated data channels as specified in table E3.6.

#### Table 6.5.1: Test parameters for In-band blocking characteristics

Parameter	Unit	Level			
DPCH_Ec	dBm/3.84 MHz	<refsens>+3 dB</refsens>			
Î <sub>or</sub>	dBm/3.84 MHz	<refî<sub>or&gt; + 3 dB</refî<sub>			
I <sub>blocking</sub> mean power (modulated)	dBm	-56 (for F <sub>uw</sub> offset ±10 MHz)	-44 (for F <sub>uw</sub> offset ±15 MHz)		
UE transmitted	dBm	20 (for Power class 3)			
mean power		18 (for Pow	er class 4)		

## 6.5.2.2 Minimum requirements (Out of-band blocking)

The BER shall not exceed 0.001 for the parameters specified in table 6.5.2. For table 6.5.2 up to 24 exceptions are allowed for spurious response frequencies in each assigned frequency channel when measured using a 1 MHz step size.

The normative reference for this requirement is TS 25.101 [23] clause 7.6.2.

#### Table 6.5.2: Test parameters for Out of band blocking characteristics

Parameter	Unit	Frequency range 1	Frequency range 2	Frequency range 3		
DPCH Ec	dBm/3.84	<refsens>+3 dB</refsens>	<refsens>+3 dB</refsens>	<refsens>+3 dB</refsens>		
	MHz					
Î <sub>or</sub>	dBm/3.84 MHz	<refî<sub>or&gt; + 3 dB</refî<sub>	<refî<sub>or&gt; + 3 dB</refî<sub>	<refî<sub>or&gt; + 3 dB</refî<sub>		
Iblocking (CW)	dBm	-44	-30	-15		
F <sub>uw</sub> (Band I operation)	MHz	2050 <f <2095<br="">2185<f <2230<="" td=""><td>2025 <f <2050<br="">2230 <f <2255<="" td=""><td>1&lt; f &lt;2025 2255<f<12750< td=""></f<12750<></td></f></f></td></f></f>	2025 <f <2050<br="">2230 <f <2255<="" td=""><td>1&lt; f &lt;2025 2255<f<12750< td=""></f<12750<></td></f></f>	1< f <2025 2255 <f<12750< td=""></f<12750<>		
F <sub>uw</sub> (Band II operation)	MHz	1870 <f <1915<br="">2005<f <2050<="" td=""><td>1845 <f <1870<br="">2050 <f <2075<="" td=""><td>1&lt; f &lt;1845 2075<f<12750< td=""></f<12750<></td></f></f></td></f></f>	1845 <f <1870<br="">2050 <f <2075<="" td=""><td>1&lt; f &lt;1845 2075<f<12750< td=""></f<12750<></td></f></f>	1< f <1845 2075 <f<12750< td=""></f<12750<>		
F <sub>uw</sub> (Band III operation)	MHz	1745 <f <1790<br="">1895<f <1940<="" td=""><td>1720 <f 1745<br="" <="">1940<f 1965<="" <="" td=""><td>1&lt; f &lt;1720 1965<f<12750< td=""></f<12750<></td></f></f></td></f></f>	1720 <f 1745<br="" <="">1940<f 1965<="" <="" td=""><td>1&lt; f &lt;1720 1965<f<12750< td=""></f<12750<></td></f></f>	1< f <1720 1965 <f<12750< td=""></f<12750<>		
UE transmitted mean power	dBm	20 (for Power class 3) 18 (for Power class 4)				
Band I operation	For 2095 <f<2110 2170<f<2185="" 6.5.27.5.1="" 7.6.16.4.2="" adjacent="" and="" applied.<="" appropriate="" be="" blocking="" channel="" clause="" in="" in-band="" mhz="" mhz,="" or="" selectivity="" shall="" td="" the=""></f<2110>					
Band II operation	For 1915 <f<1930 1990<f<2005="" 7.5.16.5.2="" 7.6.26.4.2="" adjacent="" and="" applied<="" appropriate="" be="" blocking="" channel="" clause="" in="" in-band="" mhz="" mhz,="" or="" selectivity="" shall="" td="" the=""></f<1930>					
Band III operation	For 1790 <f<180 adiacent channe</f<180 	5 MHz and 1880 <f<189< td=""><td>95 MHz, the appropriate <del>.5.1</del>6.5.2 and clause <del>7.6</del></td><td>in-band blocking or .<del>.2</del>6.4.2 shall be applied.</td></f<189<>	95 MHz, the appropriate <del>.5.1</del> 6.5.2 and clause <del>7.6</del>	in-band blocking or . <del>.2</del> 6.4.2 shall be applied.		

## 6.5.2.3 Minimum requirements (Narrow band blocking)

The BER shall not exceed 0.001 for the parameters specified in table 6.5.3. This requirement is measure of a receiver's ability to receive a W-CDMA signal at its assigned channel frequency in the presence of an unwanted narrow band interferer at a frequency, which is less than the nominal channel spacing. The requirements and this test apply to UTRA for the FDD UE supporting band II or band III.

The normative reference for this requirement is TS 25.101 [23] clause 7.6.3

Parameter	Unit	Band II	Band III	
DPCH_Ec	dBm/3.84 MHz	<refsens> + 10 dB</refsens>	<refsens> + 10 dB</refsens>	
Î <sub>or</sub>	dBm/3.84 MHz	<refî<sub>or&gt; + 10 dB</refî<sub>	<refî<sub>or&gt; + 10 dB</refî<sub>	
Iblocking (GMSK)	dBm	-57	-56	
F <sub>uw</sub> (offset)	MHz	2.7	2.8	
UE transmitted mean	dBm	20 (for Powe	er class 3)	
power	ubili	18 (for Power class 4)		

#### Table 6.5.3: Test parameters for narrow band blocking

NOTE: I<sub>blocking</sub> (GMSK) is an interfering signal as defined in TS 45.004. It is a GMSK modulated carrier following the structure of the GSM signals, but with all modulating bits (including the midamble period) derived directly from a random or pseudo random data stream.

### << START OF MODIFICATION >>

## 6.5.5 Test requirements

For table 6.5.4, the measured BER, derived in step 2), shall not exceed 0.001. For table 6.5.5, the measured BER, derived in step 2) shall not exceed 0,001 except for the spurious response frequencies, recorded in step 3). The number of spurious response frequencies, recorded in step 3) shall not exceed 24. For table 6.5.6, the measured BER, derived in step 2), shall not exceed 0.001.

Parameter	Unit	Level		
DPCH_Ec	dBm/3.84 MHz	<refsens>+3 dB</refsens>		
Î <sub>or</sub>	dBm/3.84 MHz	<refî<sub>or&gt; + 3 dB</refî<sub>		
I <sub>blocking</sub> mean power (modulated)	dBm	-56 (for F <sub>uw</sub> offset ±10 MHz)	-44 (for F <sub>uw</sub> offset ±15 MHz)	
UE transmitted mean power	dBm	20 (for Power class 3) 18 (for Power class 4)		

### Table 6.5.4: Test parameters for In-band blocking characteristics

Table 6.5.5: Test	parameters for	Out of band	blocking	characteristics
-------------------	----------------	-------------	----------	-----------------

Parameter	Unit	Frequency range 1	Frequency range 2	Frequency range 3		
DPCH_Ec	dBm/3.84 MHz	<refsens>+3 dB</refsens>	<refsens>+3 dB</refsens>	<refsens>+3 dB</refsens>		
Î <sub>or</sub>	dBm/3.84 MHz	<refî<sub>or&gt; + 3 dB</refî<sub>	<refî<sub>or&gt; + 3 dB</refî<sub>	<refî<sub>or&gt; + 3 dB</refî<sub>		
Iblocking (CW)	dBm	-44	-30	-15		
F <sub>uw</sub> (Band I operation)	MHz	2050 <f <2095<br="">2185<f <2230<="" td=""><td>2025 <f <2050<br="">2230 <f <2255<="" td=""><td>1&lt; f &lt;2025 2255<f<12750< td=""></f<12750<></td></f></f></td></f></f>	2025 <f <2050<br="">2230 <f <2255<="" td=""><td>1&lt; f &lt;2025 2255<f<12750< td=""></f<12750<></td></f></f>	1< f <2025 2255 <f<12750< td=""></f<12750<>		
F <sub>uw</sub> (Band II operation)	MHz	1870 <f <1915<br="">2005<f <2050<="" td=""><td>1845 <f <1870<br="">2050 <f <2075<="" td=""><td>1&lt; f &lt;1845 2075<f<12750< td=""></f<12750<></td></f></f></td></f></f>	1845 <f <1870<br="">2050 <f <2075<="" td=""><td>1&lt; f &lt;1845 2075<f<12750< td=""></f<12750<></td></f></f>	1< f <1845 2075 <f<12750< td=""></f<12750<>		
F <sub>uw</sub> (Band III operation)	MHz	1745 <f <1790<br="">1895<f <1940<="" td=""><td>1720 <f 1745<br="" <="">1940<f 1965<="" <="" td=""><td>1&lt; f &lt;1720 1965<f<12750< td=""></f<12750<></td></f></f></td></f></f>	1720 <f 1745<br="" <="">1940<f 1965<="" <="" td=""><td>1&lt; f &lt;1720 1965<f<12750< td=""></f<12750<></td></f></f>	1< f <1720 1965 <f<12750< td=""></f<12750<>		
UE transmitted mean power	dBm	20 (for Power class 3) 18 (for Power class 4)				
Band I operation	For 2095 <f<2110 2170<f<2185="" 7.5.16.5.2="" 7.6.16.4.2="" adjacent="" and="" applied.<="" appropriate="" be="" blocking="" channel="" clause="" in="" in-band="" mhz="" mhz,="" or="" selectivity="" shall="" td="" the=""></f<2110>					
Band II operation	For 1915 <f<1930 1990<f<2005="" 7.5.16.5.2="" 7.6.26.4.2="" adjacent="" and="" applied<="" appropriate="" be="" blocking="" channel="" clause="" in="" in-band="" mhz="" mhz,="" or="" selectivity="" shall="" td="" the=""></f<1930>					
Band III operation	For 1790 <f<180 adjacent channe</f<180 	5 MHz and 1880 <f<189 el selectivity in clause 7</f<189 	95 MHz, the appropriate . <del>5.1</del> 6.5.2 and clause <del>7.6</del>	in-band blocking or 2 <u>6.4.2</u> shall be applied.		

Table 6.5.6: Test parameters for narrow band blocking

Parameter	Unit	Band II	Band III	
DPCH_Ec	dBm/3.84 MHz	<refsens> + 10 dB</refsens>	<refsens> + 10 dB</refsens>	
Î <sub>or</sub>	dBm/3.84 MHz	<refî<sub>or&gt; + 10 dB</refî<sub>	<refî<sub>or&gt; + 10 dB</refî<sub>	
Iblocking (GMSK)	dBm	-57	-56	
F <sub>uw</sub> (offset)	MHz	2.7	2.8	
UE transmitted mean	dBm	20 (for Powe	er class 3)	
power	ubiii	18 (for Power class 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.

### << START OF MODIFICATION >>

## 6.7.1 Definition and applicability

Third and higher order mixing of the two interfering RF signals can produce an interfering signal in the band of the desired channel. Intermodulation response rejection is a measure of the capability of the receiver to receive a wanted signal on its assigned channel frequency in the presence of two or more interfering signals which have a specific frequency relationship to the wanted signal.

The requirements and this test apply to all types of UTRA for the FDD UE. The test parameters in tables 6.7.2 and 6.7.4 applies to the FDD UE supporting Band II and Band <u>III</u>.

### << START OF MODIFICATION >>

## 7.2.1 Demodulation of Dedicated Channel (DCH)

## 7.2.1.1 Definition and applicability

The receive characteristic of the Dedicated Channel (DCH) in the static environment is determined by the Block Error Ratio (BLER). BLER is specified for each individual data rate of the DCH. DCH is mapped into the Dedicated Physical Channel (DPCH).

The UE shall be tested only according to the data rate, supported. The data-rate-corresponding requirements shall apply to the UE.

## 7.2.1.2 Minimum requirements

For the parameters specified in table 7.2.1.1 the average downlink  $\frac{DPCH \_ E_c}{I_{or}}$  power ratio shall be below the specified

value for the BLER shown in table 7.2.1.2. These requirements are applicable for TFCS size 16.

#### Table 7.2.1.1: DCH parameters in static propagation conditions

Parameter	Test 1	Test 2	Test 3	Test 4	Unit
Phase reference		P-C			
$\hat{I}_{or}/I_{oc}$		-	dB		
I <sub>oc</sub>	-60				dBm / 3,84 MHz
Information Data Rate	12,2	64	144	384	kbps

#### Table 7.2.1.2: DCH requirements in static propagation conditions

Test Number	$DPCH \_ E_c$	BLER
	I <sub>or</sub>	2
1	−16,6 dB	10 <sup>-2</sup>
2	–13,1 dB	10-1
	–12,8 dB	10 <sup>-2</sup>
3	–9,9 dB	10 <sup>-1</sup>
	–9,8 dB	10 <sup>-2</sup>
4	–5,6 dB	10 <sup>-1</sup>
	–5,5 dB	10-2

The reference for this requirement is TS 25.101 [1] clause 8.2.3.1.

## 7.2.1.3 Test purpose

To verify the ability of the receiver to receive a predefined test signal, representing a static propagation channel for the wanted and for the co-channel signals from serving and adjacent cells, with a BLER not exceeding a specified value.

## 7.2.1.4 Method of test

7.2.1.4.1 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.

- 1. Connect the SS and an AWGN noise source to the UE antenna connector as shown in figure A.9.
- 2. Set up a call according to the Generic call setup procedure.
- 3. Set the test parameters for test 1-5-4 as specified in table 7.2.1.3.
- 4. Enter the UE into loopback test mode and start the loopback test.

#### 7.2.1.4.2 Procedures

1. Measure BLER of DCH.

## 7.2.1.5 Test requirements

For the parameters specified in table 7.2.1.3 the average downlink  $\frac{DPCH_{-E_c}}{I_{or}}$  power ratio shall be below the specified value for the BLER shown in table 7.2.1.4. These requirements are applicable for TFCS size 16.

Parameter	Test 1	Test 2	Test 3	Test 4	Unit
Phase reference		P-C			
$\hat{I}_{or}/I_{oc}$		-(	dB		
I <sub>oc</sub>		_	dBm / 3,84 MHz		
Information Data Rate	12,2	64	kbps		

Table 7.2.1.3: DCH parameters in static propagation conditions

Table 7.2.1.4: DCH requirement	s in	static	propagation	conditions
--------------------------------	------	--------	-------------	------------

Test Number	$\frac{DPCH\_E_c}{I}$	BLER
	1 or	
1	−16,5 dB	10 <sup>-2</sup>
2	–13,0 dB	10
	–12,7 dB	10 <sup>-2</sup>
3	–9,8 dB	10-1
	–9,7 dB	10 <sup>-2</sup>
4	–5,5 dB	10 <sup>-1</sup>
	–5,4 dB	10 <sup>-2</sup>

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.

### << START OF MODIFICATION >>

## 7.7.1 Demodulation of DCH in Inter-Cell Soft Handover

### 7.7.1.1 Definition and applicability

The bit error ratio characteristics of UE is determined during an inter-cell soft handover. During the soft handover a UE receives signals from different Base Stations. A UE has to be able to demodulate two P-CCPCH channels and to combine the energy of DCH channels. Delay profiles of signals received from different Base Stations are assumed to be the same but time shifted by 10 chips.

The receive characteristics of the different channels during inter-cell handover are determined by the Block Error Ratio (BLER) values.

The UE shall be tested only according to the data rate, supported. The data-rate-corresponding requirements shall apply to the UE.

### 7.7.1.2 Minimum requirements

For the parameters specified in table 7.7.1.1 the average downlink  $DPCH_{-E_c}$  power ratio shall be below the specified

 $I_{or}$ 

value for the BLER shown in table 7.7.1.2.

#### Table 7.7.1.1: DCH parameters in multi-path propagation conditions during Soft Handoff (Case 3)

Parameter	Test 1	Test 2	Test 3	Test 4	Unit
Phase reference	P-CPICH				
$\hat{I}_{or1}/I_{oc}$ and $\hat{I}_{or2}/I_{oc}$	0	0	3	6	dB
I <sub>oc</sub>	-60			dBm / 3,84 MHz	
Information Data Rate	12,2	64	144	384	kbps

#### Table 7.7.1.2: DCH requirements in multi-path propagation conditions during Soft Handoff (Case 3)

Test Number	$DPCH \_ E_c$	BLER
	I <sub>or</sub>	
1	–15,2 dB	10 <sup>-2</sup>
2	–11,8 dB	10 <sup>-1</sup>
	–11,3 dB	10 <sup>-2</sup>
3	–9,6 dB	10-1
	–9,2 dB	10-2
4	-6,0 dB	10-1
	–5,5 dB	10 <sup>-2</sup>

The reference for this requirement is TS 25.101 [1] clause 8.7.1.1.

## 7.7.1.3 Test purpose

To verify that the BLER does not exceed the value at the DPCH\_Ec/Ior specified in table 7.7.1.2.

### 7.7.1.4 Method of test

#### 7.7.1.4.1 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.

[TBD]

#### 7.7.1.4.2 Procedures

- 1) Connect the SS, multi-path fading simulator and an AWGN noise source to the UE antenna connector as shown in figure A.11.
- 2) Set up the call.
- 3) Set the test parameters for test 1-5-4 as specified in table 7.7.1.3.
- 4) Count, at the SS, the number of information blocks transmitted and the number of correctly received information blocks at the UE.
- 5) Measure BLER of DCH channel.

## 7.7.1.5 Test requirements

For the parameters specified in table 7.7.1.3 the average downlink  $\frac{DPCH_{-}E_{c}}{I_{or}}$  power ratio shall be below the specified value for the BLER shown in table 7.7.1.4.

#### Table 7.7.1.3: DCH parameters in multi-path propagation conditions during Soft Handoff (Case 3)

Parameter	Test 1	Test 2	Test 3	Test 4	Unit
Phase reference	P-CPICH				
$\hat{I}_{or1}/I_{oc}$ and $\hat{I}_{or2}/I_{oc}$	0,8	0,8	3,8	6,8	dB
I <sub>oc</sub>	-60			dBm / 3,84 MHz	
Information Data Rate	12,2	64	144	384	kbps

Test Number	$DPCH \_E_c$	BLER
	I <sub>or</sub>	0
1	–15,1 dB	10 <sup>-2</sup>
2	–11,7 dB	10 <sup>-1</sup>
	–11,2 dB	10 <sup>-2</sup>
3	–9,5 dB	10 <sup>-1</sup>
	–9,1 dB	10 <sup>-2</sup>
4	–5,9 dB	10 <sup>-1</sup>
	–5,4 dB	10 <sup>-2</sup>

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.

### << START OF MODIFICATION >>

# F.2.3 Performance requirements

## Table F.2.3: Test Tolerances for Performance Requirements.

Clause	Test Tolerance
7.2 Demodulation in Static Propagation	0.3 dB for $\hat{I}_{ar}/I_{ac}$
Condition	0.1 dB for DPCH_Ec/lor
7.3 Demodulation of DCH in multipath	0.6 dB for $\hat{I}_{ar}/I_{ac}$
Fading Propagation conditions	0.1 dB for DPCH_Ec/lor
7.4 Demodulation of DCH in Moving	0.6 dB for $\hat{I}_{or}/I_{oc}$
Propagation conditions	0.1 dB for DPCH_Ec/lor
7.5 Demodulation of DCH in Birth-Death	0.6 dB for $\hat{I}_{or}/I_{oc}$
Propagation conditions	0.1 dB for DPCH_Ec/lor
7.6.1 Demodulation of DCH in open loop	0.8 dB for $\hat{I}_{or}/I_{oc}$
I ransmit diversity mode	0.1 dB for DPCH_Ec/lor
7.6.2 Demodulation of DCH in closed	0.8 dB for $\hat{I}_{or}/I_{oc}$
loop Transmit diversity mode	0.1 dB for DPCH_Ec/lor
7.6.3, Demodulation of DCH in site	0.8 dB for $\hat{I}_{or}/I_{oc}$
control mode	0.1 dB for DPCH_Ec/lor
7.7.1 Demodulation in inter-cell soft	0.8 dB for $\hat{I}_{or}/I_{oc}$
Handover conditions	0.1 dB for DPCH_Ec/lor
7.7.2 Combining of TPC commands Test	0.8 dB for $\hat{I}_{or}/I_{oc}$
1	0.1 dB for DPCH_Ec/lor
7.7.2 Combining of TPC commands Test	0.3 dB for $\hat{I}_{or}/I_{oc}$
82	0.1 dB for DPCH_Ec/lor
7.8.1 Power control in downlink constant	0.6 dB for $\hat{I}_{or}/I_{oc}$
BLER target	0.1 dB for DPCH_Ec/lor
7.8.2, Power control in downlink initial	0.6 dB for $\hat{I}_{or}/I_{oc}$
convergence	0.1 dB for DPCH_Ec/lor
7.8.3, Power control in downlink: wind up	0.6 dB for $\hat{I}_{or}/I_{oc}$
enects	0.1 dB for DPCH_Ec/lor
7.9 Downlink compressed mode	0.6 dB for $\hat{I}_{or}/I_{oc}$
	0.1 dB for DPCH_Ec/lor
7.10 Blind transport format detection	0.3 dB for $\hat{I}_{or}/I_{oc}$
	0.1 dB for DPCH_Ec/lor
7.10 Blind transport format detection	0.6 dB for $\hat{I}_{or}/I_{oc}$
10010 4, 0, 0	0.1 dB for DPCH_Ec/lor

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CHANGE REQUEST									
<sup>ж</sup> 34	<mark>4.121</mark>	CR <mark>184</mark>	жrev	-	₩ Cu	rrent vers	ion:	3.9.0	ж
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Proposed change affe	cts: ¥	(U)SIM	ME/UE X	Radio	Acces	s Network	< 📃	Core Ne	etwork
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	for per	forming the re	egistration pro	edure is	sn't suff	ficient.			, to need
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	The fo	llowing modifi	cation is adde	d into T1	R0202	229.			
	4) Mini to 1).	imum requirer	ment is not cha	inged ar	nd test	procedure	e is m	odified ac	cording
	5) T1 a change	and T2 timer v es are require	value were def d.	ned by I	RAN4.	Investigat	ion is	required	if these
Summary of change: भ	1) T <sub>SI</sub> ( Broado ms as 2) The	of 1280 ms is cast of system maximum. Th time period T	increased by to information d herefore Tsi is 1 and T2 are	he maxi escribed set to 13 set to 60	mum R 1 in TS2 380ms. 9s. And	RC proce 25.331 13 the timing	dure .5.2.	delay for This delay n registra	y is 100 ition

	<ul> <li>procedure has completed at step 3 is made the beginning of time period T1.</li> <li>3) In Table 8.2.2.1.1, Location area code is set for each cells as different value.</li> <li>The following modification is added into T1R020229.</li> <li>4) Additional timer value from RRC procedure delay for Tsi is explained in test</li> </ul>
	<ul> <li>5) T1 and T2 timer values are modified again as old value.</li> </ul>
Consequences if a solution of approved:	<ul> <li>1)34.121 and 25.133 are inconsistent.</li> <li>2) Ability beyond Minimum requirement is required so that UE may fill test requirement. Even "Good UE" may not pass this test.</li> </ul>

Clauses affected:	¥ <mark>8.2.2</mark>
Other specs affected:	%       Other core specifications       %         Test specifications       0&M Specifications
Other comments:	ж

#### How to create CRs using this form:

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

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

## 8.2.2 Cell Re-Selection

## 8.2.2.1 Scenario 1: Single carrier case

### 8.2.2.1.1 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 makes the UE camp on a new cell, and starts to send preambles on the PRACH for the RRC CONNECTION REQUEST message to perform a Location Updating procedure(MM) or Routing Area Updating procedure(GMM)Location Registration on the new cell.

The requirements and this test apply to the FDD UE.

### 8.2.2.1.2 Minimum requirement

The cell re-selection delay shall be less than 8 s with a DRX cycle length of 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:

TevaluateFDD	See table 4.1 in TS 25.133 [2] clause 4.2.2.
T <sub>SI</sub>	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 25.133 [2] clauses 4.2.2.2 and A.4.2.1.

### 8.2.2.1.3 Test purpose

To verify that the UE meets the minimum requirement.

### 8.2.2.1.4 Method of test

### 8.2.2.1.4.1 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.

This scenario implies the presence of 1 carrier and 6 cells as given in tables 8.2.2.1.1 and 8.2.2.1.2. The UE is requested to monitor neighbouring cells on 1 carrier. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1 280 ms. 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
SYSTEM INFORMATION BLOCK TYPE 1 - CN common GSM-MAP NAS system information	-	$\frac{00\ 80(H) \rightarrow \text{Cell 1}}{00\ 81(H) \rightarrow \text{Cell 2}}$	This identity should be set as different value from the neigbour cell so that a Location Updating procedure(MM) or a Routing Area Updating procedure(GMM) is performed when UE selects more suitable cell in idle state.
Access Service Class (ASC#0) - Persistence value	-	1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.
DRX cycle length	S	1,28	The value shall be used for all cells in the test.
T1	S	15	T1 need to be defined so that cell re- selection reaction time is taken into account.
T2	S	15	T2 need to be defined so that cell re- selection reaction time is taken into account.

Parameter	Unit	C	Cell 1		Cell 2		ell 3	Cell 4	Cell 5	Cell 6			
		T1	T2	T1	T2	T1	T2	T1 T2	T1 T2	T1 T2			
UTRA RF Channel Number		Chan	nel 1	Channe	Channel 1		nel 1	Channel 1	Channel 1	Channel 1			
CPICH_Ec/lor	dB	-10		-10	-10			-10	-10	-10			
PCCPCH_Ec/lor	dB	-12	-12			-12		-12	-12	-12			
SCH_Ec/lor	dB	-12		-12		-12		-12	-12	-12			
PICH_Ec/lor	dB	-15		-15	-15			-15	-15	-15			
OCNS_Ec/lor	dB	-0,947		-0,941		-0,941	1	-0,941	-0,941	-0,941			
$\hat{I}_{or}/I_{oc}$	dB	7,3	10,27	10,27	7,3	0,27		0,27	0,27	0,27			
I <sub>oc</sub>	dBm / 3,84 MHz	-70	70										
CPICH_Ec/lo	dB	-16 -13		-13	-16	-23		-23	-23	-23			
Propagation Condition			AWGN										
Cell_selection_and_ reselection_quality_ measure		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E₀/N₀		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>	CPICH E <sub>c</sub> /N <sub>0</sub>	CPICH E₀/N₀			
Qqualmin	dB	-	20	-20		-20		-20	-20	-20			
Qrxlevmin	dBm	-1	15	-115		-115		-115	-115	-115			
UE_TXPWR_MAX_ RACH	dB	:	21	21		21		21	21	21			
		C1,	C2: 0	C2,	C1: 0	C3,	C1: 0	C4, C1: 0	C5, C1: 0	C6, C1: 0			
Ooffset2	dB	C1	C4·0	C2,	C3. 0	C3,	C4: 0	C4, C2, 0 C4, C3, 0	C5, C2, 0	C6, C2, 0			
Gonocizs, n	чъ	C1	$C_{5}^{-}$ 0	C2	C5: 0	C3	C5.0	C4 C5: 0	C5 C4: 0	C6 C4: 0			
		C1.	C6: 0	C2.	C6: 0	C3.	C6: 0	C4. C6: 0	C5. C6: 0	C6, C5: 0			
Qhyst2	dB	- ,	0		0	1	0	0	0	0			
PENALTY_TIME	S		0	(	0		0	0	0	0			
TEMPORARY_OFF SET2	dB		0		0	0		0	0	0			
Treselection	S		0		0		0	0	0	0			
Sintrasearch	dB	not	sent	not	sent	not	sent	not sent	not sent	not sent			

#### 8.2.2.1.4.2 Procedure

- 1) The SS activates cell 1-6 with T1 defined parameters in table 8.2.2.1.3 and monitors cell 1 and 2 for random access requests from the UE.
- 2) 2) The UE is switched on.
- 3) The SS and the UE shall perform a first location registration procedure on cell2.
- 3) The SS waits for random access requests from the UE on cell 2.
- 4) After 15 s after step 23 has completed, the parameters are changed to that as described for T2 in table 8.2.2.1.3.
- 5) The SS waits for random access requests from the UE. If the UE responds on cell 1 within 8 s from the beginning of time period T2 then the number of successful tests is increased by one. The SS and the UE shall perform a Location Updating procedure(MM) or a Routing Area Updating procedure(GMM)location registration on cell1.
- 6) After another 15 s from the beginning of time period T2, the parameters are changed to that as described for T1 in table 8.2.2.1.3.
- 7) 7) The SS waits for random access requests from the UE. If the UE responds on cell 2 within 8 s from the beginning of time period T1 then the number of successful tests is increased by one. The SS and the UE shall perform a Location Updating procedure(MM) or a Routing Area Updating procedure(GMM) location registration on cell2.
- 8) After  $\frac{60}{15}$  s from the beginning of time period T1, the parameters are changed to that as described for T2.

<u>98</u>)Repeat step <u>5</u>4) to <u>68</u>7) [TBD] times.

NOTE: The 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. Since the maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell is 1280ms and the maximum RRC procedure delay for reception system information block is 100ms, 1380 ms is assumed in this test case. Therefore this gives a total of 7.78s.(Minimum requirement + 100ms), allow 8s in the test case.

### 8.2.2.1.5 Test requirements

For the test to pass, the total number of successful attempts shall be more than 90% with a confidence level of [FFS]% of the cases.

Parameter	Unit	C	ell 1	Ce	ell 2	Cell 3	Cell 4	Cell 5	Cell 6				
		T1	T2	T1	T2	T1 T2	T1 T2	T1 T2	T1 T2				
UTRA RF Channel Number		Chan	nel 1	Channe	el 1	Channel 1	Channel 1	Channel 1	Channel 1				
CPICH_Ec/lor	dB	-10.1	10.1 -9.9 -9.9 -10		-10.1	-10	-10	-10	-10				
PCCPCH_Ec/lor	dB	-12		-12		-12	-12	-12	-12				
SCH_Ec/lor	dB	-12		-12		-12	-12	-12	-12				
PICH_Ec/lor	dB	-15		-15		-15	-15	-15	-15				
OCNS_Ec/lor	dB	-0.928	-0.953	-0.953	-0.928	-0.941	-0.941	-0.941	-0.941				
$\hat{I}_{or}/I_{oc}$	dB	7	10.57	10.57	7	0.27	0.27	0.27	0.27				
I <sub>oc</sub>	dBm / 3.84 MHz	-70	70										
CPICH_Ec/lo	dB	-16.4 -12.7 -12.7 -16.4 -23.1 -23.1 -23.1						-23.1	-23.1				
Propagation Condition			AWGN										
Cell_selection_and_ reselection_quality_ measure		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>	CPICH E <sub>c</sub> /N <sub>0</sub>	CPICH E <sub>c</sub> /N <sub>0</sub>	CPICH E <sub>c</sub> /N <sub>0</sub>				
Qqualmin	dB	-	20	-2	20	-20	-20	-20	-20				
Qrxlevmin	dBm	- '	115	-115		-115	-115	-115	-115				
UE_TXPWR_MAX_ RACH	dB	:	21	21		21	21	21	21				
Qoffset2 <sub>s, n</sub>	dB	C1, C1, C1, C1, C1, C1,	C1, C2: 0 C1, C3: 0 C1, C4: 0 C1, C5: 0 C1, C6: 0		C1: 0 C3: 0 C4: 0 C5: 0 C6: 0	C3, C1: 0 C3, C2: 0 C3, C4: 0 C3, C5: 0 C3, C6: 0	C4, C1: 0 C4, C2: 0 C4, C3: 0 C4, C5: 0 C4, C5: 0 C4, C6: 0	C5, C1: 0 C5, C2: 0 C5, C3: 0 C5, C4: 0 C5, C6: 0	C6, C1: 0 C6, C2: 0 C6, C3: 0 C6, C4: 0 C6, C5: 0				
Qhyst2	dB		0	(	0	0	0	0	0				
PENALTY_TIME	S		0		0	0	0	0	0				
TEMPORARY_OFF SET2	dB		0		0	0	0	0	0				
Treselection	S		0		0	0	0	0	0				
Sintrasearch	dB	not	sent	not	sent	not sent	not sent	not sent	not sent				

 Table 8.2.2.1.3: Test parameters for Cell re-selection single carrier multi cell.

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: Multi carrier case

## 8.2.2.2.1 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 makes the UE camp on a new cell, and starts to send preambles on the PRACH for the RRC CONNECTION REQUEST message to perform a Location Updating procedure(MM) or Routing Area Updating procedure(GMM)Location Registration on the new cell.

The requirements and this test apply to the FDD UE.

## 8.2.2.2.2 Minimum requirement

The cell re-selection delay shall be less than 8 s with a DRX cycle length of 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:

TevaluateFDD	See table 4.1 in TS 25.133 [2] clause 4.2.2.
T <sub>SI</sub>	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 25.133 [2] clauses 4.2.2.3 and A.4.2.2.

### 8.2.2.2.3 Test purpose

To verify that the UE meets the minimum requirement.

#### 8.2.2.2.4 Method of test

#### 8.2.2.2.4.1 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.

This scenario implies the presence of 2 carriers and 6 cells as given in tables 8.2.2.2.1 and 8.2.2.2.2. The UE is requested to monitor neighbouring cells on 2 carriers. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1 280 ms. 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
SYSTEM INFORMATION		00 80(H) → Cell 1	This identity should be set as different value from
BLOCK TYPE 1		00 81(H) → Cell 2	the neigbour cell so that a Location Updating
- CN common GSM-MAP NAS			procedure(MM) or a Routing Area Updating
system information			procedure(GMM) is performed when UE selects
			more suitable cell in idle state.
Access Service Class (ASC#0)			Selected so that no additional delay is caused by
<ul> <li>Persistence value</li> </ul>	-	1	the random access procedure. The value shall be
			used for all cells in the test.
DRX cycle length	S	1,28	The value shall be used for all cells in the test.
T1	S	30	T1 need to be defined so that cell re-selection
			reaction time is taken into account.
T2	S	15	T2 need to be defined so that cell re-selection
			reaction time is taken into account.

Table 8.2.2.2.2: Test parameters for Cell re-selection multi carrier multi cell

Parameter	Unit	Cel	11	Cel	12	Cell 3		Cell 4		Cell 5		Cell 6		
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	
UTRA RF Channel		Chap	aol 1	Chap	2012	Chan		Cha	anol 1	Chan	nol 2	Char	anal 2	
Number		Unani		Chan	iei z	Unani		Cha		Chan	nei z	Char	inei z	
CPICH_Ec/lor	dB	-1	0	-1	-10		0	-	10	-1	0	-	10	
PCCPCH_Ec/lor	dB	-1	2	-1	2	-12		-12		-12		-12		
SCH_Ec/lor	dB	-1	2	-1	2	-12		-12		-12		-12		
PICH_Ec/lor	dB	-1	5	-1	5	-15		-15		-15		-15		
OCNS_Ec/lor	dB	-0.9	41	-0.9	41	-0.9	41	-0.	941	-0.9	941	-0.	941	
$\hat{I}_{or}/I_{oc}$	dB	-3.4	2.2	2.2	-3.4	-7.4	-4.8	-7.4	-4.8	-4.8	-7.4	-4.8	-7.4	
I <sub>oc</sub>	dBm / 3.84 MHz		-70											
CPICH_Ec/lo	dB	-16	-13 -13 -16		-2	0	-)	20	-2	0	-20			
Propagation Condition			AWGN											
Cell_selection_and_ reselection_quality_ measure		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N₀		CPICH E <sub>c</sub> /N <sub>0</sub>		
Qqualmin	dB	-20	0	-20	0	-2	0	-20		-20		-20		
Qrxlevmin	dBm	-11	5	-11	5	-11	5	-115		-115		-115		
UE_TXPWR_MAX_ RACH	dB	21	1	21	1	21	21 2		21	2	1	2	21	
		C1, C	2:0	C2, C	:1:0	C3, C	:1:0	C4, C1: 0 C5, C1: (			C1: 0	C6,	C1: 0	
		C1, C	3: 0	C2, C3: 0		C3, C2: 0		C4,	C2: 0	C5, C	2: 0	C6,	C2: 0	
Qoffset2 <sub>s, n</sub>	dB	C1, C	:4: 0	C2, C	:4:0	C3, C	4: 0	C4,	C3: 0	C5, C	23: 0	C6,	C3: 0	
		C1, C	5: 0	C2, C	5: 0	C3, C	5: 0	C4,	C5: 0	C5, C	24: 0	C6,	C4: 0	
<b>.</b>		C1, C	6: 0	C2, C	6: 0	C3, C	6: 0	C4,	C6: 0	C5, C	C6: 0	C6,	C5: 0	
Qhyst2	dB	0		0		0			0	C	)	(	0	
PENALTY_TIME	S	0		0		0			0	C	)	(	0	
TEMPORARY_OFF SET	dB	0		0		0		0		0		0		
Treselection	S	0		0		0			0		0		0	
Sintrasearch	dB	not s	ent	not s	ent	not s	ent	not	sent	not sent		not	not sent	
Sintersearch	dB	not s	ent	not s	ent	not s	ent	not	sent	not sent		not	sent	

#### 8.2.2.2.4.2 Procedures

- 1) The SS activates cell 1-6 with T1 defined parameters in table 8.2.2.2.3 and monitors cell 1 and 2 for random access requests from the UE.
- 2) 2) The UE is switched on.
- 3) The SS and the UE shall perform a first location registration procedure on cell2.
- 3) The SS waits for random access requests from the UE on cell 2.
- 4) After 30 s after step 23 has completed, the parameters are changed to that as described for T2 in table 8.2.2.2.3.
- 5) The SS waits for random access request from the UE. If the UE responds on cell 1 within 8 s from the beginning of time period T2 then the number of successful tests is increased by one. The SS and the UE shall perform a Location Updating procedure(MM) or a Routing Area Updating procedure(GMM)first location registration on cell1.
- 6) After another 15 s from the beginning of time period T2, the parameters are changed to that as described for T1 in table 8.2.2.2.3.
- 7) 7) The SS waits for random access requests from the UE. If the UE responds on cell 2 within 8 s from the beginning of time period T1 then the number of successful tests is increased by one. The SS and the UE shall perform a Location Updating procedure(MM) or a Routing Area Updating procedure(GMM)<del>a first location</del> registration on cell2.

8) After  $\frac{60}{15}$  s from the beginning of time period T1, the parameters are changed as described for T2.

- 98)Reduce T1 to 15 s and rRepeat step 54) to 87) [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.
- NOTE: The 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. Since the maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell is 1280ms and the maximum RRC procedure delay for reception system information block is 100ms, 1380 ms is assumed in this test case. Therefore this gives a total of 7.78s.(Minimum requirement + 100ms), allow 8s in the test case.

## 8.2.2.2.5 Test requirements

For the test to pass, the total number of successful tests shall be more than 90% with a confidence level of [FFS]% of the cases.

Parameter	Unit	Ce	ll 1	Ce	II 2	Ce	II 3	Ce	II 4	Ce	II 5	Cell 6	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Char	nel 1	Char	inel 2	Char	nel 1	Char	nel 1	Char	inel 2	Char	nnel 2
CPICH_Ec/lor	dB	-10.1	-9.9	-9.9	-9.9 -10.1		10	-*	10	-*	10	-'	10
PCCPCH_Ec/lor	dB	- '	12	-'	-12		-12		12	-'	12	-12	
SCH_Ec/lor	dB	- '	12	- '	12	-	-12		12	-*	12	-12	
PICH_Ec/lor	dB	-'	15	-'	15	-	15	- '	15	-15		-15	
OCNS_Ec/lor	dB	-0.928	-0.953	-0.953	-0.928	-0.	941	-0.9	941	-0.9	941	-0.941	
$\hat{I}_{or}/I_{oc}$	dB	-3.7	2.5	2.5	-3.7	-7.4	-4.8	-7.4	-4.8	-4.8	-7.4	-4.8	-7.4
I <sub>oc</sub>	dBm / 3.84 MHz		70										
CPICH_Ec/lo	dB	-16.3	-12.8	-12.8	-16.3	-19.9	-20.2	-19.9	-20.2	-20.2	-19.9	-20.2	-19.9
Propagation Condition							AW	'GN					
Cell_selection_and_ reselection_quality_ measure		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E₀/N₀		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>	
Qqualmin	dB	-2	20	-20		-20		-2	20	-2	20	-2	20
Qrxlevmin	dBm	-1	15	-1	-115 -		15	-115		-115		-115	
UE_TXPWR_MAX_ RACH	dB	2	1	2	1	2	1	2	1	2	1	2	1
		C1, ( C1, (	C2: 0 C3: 0	C2, 0 C2, 0	C1: 0 C3: 0	C3, 0 C3, 0	C1: 0 C2: 0	C4, 0 C4, 0	C1: 0 C2: 0	C5, 0 C5, 0	C1: 0 C2: 0	C6, 0 C6, 0	C1: 0 C2: 0
Qoffset2 <sub>s, n</sub>	dB	C1, (	C4: 0	C2, 0	C4: 0	C3, (	C4: 0	C4, 0	C3: 0	C5, 0	C3: 0	C6, 0	C3: 0
		C1, (	C5: 0	C2, (	C5: 0	C3, (	C5: 0	C4, 0	C5: 0	C5, 0	C4: 0	C6, 0	C4: 0
		C1, 0	C6: 0	C2, (	C6: 0	C3, (	C6: 0	C4, 0	C6: 0	C5, 0	C6: 0	C6, 0	C5: 0
Qhyst2	dB	(	)	(	)	(	)	(	)	(	)	(	0
PENALTY_TIME	S	(	)	(	)	(	)	(	)	(	)	(	0
TEMPORARY_OFF SET	dB	(	)	(	)	(	C	0		0		0	
Treselection	S	(	)	(	)	(	)	(	)	(	)	(	0
Sintrasearch	dB	not	sent	not	sent	not	sent	not	sent	not	sent	not	sent
Sintersearch	dB	not	sent	not	sent	not	sent	not	sent	not	sent	not	sent

Table 8.2.2.2.3: Test parameters for Cell re-selection multi carrier multi cell

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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¥	34.1	21	CR <mark>185</mark>	ж <b>г</b>	ev -	<b>ж</b>	Current ver	sion:	<b>3.9.0</b> <sup>#</sup>			
For <b>HELP</b> on using this form, see bottom of this page or look at the pop-up text over the <b>#</b> symbols.												
Proposed change affects: # (U)SIM ME/UE X Radio Access Network Core Network												
Title: ж	Corre	ection	to clause 8.3	.1 FDD/FD	D Soft H	landov	ver					
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Reason for change	<b>Reason for change:</b> # 1) It is different from the definition of the active set update delay defined in											
	T	Ś25.	133 clause 5.1		:			-				
	3) th m tri	) The his tes hay be hay ne igger	configuration st. When the t e large value t ot be able to t ed by event14	of the trans ransmission han the tim ne transmis	smission n gap pa ne period ssion of	n gap attern d T2, a MEAS	pattern seque sequence is and so during UREMENT F	ence i config I time REPO	s unnecessary b ured, Tidentfy in period T2 the UI RT message	oy htra E		
	4) U	4) The IE "RB information element" should not be included in ACTIVE SET UPDATE message according to TS25.331 v3.b.0 10.2.1										
	5) U	5) The IE "Downlink DPCH info for each RL" should be included in ACTIVE SET UPDATE message according to TS25.331 v3.b.0 10.2.1.							Г			
	6)	) The	description o	f Annex A c	of 34.12	3-1 ha	s been move	ed to T	S34.108 clause	9.		
	7) re	) The eporti	IE "reporting ng criteria. Re	cell status" fer to TS25	is unne 5.331 10	cessa .3.7.3	ry because e 6.	vent t	rigger is set up a	as		
	8) at	) The ffect	EIE "primary C Reporting Rar	PICH info" ige" is not p	is unne present.	cessa	ry because th	ne IE '	Cells forbidden	to		
	9)	) The	uplink radio b	earer isn't	defined.							
	1(	0) Th	e beginning o	f time perio	d T1 isr	i't clea	ir in "Procedu	ıre".				
Summary of chang	ge:	)The )Tabl	description the 8.3.1.1.1 d	at is incons →s	istent w	ith TS	25.133 claus	e 5.1	is deleted.			
	3)	) It is	specified that	the IE "DP	CH com	press	ed mode info	o" is at	osent.			
	4) m	) The nessa	E IE "RB inform age is deleted.	nation elem	ent" cur	rently	included in A	CTIV	E SET UPDATE			

	5) The IE "Downlink DPCH info for each RL" is added in ACTIVE SET UPDATE message.							
	6) The reference to Annex A of 34.123-1 is deleted.							
	7) The IE "reporting cell status" is deleted.							
	8) The IE "primary CPICH info" is deleted.							
	9) UL Reference Measurement Channel 12.2 kbps is used as same as defined for downlink DCH parameter, so that UL parameter can be set in call setup procedure.							
	10) The timing when MEASUREMENT CONTROL message is to be transmitted at step 4 is explicitly stated as the beginning of time period T1.							
• • •								
Consequences if #	1) 34.121 and 25.133 will be inconsistent.							
not approvou.	2) 34.121 and 25.133 will be inconsistent.							
	3) The test procedure will not be executed correctly and test requirement cannot be confirmed							
	4) 34.121 and 25.331 will be inconsistent.							
	5) The test condition is insufficient to achieve the test purpose.							
	6) 34.121 and 34.123-1 will be inconsistent.							
	7) 34.121 and 25.331 will be inconsistent.							
	8) 34.121 and 25.331 will inconsistent.							
	9) The test condition is insufficient to achieve the test purpose.							
	10) Ability beyond Minimum requirement is required. Even "Good UE" may not pass this test.							
Clauses affected: #	8.3.1							
Other specs #	Other core specifications #							
affected:	Test specifications							
	O&M Specifications							

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

## 8.3.1 FDD/FDD Soft Handover

## 8.3.1.1 Definition and applicability

The active set update delay of the UE is defined as the time from the end of the last TTI containing an RRC message implying soft handover to the switch off of the old downlink DPCH.

The requirements and this test apply to the FDD UE.

## 8.3.1.2 Minimum requirement

The active set update delay shall be less than 60 ms in CELL\_DCH state. The rate of correct soft handovers observed during repeated tests shall be at least 90% with a confidence level of [FFS]%.

The active set update delay D<sub>handover</sub> equals the RRC procedure delay defined in TS 25.331 clause [13.5.2] plus the interruption time stated in TS 25.133 clause 5.1.2.2 as follows:

The active set update delay is defined as the time from when the UE has received the ACTIVE SET UPDATE message from UTRAN, or at the time stated through the activation time when to perform the active set update, to the time when the UE successfully uses the set of radio links stated in that message for power control.

The active set update delay is depending on the number of known cells referred to in the ACTIVE SET UPDATE message. A cell is known if either or both of the following conditions are true:

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

And the phase reference is the primary CPICH.

The active set update delay shall be less than 50+10\*KC+100\*OC ms, where

KC is the number of known cells in the active set update message.

OC is the number of cells that are not known in the active set update message.

The normative reference for this requirement is TS 25.133 [2] clauses 5.1.2 and A.5.1.1.

## 8.3.1.3 Test purpose

To verify that the UE meets the minimum requirement.

### 8.3.1.4 Method of test

#### 8.3.1.4.1 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 8.3.2.1.1 and 8.3.2.1.2 below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A shall be used, and that CPICH Ec/Io and SFN-CFN observed time difference shall be reported together with Event 1A. The test consists of five successive time periods, with a time duration of T1, T2, T3, T4 and T5 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send an Active Set Update command with activation time "now", adding cell 2 to the active set. The Active Set Update message shall be sent to the UE so that the whole message is available at the UE at the beginning of T4. The RRC procedure delay is defined in TS 25.133 [2].

Para	ameter	Unit	Value	Comment				
DCH parame	ters		DL and UL Reference Measurement Channel 12.2 kbps	As specified in <del>TS 25.101</del> clause A <u>C</u> .3.1 and <u>-</u> C.2.1				
Power Contro	bl		On					
Target quality DTCH	value on	BLER	0.01					
Initial	Active cell		Cell 1					
conditions	Neighbouring cell		Cell 2					
Final condition	Active cell		Cell 2					
Reporting ran	ige	dB	3	Applicable for event 1A and 1B				
Hysteresis		dB	0					
W			1	Applicable for event 1A and 1B				
Reporting dea threshold	activation		0	Applicable for event 1A				
Time to Trigg	er	ms	0					
Filter coefficie	ent		0					
T1		<u>s</u> d	5					
T2		<u>s</u> d	3					
T3		<u>s</u> d	0.5					
T4		ms	60	This is the requirement on active set update delay, see clause 5.1.2.2, where KC=1 and OC=0.				
T5		s	2					

#### Table 8.3.1.1.1: General test parameters for Soft handover

Table 8.3.1.1.2: Cell specific test parameters for Soft handover

Parameter	Unit	Cell 1							Cell 2				
		T1	T2	T3	T4	T5	T1	T2	T3	T4	T5		
CPICH_Ec/lor	dB		-10 -10										
PCCPCH_Ec/lor	dB		-12 -12										
SCH_Ec/lor	dB			-12			-12						
PICH_Ec/lor	dB		-15 -15										
DPCH_Ec/lor	dB	Note1	Note1	Not	e1	N/A	N/A	N/A	Note3	No	te1		
OCNS		Note2	Note2	Not	e2	-0.941	-0.941	-0.941	Note2	Note2			
$\hat{I}_{or}/I_{oc}$	dB	0	2.91	2.9	2.91		-Inf	2.91	2.91	2.91			
I <sub>oc</sub>	dBm/ 3.84 MHz						-70						
CPICH_Ec/lo	dB	-13	-14	-1-	4	-14	-Inf	-14	-14	-1	4		
Propagation Condition			AWGN										
Note 1: The DPCH I	evel is co	ntrolled by	the powe	r control	loop								
Note 2. The power of	of the OCI	NS channe	l that is a	ded sha	all mak	e the total r	nower from	the cell to h	be equal to	1			

Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to I  $_{
m or}$ 

Note 3: The DPCH level is controlled by the power control loop. The initial power shall be set equal to the DPCH\_Ec/lor of Cell 1 at the end of T2.

#### 8.3.1.4.2 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 without Compressed mode parameters.
- [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) <u>After-5 seconds after step4 has completed</u>, the SS shall switch the power settings from T1 to T2.
- 6) UE shall transmit a MEASUREMENT REPORT message triggered by event 1A containing the CFN-SFN observed time difference between cell 1 and cell 2.
- 7) At the beginning of T3 the downlink DPCH of cell 2 shall be activated.
- 8) SS shall send an ACTIVE SET UPDATE message with activation time "now ", adding cell 2 to the active set. The ACTIVE SET UPDATE message shall be sent to the UE so that the whole message is available at the UE at the beginning of T4.
- 9) At the beginning of T5 the DPCH from cell 1 shall be switched off.
- 10) The UE downlink BLER shall be measured during time period T5. If the UE downlink BLER does not exceed the downlink BLER target, i.e. 1%, during time period T5 then the number of successful tests is increased by one.
- 11) After 5 seconds after step10 has completed, the UE is switched off. Any timing information of cell 2 is deleted in the UE.

12)Repeat step 1-11[TBD] times

#### Specific Message Contents

All messages indicated above shall use the same content as described in the default message content in clause 9 of 34.108 [3]-and in Annex A of 34.123 1 [21], with the following exceptions:

I

MEASUREMENT CONTROL message (step 4):

Information Element/Group name	Value/Remark
Message Type (10.2.17)	
UE information elements	
-RRC transaction identifier	0
-Integrity check info	Not Present
Measurement Information elements	
-Measurement Identity	1
-Measurement Command (10.3.7.46)	Modify
-Measurement Reporting Mode (10.3.7.49)	
-Measurement Report Transfer Mode	AM RLC
-Periodical Reporting / Event Trigger Reporting Mode	Event trigger
-Additional measurements list (10.3.7.1)	Not Present
-CHOICE Measurement type	Intra-frequency measurement
-Intra-frequency measurement (10.3.7.36)	
-Intra-frequency measurement objects list (10.3.7.33)	Not Present
-Intra-frequency measurement quantity (10.3.7.38)	
-Filter coefficient (10.3.7.9)	0
-CHOICE mode	
-Measurement quantity	CPICH_EC/NU
-Intra-inequency reporting quantity (10.3.7.41)	
-Reporting quantities for active set cells (10.3.7.5)	No report
-Cell synchronisation information reporting indicator	TRUE (Note 1)
-Cell Identity reporting indicator	
	FDD
-CPICH Ec/N0 reporting indicator	TRUE
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	TRUE
-Reporting quantities for monitored set cells (10.3.7.5)	
-SFN-SFN observed time difference reporting indicator	No report
-Cell synchronisation information reporting indicator	TRUE (Note 1)
-Cell Identity reporting indicator	TRUE
-CHOICE mode	FDD
-CPICH Ec/N0 reporting indicator	TRUE
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	TRUE
-Reporting quantities for detected set cells (10.3.7.5)	Not Present
-Reporting cell status (10.3.7.61)	Not Present
	Report all active set cells + cells within
Maximum number of reported calls	monitored set on used frequency
Moasurement validity (10.3.7.51)	≠ Not Procont
-CHOICE report criteria	Intra-frequency measurement reporting
	criteria
-Intra-frequency measurement reporting criteria (10.3.7.39)	
-Parameters required for each event	2
-Intra-frequency event identity	Event 1A
-Triggering condition 2	Active set cells and monitored set cells
-Reporting Range Constant	3 dB
-Cells forbidden to affect Reporting Range	Not Present
	FDD
-W	1.0
-Hysteresis	U dB
- Inreshold used frequency	Not Present
-Reporting deactivation threshold	U Not Brogent
Time to triager	0 mg
- Time to trigger	U IIIS Infinity
-Amount of reporting -Reporting interval	0 ms (Note 2)
-Reporting cell status	Not Present
-Intra-frequency event identity	Event 1B
-Triagering condition 1	Active set cells and monitored set cells
-Reporting Range Constant	3 dB
-Cells forbidden to affect Reporting Range	Not Present
	FDD

Information Element/Group name	Value/Remark	
Primary CPICH info (10.3.6.60)		
-W	1.0	
-Hysteresis	0 dB	
-Threshold used frequency	Not Present	
-Reporting deactivation threshold	Not Present	
-Replacement activation threshold	Not Present	
-Time to trigger	0 ms	
-Amount of reporting	Not Present	
-Reporting interval	Not Present	
-Reporting cell status	Not Present	
Physical channel information elements		
-DPCH compressed mode status info (10.3.6.34)	Not Present	
Note 1: The SFN-CFN observed time difference is calculated	from the OFF and Tm parameters contained	
in the IE "Cell synchronisation information ", TS 25.33	31, clause 10.3.7.6. According to TS 25.331,	
8.6.7.7, this IE is included in MEASUREMENT REPC	RT if IE "Cell synchronisation information	
reporting indicator" in IE "Cell reporting quantities" TS	S 25.331, clause 10.3.7.5 is set to TRUE in	
MEASUREMENT CONTROL.		

Note 2: Reporting interval = 0 ms means no periodical reporting

### ACTIVE SET UPDATE message (step 8):

Information Element/Group name	Type and reference	Value/Remark
Message Type	Message Type	
UE information elements		
RRC transaction identifier	RRC transaction identifier 10.3.3.36	0
Integrity check info	Integrity check info 10.3.3.16	Not Present
Integrity protection mode info	Integrity protection mode info 10.3.3.19	Not Present
Ciphering mode info	Ciphering mode info 10.3.3.5	Not Present
Activation time	Activation time 10.3.3.1	"now".
New U-RNTI	U-RNTI 10.3.3.47	Not Present
CN information elements		
CN Information info	CN Information info 10.3.1.3	Not Present
RB information elements		
Downlink counter synchronisation info		Not Present
RB with PDCP information list		Not Present
>>RB with PDCP information	RB with PDCP information 10.3.4.22	Not Present
Phy CH information elements		
Uplink radio resources		
Maximum allowed UL TX power	Maximum allowed UL TX power 10.3.6.39	33 dBm
Downlink radio resources		
Radio link addition information		Radio link addition information required for each RL to add
>Radio link addition information	Radio link addition information 10.3.6.68	
Radio link removal information		Radio link removal information required for each RL to remove
>Radio link removal information	Radio link removal information 10.3.6.69	Not Present
TX Diversity Mode	TX Diversity Mode 10.3.6.86	None
SSDT information	SSDT information 10.3.6.77	Not Present

Radio link addition information

Information Element/Group name	Type and reference	Value/RemarkSemantics description
Primary CPICH info	Primary CPICH info 10.3.6.60	Same as defined in cell2
Downlink DPCH info for each RL	Downlink DPCH info for each RL 10.3.6.21	See below
TFCI combining indicator	TFCI combining indicator 10.3.6.81	FALSE
SCCPCH Information for FACH	SCCPCH Information for FACH 10.3.6.70	Note 1 Not Present

#### Downlink DPCH info for each RL

Information Element/Group name	Type and reference	Value/Remark
CHOICE mode		
>FDD		
>Primary CPICH usage for channel estimation	Primary CPICH usage for channel estimation 10.3.6.62	Primary CPICH may be used
>>DPCH frame offset	Integer(038144 by step of 256)	This should be refrected by the IE" Cell synchronisation information" in received MEASUREMENT REPORT message
>Secondary CPICH info	Secondary CPICH info 10.3.6.73	Not Present
>>DL channelisation code		
>>Secondary scrambling code	Secondary scrambling code 10.3.6.74	Not Present
>>Spreading factor	<u>Integer(4, 8, 16, 32, 64, 128, 256, 512)</u>	<u>128</u>
>>Code number	Integer(0Spreading factor - 1)	<u>0</u>
>>Scrambling code change	Enumerated (code change, no code change)	No code change
>TPC combination index	TPC combination index 10.3.6.85	<u>0</u>
>SSDT Cell Identity	SSDT Cell Identity 10.3.6.76	Not Present
>>Closed loop timing adjustment mode	Integer(1, 2)	Not Present

NOTE 1: These IEs are present when the UE needs to listen to system information on FACH in CELL\_DCH state.

#### 8.3.1.5 Test requirements

For the test to pass, the total number of successful tests shall be more than 90% with a confidence level of [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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### 3GPP TSG-T1 Meeting #16 Yokohama, Japan, 29 July – 2 August 2002

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For <u>HELP</u> on L	using this form, see bottom of this page or look at the pop-up text over the $st$ symbols.
Proposed change	affects: # (U)SIM ME/UE X Radio Access Network Core Network
Title: ೫	Correction to clause 8.6.1.1 Event triggered reporting in AWGN propagation conditions
Source: ೫	T1/RF
Work item code: %	- <b>Date:</b> ₭ 2002-07-21
Category: ₩	FRelease: %R99Use one of the following categories:Use one of the following releases:F (correction)2A (corresponds to a correction in an earlier release)R96B (addition of feature),R97C (functional modification of feature)R98D (editorial modification)R99D (editorial modification)R99D tetailed explanations of the above categories canREL-4be found in 3GPP TR 21.900.REL-5
Reason for change	e: # 1) Because of setting "Triggering condition 2" for Event 1A to "Active set cells and
	<ul> <li>a h () because of setting 'Higgening contation' 2 in Event (A to 'Active set cells and monitored set cells", UE shall transmit a MEASUREMENT REPORT message for Cell1 triggered by event 1A after SS transmits a MEASUREMENT CONTROL message. But, it is not described in clause 8.6.1.1.4.2 Procedure.</li> <li>2) The time in which the power setting is switched from Tx to Ty is not clear.</li> <li>3) An uncertain delay when the uplink DCCH message is transmitted is not taken into consideration (refer to TS25.133 clause 8.1.2.2.5 as below).</li> <li>The delay uncertainty is twice the TTI of the uplink DCCH.</li> <li>Editors Note: The test cases in section A.8 will need revisions to reflect the general requirements.</li> <li>4) The description of Annex A of 34.123-1 was moved to TS34.108 clause 9.</li> <li>5) The IE "reporting cell status" is unnecessary because event trigger is set up as reporting criteria. Refer to TS25.331 10.3.7.36.</li> </ul>
Summary of chang	<ul> <li>a) "Triggering condition 2" for Event 1A is changed form "Active set cells and monitored set cells" to "monitored set cells".</li> <li>b) Procedure in clause 8.6.1.1.4.2 is changed.</li> <li>c) UL parameter is added in DPCH parameters in Table 8.6.1.1.1.</li> <li>c) A measurement report delay is changed to take into consideration of the uncertain delay (80msec).</li> </ul>

	4) The mention of Annex A of 34.123-1 is deleted.
	5) The IE "reporting cell status" is deleted.
Consequences if	f The test procedure cannot be correctly executed and test requirement cannot be met.
Clauses affected:	暖 8.6.1.1
Other specs affected:	Contraction     #       Test specifications     #

#### How to create CRs using this form:

ж

Other comments:

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

**O&M Specifications** 

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

#### 8.6.1.1 Event triggered reporting in AWGN propagation conditions

#### 8.6.1.1.1 Definition and applicability

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

The requirements and this test apply to the FDD UE.

#### 8.6.1.1.2 Minimum requirements

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

$$T_{\text{identify intra}} = Max \left\{ 800, T_{\text{basic identify FDD, intra}} \cdot \frac{T_{\text{Measurement Period, Intra}}}{T_{\text{Intra}}} \right\} ms$$

A cell shall be considered detectable when CPICH Ec/Io  $\geq$  -20 dB, SCH\_Ec/Io  $\geq$  -20 dB and SCH\_Ec/Ior is equally divided between primary synchronisation code and secondary synchronisation code. When L3 filtering is used an additional delay can be expected.

In the CELL\_DCH state the measurement period for intra frequency measurements is 200 ms. When no transmission gap pattern sequence is activated, the UE shall be capable of performing CPICH measurements for 8 identified intra-frequency cells of the monitored set and/or the active set, and the UE physical layer shall be capable of reporting measurements to higher layers with the measurement period of 200 ms. When one or more transmission gap pattern sequences are activated, the UE shall be capable of performing CPICH measurements for at least  $Y_{measurement intra}$  cells , where  $Y_{measurement intra}$  is defined in the following equation. The measurement accuracy for all measured cells shall be as specified in the sub-clause 9.1.1 and 9.1.2 of TS 25.133 [2]. If the UE has identified more than  $Y_{measurement intra}$  cells, the UE shall perform measurements of all identified cells but the reporting rate of CPICH measurements of cells from UE physical layer to higher layers may be decreased.

$$\mathbf{Y}_{\text{measurement intra}} = Floor \left\{ X_{\text{basic measurement FDD}} \cdot \frac{\mathbf{T}_{\text{Intra}}}{\mathbf{T}_{\text{Measurement Period, Intra}}} \right\} \text{ cells}$$

where

 $X_{\text{basic measurement FDD}} = 8 \text{ (cells)}$ 

T<sub>Measurement\_Period Intra</sub> = 200 ms. The measurement period for Intra frequency CPICH measurements.

 $T_{Intra}$ : This is the minimum time that is available for intra frequency measurements, during the measurement period with an arbitrarily chosen timing.

 $T_{\text{basic\_identify}\_FDD, intra} = 800 \text{ ms.}$  This is the time period used in the intra frequency equation where the maximum allowed time for the UE to identify a new FDD cell is defined.

The event triggered measurement reporting delay, on cells belonging to monitored set, measured without L3 filtering, shall be less than the above defined T  $_{identify intra}$  defined above.

If a cell, belonging to monitored set, which the UE has identified and measured at least once over the measurement period, becomes undetectable for a period < 5 seconds and then the cell becomes detectable again and triggers an event, the measurement reporting delay shall be less than  $T_{Measurement\_Period Intra}$  ms provided the timing to that cell has not changed more than +/-32 chips, the UE CPICH measurement capabilities defined above are valid and L3 filtering has not been used. When L3 filtering is used an additional delay can be expected.

If a cell belonging to monitored set has been detectable at least for the time period  $T_{identify\_intra}$  and then enters or leaves the reporting range, the event triggered measurement reporting delay shall be less than  $T_{Measurement\_Period Intra}$  when the L3 filter has not been used and the UE CPICH measurement capabilities defined above are valid.

The normative reference for these requirements is TS 25.133 [2] clauses 8.1.2.2 and A.8.1.1.

#### 8.6.1.1.3 Test purpose

To verify that the UE meets the minimum requirements.

#### 8.6.1.1.4 Method of test

8.6.1.1.4.1 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 8.6.1.1.1 and 8.6.1.1.2 below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A and 1B shall be used. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. During time duration T1, the UE shall not have any timing information of cell 2.

## Table 8.6.1.1.1: General test parameters for Event triggered reporting in AWGN propagation conditions

Parameter	Unit	Value	Comment
DCH parameters		DL and UL Reference	As specified in <u>C.3.1 and C.2.1</u> TS 25.101
		Measurement Channel 12.2 kbps	clause A.3.1
Power Control		On	
Active cell		Cell 1	
Reporting range	dB	3	Applicable for event 1A and 1B
Hysteresis	dB	0	
W		1	Applicable for event 1A and 1B
Reporting deactivation		0	Applicable for event 1A
threshold			
Time to Trigger	ms	0	
Filter coefficient		0	
Monitored cell list size		24	
T1	S	5	
T2	S	5	
Т3	S	5	

## Table 8.6.1.1.2: Cell specific test parameters for Event triggered reporting in AWGN propagation conditions

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

#### 8.6.1.1.4.2 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] sub clause 7.3.2.3.
- 4) SS shall transmit a MEASUREMENT CONTROL message.
- 5) After 5 seconds from the beginning of T1, the SS shall switch the power settings from T1 to T2.
- 6) UE shall transmit a MEASUREMENT REPORT message triggered by event 1A. The measurement reporting delay from the beginning of T2 shall be less than 8800 ms.
- 7) After 5 seconds from the beginning of T2, the SS shall switch the power settings from T2 to T3.
- 8) UE shall transmit a MEASUREMENT REPORT message triggered by event 1B. The measurement reporting delay from the beginning of T3 shall be less than 2800 ms.
- 9) After 5 seconds from the beginning of T3, the UE is switched off. Any timing information of cell 2 is deleted in the UE.
- 10)Repeat steps 1-9 [TBD] times.

#### Specific Message Contents

All messages indicated above shall use the same content as described in the default message content in clause 9 of 34.108 [3] and in Annex A of 34.123-1 [21], with the following exceptions:

MEASUREMENT CONTROL message:

Information Element/Group name	Value/Remark
Message Type (10.2.17)	
UE information elements	
-RRC transaction identifier	0
-Integrity check info	Not Present
Measurement Information elements	
-Measurement Identity	1
-Measurement Command (10.3.7.46)	Modify
-Measurement Reporting Mode (10.3.7.49)	
-Measurement Report Transfer Mode	AM RLC
-Periodical Reporting / Event Trigger Reporting Mode	Event trigger
-Additional measurements list (10.3.7.1)	Not Present
-CHOICE Measurement type	Intra-frequency measurement
-Intra-frequency measurement (10.3.7.36)	
-Intra-frequency measurement objects list (10.3.7.33)	Not Present
-Intra-frequency measurement quantity (10.3.7.38)	0
-Filter coefficient (10.3.7.9)	
-CHOICE mode Measurement quentity	
Intra frequency reporting quantity (10.2.7.41)	
Poperting quantities for active set cells (10.3.7.5)	
-SEN-SEN observed time difference reporting indicator	No report
-Cell synchronisation information reporting indicator	TRUE (Note 1)
-Cell Identity reporting indicator	
-CHOICE mode	FDD
-CPICH Ec/N0 reporting indicator	TRUF
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	TRUE
-Reporting quantities for monitored set cells (10.3.7.5)	
-SFN-SFN observed time difference reporting indicator	No report
-Cell synchronisation information reporting indicator	TRUE (Note 1)
-Cell Identity reporting indicator	TRUE
-CHOICE mode	FDD
-CPICH Ec/N0 reporting indicator	TRUE
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	TRUE
-Reporting quantities for detected set cells (10.3.7.5)	Not Present
-Reporting cell status (10.3.7.61)	Not Present
CHOICE reported cell	Report all active set cells + cells within
Maximum number of reported calls	monitored set on used frequency
	∠ Not Bracont
CHOICE report criteria	Intra frequency measurement reporting
	criteria
-Intra-frequency measurement reporting criteria (10.3.7.39)	Cinena
-Parameters required for each event	2
-Intra-frequency event identity	Event 1A
-Triggering condition 2	Active set cells and Mmonitored set cells
-Reporting Range Constant	3 dB
-Cells forbidden to affect Reporting Range	Not Present
-CHOICE mode	FDD
-Primary CPICH info (10.3.6.60)	
-W	1.0
-Hysteresis	0 dB
-Threshold used frequency	Not Present
-Reporting deactivation threshold	0
-Replacement activation threshold	Not Present
- I ime to trigger	Ums
-Amount of reporting	Not present
-reporting interval	U IIIS (INOTE ∠)
-Reporting cell status	NOT Present
-intra-frequency event identity	Event 1B
- Inggering condition 1 Poporting Pongo Constant	Active set cells and monitored set cells
Colle forbidden to effect Penerting Penge	J UD Not Procent
	עטי

Information Element/Group name	Value/Remark	
-Primary CPICH info (10.3.6.60)		
-W	1.0	
-Hysteresis	0 dB	
-Threshold used frequency	Not Present	
-Reporting deactivation threshold	Not Present	
-Replacement activation threshold	Not Present	
-Time to trigger	0 ms	
-Amount of reporting	Not Present	
-Reporting interval	0 ms (note 2)	
-Reporting cell status	Not Present	
Physical channel information elements		
-DPCH compressed mode status info (10.3.6.34)	Not Present	
Note 1: The SFN-CFN observed time difference is calculated	from the OFF and Tm parameters contained	
in the IE "Cell synchronisation information ", TS 25.33	31, clause 10.3.7.6. According to TS 25.331,	
8.6.7.7, this IE is included in MEASUREMENT REPORT if IE "Cell synchronisation information		
reporting indicator" in IE "Cell reporting quantities" TS	25.331, clause 10.3.7.5 is set to TRUE in	
MEASUREMENT CONTROL.		
Note 2: Reporting interval = 0 ms means no periodical reporti	ng	

#### MEASUREMENT REPORT message for Intra frequency test cases

This message is common for all intra frequency test cases is described in Annex I.

#### 8.6.1.1.5 Test requirements

For the test to pass, the total number of successful tests shall be at least 90%, with a confidence level of [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.

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

### Tdoc T1-020464

	CR-Form-v5.1
ж	<b>34.121</b> CR <b>188 # rev</b> - <b>#</b> Current version: <b>3.9.0 #</b>
For <u>HELP</u> on ι	using this form, see bottom of this page or look at the pop-up text over the $\Re$ symbols.
Proposed change	affects: # (U)SIM ME/UE X Radio Access Network Core Network
Title: अ	Correction to clause 8.6.1.2 Event triggered reporting of multiple neighbours in AWGN propagation condition
Source: ೫	T1/RF
Work item code: ₩	- <b>Date:</b> ₩ 2002-07-21
Calegory. 60	Use one of the following categories:       Use one of the following releases:         F (correction)       2       (GSM Phase 2)         A (corresponds to a correction in an earlier release)       R96       (Release 1996)         B (addition of feature),       R97       (Release 1997)         C (functional modification of feature)       R98       (Release 1998)         D (editorial modification)       R99       (Release 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	<ul> <li>a Tybecause of setting 'Higgening condition'2 for Event IA to Adve series and monitored set cells", UE shall transmit a MEASUREMENT REPORT message for Cell1 triggered by event 1A after SS transmit a MEASUREMENT CONTROL message. But, it is not described in clause 8.6.1.2.4.2 Procedure.</li> <li>2) RRC procedure delay is not taken into consideration when UE receive a MEASUREMENT CONTROL message, and the time in which the power setting is switched from Tx to Ty is not clear.</li> <li>3) CPICH_Ec/lo of Cell 1 is equal to CPICH_Ec/lo of Cell3 for T2 period, and so UE may transmit a MEASUREMENT REPORT message for Cell 3 triggered by event 1C.</li> <li>4) The difference between CPICH_Ec/lo of Cell 1 and CPICH_Ec/lo of Cell2 is 1[dB], and so UE may transmit a MEASUREMENT REPORT message for Cell 2 triggered by event 1C.</li> <li>5) An uncertainty delay when the uplink DCCH is transmitted is not taken into consideration (refer to TS25.133 clause 8.1.2.2.5).</li> <li>6) Since it's not intented to make UE reports the occurrence of events repeatedly, amount of reporting needs not be specified; the UE needs only to report each event once by default.</li> <li>7) The description in Annex A of 34.123-1 was moved to TS34.108 clause 9.</li> <li>8) The IE "reporting cell status" is unnecessary because event trigger is set up as reporting criteria. Refer to TS25.331 10.3.7.36.</li> </ul>
Summary of chang	ge: # 1) "Triggering condition 2" for Event 1A is changed form "Active set cells and

	monitored set cells" to "monitored set cells".
	2-1) Initial test parameter in clause 8.6.1.2.4.1 is added.
	2-2) Procedure in clause 8.6.1.2.4.2 is changed.
	3) It is added that UE may transmit a MEASUREMENT REPORT message for Cell 3 triggered by event 1C during T2 period.
	4) It is added that UE may transmit a MEASUREMENT REPORT message for Cell 2 triggered by event 1C during T3 period.
	5-1) UL parameter is added in DPCH parameters in Table 8.6.1.2.2.
	5-2) A measurement report delay is revised to take into consideration of the uncertainty delays (80msec).
	6) IE "amount of reporting" is change from "Infinity" to "Not present".
	7) The reference to Annex A of 34.123-1 is deleted.
	8) The IE "reporting cell status" is deleted.
Consequences if and approved:	The test procedure cannot be executed correctly and test requirement cannot be met.
Clauses affected:	§ 8.6.1.2

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 <u>http://www.3gpp.org/specs/CR.htm</u>. Below is a brief summary:

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

# 8.6.1.2 Event triggered reporting of multiple neighbours in AWGN propagation condition

#### 8.6.1.2.1 Definition and applicability

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

The requirements and this test apply to the FDD UE.

#### 8.6.1.2.2 Minimum requirements

The requirements are the same as in sub clause 8.6.1.1.2.

The normative reference for these requirements is TS 25.133 [2] clauses 8.1.2.2 and A.8.1.2.

#### 8.6.1.2.3 Test purpose

To verify that the UE meets the minimum requirements.

#### 8.6.1.2.4 Method of test

#### 8.6.1.2.4.1 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 initial test parameters are given in table 8.6.1.2.1

### Table 8.6.1.2.1: Cell specific initial test parameters for Event triggered reporting of multiple neighbours in AWGN propagation conditions

Parameter	Unit	Cell 1	Cell3					
		<u>T0</u>	<u>T0</u>	<u>T0</u>				
CPICH_Ec/lor	<u>dB</u>	<u>-10</u>	<u>-10</u>	<u>-10</u>				
PCCPCH_Ec/lor	<u>dB</u>	<u>-12</u>	<u>-12</u>	<u>-12</u>				
SCH_Ec/lor	<u>dB</u>	<u>-12</u>	<u>-12</u>	<u>-12</u>				
PICH_Ec/lor	<u>dB</u>	<u>-15</u>	<u>-15</u>	<u>-15</u>				
DPCH_Ec/lor	<u>dB</u>	<u>-17</u>	N/A	N/A				
OCNS_Ec/lor	<u>dB</u>	<u>-1.049</u>	<u>-0.941</u>	<u>-0.941</u>				
$\hat{I}_{or}/I_{oc}$	<u>dB</u>	<u>0</u>	<u>-Inf</u>	<u>-Inf</u>				
	<u>dBm/</u> <u>3.84</u> <u>MHz</u>	<u>-85</u>						
CPICH_Ec/lo	<u>dB</u>	<u>-13</u> <u>-Inf</u> <u>-Inf</u>						
Propagation Condition	AWGN							

The test parameters are given in table 8.6.1.2.24 and 8.6.1.2.32. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A, 1C and 1B shall be used and the periodical reporting of the events is not applied. The test consists of four successive time periods, with a time duration of T1, T2, T3 and T4 respectively. In the initial condition before the time T1 only Cell1 is active.

## Table 8.6.1.2.24: General test parameters for Event triggered reporting of multiple neighbours in AWGN propagation conditions

Parameter	Unit	Value	Comment
DCH parameters		DL and UL Reference Measurement	As specified in C.3.1 and C.2.1TS
		Channel 12.2 kbps	25.101 clause A.3.1
Power Control		On	
Active cell		Cell 1	
Reporting range	dB	3	Applicable for event 1A and 1B
Hysteresis	dB	0	
W		1	Applicable for event 1A and 1B
Replacement		0	Applicable for event 1C
activation threshold			
Reporting		0	Applicable for event 1A
deactivation			
threshold			
Time to Trigger	ms	0	
Filter coefficient		0	
Monitored cell list		32	
size			
T1	S	10	
T2	S	10	
T3	S	5	
T4	S	10	

# Table 8.6.1.2.32: Cell specific test parameters for Event triggered reporting of multiple neighbours in AWGN propagation condition

Parameter	Unit	Cell 1			Cell 2				Cell3				
		T1	T2	T3	T4	T1	T2	Т3	T4	T1	T2	Т3	T4
CPICH_Ec/lor	dB	-10				-1	0		-10				
PCCPCH_Ec/ lor	dB	-12			-12				-12				
SCH_Ec/lor	dB		-12				-1	2		-12			
PICH_Ec/lor	dB		-15			-15				-15			
DPCH_Ec/lor	dB	-17			N/A			N/A					
OCNS_Ec/lor	dB		-1.(	)49			-0.941			-0.941			
$\hat{I}_{or}/I_{oc}$	dB	6.97	6.93	5.97	6.12	-Inf	9.43	6.97	7.62	5.97	6.93	-Inf	5.62
	dBm/												
I <sub>oc</sub>	3.84		-85										
	MHz												
CPICH_Ec/lo	dB	-13	-16	-14	-15.5	-Inf	-13.5	-13	-14	-14	-16	-Inf	-16
Propagation Condition		AWGN											

#### 8.6.1.2.4.2 Procedure

- 1) The RF parameters are set up according to T04.
- 2) The UE is switched on.
- 3) A call is set up according to the test procedure specified in TS 34.108 [3] sub clause 7.3.2.3.
- 4) SS shall transmit a MEASUREMENT CONTROL message.
- 5) 5 seconds after step4 has completed, the SS shall switch the power settings for T0 to T1.
- <u>6</u>5) UE shall transmit a MEASUREMENT REPORT message for Cell 3 triggered by event 1A. The measurement reporting delay from the beginning of T1 shall be less than 8800 ms.
- <u>76</u>) UE may transmit a MEASUREMENT REPORT message for Cell 3 triggered by event 1C. In case it doesn't this shall not be considered as a failure.

- 87) After 10 seconds from the beginning of T1, the SS shall switch the power settings from T1 to T2.
- <u>98</u>)UE shall transmit a MEASUREMENT REPORT message for Cell 2 triggered by event 1C. The measurement reporting delay from the beginning of T2 shall be less than 8800 ms.

<u>109</u>) UE shall transmit a MEASUREMENT REPORT message for Cell 2 triggered by event 1A. The measurement reporting delay from the beginning of T2 shall be less than  $8\underline{800}$  ms.

- 11) UE may transmit a MEASUREMENT REPORT message for Cell 3 triggered by event 1C. In case it doesn't this shall not be considered as a failure.
- <u>1210</u>) After 10 seconds from the beginning of T2, the SS shall switch the power settings from T2 to T3.
- <u>13</u><del>11</del>) UE shall transmit a MEASUREMENT REPORT message for Cell 3 triggered by event 1B. The measurement reporting delay from the beginning of T3 shall be less than 2<u>800</u> ms.
- 14) UE may transmit a MEASUREMENT REPORT message for Cell 2 triggered by event 1C. In case it doesn't this shall not be considered as a failure.
- 152) After 5 seconds from the beginning of T3, the SS shall switch the power settings from T3 to T4.
- 163) UE shall transmit a MEASUREMENT REPORT message for Cell 3 triggered by event 1A. The measurement reporting delay from the beginning of T4 shall be less than 2800 ms.
- 174) UE may transmit a MEASUREMENT REPORT message for Cell 2 triggered by event 1C. In case it doesn't this shall not be considered as a failure.
- 185) UE may transmit a MEASUREMENT REPORT message for Cell 3 triggered by event 1C. In case it doesn't this shall not be considered as a failure.
- 196) After 10 seconds from the beginning of T4, the UE is switched off.
- 2017) Repeat steps 1-1916 [TBD] times.

#### Specific Message Contents

All messages indicated above shall use the same content as described in the default message content in clause 9 of 34.108 [3]-and in Annex A of 34.123 1 [21], with the following exceptions:

I

MEASUREMENT CONTROL message:

Information Element/Group name	Value/Remark
Message Type (10.2.17)	
UE information elements	
-RRC transaction identifier	0
-Integrity check info	Not Present
Measurement Information elements	
-Measurement Identity	1
-Measurement Command (10.3.7.46)	Modify
-Measurement Reporting Mode (10.3.7.49)	,
-Measurement Report Transfer Mode	AM RLC
-Periodical Reporting / Event Trigger Reporting Mode	Event trigger
-Additional measurements list (10.3.7.1)	Not Present
-CHOICE Measurement type	Intra-frequency measurement
-Intra-frequency measurement (10.3.7.36)	
-Intra-frequency measurement objects list (10.3.7.33)	Not Present
-Intra-frequency measurement quantity (10.3.7.38)	
-Filter coefficient (10.3.7.9)	0
-CHOICE mode	FDD
-Measurement quantity	CPICH_Ec/N0
-Intra-trequency reporting quantity (10.3.7.41)	
-Reporting quantities for active set cells (10.3.7.5)	
-SEN-SEN observed time difference reporting indicator	No report
-Cell synchronisation information reporting indicator	
-Cell Identity reporting indicator	
-CHOICE mode	
-CPICH EC/NU reporting indicator	
-CFICH RSCF reporting indicator	
Paparting quantities for manitored set cells (10.3.7.5)	IKOL
-SEN-SEN observed time difference reporting indicator	No report
-Cell synchronisation information reporting indicator	TRUE (Note 1)
-Cell Identity reporting indicator	
-CHOICE mode	FDD
-CPICH Ec/N0 reporting indicator	TRUE
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	TRUE
-Reporting quantities for detected set cells (10.3.7.5)	Not Present
-Reporting cell status (10.3.7.61)	Not Present
CHOICE reported cell	Report all active set cells + cells within
	monitored set on used frequency
Maximum number of reported cells	3
-Measurement validity (10.3.7.51)	Not Present
-CHOICE report criteria	Intra-frequency measurement reporting
	criteria
-Intra-frequency measurement reporting criteria (10.3.7.39)	
-Parameters required for each event	3
-intra-frequency event identity	EVENT 1A
- Inggering condition 2	Active set cells and <u>ivi</u> monitored set cells
-Reporting Range Constant	3 0B Not Present
	FDD
$- \frac{\text{Drive } 1000}{\text{Primary CPICH info}(10.3.6.60)}$	
-W	1.0
-Hvsteresis	0 dB
-Threshold used frequency	Not Present
-Reporting deactivation threshold	0
-Replacement activation threshold	Not Present
-Time to trigger	0 ms
-Amount of reporting	Not presentInfinity
-Reporting interval	0 ms (Note 2)
-Reporting cell status	Not Present
-Intra-frequency event identity	Event 1B
-Triggering condition 1	Active set cells and monitored set cells
-Reporting Range Constant	3 dB
-Cells forbidden to affect Reporting Range	Not Present
	FDD

1

Information Element/Group name	Value/Remark						
-Primary CPICH info (10.3.6.60)							
-W	1.0						
-Hysteresis	0 dB						
-Threshold used frequency	Not Present						
-Reporting deactivation threshold	Not Present						
-Replacement activation threshold	Not Present						
-Time to trigger	0 ms						
-Amount of reporting	Not Present						
-Reporting interval	0 ms (Note 2)						
-Reporting cell status	Not Present						
-Intra-frequency event identity	Event 1C						
-Triggering condition 2	Active set cells and monitored set cells						
-Reporting Range Constant	Not present						
<ul> <li>Cells forbidden to affect Reporting Range</li> </ul>	Not Present						
	FDD						
-Primary CPICH info (10.3.6.60)							
-W	Not present						
-Hysteresis	0 dB						
-Threshold used frequency	Not Present						
-Reporting deactivation threshold	Not present						
-Replacement activation threshold	0 ms						
-Time to trigger	0 ms						
-Amount of reporting	Not presentInfinity						
-Reporting interval	0 ms (Note 2)						
-Reporting cell status	Not Present						
Physical channel information elements							
-DPCH compressed mode status info (10.3.6.34)	Not Present						
NOTE 1: The SFN-CFN observed time difference is calculated	from the OFF and Tm parameters contained						
in the IE "Cell synchronisation information", TS 25.331, clause 10.3.7.6. According to TS 25.331,							
8.6.7.7, this IE is included in MEASUREMENT REPO	8.6.7.7, this IE is included in MEASUREMENT REPORT if IE "Cell synchronisation information						
reporting indicator" in IE "Cell reporting quantities" TS	25.331, clause 10.3.7.5 is set to TRUE in						
MEASUREMENT CONTROL.							
NO+IE 2: Reporting interval = 0 ms means no periodical reportir	ıg.						

#### MEASUREMENT REPORT message for Intra frequency test cases

This message is common for all intra frequency test cases is described in Annex I.

#### 8.6.1.2.5 Test requirements

For the test to pass, the total number of successful tests shall be at least 90%, with a confidence level of [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.

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

### Tdoc T1-020465

CR-Form-v5.1								
ж	<b>34.121</b> CR <b>189 # rev</b> - <sup>#</sup> Current version: <b>3.9.0</b> <sup>#</sup>							
For <u>HELP</u> on us	ing this form, see bottom of this page or look at the pop-up text over the $\Re$ symbols.							
Proposed change a	Proposed change affects: # (U)SIM ME/UE X Radio Access Network Core Network							
Title: ೫	Correction to clause 8.6.1.3 Event triggered reporting of two detectable neighbours in AWGN propagation							
Source: #	T1/RF							
Work item code: ₩	- Date: # 2002-07-21							
Category: %	F       Release: %       R99         Use one of the following categories:       Use one of the following releases:       2       (GSM Phase 2)         A (corresponds to a correction in an earlier release)       R96       (Release 1996)         B (addition of feature),       R97       (Release 1997)         C (functional modification of feature)       R98       (Release 1998)         D (editorial modification)       R99       (Release 1999)         Detailed explanations of the above categories can       REL-4       (Release 4)         be found in 3GPP TR 21.900.       REL-5       (Release 5)         Cell1 triggered by event 1A after SS transmit a MEASUREMENT REPORT message for Cell1 triggered by event 1A after SS transmit a MEASUREMENT CONTROL message. But, it is not described in clause 8.6.1.2.4.2 Procedure.         2) The time in which the power setting is switched from Tx to Ty is not clear.       3) An uncertainty delay when the uplink DCCH message is transmitted is not taken into consideration (refer to TS25.133 clause 8.1.2.2.5).							
	4) Clause 8.6.1.2.4.2 is missing.							
	5) The description of Annex A of 34.123-1 was moved to TS34.108 clause 9.							
	6) The IE "reporting cell status" is unnecessary because event trigger is set up as reporting criteria. Refer to TS25.331 10.3.7.36.							
Summary of change	e: # 1) "Triggering condition 2" for Event 1A is changed form "Active set cells and monitored set cells" to "monitored set cells".							
	2) Procedure in clause 8.6.1.2.4.2 is changed.							
	3-1) UL parameter is added in DPCH parameters in Table 8.6.1.3.1.							
	uncertainty delay (80msec).							
	4) Clause 8.6.1.2.4.2 is changed to clause 8.6.1.3.4.2.							

	<ul><li>5) The reference to Annex A of 34.123-1 is deleted.</li><li>6) The IE "reporting cell status" is deleted.</li></ul>
Consequences if not approved:	# The test procedure cannot be executed correctly and test requirement cannot be met.
Clauses affected: Other specs affected:	#       8.6.1.3         #       Other core specifications       #         Test specifications       #         O&M Specifications       *
Other comments:	ж 

#### How to create CRs using this form:

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

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

# 8.6.1.3 Event triggered reporting of two detectable neighbours in AWGN propagation condition

#### 8.6.1.3.1 Definition and applicability

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

The requirements and this test apply to the FDD UE.

#### 8.6.1.3.2 Minimum requirements

The requirements are the same as in sub clause 8.6.1.1.2.

The normative reference for these requirements is TS 25.133 [2] clauses 8.1.2.2 and A.8.1.3.

#### 8.6.1.3.3 Test purpose

To verify that the UE meets the minimum requirements.

#### 8.6.1.3.4 Method of test

8.6.1.3.4.1 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.

The test parameters are given in table 8.6.1.3.1 and 8.6.1.3.2. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A and 1B shall be used and the periodical reporting of the events is not applied. The test consists of four successive time periods, with a time duration of T1, T2, T3 and T4 respectively. In the initial condition before the time T1 only Cell1 is active.

#### Table 8.6.1.3.1: General test parameters for Event triggered reporting of two detectable neighbours in AWGN propagation condition

Parameter	Unit	Value	Comment
DCH parameters		DL and UL Reference	As specified in C.3.1 and C.2.1 TS
		Measurement Channel 12.2	<del>25.101 clause A.3.1</del>
		kbps	
Power Control		On	
Active cell		Cell 1	
Reporting range	dB	3	Applicable for event 1A and 1B
Hysteresis	dB	0	
W		1	Applicable for event 1A and 1B
Reporting deactivation		0	Applicable for event 1A
threshold			
Time to Trigger	ms	0	
Filter coefficient		0	
Monitored cell list size		32	
T1	S	10	
T2	S	10	
T3	S	10	
T4	S	10	

Parameter	Unit		Ce	Cell 1			Cell 2			Cell3			
		T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
CPICH_Ec/lor	dB		-1	0			-1	0		-10			
PCCPCH_Ec/ lor	dB	-12			-12				-12				
SCH_Ec/lor	dB	-12			-12				-12				
PICH_Ec/lor	dB	-15			-15				-15				
DPCH_Ec/lor	dB	-17			N/A			N/A					
OCNS_Ec/lor	dB		-1.0	049		-0.941				-0.941			
$\hat{I}_{or}/I_{oc}$	dB	14.5 5	28.5 1	14.4 5	28.5 1	-Inf	27.5 1	13.9 5	21.5 1	8.05	21.5 1	13.9 5	27.5 1
I <sub>oc</sub>	dBm/ 3.84 MHz		-85										
CPICH_Ec/lo	dB	-11	-13	-14.5	-13	-Inf	-14.0	-15	-20	-17.5	-20	-15	-14
Propagation Condition		AWGN											

### Table 8.6.1.3.2: Cell specific test parameters for Event triggered reporting of two detectable neighbours in AWGN propagation condition

#### 8.6.1.<u>3</u>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] sub clause 7.3.2.3.
- 4) SS shall transmit a MEASUREMENT CONTROL message.
- 5) After 10 seconds from the beginning T1, the SS shall switch the power settings from T1 to T2.
- 6) UE shall transmit a MEASUREMENT REPORT message for Cell 2 triggered by event 1A. The measurement reporting delay from the beginning of T2 shall be less than 8800 ms.
- 7) After 10 seconds from the beginning T2, the SS shall switch the power settings from T2 to T3.
- 8) UE shall transmit a MEASUREMENT REPORT message for Cell 3 triggered by event 1A. The measurement reporting delay from the beginning of T3 shall be less than 2<u>800</u> ms.
- 9) After 10 seconds from the beginning T3, the SS shall switch the power settings from T3 to T4.
- 10) UE shall transmit a MEASUREMENT REPORT message for Cell 2 triggered by event 1B. The measurement reporting delay from the beginning of T4 shall be less than 2<u>8</u>00 ms.
- 11)After 10 seconds, the UE is switched off.
- 12)Repeat steps 1-11 [TBD] times.

#### Specific Message Contents

All messages indicated above shall use the same content as described in the default message content in clause 9 of 34.108 [3] and in Annex A of 34.123-1 [21], with the following exceptions:

MEASUREMENT CONTROL message:

Information Element/Group name	Value/Remark
Message Type (10.2.17)	
UE information elements	
-RRC transaction identifier	0
-Integrity check info	Not Present
Measurement Information elements	
-Measurement Identity	1
-Measurement Command (10.3.7.46)	Modify
-Measurement Reporting Mode (10.3.7.49)	
-Measurement Report Transfer Mode	AM RLC
-Periodical Reporting / Event Trigger Reporting Mode	Event trigger
-Additional measurements list (10.3.7.1)	Not Present
-CHOICE Measurement type	Intra-frequency measurement
-Intra-frequency measurement (10.3.7.36)	
-Intra-frequency measurement objects list (10.3.7.33)	Not Present
-Intra-frequency measurement quantity (10.3.7.38)	0
-Filter coemicient (10.3.7.9)	
-CHOICE mode Measurement quentity	
-Measurement quantity	
-Initia-frequency reporting quantity (10.3.7.41)	
-SEN-SEN observed time difference reporting indicator	No report
-Cell synchronisation information reporting indicator	TRUE (Note 1)
-Cell Identity reporting indicator	
-CHOICE mode	FDD
-CPICH Ec/N0 reporting indicator	TRUE
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	TRUE
-Reporting quantities for monitored set cells (10.3.7.5)	
-SFN-SFN observed time difference reporting indicator	No report
-Cell synchronisation information reporting indicator	TRUE (Note 1)
-Cell Identity reporting indicator	TRUE
-CHOICE mode	FDD
-CPICH Ec/N0 reporting indicator	TRUE
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	TRUE
-Reporting quantities for detected set cells (10.3.7.5)	Not Present
-Reporting cell status (10.3.7.61)	Not Present
	Report all active set cells + cells within
-Maximum number of reported cells	
-Measurement validity (10.3.7.51)	ə Not Present
-CHOICE report criteria	Intra-frequency measurement reporting
	criteria
-Intra-frequency measurement reporting criteria (10.3.7.39)	ontona
-Parameters required for each event	2
-Intra-frequency event identity	Event 1A
-Triggering condition 2	Active set cells and mMonitored set cells
-Reporting Range Constant	3 dB
-Cells forbidden to affect Reporting Range	Not Present
-CHOICE mode	FDD
-Primary CPICH info (10.3.6.60)	
-W	1.0
-Hysteresis	0 dB
- I nreshold used frequency	Not Present
-Reporting deactivation threshold	U Not Drogent
-Replacement activation threshold	
- I line to trigger	U IIIS Not propost
-Amount of reporting	0 ms (Note 2)
-Nepoliting interval	Not Present
-Intra-frequency event identity	Event 1B
-Triagering condition 1	Active set cells and monitored set cells
-Reporting Range Constant	3 dB
-Cells forbidden to affect Reporting Range	Not Present
-CHOICE mode	FDD

Information Element/Group name	Value/Remark				
-Primary CPICH info (10.3.6.60)					
-W	1.0				
-Hysteresis	0 dB				
-Threshold used frequency	Not Present				
-Reporting deactivation threshold	Not Present				
-Replacement activation threshold	Not Present				
-Time to trigger	0 ms				
-Amount of reporting	Not Present				
-Reporting interval	0 ms (Note 2)				
-Reporting cell status	Not Present				
Physical channel information elements					
-DPCH compressed mode status info (10.3.6.34)	Not Present				
NOTE 1: The SFN-CFN observed time difference is calculated from the OFF and Tm parameters containe					
in the IE "Cell synchronisation information ", TS 25.331, clause 10.3.7.6. According to TS 25.3					
8.6.7.7, this IE is included in MEASUREMENT REPORT if IE "Cell synchronisation information					
reporting indicator" in IE "Cell reporting quantities" TS 25.331, clause 10.3.7.5 is set to TRUE i					
MEASUREMENT CONTROL.					
NOTE 2: Reporting interval = 0 ms means no periodical reportir	ng.				

#### MEASUREMENT REPORT message for Intra frequency test cases

This message is common for all intra frequency test cases is described in Annex I.

#### 8.6.1.3.5 Test requirements

For the test to pass, the total number of successful tests shall be at least 90%, with a confidence level of [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.

REL-5

(Release 5)

Tdoc T1-020466

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

be found in 3GPP TR 21.900.

#### CR-Form-v5.1 CHANGE REQUEST ж Current version: 34.121 CR 190 ж ж 3.9.0 жrev For **HELP** on using this form, see bottom of this page or look at the pop-up text over the **#** symbols. ME/UE X Radio Access Network (U)SIM Proposed change affects: # Core Network Title: # Correction to clause 8.6.1.4 Correct reporting of neighbours in fading propagation condition 第 T1/RF Source: Work item code: ℜ Date: # 2002-07-21 ж F Release: # R99 Category: Use one of the following categories: Use one of the following releases: F (correction) (GSM Phase 2) 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 (Release 4) REL-4

Reason for change:     ₩	1) RRC procedure delay is not taken into consideration when UE receive a MEASUREMENT CONTROL message and, the time in which the fading simulator is switched on and the power setting is switched from Tx to Ty is not clear.
	2) Transmit of the uplink DCCH is not taken into consideration.
	3) The description of Annex A of 34.123-1 was moved to TS34.108 clause 9.
	4) The IE "reporting cell status" is unnecessary because event trigger is set up as reporting criteria. Refer to TS25.331 10.3.7.36.
	5) The UE should be configured for intra-frequency measurement/reporting before the test RF conditions are altered. This is to allow sufficient time for UE to perform measurement for the neighbouring cells.
Summary of change: #	1) Procedure in clause 8.6.1.4.4.2 is changed.
	2) UL parameter is added in DPCH parameters in Table 8.6.1.4.1
	3) The mention of Annex A of 34.123-1 is deleted.
	4) The IE "reporting cell status" is deleted.
	5) The order for steps (4) and (5) are interchanged.
Consequences if	The test procedure cannot be executed correctly and test requirement cannot be met.

Clauses affected:	ж <mark>8.6.1.4</mark>	
Other specs affected:	<ul> <li>Conter core specifications</li> <li>Test specifications</li> <li>O&amp;M Specifications</li> </ul>	¥
Other comments:	ж	

#### How to create CRs using this form:

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

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

### 8.6.1.4 Correct reporting of neighbours in fading propagation condition

#### 8.6.1.4.1 Definition and applicability

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

The requirements and this test apply to the FDD UE.

#### 8.6.1.4.2 Minimum requirements

The requirements are the same as in sub clause 8.6.1.1.2.

The normative reference for these requirements is TS 25.133 [2] clauses 8.1.2.2 and A.8.1.4.

#### 8.6.1.4.3 Test purpose

To verify that the UE meets the minimum requirements and also verify that the UE performs sufficient layer 1 filtering of the measurements. The test is performed in fading propagation conditions.

#### 8.6.1.4.4 Method of test

#### 8.6.1.4.4.1 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 8.6.1.4.1 and 8.6.1.4.2. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A and Event 1B shall be used. The test consists of two successive time periods, each with time duration of T1 and T2 respectively.

The TTI of the uplink DCCH shall be 20ms.

## Table 8.6.1.4.1: General test parameters for correct reporting of neighbours in fading propagation condition

Parameter	Unit	Value	Comment
DCH parameters		DL and UL Reference Measurement	As specified in C.3.1 and C.2.1 TS
		Channel 12.2 kbps	25.101 clause A.3.1
Power Control		On	
Active cell		Cell 1	
Reporting range	dB	0	Applicable for event 1A and 1B
Hysteresis	dB	0	
W		1	Applicable for event 1A and 1B
Reporting deactivation		0	Applicable for event 1A
threshold			
Time to Trigger	ms	120	
Filter coefficient		0	
Monitored cell list size		24	Signalled before time T1.
T1	S	200	
T2	S	201	

Parameter	Unit	Ce	1	Ce	ell 2	
		T1	T2	T1	T2	
CPICH_Ec/lor	dB	-10		-10		
PCCPCH_Ec/lor	dB	-12		-12		
SCH_Ec/lor	dB	-12		-12		
PICH_Ec/lor	dB	-15		-15		
DPCH_Ec/lor	dB	-17		N/A		
OCNS		-1.049		-0.941		
$\hat{I}_{or}/I_{oc}$	dB	7.29	3.29	3.29	7.29	
I <sub>oc</sub>	dBm/3.84 MHz	-70				
CPICH_Ec/lo	dB	-12	-16	-16	-12	
Propagation Condition	Case 5 as specified in table D.2.2.1					

### Table 8.6.1.4.2: Cell specific test parameters for correct reporting of neighbours in fading propagation condition

#### 8.6.1.4.4.2 Procedure

- 1) The RF parameters are set up according to T1.
- 2) The UE is switched on.
- 3) A call is set up in AWGN conditions, according to the test procedure specified in TS 34.108 [3] sub clause 7.3.2.3.
- 4) SS shall transmit a MEASUREMENT CONTROL message.
- 54) 5 seconds after step4 has completed, Thethe fading simulator is switched on, configured with the settings described in the tables above at the beginning of T1.

#### 5) SS shall transmit a MEASUREMENT CONTROL message.

6) UE shall start transmitting MEASUREMENT REPORT messages triggered by event 1A.

- 7) SS shall count the reports. The number of received event 1A reports shall be less than 60.
- 8) After 200 seconds from the beginning of T1, the SS shall switch the power settings from T1 to T2.
- 9) UE shall start transmitting MEASUREMENT REPORT messages triggered by event 1B.

10)During the first 1s of time period T2 no event reports shall be counted.

- 11)After the first 1s SS shall start counting the reports. The number of received event 1B reports shall be less than 60.
- 12) After 201 seconds from the beginning of T2, the UE is switched off.
- 13)Repeat steps 1-12 [TBD] times.

#### Specific Message Contents

All messages indicated above shall use the same content as described in the default message content in clause 9 of 34.108 [3] and in Annex A of 34.123 1 [21], with the following exceptions:

MEASUREMENT CONTROL message:

Information Element/Group name	Value/Remark
Message Type (10.2.17)	
UE information elements	
-RRC transaction identifier	0
-Integrity check info	Not Present
Measurement Information elements	
-Measurement Identity	1
-Measurement Command (10.3.7.46)	Modify
-Measurement Reporting Mode (10.3.7.49)	
-Measurement Report Transfer Mode	AM RLC
-Periodical Reporting / Event Trigger Reporting Mode	Event trigger
-Additional measurements list (10.3.7.1)	Not Present
-CHOICE Measurement type	Intra-frequency measurement
-Intra-frequency measurement (10.3.7.36)	
-Intra-frequency measurement objects list (10.3.7.33)	Not Present
-Intra-frequency measurement quantity (10.3.7.38)	
-Filter coefficient (10.3.7.9)	
-CHOICE mode	
-Measurement quantity	CPICH_EC/NU
-Initia-frequency reporting qualitity (10.3.7.41)	
-SEN-SEN observed time difference reporting indicator	No report
-Cell synchronisation information reporting indicator	TRUE (Note 1)
-Cell Identity reporting indicator	
-CHOICE mode	FDD
-CPICH Ec/N0 reporting indicator	TRUE
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	TRUE
-Reporting quantities for monitored set cells (10.3.7.5)	
-SFN-SFN observed time difference reporting indicator	No report
-Cell synchronisation information reporting indicator	TRUE (Note 1)
-Cell Identity reporting indicator	TRUE
-CHOICE mode	FDD
-CPICH Ec/N0 reporting indicator	TRUE
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	IRUE
-Reporting quantities for detected set cells (10.3.7.5)	Not Present
-Reporting cell status (10.3.7.61)	<u>Not Present</u> Report all active set cells + cells within
	monitored set on used frequency
	2
-Measurement validity (10.3.7.51)	– Not Present
-CHOICE report criteria	Intra-frequency measurement reporting
	criteria
-Intra-frequency measurement reporting criteria (10.3.7.39)	
-Parameters required for each event	2
-Intra-frequency event identity	Event 1A
-Triggering condition 2	Active set cells and monitored set cells
-Reporting Range Constant	0 dB
-Cells forbidden to affect Reporting Range	Not Present
Primary CDICH into (40.2.6.60)	עטז
-riiiidiy CriCn IIIU (10.3.0.00) -W	10
-Hysteresis	0 dB
-Threshold used frequency	Not Present
-Reporting deactivation threshold	0
-Replacement activation threshold	Not Present
-Time to trigger	120 ms
-Amount of reporting	Not present
-Reporting interval	0 ms (Note 2)
-Reporting cell status	Not Present
-Intra-frequency event identity	Event 1B
-Triggering condition 1	Active set cells and monitored set cells
-Reporting Range Constant	0 dB
-Cells forbidden to affect Reporting Range	Not Present
-CHOICE mode	FUD

Information Element/Group name	Value/Remark					
-Primary CPICH info (10.3.6.60)						
-W	1.0					
-Hysteresis	0 dB					
-Threshold used frequency	Not Present					
-Reporting deactivation threshold	Not Present					
-Replacement activation threshold	Not Present					
-Time to trigger	120 ms					
-Amount of reporting	Not Present					
-Reporting interval	0 ms (Note 2)					
-Reporting cell status	Not Present					
Physical channel information elements						
-DPCH compressed mode status info (10.3.6.34)	Not Present					
Note 1: The SFN-CFN observed time difference is calculated from the OFF and Tm parameters contain						
in the IE "Cell synchronisation information ", TS 25.331, clause 10.3.7.6. According to TS 25.3						
8.6.7.7, this IE is included in MEASUREMENT REPORT if IE "Cell synchronisation information						
reporting indicator" in IE "Cell reporting quantities" TS 25.331, clause 10.3.7.5 is set to TRUE in						
MEASUREMENT CONTROL.	MEASUREMENT CONTROL.					
Note 2: Reporting interval = 0 ms means no periodical reporti	ng					

#### MEASUREMENT REPORT message for Intra frequency test cases

This message is common for all intra frequency test cases is described in Annex I.

#### 8.6.1.4.5 Test requirements

For the test to pass, the total number of successful tests shall be at least 90%, with a confidence level of [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.

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

### Tdoc T1-020467

CR-Eorm-v51												
CHANGE REQUEST												
ж	34	I.121	CR	191	ж	rev	-	ж	Current ve	ersion:	3.9.0	Ħ
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								0				
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) "Triggering condition 2" for Event 1A in MEASUREMENT CONTROL message intra frequency) is changed form "Active set cells and monitored set cells" to monitored set cells".
-1) Initial test parameters in clause 8.6.2.1.4.1 are added.
-2) Procedure in clause 8.6.2.1.4.2 is changed.
-3) Measurement Identity parameter in MEASUREMENT CONTROL message inter frequency) is changed.
) The reference of compressed mode in Table 8.6.2.1.2 is changed.
C.5.2 set 2 → C.5.2 set 1
PHYSICAL CHANNEL RECONFIGURATION message is changed.
) Inter-frequency measurement objects list parameter in MEASUREMENT CONTROL message (inter frequency) is changed.
-1) UL parameter is added in DPCH parameters in Table 8.6.2.1.2.
-2) The measurement report delay is revised to take into account of the neuron neuron neuron is revised to take into account of the neuron neuron neuron (80msec).
) IE "amount of reporting" in MEASUREMENT CONTROL message(intra requency) is change from "Infinity" to "Not present".
) The mention of Annex A of 34.123-1 is deleted.
) The IE "reporting cell status" is deleted.
he test procedure cannot be executed correctly and test requirement cannot be net.
0.0.4

Other specs affected:	¥	Other core specifications#Test specifications#O&M Specifications	£	
Other comments:	ж			

#### How to create CRs using this form:

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

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

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

#### 8.6.2.1 Correct reporting of neighbours in AWGN propagation condition

#### 8.6.2.1.1 Definition and applicability

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

The requirements and this test apply to the FDD UE.

#### 8.6.2.1.2 Minimum requirements

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

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

A cell shall be considered detectable when CPICH Ec/Io  $\geq$  -20 dB, SCH\_Ec/Io  $\geq$  -17 dB and SCH\_Ec/Ior is equally divided between primary synchronisation code and secondary synchronisation code. When L3 filtering is used an additional delay can be expected.

When transmission gaps are scheduled for FDD inter frequency measurements the UE physical layer shall be capable of reporting measurements to higher layers with measurement accuracy as specified in sub-clause 9.1.1 and 9.1.2 of 25.133 with measurement period given by

$$T_{\text{measurement inter}} = Max \left\{ T_{\text{Measurement_Period Inter}}, T_{\text{basic measurement FDD inter}} \cdot \frac{T_{\text{Measurement_Period Inter}}}{T_{\text{Inter}}} \cdot N_{Freq} \right\} ms$$

If the UE does not need compressed mode to perform inter-frequency measurements, the measurement period for inter frequency measurements is 480 ms.

The UE shall be capable of performing CPICH measurements for  $X_{\text{basic measurement FDD inter}}$  inter-frequency cells per FDD frequency of the monitored set or the virtual active set, and the UE physical layer shall be capable of reporting measurements to higher layers with the measurement period of  $T_{\text{Measurement_Inter.}}$ 

#### $X_{\text{basic measurement FDDinter}} = 6$

 $T_{Measurement\_Period Inter} = 480$  ms. The period used for calculating the measurement period  $T_{measurement\_inter}$  for inter frequency CPICH measurements.

 $T_{\text{Inter:}}$  This is the minimum time that is available for inter frequency measurements , during the period  $T_{\text{Measurement}\_Period\ inter}$  with an arbitrarily chosen timing. The minimum time per transmission gap is calculated by using the actual idle length within the transmission gap as given in the table 11 of Annex B in TS 25.212 and by assuming 2\*0.5 ms for implementation margin and after that taking only full slots into account in the calculation.

 $T_{\text{basic_identify}_{\text{FDD,inter}}} = 800 \text{ ms.}$  This is the time period used in the inter frequency equation where the maximum allowed time for the UE to identify a new FDD cell is defined.

 $T_{\text{basic\_measurement\_FDD inter}} = 50 \text{ ms.}$  This is the time period used in the equation for defining the measurement period for inter frequency CPICH measurements.

N<sub>Freq</sub>: Number of FDD frequencies indicated in the inter frequency measurement control information.

The event triggered measurement reporting delay, measured without L3 filtering shall be less than T  $_{identify inter}$  defined in Clause 8.1.2.3.1 of 25.133 When L3 filtering is used an additional delay can be expected.

If a cell has been detectable at least for the time period  $T_{identify\_inter}$  and then enters or leaves the reporting range, the event triggered measurement reporting delay shall be less than  $T_{Measurement\_Period Inter}$  provided the timing to that cell has not changed more than +/-32 chips while transmission gap has not been available and the L3 filter has not been used.

The normative reference for these requirements is TS 25.133 [2] clauses 8.1.2.3 and A.8.2.1.

#### 8.6.2.1.3 Test purpose

To verify that the UE meets the minimum requirements.

#### 8.6.2.1.4 Method of test

8.6.2.1.4.1 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 initial test parameters are given in table 8.6.42.21.1

## Table 8.6.42.21.1: Cell specific initial test parameters for Correct reporting of neighbours in AWGN propagation condition

Parameter	Unit	Cell 1	Cell 2	Cell3			
	1	<u>T0</u>	<u>T0</u>	<u></u> <u>T0</u>			
CPICH_Ec/lor	<u>dB</u>	-10	-10	-10			
PCCPCH_Ec/lor	<u>dB</u>	<u>-12</u>	<u>-12</u>	<u>-12</u>			
SCH_Ec/lor	<u>dB</u>	<u>-12</u>	-12	<u>-12</u>			
PICH_Ec/lor	<u>dB</u>	<u>-15</u>	-15	<u>-15</u>			
DPCH_Ec/lor	<u>dB</u>	<u>-17</u>	<u>N/A</u>	<u>N/A</u>			
OCNS_Ec/lor	dB	<u>-1.049</u>	<u>-0.941</u>	<u>-0.941</u>			
$\hat{I}_{or}/I_{oc}$	<u>dB</u>	<u>0</u>	<u>-Inf</u>	<u>-Inf</u>			
Ioc	<u>dBm/</u> <u>3.84</u> <u>MHz</u>	<u>-70</u>					
CPICH_Ec/lo	dB	<u>-13</u>	-Inf	<u>-Inf</u>			
Propagation Condition	AWGN						

The test consists of two successive time periods, with a time duration T1 and T2. The test parameters are given in tables 8.6.2.1.24 and 8.6.2.1.32 below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A and 2C shall be used. The CPICH Ec/I0 of the best cell on the unused frequency shall be reported together with Event 2C reporting.

Parameter	Unit	Value	Comment
DCH parameters		DL and UL Reference Measurement	As specified in C.3.1 and C.2.1
		Channel 12.2 kbps	
Power Control		On	
Compressed mode		C.5.2 set <u>1</u> <del>2</del>	As specified in C.5.
Active cell		Cell 1	
Threshold non used	dB	-18	Absolute Ec/I0 threshold for event 2C
frequency			
Reporting range	dB	4	Applicable for event 1A
Hysteresis	dB	0	
W		1	Applicable for event 1A
W non-used frequency		1	Applicable for event 2C
Reporting deactivation threshold		0	Applicable for event 1A
Time to Trigger	ms	0	
Filter coefficient		0	
Monitored cell list size		24 on channel 1	Measurement control information is
		16 on channel 2	sent before the compressed mode pattern starts.
T1	S	10	
T2	S	5	

## Table 8.6.2.1.24: General test parameters for Correct reporting of neighbours in AWGN propagation condition

# Table 8.6.2.1.32: Cell Specific parameters for Correct reporting of neighbours in AWGN propagation condition

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

#### 8.6.2.1.4.2 Procedure

- 1) The RF parameters are set up according to  $T0^{-1}$ .
- 2) The UE is switched on.
- 3) A call is set up according to the test procedure specified in TS 34.108 [3] sub clause 7.3.2.3.
- 4) SS shall transmit a MEASUREMENT CONTROL message (inter frequency).
- 5) SS shall transmit a MEASUREMENT CONTROL message (intra frequency).

<u>6</u>5)SS shall transmit PHYSICAL CHANNEL RECONFIGURATION message.

<u>7</u>6)UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message.

8) 5 seconds after step7 has completed, the SS shall switch the power settings from T0 to T1.
<u>9</u>7) UE shall transmit a MEASUREMENT REPORT message (inter frequency) triggered by event 2C. The measurement reporting delay from the beginning of T1 shall be less than 9.08 seconds.

<u>108</u>) After 10 seconds from the beginning of T1, the SS shall switch the power settings from T1 to T2.

9) SS shall transmit a MEASUREMENT CONTROL message (intra frequency).

<u>1140</u>) UE shall transmit a MEASUREMENT REPORT message (intra frequency) triggered by event 1A. The measurement reporting delay from the beginning of T2 shall be less than <u>956.21036.2</u> ms.

<u>12</u><del>11</del>) After 5 seconds from the beginning of T2, the UE is switched off.</del>

<u>13</u><del>12</del>) Repeat steps 1-1<u>2</u><del>1</del> [50] times.

#### Specific Message Contents

All messages indicated above shall use the same content as described in the default message content in clause 9 of 34.108 [3] and in Annex A of 34.123 1 [21], with the following exceptions:

PHYSICAL CHANNEL RECONFIGURATION message for Inter frequency measurement:

Information Element	Value/Remark
Message Type	
UE Information Elements	
-RRC transaction identifier	0
-Integrity check info	Not Present
-Integrity protection mode info	Not Present
-Ciphering mode into	Not Present
	240 CFNNot Present
	Not Present
-New C-RINTI PPC State Indicator	
LITRAN DRY cycle longth coofficient	Not Procent
-OTRAN DRA cycle lengin coenicient	
-CN Information info	Not Present
LITRAN mobility information elements	Not Tresent
-LIRA identity	Not Present
RB information elements	
-Downlink counter synchronisation info	Not Present
PhyCH information elements	
-Frequency info	Not Present
Uplink radio resources	
-Maximum allowed UL TX power	Not Present
Downlink radio resources	
-CHOICE mode	FDD
-Downlink PDSCH information	Not Present
-Downlink information common for all radio links	
-Downlink DPCH info common for all RL	Not Present
-CHOICE mode	FDD
-DPCH compressed mode info	
-Transmission gap pattern sequence	
-TGPSI	1
-TGPS Status Flag	Activ <u>ate</u> e
-TGCFN	(Current CFN + (256 – TTI/10msec))mod
	256Not Present
-Transmission gap pattern sequence	
configuration parameters	
-IGMP	FDD measurement
-IGPRC	Not present
-IGSN	4
-IGL1	
-IGL2	Not Present
	0
	3 Not Brogont
	Mode O
-ITP	Mode 0
-CHOICE UI /DI mode	UL and DL
-Downlink compressed mode method	SF/2
-Uplink compressed mode method	SF/2
-Downlink frame type	B
-DeltaSIR1	3.0
-DeltaSIRafter1	3.0
-DeltaSIR2	Not Present
-DeltaSIRafter2	Not Present
-N Identify abort	Not Present
-T Reconfirm abort	Not Present
-TX Diversity Mode	Not Present
-SSDT information	Not Present
-Default DPCH Offset Value	Not Present
-Downlink information per radio link list	Not Present
-Downlink information for each radio link	
Choice mode	FDD
Primary CPICH info	
-Primary scrambling code	<del>100</del>
PDSCH with SHO DCH Info	Not Present

PDSCH code mapping	Not Present
Downlink DPCH info for each RL	
	FDD
<ul> <li>Primary CPICH usage for channel estimation</li> </ul>	Primary CPICH may be used
	θ
	Not Present
<ul> <li>Secondary scrambling code</li> </ul>	Not Present
Spreading factor	<del>64</del>
Code number	<del>63</del>
	No code change
	θ
	Not Present
Closed loop timing adjustment mode	Not Present
SCCPCH Information for FACH	Not Present

MEASUREMENT CONTROL message (inter frequency):

Information Element/Group name	Value/Remark
Message Type (10.2.17)	
UE information elements	
-RRC transaction identifier	0
-Integrity check info	Not Present
Measurement Information elements	
-Measurement Identity	24
-Measurement Command (10.3.7.46)	
-Measurement Reporting Mode (10.3.7.49)	
-Measurement Report Transfer Mode	AM RLC
-Periodical Reporting / Event Trigger Reporting Mode	Event trigger
-Additional measurements list (10.3.7.1)	Not Present
-CHOICE Measurement type	Inter-frequency measurement
-Inter-frequency measurement (10.3.7.16)	
-Inter-frequency measurement objects list (10.3.7.13)	Information of Cell3 is included.Not Present
<ul> <li>CHOICE Inter-frequency cell removal</li> </ul>	Not Present
<ul> <li>New Inter frequency cells</li> </ul>	
<ul> <li>Inter frequency cell id</li> </ul>	<u>0</u>
<u>- Frequency info</u>	
<u>- CHOICE mode</u>	FDD
- UARFCN uplink(Nu)	Not Present
<u> </u>	Same frequency as "Channel2" in Table
	8.6.2.1.3
<u> </u>	Not Descent
<u>- Cell Individual offset</u>	Not Present
- Reference time difference to cell Dead SEN indicator	TRUE
CHOICE mode	
- CHOICE IIIOUE	
- Primary scrambling code	Set to Primary scrambling code of Cell3
- Primary CPICH Tx Power	Set to Primary CPICH Tx Power of Cell3
	described in Table 8.6.2.1.3
- Tx Diversity Indicator	FALSE
- Cell Selection and Re-selection info	Set to Cell Selection and Re-selection info
	of Cell3
- Cell for measurement	Not Present
-Inter-frequency measurement quantity (10.3.7.18)	
-Intra-frequency reporting criteria	
-Intra-frequency measurement quantity (10.3.7.38)	
-Filter coefficient (10.3.7.9)	0
-CHOICE mode	FDD
-Measurement quantity	CPICH_Ec/N0
-Inter-frequency reporting criteria	
-Filter coefficient (10.3.7.9)	0
-CHOICE mode	FDD
-Measurement quantity for frequency quality estimate	CPICH_Ec/N0
-Inter-frequency reporting quantity (10.3.7.21)	
-UTRA Carrier RSSI	FALSE
-Frequency quality estimate	FALSE
-Non frequency related cell reporting quantities (10.3.7.5)	No report
-SFN-SFN observed time difference reporting indicator	TRUE (Note 1)
Cell Identity reporting indicator	
-CPICH Ec/N0 reporting indicator	
-CPICH RSCP reporting indicator	
-Pathloss reporting indicator	TRUE
-Reporting cell status (10.3.7.61)	Not Present
	Report all active set cells + cells within
	monitored set on used frequency
	2
-Measurement validity (10.3.7.51)	Not Present
-CHOICE report criteria	Inter-frequency measurement reporting
	criteria
-Inter-frequency measurement reporting criteria (10.3.7.19)	
-Parameters required for each event	1

Information Element/Group name	Value/Remark	
-Inter-frequency event identity	Event 2C	
-Threshold used frequency	Not present	
-W used frequency	Not present	
-Hysteresis	0 dB	
-Time to trigger	0 ms	
-Reporting cell status		
-CHOICE reported cell	Report all active set cells + cells within	
	monitored set on used frequency	
-Maximum number of reported cells	3	
<ul> <li>Parameters required for each non-used frequency</li> </ul>		
-Threshold non used frequency	-18 dB	
-W non-used frequency	1	
Physical channel information elements		
-DPCH compressed mode status info (10.3.6.34)	Not Present	
NOTE 1: The SFN-CFN observed time difference is calculated	from the OFF and Tm parameters contained	
in the IE "Cell synchronisation information ", TS 25.33	1, clause 10.3.7.6. According to TS 25.331,	
8.6.7.7, this IE is included in MEASUREMENT REPORT if IE "Cell synchronisation information		
reporting indicator" in IE "Cell reporting quantities" TS 25.331, clause 10.3.7.5 is set to TRUE in		
MEASUREMENT CONTROL.		

MEASUREMENT CONTROL message (intra frequency):

Information Element/Group name	Value/Remark
Message Type (10.2.17)	Valac/Remark
UE information elements	
PPC transaction identifier	0
Integrity oback info	U Not Brocont
-Integrity check into	
Measurement Identity	1
Measurement Command (10.2.7.46)	l Madifi
Measurement Departing Mode (10.3.7.40)	woully
-Measurement Reporting Mode (10.3.7.49)	
-iviedsurement Report Transfer Would	AW RLC
Additional managementalist (10.2.7.1)	Event trigger
	Intro frequency macquirement
-CHOICE Measurement (10.2.7.26)	Intra-frequency measurement
Intra-frequency measurement chiests list (10.2.7.22)	Not Procent
Intra-frequency measurement questity (10.2.7.33)	Not Flesent
Filter coefficient (10.2.7.0)	0
CHOICE mode	
-Choice mode Measurement quantity	
-Intra-frequency reporting quantity (10.3.7.41)	CFICIT_EC/NO
Poperting quantities for active set cells (10.3.7.5)	
SEN SEN observed time difference reporting indicator	No report
Cell synchronization information reporting indicator	TPUE (Note 1)
-Cell Identity reporting indicator	
	FDD
-CPICH Ec/N0 reporting indicator	TRUE
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	TRUE
-Reporting quantities for monitored set cells (10.3.7.5)	
-SEN-SEN observed time difference reporting indicator	No report
-Cell synchronisation information reporting indicator	TRUE (Note 1)
-Cell Identity reporting indicator	
-CHOICE mode	FDD
-CPICH Ec/N0 reporting indicator	TRUF
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	TRUE
-Reporting quantities for detected set cells (10.3.7.5)	Not Present
-Reporting cell status (10.3.7.61)	Not Present
	Report all active set cells + cells within
	monitored set on used frequency
Maximum number of reported cells	3
-Measurement validity (10.3.7.51)	Not Present
-CHOICE report criteria	Intra-frequency measurement reporting
	criteria
-Intra-frequency measurement reporting criteria (10.3.7.39)	
-Parameters required for each event	1
-Intra-frequency event identity	Event 1A
-Triggering condition 2	Active set cells and monitored set cells
-Reporting Range Constant	4 dB
-Cells forbidden to affect Reporting Range	Not Present
-CHOICE mode	FDD
-Primary CPICH info (10.3.6.60)	
-W	1.0
-Hysteresis	0 dB
-Threshold used frequency	Not Present
-Reporting deactivation threshold	0
-Replacement activation threshold	Not Present
-Time to trigger	0 ms
-Amount of reporting	Not present
	Infinity
-Reporting interval	0 ms (Note 2)
-Reporting cell status	Not Present
Physical channel information elements	
-DPCH compressed mode status info (10.3.6.34)	Not Present

Information Element/Group name		Value/Remark	
Note 1:	The SFN-CFN observed time difference is calculated	from the OFF and Tm parameters contained	
	in the IE "Cell synchronisation information ", TS 25.33	1, clause 10.3.7.6. According to TS 25.331,	
	8.6.7.7, this IE is included in MEASUREMENT REPORT if IE "Cell synchronisation information		
	reporting indicator" in IE "Cell reporting quantities" TS 25.331, clause 10.3.7.5 is set to TRUE in		
	MEASUREMENT CONTROL.		
Note 2:	Reporting interval = 0 ms means no periodical reportir	ng	

## MEASUREMENT REPORT message for Inter frequency test cases

## MEASUREMENT REPORT message for Intra frequency test cases

These messages are common for all inter and intra frequency test cases and are described in Annex I.

## 8.6.2.1.5 Test requirements

For the test to pass, the total number of successful tests shall be at least 90%, with a confidence level of [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.

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

# Tdoc T1-020468

CR-Form-v5.1					
H	<b>34.121</b> CR <b>192 # rev</b> - <sup># Current version: <b>3.9.0</b> <sup>#</sup></sup>				
For <u>HELP</u> on u	sing this form, see bottom of this page or look at the pop-up text over the $#$ symbols.				
Proposed change a	affects: # (U)SIM ME/UE X Radio Access Network Core Network				
Title: Ж	Correction to clause 8.7.1 CPICH RSCP				
Source: ೫	T1/RF				
Work item code: Ж	- Date: # 2002-07-17				
Category: ₩	FRelease: % R99Use one of the following categories:Use one of the following releases:F (correction)2A (corresponds to a correction in an earlier release)R96B (addition of feature),R97C (functional modification of feature)R98D (editorial modification)R99D tetailed explanations of the above categories canREL-4be found in 3GPP TR 21.900.REL-5				
Reason for change	<ul> <li># 1. Used RRC message contents contain some errors accroding to TS25.331V3.b.0</li> <li>2. To measure the relative difference between cells with different frequency, the measurement result in serving cell is required as the reference.</li> <li>3. Annex.A of TS34.123-1 has been moved to clause 9 of TS34.108, this reference should be removed.</li> <li>The following modification is added into T1R020240.</li> <li>4 In initial condition TGPRC and TGCFN in table C5.2 set 1 is set to N/A. But in TS25.331 these IE should be set to a value in case that TGPS Status Flag is set to activate.</li> </ul>				
Summary of chang	<ul> <li>In clause 8.7.1.1         <ul> <li>The contents of MEASUREMENT CONTROL message for Intra frequency measurement (Step 1) was corrected according to TS25.331V3.b.0.</li> <li>In specific message contents, the reference to Annex.A in TS34.123-1 was removed.</li> </ul> </li> <li>In clause 8.7.1.2         <ul> <li>The contents of PHYSICAL CHANNEL RECONFIGURATION message for Inter frequency measurement (step 1) and MEASUREMENT CONTROL message for Inter frequency measurement (Step 3) were corrected according to TS25.331V3.b.0.</li> <li>In step3 of procedure, to make UE report intra frequency measurement results MEASUREMENT CONTROL message was added for intra frequency measurement.</li> </ul> </li> </ul>				

#### Release 1999

	• The specific message contents of a MEASUREMENT CONTROL message for intra frequency measurement was added.
	<ul> <li>In specific message contents, the reference to Annex.A in TS34.123-1 was removed.</li> </ul>
	The following modification is added into T1R020240.
	<ul> <li>In clause 8.7.1.2</li> <li>The initial condition is revised so that TGPRC and TGCFN is set to a value.</li> </ul>
Consequences if not approved:	<ul> <li># 1. The test procedure cannot be executed correctly and test requirement cannot be met.</li> </ul>
Clauses affected:	92 87118712
Clauses anecleu.	σ 0.7.1.1,0.7.1.2
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 <u>http://www.3gpp.org/specs/CR.htm</u>. Below is a brief summary:

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

# 8.7.1 CPICH RSCP

## 8.7.1.1 Intra frequency measurements accuracy

## 8.7.1.1.1 Absolute accuracy requirement

## 8.7.1.1.1.1 Definition and applicability

The absolute accuracy of CPICH RSCP is defined as the CPICH RSCP measured from one cell compared to the actual CPICH RSCP power from same cell.

The requirements and this test apply to all types of UTRA for the FDD UE.

## 8.7.1.1.1.2 Minimum Requirements

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

- CPICH\_RSCP1 $|_{dBm} \ge -114 \text{ dBm}.$ 

$$- \frac{I_o}{\left(\hat{I}_{or}\right)}\Big|_{in\ dB} - \left(\frac{CPICH\_E_c}{I_{or}}\right)\Big|_{in\ dB} \le 20dB$$

## Table 8.7.1.1.1.1: CPICH\_RSCP Intra frequency absolute accuracy

		Accura	Conditions	
Parameter	Unit	Normal condition	Extreme condition	lo [dBm/3.84 MHz]
	dBm	±6	±9	-9470
CFICH_KSCF	dBm	±8	±11	-7050

The normative reference for this requirement is TS 25.133 [2] clauses 9.1.1.1.1 and A.9.1.1.2.

## 8.7.1.1.1.3 Test purpose

The purpose of this test is to verify that the CPICH RSCP absolute measurement accuracy is within the specified limits in clause 8.7.1.1.1.2. This measurement is for handover evaluation, DL open loop power control, UL open loop control and for the calculation of pathloss.

8.7.1.1.1.4 Method of test

8.7.1.1.4.1 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. CPICH RSCP intra frequency absolute accuracy requirements are tested by using test parameters in table 8.7.1.1.1.2.

Parameter	Unit	Test 1		Test 2		Test 3		
Falailletei	Cell 1 Cell 2		Cell 1	Cell 2	Cell 1	Cell 2		
UTRA RF Channel number		Char	inel 1	Channel 1		Channel 1		
CPICH_Ec/lor	dB	-1	0	-10		-10		
PCCPCH_Ec/lor	dB	-1	2	-12		-12		
SCH_Ec/lor	dB	-12		-12		-12		
PICH_Ec/lor	dB	-15		-15		-15		
DPCH_Ec/lor	dB	-15	-15 -		-	-15	-	
OCNS_Ec/lor	dB	-1.11	-0.94	-1.11	-0.94	-1.11	-0.94	
loc	dBm/ 3.84 MHz	-75.54		-59.98		-97.52		
Îor/loc	dB	4	0	9	0	0	-6.53	
CPICH RSCP, Note 1	dBm	-81.5	-85.5	-60.98	-69.88	-107.5	-114.0	
lo, Note 1	lo, Note 1 dBm/3.84 MHz -69 -50 -94							
Propagation condition	-	- AWGN AWGN AWGN					'GN	
NOTE 1: CPICH RSCP and lo levels have been calculated from other parameters for information purposes. They								
are not settable paran	neters themselves.							
Tests shall be done sequentially. Test 1 shall be done first. After test 1 has been executed test parameters for tests								
2 and 3 shall be set within 5 seconds so that LIE does not loose the Cell 2 in between the tests								

## Table 8.7.1.1.1.2: CPICH RSCP Intra frequency test parameters

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 CPICH\_RSCP value in MEASUREMENT REPORT messages. CPICH RSCP power of Cell 1 reported by UE is compared to actual CPICH 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 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 from UE are ignored. SS shall wait for additional 1s and ignore the 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.

## Specific Message Contents

All messages indicated above shall use the same content as described in the default message content in clause 9 of 34.108 [3]-and in Annex A of 34.123 1 [21], with the following exceptions:

MEASUREMENT CONTROL message for Intra frequency measurement (Step 1):

Information Element	Value/Remark		
Message Type			
UE information elements			
-RRC transaction identifier			
-Integrity check info	Not Present		
Measurement Information elements			
-Measurement Identity			
-Measurement Command	Modify		
-Measurement Reporting Mode	A shure and a data diase site. DLO		
- Measurement Report Transfer Mode	Acknowledged mode RLC		
- Periodical Reporting / Event Trigger Reporting	Periodical reporting		
Mode Additional management list	Not Drocont		
	Not Present		
-CHOICE Measurement	Intra-frequency measurement		
Intra-frequency measurement objects list	Not Brocont		
- Intra-frequency measurement objects list	Not Present		
Intra-Indudicy commencement quantity			
-Filter coefficient	0		
-CHOICE mode			
	CPICH RSCP		
-Intra-frequency reporting quantity			
-Reporting quantities for active set cells			
-SEN-SEN observed time difference reporting			
indicator	No report		
-Cell synchronisation information reporting			
indicator	TRUE		
-Cell Identity reporting indicator	TRUE		
-CHOICE mode	FDD		
-CPICH Ec/N0 reporting indicator	TRUE		
-CPICH RSCP reporting indicator	TRUE		
-Pathloss reporting indicator	TRUE		
-Reporting quantities for monitored set cells			
-SFN-SFN observed time difference reporting	No report		
indicator			
-Cell synchronisation information reporting	FALSE		
indicator			
-Cell Identity reporting indicator	TRUE		
-CHOICE mode	FDD		
-CPICH Ec/N0 reporting indicator	TRUE		
-CPICH RSCP reporting indicator	TRUE		
-Pathloss reporting indicator	TRUE		
-Reporting quantities for detected set cells	Not Present		
-Reporting cell status			
-CHOICE reported cell	Report all active set cells + cells within		
	monitored set on used frequency		
-Maximum number of reported cells	Virtual/active set cells + 2		
	NOL PIESENI Deriadical reporting criteria		
-UTIOIUE report criteria			
-Amount of reporting	250 ms		
-Negoting Interval	200 1115		
-Measurement Report Transfer Mode	AMPLC		
- Modeurement Report Industry Would	Pariodical reporting		
Mode			
-Additional measurements list	Not Present		
Physical channel information elements			
-DPCH compressed mode status info	Not Present		

## MEASUREMENT REPORT message for Intra frequency test cases

This message is common for all intra frequency test cases in clause 8.7 and is described in Annex I.

## 8.7.1.1.1.5 Test requirements

The CPICH RSCP measurement accuracy shall meet the requirements in clause 8.7.1.1.1.2.

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 CPICH RSCP is defined as the CPICH RSCP measured from one cell compared to the CPICH RSCP measured from another cell on the same frequency.

The requirements and this test apply to all types of UTRA for the FDD UE.

## 8.7.1.1.2.2 Minimum Requirements

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

- CPICH\_RSCP1,2 $|_{dBm} \ge -114 \text{ dBm}.$ 

- 
$$|CPICH \_RSCP1|_{in \, dBm} - CPICH \_RSCP2|_{in \, dBm}| \le 20 \, dB$$

$$- \left. \frac{I_o}{\left(\hat{I}_{or}\right)} \right|_{in \ dB} - \left( \frac{CPICH \_ E_c}{I_{or}} \right)_{in \ dB} \le 20 dB$$

## Table 8.7.1.1.2.1: CPICH\_RSCP Intra frequency relative accuracy

		Accur	Conditions	
Parameter	Unit	Normal condition	Extreme condition	lo [dBm/3.84 MHz]
CPICH_RSCP	dBm	±3	±3	-9450

The normative reference for this requirement is TS 25.133 [2] clauses 9.1.1.1.2 and A.9.1.1.2.

## 8.7.1.1.2.3 Test purpose

The purpose of this test is to verify that the CPICH RSCP relative measurement accuracy is within the specified limits in clause 8.7.1.1.2.2. This measurement is for handover evaluation, DL open loop power control, UL open loop control and for the calculation of pathloss.

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. CPICH 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 CPICH\_RSCP value of Cell 1 and Cell 2 in MEASUREMENT REPORT messages. CPICH RSCP power value measured from Cell 1 is compared to CPICH 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 CPICH 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 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.

## Specific Message Contents

All messages indicated above shall use the same content as described in the default message content in clause 9 of 34.108 [3]-and in Annex A of 34.123 1 [21], with the following exceptions:

MEASUREMENT CONTROL message for Intra frequency measurement in clause 8.7.1.1.1.4.2 is used.

## MEASUREMENT REPORT message for Intra frequency test cases

This message is common for all intra frequency test cases in clause 8.7 and is described in Annex I.

## 8.7.1.1.2.5 Test requirements

The CPICH RSCP measurement accuracy shall meet the requirements in clause 8.7.1.1.2.2.

- 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 relative accuracy of CPICH RSCP in inter frequency case is defined as the CPICH RSCP measured from one cell compared to the CPICH RSCP measured from another cell on a different frequency.

The requirements and this test apply to all types of UTRA for the FDD UE.

## 8.7.1.2.1.2 Minimum Requirements

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

- CPICH\_RSCP1,2 $|_{dBm} \ge -114 \text{ dBm}.$
- $|CPICH \_RSCP1|_{in \, dBm} CPICH \_RSCP2|_{in \, dBm} | \le 20 \, dB$ .
- | Channel 1\_Io|<sub>dBm/3.84 MHz</sub> -Channel 2\_Io|<sub>dBm/3.84 MHz</sub> |  $\leq$  20 dB.

$$- \left. \frac{I_o}{\left(\hat{I}_{or}\right)_{in\ dB}} \right|_{in\ dB} - \left( \frac{CPICH - E_c}{I_{or}} \right)_{in\ dB} \le 20dB$$

## Table 8.7.1.2.1.1: CPICH\_RSCP Inter frequency relative accuracy

		Accur	Conditions	
Parameter Unit Normal condition		Extreme condition	lo [dBm/3.84 MHz]	
CPICH_RSCP	dBm	±6	±6	-9450

The normative reference for this requirement is TS 25.133 [2] clauses 9.1.1.2.1 and A.9.1.1.2.

## 8.7.1.2.1.3 Test purpose

The purpose of this test is to verify that the CPICH RSCP relative measurement accuracy is within the specified limits in clause 8.7.1.2.1.2. This measurement is for handover evaluation, DL open loop power control, UL open loop control and for the calculation of pathloss.

## 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 and compressed mode is applied. The gap length is 7, detailed definition is in clause C.5, set 1 of table C.5.2 [14 slots is FFS] except for TGRRC and TGCFN. TGPRC and TGCFN shall set to "Infinity" and "(Current CFN + (256 - TTI/10msec))mod 256". CPICH RSCP inter frequency relative accuracy requirements are tested by using test parameters in table 8.7.1.2.1.2.

Baramatar	Unit	Tes	st 1	Test 2			
Farameter	Unit	Cell 1	Cell 2	Cell 1	Cell 2		
UTRA RF Channel number		Channel 1	Channel 2	Channel 1	Channel 2		
CPICH_Ec/lor	dB	-1	0	-10			
PCCPCH_Ec/lor	dB	-1	2	-^	-12		
SCH_Ec/lor	dB	-1	2	-*	-12		
PICH_Ec/lor	dB	-1	5	-15			
DPCH_Ec/lor	dB	-15 -		-15	-		
OCNS_Ec/lor	dB	-1.11	-0.94	-1.11	-0.94		
loc	dBm/ 3.84 MHz	-60.00	-60.00	-84.00	-94.46		
Îor/loc	dB	9.54 9.54		0	-9.54		
CPICH RSCP, Note 1	dBm	-60.46	-60.46	-94.0	-114.0		
lo, Note 1	dBm/3.84 MHz	-50.00 -50.00		-81.0	-94.0		
Propagation condition	-	AWGN AWGN					
NOTE 1: CPICH RSCP and lo levels have been calculated from other parameters for information							
purposes. They are not settable parameters themselves.							
Tests shall be done sequentially. Test 1 shall be done first. After test 1 has been executed test parameters							
for test 2 shall be set within 5 seconds so that UE does not loose the Cell 2 in between the tests.							

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 <u>message for intra frequency measurement and transmit</u> <u>MEASUREMENT CONTROL</u> message for inter frequency measurement.
- 4) UE shall transmit periodically MEASUREMENT REPORT messages.
- 5) SS shall check CPICH\_RSCP value of Cell 1 and Cell 2 in MEASUREMENT REPORT messages. CPICH RSCP power value measured from Cell 1 is compared to CPICH 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 CPICH 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.

#### Specific Message Contents

All messages indicated above shall use the same content as described in the default message content in clause 9 of 34.108 [3] and in Annex A of 34.123 1 [21], with the following exceptions:

PHYSICAL CHANNEL RECONFIGURATION message for Inter frequency measurement (step 1):

Information Element	Value/Remark
Message Type	
UE Information Elements	
-RRC transaction identifier	U Not Procent
-Integrity protection mode info	Not Present
-Ciphering mode info	Not Present
-Activation time	Not Present
-New U-RNTI	Not Present
-New C-RNTI	Not Present
-RRC State Indicator	CELL_DCH
-UTRAN DRX cycle length coefficient	Not Present
CN Information Elements	
-CN Information info	Not Present
UTRAN mobility information elements	
	Not Present
RB Information elements	Not Dropont
-Downlink counter synchronisation into	Not Present
-Frequency info	Not Present
Uplink radio resources	
-Maximum allowed UL TX power	Not Present
- CHOICE channel requirement	Not Present
Downlink radio resources	
-CHOICE mode	FDD
-Downlink PDSCH information	Not Present
-Downlink information common for all radio links	
-Downlink DPCH info common for all RL	Not Present
-CHOICE mode	
-DFCH compressed mode into	
-TGPSI	1
-TGPS Status Flag	Activatee
-TGCFN	(Current CFN + (256 – TTI/10msec))mod
	256Not Present
-Transmission gap pattern sequence	
configuration parameters	
-IGMP	FDD measurement
-TGI 1	7
-TGL2	Not Present
-TGD	0
-TGPL1	3
-TGPL2	Not Present
-RPP	Mode 0
-ITP	Mode 0
-CHOICE UL/DL mode	UL and DL
-Downlink compressed mode method	SF/2
-Opink compressed mode method	B
-DeltaSIR1	30
-DeltaSIRafter1	3.0
-DeltaSIR2	Not Present
-DeltaSIRafter2	Not Present
-N Identify abort	Not Present
-T Reconfirm abort	Not Present
-IX Diversity Mode	Not Present
-SSDT information	Not Present
-Detault DPCH UITSET Value	Not Present
-Downlink information for each radio link	
Primary CPICH info	
Primary scrambling code	100

PDSCH with SHO DCH Info	Not Present
PDSCH code mapping	Not Present
Downlink DPCH info for each RL	
	FDD
<ul> <li>Primary CPICH usage for channel estimation</li> </ul>	Primary CPICH may be used
	θ
Secondary CPICH info	Not Present
<ul> <li>Secondary scrambling code</li> </ul>	Not Present
	64
Code number	<del>63</del>
<ul> <li>Scrambling code change</li> </ul>	No code change
	θ
	Not Present
<ul> <li>Closed loop timing adjustment mode</li> </ul>	Not Present
SCCPCH Information for FACH	Not Present

First MEASUREMENT CONTROL message for Intra frequency measurement (Step 3):

Information Element	Value/Pemark
	value/itemark
Message Type	
UE information elements	
-RRC transaction identifier	<u>0</u>
-Integrity check info	Not Present
Measurement Information elements	
-Measurement Identity	<u>1</u>
-Measurement Command	Modify
-Measurement Reporting Mode	
<ul> <li>Measurement Report Transfer Mode</li> </ul>	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting	Periodical reporting
Mode	
-Additional measurement list	Not Present
-CHOICE Measurement Type	Intra-frequency measurement
-Intra-frequency measurement	
<ul> <li>Intra-frequency measurement objects list</li> </ul>	
<ul> <li>-Intra-frequency cell info list</li> </ul>	Not Present
-Intra-frequency measurement quantity	
-Filter coefficient	<u>0</u>
-CHOICE mode	FDD
-Measurement quantity	<u>CPICH RSCP</u>
-Intra-frequency reporting quantity	
<ul> <li>Reporting quantities for active set cells</li> </ul>	
-SFN-SFN observed time difference reporting	
indicator	No report
-Cell synchronisation information reporting	
indicator	TRUE
-Cell Identity reporting indicator	
<u>-CHOICE mode</u>	FDD
-CPICH Ec/NU reporting indicator	
-CPICH RSCP reporting indicator	
-Patnioss reporting indicator	IRUE
-Reporting quantities for monitored set cells	Ne venert
-SFN-SFN observed time difference reporting	<u>No report</u>
Coll synchronization information reporting	
-Cell synchronisation information reporting	FALSE
-Cell Identity reporting indicator	TRUF
-CHOICE mode	
- <u>CPICH Ec/N0</u> reporting indicator	TRUE
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	TRUE
-Reporting quantities for detected set cells	Not Present
-Reporting cell status	
-CHOICE reported cell	Report all active set cells + cells within
	monitored set on used frequency
-Maximum number of reported cells	Virtual/active set cells + 2
-Measurement validity	Not Present
-CHOICE report criteria	Periodical reporting criteria
-Amount of reporting	Infinity
-Reporting interval	250 ms
Physical channel information elements	
-DPCH compressed mode status info	Not Present

Second MEASUREMENT CONTROL message for Inter frequency measurement (step 3):

Information Element	Value/Remark
Message Type	
UE information elements	
-RRC transaction identifier	0
-Integrity check info	Not Present
Measurement Information elements	
-Measurement Identity	4 <u>2</u>
-Measurement Command	ModifySetup
-Measurement Reporting Mode	

<ul> <li>Measurement Report Transfer Mode</li> </ul>	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting	Periodical reporting
Mode	
-Additional measurement list	Not Present
-CHOICE Measurement Type	Inter-frequency measurement
-Inter-frequency measurement objects list	······································
-Inter-frequency cell info list	
	Not Procent
-CHOICE Inter-nequency cell removal	Not Present
Kemove all Inter-frequency cells	Not Present
	Not Present
<ul> <li>Removed inter-frequency cells</li> </ul>	
Inter-frequency cell id	
<ul> <li>-No inter-frequency cells removed</li> </ul>	Not Present
-New inter-frequency cells	Cell 2 information is included Not Present.
-Cell for measurement	Not Present
-Inter-frequency measurement quantity	
-CHOICE reporting criteria	Inter-frequency reporting criteria
-Filter coefficient	0
-CHOICE mode	EDD
-Measurement quantity for frequency quality	
actimate	
-Inter-inequency reporting quantity	TOUE
-UTRA Carrier RSSI	TRUE
-Frequency quality estimate	IRUE
-Non frequency related cell reporting quantities	
-SFN-SFN observed time difference reporting	No report
indicator	
-Cell synchronisation information reporting	TRUE
indicator	
-Cell Identity reporting indicator	TRUE
-CHOICE mode	FDD
-CPICH Ec/N0 reporting indicator	TRUE
	TRUE
Dethlese reporting indicator	
-Pathoss reporting indicator	IRUE
-CHOICE reported cell	Report all active set cells + cells within
	monitored set on used frequency
-Maximum number of reported cells	Virtual/active set cells + 2
-Measurement validity	Not Present
-Inter-frequency set update	Not Present
-CHOICE report criteria	Periodical reporting criteria
-Amount of reporting	Infinity
-Reporting interval	500 ms
-Measurement Reporting Mode	
-Measurement Report Transfer Mode	Acknowledged mode RLC
-Periodical Reporting / Event Trigger Reporting	Periodical reporting
Mode	
Additional maasurements list	Not Procent
Physical channel information clamenta	
DDCH compressed mode status into	Not Dropont
	<del>240</del>
- ransmission gap pattern sequence	
	1
IGPS Status Flag	Active
TGCFN	Not present

## MEASUREMENT REPORT message for Inter frequency test cases

This message is common for all inter frequency test cases in clause 8.7 and is described in Annex I.

## 8.7.1.2.1.5 Test requirements

The CPICH RSCP measurement accuracy shall meet the requirements in clause 8.7.1.2.1.2.

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.

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

# Tdoc T1-020469

CHANGE REQUEST						
æ	<b>34.121</b> CR <b>193 # rev</b> - <b>#</b> Current version: <b>3.9.0 #</b>					
For <u>HELP</u> or	n using this form, see bottom of this page or look at the pop-up text over the $\mathfrak{K}$ symbols.					
Proposed chang	e affects: # (U)SIM ME/UE X Radio Access Network Core Network					
Title:	Correction to clause 8.7.2 CPICH Ec/lo					
Source:	ដ T1/RF					
Work item code:	ଅଳି - <b>Date:</b> ଅ <sup>-</sup> 2002-07-17					
Category:	<b>F Release: #</b> R99         Use one of the following categories:       Use one of the following releases: <b>F</b> (correction)       2       (GSM Phase 2) <b>A</b> (corresponds to a correction in an earlier release)       R96       (Release 1996) <b>B</b> (addition of feature),       R97       (Release 1997) <b>C</b> (functional modification of feature)       R98       (Release 1998) <b>D</b> (editorial modification)       R99       (Release 1999)         Detailed explanations of the above categories can       REL-4       (Release 4)         be found in 3GPP TR 21.900.       REL-5       (Release 5)					
Reason for chan	<ul> <li>Inge: # 1. Used RRC message contents contain some errors accroding to TS25.331V3.b.0</li> <li>2. To measure the relative difference between cells with different frequency, the measurement result in serving cell is required as the reference.</li> <li>3. To move Annex.A of TS34.123-1 to clause 9 of TS34.108, this reference is removed.</li> <li>The following modification is added into T1R020241.</li> <li>4 In initial condition TGPRC and TGCFN in table C5.2 set 1 is set to N/A. But in TS25.331 these IE should be set to a value in case that TGPS Status Flag is set to activate.</li> </ul>					
Summary of cha	<ul> <li>In clause 8.7.2.1.1</li> <li>The contents of MEASUREMENT CONTROL message for Intra frequency measurement (Step 1) was corrected according to TS25.331V3.b.0.</li> <li>In specific message contents, the reference to Annex.A in TS34.123-1 was removed.</li> <li>In clause 8.7.2.2</li> <li>The contents of PHYSICAL CHANNEL RECONFIGURATION message (step 1) and MEASUREMENT CONTROL message for Inter frequency measurement (Step 3) were corrected according to TS25.331V3.b.0.</li> <li>In step3 of procedure, to make UE report intra frequency measurement results, a MEASUREMENT CONTROL message was added in test step to configure intra frequency measurement.</li> <li>The specific message contents of the MEASUREMENT CONTROL message for intra frequency measurement.</li> </ul>					

	<ul> <li>In specific message contents, the reference of Annex.A in TS34.123-1 was removed.</li> <li>The following modification is added into T1R020241.</li> <li><u>In clause 8.7.2.2</u></li> <li>The initial condition is revised so that TGPRC and TGCFN is set to a value.</li> </ul>
Consequences if not approved:	<ol> <li>The test procedure cannot be executed correctly and test requirement cannot be met.</li> </ol>
Clauses affected:	<b>#</b> 8.7.2.1,8.7.2.2
Other specs affected:	#       Other core specifications       #         Test specifications       O&M Specifications
Other comments:	x

## How to create CRs using this form:

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

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

# 8.7.2 CPICH Ec/lo

## 8.7.2.1 Intra frequency measurements accuracy

## 8.7.2.1.1 Absolute accuracy requirement

## 8.7.2.1.1.1 Definition and applicability

The absolute accuracy of CPICH Ec/Io is defined as the CPICH Ec/Io measured from one cell compared to the actual CPICH\_Ec/Io power ratio from same cell.

The requirements and this test apply to all types of UTRA for the FDD UE.

## 8.7.2.1.1.2 Minimum Requirements

The accuracy requirements in table 8.7.2.1.1.1 are valid under the following conditions:

- CPICH\_RSCP1 $|_{dBm} \ge -114 \text{ dBm}.$ 

$$- \left. \frac{I_o}{\left(\hat{I}_{or}\right)} \right|_{in\ dB} - \left( \frac{CPICH\_E_c}{I_{or}} \right)_{in\ dB} \le 20 dB \, .$$

## Table 8.7.2.1.1.1: CPICH\_Ec/lo Intra frequency absolute accuracy

		Accuracy [dB]	Conditions	
Parameter	Unit	Normal condition	Extreme condition	lo [dBm/3.84 MHz]
CPICH_Ec/lo	dB	$\pm$ 1,5 for -14 $\leq$ CPICH Ec/lo $\pm$ 2 for -16 $\leq$ CPICH Ec/lo < -14 $\pm$ 3 for -20 $\leq$ CPICH Ec/lo < -16	±3	-9450

The normative reference for this requirement is TS 25.133 [2] clause 9.1.2.1.1.

## 8.7.2.1.1.3 Test purpose

The purpose of this test is to verify that the CPICH Ec/Io absolute measurement accuracy is within the specified limits in clause 8.7.2.1.1.2. This measurement is for Cell selection/re-selection and for handover evaluation.

8.7.2.1.1.4 Method of test

8.7.2.1.1.4.1 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. CPICH Ec/Io intra frequency absolute accuracy requirements are tested by using the test parameters in table 8.7.2.1.1.2.

Baramatar	Unit	Test 1		Test 2		Test 3		
Farailleter	Unit	Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2	
UTRA RF Channel number		Channel 1		Channel 1		Channel 1		
CPICH_Ec/lor	dB	-10		-10		-10		
PCCPCH_Ec/lor	dB	-1	2	-12		-12		
SCH_Ec/lor	dB	-1	-12		-12		-12	
PICH_Ec/lor	dB	-1	5	-1	-15		-15	
DPCH_Ec/lor	dB	-15	-	-15	-	-6	-	
OCNS_Ec/lor	dB	-1.11	-0.94	-1.11	-0.94	.2.56	-0.94	
loc	dBm/ 3.84 MHz	-56.98		-89.07		-94.98		
Îor/loc	dB	3.0	3.0	-2.9	-2.9	-9.0	-9.0	
CPICH Ec/lo, Note 1	dBm	-14.0	-14.0	-16.0	-16.0	-20.0	-20.0	
Io, Note 1	dBm/3.84 MHz	-50 -86		-94				
Propagation condition	-	AW	'GN	AWGN		AWGN		
NOTE 1: CPICH Ec/lo and lo levels have been calculated from other parameters for information purposes. They								
are not settable parameters themselves.								
Tests shall be done sequentially. Test 1 shall be done first. After test 1 has been executed test parameters for tests								

Tests shall be done sequentially. Test 1 shall be done first. After test 1 has been executed test parameters for tests 2 and 3 shall be set within 5 seconds so that UE does not loose the Cell 2 in between the tests.

1) A call is set up according to the test procedure specified in TS 34.108 [3] subclause 7.3.2.3. The RF parameters for Test 1 are set up according to table 8.7.2.1.1.2.

## 8.7.2.1.1.4.2 Procedure

- 1) SS shall transmit MEASUREMENT CONTROL message.
- 2) UE shall transmit periodically MEASUREMENT REPORT messages.
- 3) SS shall check CPICH\_Ec/No value in MEASUREMENT REPORT messages. According to table 8.7.2.1.1.3 the SS calculates CPICH\_Ec/Io power ratio of Cell 1, which is compared to the actual CPICH Ec/Io power ratio from the same cell 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 8.7.2.1.1.2 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 8.7.2.1.1.2 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.

Reported value	Measured quantity value	Unit
CPICH_Ec/No _00	CPICH Ec/lo < -24	dB
CPICH_Ec/No _01	-24 ≤ CPICH Ec/lo < -23.5	dB
CPICH_Ec/No _02	-23.5 ≤ CPICH Ec/lo < -23	dB
CPICH_Ec/No _47	-1 ≤ CPICH Ec/lo < -0.5	dB
CPICH_Ec/No _48	-0.5 ≤ CPICH Ec/lo < 0	dB
CPICH_Ec/No _49	0 ≤ CPICH Ec/lo	dB

## Table 8.7.2.1.1.3: CPICH Ec/lo measurement report mapping

## Specific Message Contents

All messages indicated above shall use the same content as described in default message content in clause 9 of 34.108 [3] and in Annex A of 34.123-1 [21], with the following exceptions:

## MEASUREMENT CONTROL message for Intra frequency measurement (Step 1):

Information Element	Value/Remark
Message Type	
UE information elements	
-RRC transaction identifier	0
-Integrity check info	Not Present
Measurement Information elements	
-Measurement Identity	1
-Measurement Command	Modify
-Measurement Reporting Mode	Acknowledged mode RLC
<ul> <li>- Measurement Report Transfer Mode</li> <li>- Periodical Reporting / Event Trigger Reporting</li> </ul>	
Mode	Not Present
-Additional measurement list	Intra-frequency measurement
-CHOICE Measurement Type	
-Intra-frequency measurement	
- Intra-frequency measurement objects list	Not Present
Intra-Trequency cell Info list	NOT Present
-Intra-irequency measurement quantity	0
Moscurement quantity	
-Intra-frequency reporting quantity	CFICITINGEF
-Reporting quantities for active set cells	
-SEN-SEN observed time difference reporting	
indicator	No report
-Cell synchronisation information reporting	
indicator	TRUE
-Cell Identity reporting indicator	TRUE
-CHOICE mode	FDD
-CPICH Ec/N0 reporting indicator	TRUE
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	TRUE
-Reporting quantities for monitored set cells	
-SFN-SFN observed time difference reporting	No report
Indicator	
-Cell synchronisation information reporting	FALSE
Coll Identity reporting indicator	
	FDD
-CPICH Ec/N0 reporting indicator	FALSE
-CPICH RSCP reporting indicator	FALSE
-Pathloss reporting indicator	FALSE
-Reporting quantities for detected set cells	Not Present
-Reporting cell status	
-CHOICE reported cell	Report all active set cells + cells within
	monitored set on used frequency
-Maximum number of reported cells	Virtual/active set cells + 2
-Measurement validity	Not Present
-CHOICE report criteria	Periodical reporting criteria
-Amount of reporting	
-Keporting Interval	
Moosurement Report Transfer Mode	
-Teriodical Reporting / Event Trigger Penerting	Periodical reporting
Mode	
-Additional measurements list	Not Present
Physical channel information elements	
-DPCH compressed mode status info	Not Present

## MEASUREMENT REPORT message for Intra frequency test cases

This message is common for all intra frequency test cases in clause 8.7 and is described in Annex I.

## 8.7.2.1.1.5 Test requirements

The CPICH Ec/Io measurement accuracy shall meet the requirements in clause 8.7.2.1.1.2. The effect of assumed thermal noise and noise generated in the receiver (–99 dBm) shall be added into the required accuracy defined in subclause 8.7.2.1.1.2 as shown in table 8.7.2.1.1.4.

Parameter Unit		Accuracy [dB]	Conditions	
		Normal condition	Extreme condition	lo [dBm/3.84 MHz]
	dD	-2.71.5 for -14 ≤ CPICH Ec/lo -3.22 for -16 ≤ CPICH Ec/lo < -14 -4.23 for -20 ≤ CPICH Ec/lo < -16	-4.23	-9487
	uв	$\pm$ 1.5 for -14 $\leq$ CPICH Ec/lo $\pm$ 2 for -16 $\leq$ CPICH Ec/lo < -14 $\pm$ 3 for -20 $\leq$ CPICH Ec/lo < -16	± 3	-8750

The normative reference for this requirement is TS 25.133 [2] clause A.9.1.2.2.

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.

## 8.7.2.1.2 Relative accuracy requirement

## 8.7.2.1.2.1 Definition and applicability

The relative accuracy of CPICH Ec/Io is defined as the CPICH Ec/Io measured from one cell compared to the CPICH Ec/Io measured from another cell on the same frequency.

The requirements and this test apply to all types of UTRA for the FDD UE.

## 8.7.2.1.2.2 Minimum Requirements

The accuracy requirements in table 8.7.2.1.2.1 are valid under the following conditions:

- CPICH\_RSCP1,2 $|_{dBm} \ge -114 \text{ dBm}.$ 

$$- |CPICH \_RSCP1|_{in \, dBm} - CPICH \_RSCP2|_{in \, dBm} | \le 20 dB$$

$$- \frac{I_o}{(\hat{I}_{or})}\Big|_{in\ dB} - \left(\frac{CPICH\_E_c}{I_{or}}\right)\Big|_{in\ dB} \le 20dB.$$

## Table 8.7.2.1.2.1: CPICH\_Ec/lo Intra frequency relative accuracy

		Accuracy [dB	Conditions	
Parameter	Unit	Normal condition	Extreme condition	lo [dBm/3.84 MHz]
	dB	$\pm$ 1,5 for -14 $\leq$ CPICH Ec/lo		-9450
CPICH_Ec/lo		$\pm 2$ for -16 $\leq$ CPICH Ec/lo < -14	±3	
		$\pm 3$ for $-20 \le CPICH Ec/lo < -16$		

The normative reference for this requirement is TS 25.133 [2] clauses 9.1.2.1.2 and A.9.1.2.2.

## 8.7.2.1.2.3 Test purpose

The purpose of this test is to verify that the CPICH Ec/Io relative measurement accuracy is within the specified limits in clause 8.7.2.1.2.2. This measurement is for Cell selection/re-selection and for handover evaluation.

## CR page 6

## 8.7.2.1.2.4 Method of test

#### 8.7.2.1.2.4.1 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 in the same frequency. CPICH Ec/Io intra frequency relative accuracy requirements are tested by using test parameters in table 8.7.2.1.1.2.

1) A call is set up according to the test procedure specified in TS 34.108 [3] subclause 7.3.2.3. The RF parameters for Test 1 are set up according to table 8.7.2.1.1.2.

## 8.7.2.1.2.4.2 Procedure

- 1) SS shall transmit MEASUREMENT CONTROL message.
- 2) UE shall transmit periodically MEASUREMENT REPORT messages.
- 3) SS shall check CPICH\_Ec/No value of Cell 1 and Cell 2 in MEASUREMENT REPORT messages. According to table 8.7.2.1.1.3 the SS calculates CPICH\_Ec/Io power ratio of Cell 1 and Cell 2. CPICH\_Ec/Io power ratio value measured from Cell 1 is compared to CPICH\_Ec/Io power ratio value measured from Cell 2 for each MEASUREMENT REPORT message.
- 4) The result of step 3) is compared to actual power level difference of CPICH\_Ec/Io 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 8.7.2.1.1.2 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 8.7.2.1.1.2 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.

#### Specific Message Contents

All messages indicated above shall use the same content as described in the default message content in clause 9 of 34.108 [3]-and in Annex A of 34.123 1 [21], with the following exceptions:

MEASUREMENT CONTROL message for Intra frequency measurement in clause 8.7.2.1.1.4.2 is used.

#### MEASUREMENT REPORT message for Intra frequency test cases

This message is common for all intra frequency test cases in clause 8.7 and is described in Annex I.

## 8.7.2.1.2.5 Test requirements

The CPICH Ec/Io measurement accuracy shall meet the requirements in clause 8.7.2.1.2.2.

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.

- 8.7.2.2 Inter frequency measurement accuracy
- 8.7.2.2.1 Absolute accuracy requirement

[TBD]

8.7.2.2.2 Relative accuracy requirement

## 8.7.2.2.2.1 Definition and applicability

The relative accuracy of CPICH Ec/Io in the inter frequency case is defined as the CPICH Ec/Io measured from one cell compared to the CPICH Ec/Io measured from another cell on a different frequency.

The requirements and this test apply to all types of UTRA for the FDD UE.

## 8.7.2.2.2.2 Minimum Requirements

The accuracy requirements in table 8.7.2.2.2.1 are valid under the following conditions:

- CPICH\_RSCP1,2 $|_{dBm} \ge -114 \text{ dBm}.$ 

- 
$$|CPICH \_RSCP1|_{in \, dBm} - CPICH \_RSCP2|_{in \, dBm}| \le 20 \, dB$$
.

- | Channel 1\_Io|<sub>dBm/3.84 MHz</sub> -Channel 2\_Io|<sub>dBm/3.84 MHz</sub> |  $\leq$  20 dB.
- $\left. \frac{I_o}{\left(\hat{I}_{or}\right)} \right|_{in\ dB} \left( \frac{CPICH\_E_c}{I_{or}} \right)_{in\ dB} \le 20 dB \, .$

## Table 8.7.2.2.2.1: CPICH\_Ec/lo Inter frequency relative accuracy

		Accuracy [dB	Conditions	
Parameter	Unit	Normal condition	Extreme condition	lo [dBm/3.84 MHz]
	dB	$\pm 1.5$ for -14 $\leq$ CPICH Ec/lo		-9450
CPICH_Ec/lo		$\pm 2$ for -16 $\leq$ CPICH Ec/lo < -14	±3	
		$\pm 3$ for -20 $\leq$ CPICH Ec/lo < -16		

The normative reference for this requirement is TS 25.133 [2] clauses 9.1.2.2.2 and A.9.1.2.2.

## 8.7.2.2.2.3 Test purpose

The purpose of this test is to verify that the CPICH Ec/Io relative measurement accuracy is within the specified limits in clause 8.7.2.2.2. This measurement is for Cell selection/re-selection and for handover evaluation.

## 8.7.2.2.2.4 Method of test

## 8.7.2.2.2.4.1 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 both cells are in different frequency and compressed mode is applied. The gap length is 7, detailed definition is in clause C.5, set 1 of table C.5.2 [14 slots is FFS] except for TGRRC and TGCFN. TGPRC and TGCFN shall set to "Infinity" and "(Current CFN + (256 - TTI/10msec))mod 256". CPICH Ec/Io inter frequency relative accuracy requirements are tested by using test parameters in table 8.7.2.2.2.

Parameter	Unit	Test 1		Test 2		Test 3	
Falameter	Onit	Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2
UTRA RF Channel		Channel 1	Channel 2	Channel 1	Channel 2	Channel 1	Channel 2
number		onannor i	onannoi 2	onannor i		Charmort	
CPICH_Ec/lor	dB	-1	0	-1	10	-1	0
PCCPCH_Ec/lor	dB	-1	2	-1	12	-1	2
SCH_Ec/lor	dB	-1	2	-12		-1	2
PICH_Ec/lor	dB	-1	5	-1	15	-1	5
DPCH_Ec/lor	dB	-15	-	-6	-	-6	-
OCNS_Ec/lor	dB	-1.11	-0.94	-2.56	-0.94	-2.56	-0.94
loc	dBm/ 3.84	-52.22	-52.22	-87.27	-87.27	-94.46	-94.46
100	MHz	-52.22	-52.22	-07.27	-07.27	-34.40	-34.40
Îor/loc	dB	-1.75	-1.75	-4.7	-4.7	-9.54	-9.54
CPICH Ec/lo, Note 1	dBm	-14.0	-14.0	-16.0	-16.0	-20.0	-20.0
In Note 1	dBm/3.84	-50	-50	-86	-86	-94	-94
	MHz	50	50	00	00	54	54
Propagation condition	-	AWGN AWGN AWGN					
NOTE 1: CPICH Ec/lo and lo levels have been calculated from other parameters for information purposes. They							
are not settable parameters themselves.							
Tests shall be done sequentially. Test 1 shall be done first. After test 1 has been executed test parameters for tests							
2 and 3 shall be set within 5 seconds so that UE does not loose the Cell 2 in between the tests							

## Table 8.7.2.2.2.2: CPICH Ec/lo Inter frequency tests parameters

1) A call is set up according to the test procedure specified in TS 34.108 [3] subclause 7.3.2.3. The RF parameters for Test 1 are set up according to table 8.7.2.2.2.2.

## 8.7.2.2.2.4.2 Procedure

- 1) SS shall transmit PHYSICAL CHANNEL RECONFIGURATION message.
- 2) UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message.
- 3) SS shall transmit <u>a MEASUREMENT CONTROL message for intra frequency measurement and transmit</u> <u>another MEASUREMENT CONTROL message for inter frequency measurement</u>.
- 4) UE shall transmit periodically MEASUREMENT REPORT messages.
- 5) SS shall check CPICH\_Ec/No value of Cell 1 and Cell 2 in MEASUREMENT REPORT messages. According to table 8.7.2.1.1.3 the SS calculates CPICH\_Ec/Io power ratio of Cell 1 and Cell 2. CPICH\_Ec/Io power ratio measured from Cell 1 is compared to CPICH\_Ec/Io 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 CPICH\_Ec/Io 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 8.7.2.2.2 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. After further 1000 MEASUREMENT REPORT messages have been received from UE, the RF parameters are set up according to table 8.7.2.2.2 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 5) and 6) above are repeated.
- 8) After 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.

## Specific Message Contents

All messages indicated above shall use the same content as described in default message content in clause 9 of 34.108 [3] and in Annex A of 34.123-1 [21], with the following exceptions:

PHYSICAL CHANNEL RECONFIGURATION message for Inter frequency measurement (step 1):

Information Element	Value/Remark
	Value/Remark
Message Type	
UE Information Elements	
-RRC transaction identifier	0
-Integrity check info	Not Present
-Integrity protection mode info	Not Present
-Ciphering mode info	Not Present
-Activation time	240 CFNNot Present
-New U-RN11	Not Present
-New C-RN11	Not Present
-RRC State Indicator	CELL_DCH Not Present
	Not Present
-CN Information Elements	Not Present
LITRAN mobility information elements	Not resent
-LIRA identity	Not Present
RB information elements	Not Tresent
-Downlink counter synchronisation info	Not Present
PhyCH information elements	
-Frequency info	Not Present
Uplink radio resources	
-Maximum allowed UL TX power	Not Present
- CHOICE channel requirement	Not Present
Downlink radio resources	
-CHOICE mode	FDD
-Downlink PDSCH information	Not Present
-Downlink information common for all radio links	
-Downlink DPCH info common for all RL	Not Present
-CHOICE mode	FDD
-DPCH compressed mode info	
-Transmission gap pattern sequence	
-TGPSI	1
- I GPS Status Flag	Activatee
-IGCEN	(Current CFN + (256 – 111/10msec))mod
Transmission gap pattern seguence	256 NOT Present
- mansinission gap patient sequence	
-TGMP	FDD measurement
-TGPRC	Not present Infinity
-TGSN	4
-TGL1	7
-TGL2	Not Present
-TGD	0
-TGPL1	3
-TGPL2	Not Present
-RPP	Mode 0
-ITP	Mode 0
-CHOICE UL/DL mode	UL and DL
-Downlink compressed mode method	SF/2
-Uplink compressed mode method	SF/2
-Downlink frame type	В
-DeltaSIR1	3.0
-DeliaSiRaller I DoltaSIR2	3.0 Not Procent
-DeltaSIRafter2	Not Present
-N Identify abort	Not Present
-T Reconfirm abort	Not Present
-TX Diversity Mode	Not Present
-SSDT information	Not Present
-Default DPCH Offset Value	Not Present
-Downlink information per radio link list	Not Present
Downlink information for each radio link	
Choice mode	FDD
Primary CPICH info	
-Primary scrambling code	100

PDSCH with SHO DCH Info	Not Present
PDSCH code mapping	Not Present
Downlink DPCH info for each RL	
	FDD
<ul> <li>Primary CPICH usage for channel estimation</li> </ul>	Primary CPICH may be used
	θ
Secondary CPICH info	Not Present
<ul> <li>Secondary scrambling code</li> </ul>	Not Present
	64
	63
<ul> <li>Scrambling code change</li> </ul>	No code change
	θ
	Not Present
<ul> <li>Closed loop timing adjustment mode</li> </ul>	Not Present
SCCPCH Information for FACH	Not Present

First MEASUREMENT CONTROL message for Intra frequency measurement (Step 3):

Information Flement	Value/Remark
Message Type	Value/Kellark
UE information elements	
-RRC transaction identifier	<u>0</u>
-Integrity check info	Not Present
Measurement Information elements	
-Measurement Identity	<u>  1</u>
-Measurement Command	Modify
-Measurement Reporting Mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting	Periodical reporting
Mode	
-Additional measurement list	Not Present
-CHOICE Measurement Type	Intra-frequency measurement
<u>-Intra-frequency measurement</u>	
- Intra-frequency measurement objects list	Net Descent
-Intra-frequency cell info list	Not Present
-Intra-frequency measurement quantity	
<u>-CHOICE mode</u>	
-Measurement quantity	CPICHRSCP
-Intra-frequency reporting quantity	
SEN SEN observed time difference reporting	
indicator	No report
-Cell synchronisation information reporting	
indicator	TRUE
-Cell Identity reporting indicator	
-CHOICE mode	FDD
-CPICH Ec/N0 reporting indicator	
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	TRUE
-Reporting quantities for monitored set cells	<u></u>
-SEN-SEN observed time difference reporting	No report
indicator	<u></u>
-Cell synchronisation information reporting	FALSE
indicator	
-Cell Identity reporting indicator	TRUE
-CHOICE mode	FDD
-CPICH Ec/N0 reporting indicator	TRUE
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	TRUE
-Reporting quantities for detected set cells	Not Present
-Reporting cell status	
-CHOICE reported cell	Report all active set cells + cells within
	monitored set on used frequency
-Maximum number of reported cells	Virtual/active set cells + 2
-Measurement validity	Not Present
-CHOICE report criteria	Periodical reporting criteria
-Amount of reporting	Infinity
-Reporting interval	<u>250 ms</u>
Physical channel information elements	
-DPCH compressed mode status info	Not Present

Second MEASUREMENT CONTROL message for Inter frequency measurement (step 3):

Information Element	Value/Remark
Message Type	
UE information elements	
-RRC transaction identifier	0
-Integrity check info	Not Present
Measurement Information elements	
-Measurement Identity	4 <u>2</u>
-Measurement Command	ModifySetup
-Measurement Reporting Mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC

	- Periodical Reporting / Event Trigger Reporting	Periodical reporting
	-Additional measurement list	Not Present
		Inter-frequency measurement
	- <u>Inter-frequency measurement</u>	Inter-frequency measurement
	Inter-frequency cell info list	
		Not Procent
	Pomovo all inter frequency celle	Not Present
	Pomovo somo inter frequency colle	Not Procent
	Pomoved inter frequency cells	Not Ficochi
	Inter frequency cell id	
	No inter frequency colle removed	Not Procent
	-New inter-frequency cells	Cell 2 information is includedNot Present
	-Cell for measurement	Not Present
	-Deli for measurement quantity	Not Tresent
	-CHOICE reporting criteria	Inter-frequency reporting criteria
	-CHOICE mode	
	-Measurement quantity for frequency quality	
	estimate	
	-Inter-frequency reporting quantity	
	-LITRA Carrier RSSI	TRUF
	-Frequency quality estimate	TRUE
	-Non frequency related cell reporting quantities	INOE
	-SEN-SEN observed time difference reporting	No report
	indicator	
	-Cell synchronisation information reporting	TRUE
	indicator	
	-Cell Identity reporting indicator	TRUE
	-CHOICE mode	FDD
	-CPICH Ec/N0 reporting indicator	TRUE
	-CPICH RSCP reporting indicator	TRUE
	-Pathloss reporting indicator	TRUE
	-Reporting cell status	
	-CHOICE reported cell	Report all active set cells + cells within
		monitored set on used frequency
	<ul> <li>Maximum number of reported cells</li> </ul>	Virtual/active set cells + 2
	-Measurement validity	Not Present
	<ul> <li>Inter-frequency set update</li> </ul>	Not Present
	-CHOICE report criteria	Periodical reporting criteria
	-Amount of reporting	Infinity
	-Reporting interval	500 ms
	-Measurement Reporting Mode	
	Measurement Report Transfer Mode	Acknowledged mode RLC
	-Periodical Reporting / Event Trigger Reporting	Periodical reporting
	Mode	
	-Additional measurements list	Not Present
ļ	Physical channel information elements	Net Dresent
ļ	-DPCH compressed mode status info	
ļ	Transmission can not terr as success	<del>240</del>
ļ	- Hansmission gap pattern sequence	1
ļ	TCDS Status Elag	+ Activo
ļ	-TOCEN	Not present

## MEASUREMENT REPORT message for Intra frequency test cases

This message is common for all inter frequency test cases in clause 8.7 and is described in Annex I.

## 8.7.2.2.2.5 Test requirements

The CPICH Ec/Io measurement accuracy shall meet the requirements in clause 8.7.2.2.2.2. The effect of assumed thermal noise and noise generated in the receiver (–99 dBm) shall be added into the required accuracy defined in clause 8.7.2.2.2.2 as shown in table 8.7.2.2.2.3.

		Accuracy [dB]	Conditions	
Parameter	Unit	Normal condition	Extreme condition	lo [dBm/3.84 MHz]
		-2.71.5 for $-14 \le$ CPICH Ec/lo -3.22 for $-16 \le$ CPICH Ec/lo < $-14$ -4.23 for $-20 \le$ CPICH Ec/lo < $-16$	-4.23	-9487
CPICH_Ec/lo	dB	$\pm$ 1.5 for -14 $\leq$ CPICH Ec/lo $\pm$ 2 for -16 $\leq$ CPICH Ec/lo < -14 $\pm$ 3 for -20 $\leq$ CPICH Ec/lo < -16	± 3	-8750

|--|

The normative reference for this requirement is TS 25.133 [2] clause A.9.1.2.2.

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.

CHANGE REQUEST						CR-Form-v7					
æ		<mark>34.121</mark>	CR	194	жrev	-	ж	Current vers	ion:	3.9.0	ж
For <b>HELP</b> on using this form, see bottom of this page or look at the pop-up text over the <b>#</b> symbols.						nbols.					
Proposed change affects: UICC apps# ME X Radio Access Network Core Network											
Title:	ж	Correction	n of tes	st case 'Rx-Tx	time diffe	rence	e type	ə 1'.			
Source:	ж	T1-RF									
Work item code:	ж	-						Date: ೫	22/	07/2002	
Category:	Ж	F Use <u>one</u> of F (con A (cor B (add C (fun D (edi Detailed exp be found in	the follo rection) respond lition of ctional i torial me blanatio 3GPP <u>1</u>	owing categories ds to a correctio feature), modification of f odification) ns of the above <u>FR 21.900</u> .	s: n in an ear ieature) categories	rlier re s can	elease	Release: % Use <u>one</u> of 2 9) R96 R97 R98 R99 Rel-4 Rel-5 Rel-6	R99 (GSN (Rele (Rele (Rele (Rele (Rele (Rele (Rele	9 Ilowing rele A Phase 2) pase 1996) pase 1997) pase 1998) pase 1999) pase 4) pase 5) pase 6)	eases:

Reason for change: अ	MEASUREMENT REPORT and MEASUREMENT CONTROL messages in test case 'Rx-Tx time difference type 1' are not correct in the current version of TS 34.121.					
Summary of change: #	Correction of MEASUREMENT REPORT and MEASUREMENT CONTROL messages.					
Consequences if #	34.121 will be incorrect.					
not approved:						
Clauses affected: #	8.7.6.1					
Other specs # affected:	Y       N         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 <u>http://www.3gpp.org/specs/CR.htm</u>. Below is a brief summary:

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

# 8.7.5.2 SFN-SFN observed time difference type 2

Void.

# 8.7.6 UE Rx-Tx time difference

## 8.7.6.1 UE Rx-Tx time difference type 1

### 8.7.6.1.1 Definition and applicability

The UE Rx-Tx time difference is defined as the time difference between the UE uplink DPCCH/DPDCH frame transmission and the first detected path (in time) of the downlink DPCH frame from the measured radio link. The reference point of the UE Rx-Tx time difference shall be the antenna connector of the UE. This measurement is specified in clause 5.1.10 of TS 25.215.

The requirements and this test apply to all types of UTRA for the FDD UE.

### 8.7.6.1.2 Minimum requirements

### Table 8.7.6.1.1

Baramotor	Unit		Conditions	
Farameter	Unit	Accuracy [chip]	lo [dBm/3.84Mz]	
UE RX-TX time difference	chip	± 1.5	-9450	

The normative reference for this requirement is TS 25.133 [2] clause 9.1.9.1.1 and A.9.1.6.1.2.

### 8.7.6.1.3 Test purpose

The purpose of this test is to verify that the measurement accuracy of Rx-Tx time difference is within the limit specified in clause 8.7.6.1.2. This measurement is used for call setup purposes to compensate propagation delay of DL and UL.

### 8.7.6.1.4 Method of test

### 8.7.6.1.4.1 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.

1) Connect SS to the UE antenna connector as shown in figure A.1

Baramatar	Unit	Test 1	Test 2	Test 3			
Farameter	Unit	Cell 1	Cell 1	Cell 1			
UTRA RF Channel number		Channel 1	Channel 1	Channel 1			
CPICH_Ec/lor	dB	-10	-10	-10			
PCCPCH_Ec/lor	dB	-12	-12	-12			
SCH_Ec/lor	dB	-12	-12	-12			
PICH_Ec/lor	dB	-15	-15	-15			
DPCH_Ec/lor	dB	-15	-15	-15			
OCNS	dB	-1.11	-1.11	-1.11			
Îor/loc	dB	10.5	10.5	10.5			
	dDm/ 2.94 MUz	lo - 10.9 dB = loc,	lo - 10.9 dB = loc,	lo - 10.9 dB = loc,			
100		Note 1	Note 1	Note 1			
lo	dBm/3.84 MHz	-94	-72	-50			
Propagation condition	-	AWGN	AWGN	AWGN			
NOTE 1: loc level shall be adjusted according the total signal power spectral density lo at receiver input and the							
geometry factor lor/loc.							

### Table 8.7.6.1.2: UE Rx-Tx time difference type 1 intra frequency test parameters

### 8.7.6.1.4.2 Procedure

- 1) A call is set up according to the test procedure specified in TS 34.108 [3] subclause 7.3.2.3. The RF parameters are set up according to table 8.7.6.1.4 for Test 1.
- 2) SS shall transmit MEASUREMENT CONTROL message.
- 3) UE shall transmit periodically MEASUREMENT REPORT message.
- 4) SS shall check "UE Rx-Tx time difference type 1" value in MEASUREMENT REPORT message. The reported value shall be compared to actual UE Rx-Tx time difference value for each MEASUREMENT REPORT message. The comparison should be repeated 1000 times.
- 5) The RF parameters are set up according table 8.7.6.1.4 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.
- 6) Step 3) above shall be repeated.
- 7) The RF parameters are set up according table 8.7.6.1.4 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.
- 8) Step 3) above shall be repeated.
- 9) SS shall transmit RRC CONNECTION RELEASE message.

### Specific Message Contents

All messages indicated above shall use the same content as described in default message content in clause 9 of 34.108 [3] and Annex A of 34.123-1 [21] with the following exceptions:

MEASUREMENT CONTROL message for Intra frequency measurement (Step 1):

Information Element	Value/Remark
Message Type	
UE information elements	
-RRC transaction identifier	0
-Integrity check info	Not Present
Measurement Information elements	
-Measurement Identity	1
-Measurement Command	<u>Modify</u> Setup
<ul> <li>Additional measurements list</li> </ul>	Not Present
-Measurement Reporting Mode	AM RLC
-Measurement Report Transfer Mode	Periodical reporting
<ul> <li>-Periodical Reporting / Event Trigger Reporting Mode</li> </ul>	UE Internal measurement
-CHOICE Measurement type	
-UE Internal measurement quantity	FDD
-CHOICE mode	UE Rx-Tx time difference
-Measurement quantity	0
-Filter coefficient	
-UE Internal reporting quantity	
-UE Transmitted power	FALSE
-CHOICE mode	FDD
-UE Rx-Tx time difference	TRUE
-CHOICE report criteria	Periodical reporting criteria
-Amount of reporting	Infinity
-Reporting interval	250
Physical channel information elements	
-DPCH compressed mode status info	Not Present

### MEASUREMENT REPORT message for Intra frequency test cases

This message is common for all intra frequency test cases in clause 8.7 and is described in Annex I.

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements
	in TS 34.123-2. If integrity protection is indicated to be
	active, this IE shall be present with the values of the sub
	IEs as stated below. Else, this IE and the sub-IEs shall be
	absent.
<ul> <li>Message authentication code</li> </ul>	This IE is checked to see if it is present. The value is
	compared against the XMAC-I value computed by SS.
<ul> <li>- RRC Message sequence number</li> </ul>	This IE is checked to see if it is present. The value is
	used by SS to compute the XMAC-I value.
Measurement identity	1
Measured Results	
- CHOICE Measurement	UE Internal measured results
<u>- Choice mode</u>	<u>FDD</u>
<u>UE Transmitted power</u>	Checked that this IE is absent
<u>UE Rx-Tx report entries</u>	
- Primary CPICH info	Checked that this IE is present
<u>- UE Rx-Tx time difference type 1</u>	Checked that this IE is present
- Intra-trequency measured results	
- Cell measured results	
- Cell Identity	Not present
- SFN-SFN observed time difference	Checked that this IE is absent
- Cell synchronisation information	Checked that this IE is absent
<u> </u>	400
- Primary scrambling code	<u>100</u> Checked that this IF is checket
	Checked that this IE is absent
<u> </u>	Checked that this IE is present
<u>- Fallinoss</u> Measured regults on PACH	Checked that this IE is absent
Additional massured results	Checked that this IE is absort
Auditional measured results	Checked that this IE is absent

# 8.7.6.1.5 Test requirements

### Table 8.7.6.1.3

Baramotor	Unit		Conditions
Falailletei	Unit	Accuracy [chip]	lo [dBm]
UE RX-TX time difference	chip	[± 2.0]	-9450

### Table 8.7.6.1.4: UE Rx-Tx time difference type 1 intra frequency test parameters

Dexemptor	llmit	Test 1	Test 2	Test 3				
Parameter	Unit	Cell 1	Cell 1	Cell 1				
UTRA RF Channel number		Channel 1	Channel 1	Channel 1				
CPICH_Ec/lor	dB	-10	-10	-10				
PCCPCH_Ec/lor	dB	-12	-12	-12				
SCH_Ec/lor	dB	-12	-12	-12				
PICH_Ec/lor	dB	-15	-15	-15				
DPCH_Ec/lor	dB	-15	-15	-15				
OCNS	dB	-1.11	-1.11	-1.11				
Îor/loc	dB	10.5	10.5	10.5				
loc	dBm/ 3.84 MHz	-103.6	-82.9	-62.2				
lo	dBm/3.84 MHz	-92.7	-72	-51.3				
Propagation condition	-	AWGN	AWGN	AWGN				
NOTE 1: loc level shall be adjusted according the total signal power spectral density lo at receiver input and the								
geometry factor <i>lor/loc</i> .	geometry factor <i>Îor/loc</i> .							

The UE Rx-Tx time difference accuracy shall meet the requirements in table 8.7.6.1.3.

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.

CHANGE REQUEST							
		••••••			-		
ж	<mark>34.121</mark>	CR 195	ж <b>rev</b>	<b>-</b> *	Current vers	<sup>ion:</sup> 3.9.0	ж
For <u>HELP</u> on	using this for	rm, see bottom of this	s page or	look at ti	he pop-up text	over the % sy	mbols.
Proposed change	e affects:	JICC apps <b>#</b>	ME	] Radio /	Access Networ	k Core N	etwork
Title:	# FDD/TDD	Handover Test Case	)				
Source:	# T1-RF						
Work item code:	₩ -				Date: ೫	29/07/2002	
Category:	₭ F Use <u>one</u> of F (cor A (cor B (add C (fun D (edi Detailed ex be found in	the following categories rection) responds to a correctic dition of feature), ctional modification of i torial modification) planations of the above 3GPP <u>TR 21.900</u> .	s: on in an ear feature) e categories	lier releas s can	Release: ₩ Use <u>one</u> of 2 se) R96 R97 R98 R99 Rel-4 Rel-5 Rel-6	R99 the following rel (GSM Phase 2, (Release 1996) (Release 1997) (Release 1998) (Release 1999) (Release 4) (Release 5) (Release 6)	eases:

Reason for change: 3	FDD/TDD handover test case missing.
Summary of change: <sup>ቌ</sup>	Added FDD/TDD handover test case.
not approved:	Conformance specification would be inconsistent with core specification.
Clauses affected:	8.3.3
	YN
Other specs	Contraction Contra
affected:	X Test specifications X 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 <u>ftp://ftp.3gpp.org/specs/</u> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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

# 8.3.3 FDD/TDD Handover

Void

8.3.3.1 Definition and applicability

The hard handover delay 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.

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

## 8.3.3.2 Minimum requirement

The hard handover delay shall be less than 70 ms in CELL\_DCH state in the dual carrier case. The rate of correct handovers observed during repeated tests shall be at least 90% with a confidence level of [FFS]%.

<u>The hard handover delay  $D_{handover}$  equals the RRC procedure delay defined in TS 25.331 clause 13.5.2 plus the interruption time stated in TS 25.133 clause 5.3.2.2 as follows:</u>

If FDD/TDD handover is commanded, the interruption time shall be less than,

 $\underline{T}_{interrupt} = \underline{T}_{offset} + \underline{T}_{UL} + 30 * F_{SFN} + 20 * KC + 180 * UC ms$ 

where,

<u>T<sub>offset</sub></u>	Equal to 10 ms, the frame timing uncertainty between the old cell and the target cell and the time that can elapse until the appearance of a Beacon channel
<u>T<sub>UL</sub></u>	Equal to 10 ms, the time that can elapse until the appearance of the UL timeslot in the target cell
<u>F<sub>SFN</sub></u>	Equal to 1 if SFN decoding is required and equal to 0 otherwise
<u>KC</u>	Equal to 1 if a known target cell is indicated in the RRC message implying FDD/TDD handover and equal to 0 otherwise
<u>UC</u>	Equal to 1 if an unknown target cell is indicated in the RRC message implying FDD/TDD handover and equal to 0 otherwise

An inter-frequency TDD target cell shall be considered known by the UE, if the target cell has been measured by the UE during the last 5 seconds.

The phase reference is the primary CPICH.

The normative reference for this requirement is TS 25.133 [2] clauses 5.3.2 and A.5.3.2.

8.3.3.3 Test purpose

To verify that the UE meets the minimum requirement.

8.3.3.4 Method of test

8.3.3.4.1 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.

The test parameters are given in Table 8.3.2.2.1 and 8.3.2.2.2 below. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 2C shall be used. The Primary CCPCH RSCP of the best cell on the unused frequency shall be reported together with Event 2C reporting. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a PHYSICAL CHANNEL RECONFIGURATION with activation time at beginning of T3 with one active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE so that the whole message is available at the UE the RRC procedure delay prior to the beginning of T3. The RRC procedure delay is defined in TS 25.133 [2].

The UL DPCH in cell 2 shall be transmitted in timeslot 10.

### Table 8.3.3.1: General test parameters for Handover to TDD cell

Parar	neter	Unit	Value	Comment
DCH par	rameters		DL Reference Measurement	As specified in TS 25.101 section A.3.1
			Channel 12.2 kbps	and in TS 25.102 section A.2.2
Power	<u>Control</u>		On	
Target qual	ity value on	BLER	<u>0.01</u>	
DT	<u>CH</u>			
<u>Compress</u>	<u>sed mode</u>		<u>A.22 set 3</u>	As specified in TS25.101 section A.5
Initial	Active cell		<u>Cell 1</u>	FDD cell
conditions	<u>Neighbour</u>		<u>Cell 2</u>	TDD cell
	<u>cell</u>			
Final	Active cell		<u>Cell 2</u>	TDD cell
condition				
<u>O</u>		<u>dB</u>	<u>0</u>	Cell individual offset. This value shall be
				used for all cells in the test.
<u>Hysteresis</u>		<u>dB</u>	<u>0</u>	Hysteresis parameter for event 2C
Time to	<u>Trigger</u>	<u>ms</u>	<u>0</u>	
Threshold	non-used	<u>dBm</u>	<u>-75</u>	Applicable for Event 2C
frequ	<u>ency</u>			
Filter co	<u>efficient</u>		<u>0</u>	
Monitored	<u>cell list size</u>		6 FDD neighbours on Channel 1	
			6 TDD neighbours on Channel 2	
<u>T<sub>SI</sub></u>		<u>s</u>	<u>1.28</u>	The value shall be used for all cells in the
				test
<u> </u>	1	<u>s</u>	<u>5</u>	
<u> </u>	2	<u>s</u>	<u>15</u>	
<u>T</u>	3	<u>S</u>	5	

Parameter	Unit	<u>Cell 1</u>			
		<u>T1, T2</u>	<u>T3</u>		
UTRA RF Channel		Channel 1			
<u>Number</u>					
CPICH_Ec/lor	<u>dB</u>	<u>-10</u>			
P-CCPCH_Ec/lor	dB	<u>-12</u>			
<u>SCH_Ec/lor</u>	dB	<u>-12</u>			
PICH_Ec/lor	dB	<u>-15</u>			
DPCH_Ec/lor	dB	Note 1	<u>n.a.</u>		
OCNS_Ec/lor	<u>dB</u>	Note 2			
$\hat{I}_{or}/I_{oc}$	<u>dB</u>	<u>0</u>			
I <sub>oc</sub>	<u>dBm/3.84</u> <u>MHz</u>	<u>-70</u>			
CPICH_Ec/lo	dB	<u>-13</u>			
Propagation Condition AWGN					
Note 1: The DPCH level is controlled by the power control loop					
Note 2 : The power of the OCNS channel that is added shall make the total					
power from the cell to be	equal to I				

### Table 8.3.3.2: Cell Specific parameters for Handover to TDD cell (cell 1)

Table 8.3.3.3: Cell S	pecific p	parameters <sup>•</sup>	for Handover	to TDD cell (	(cell 2)

Parameter	Unit	<u>Cell 2</u>									
DL timeslot number			<u>0</u>		2		8				
		<u>T1</u>	<u>T2</u> <u>T3</u>	<u>T1</u>	<u>T2</u>	<u>T3</u>	<u>T1</u>	<u>T2</u>	<u>T3</u>		
UTRA RF Channel		Channel 2									
Number				1							
P-CCPCH_Ec/lor	<u>dB</u>		<u>-3</u>		<u>n.a.</u>			<u>n.a.</u>			
<u>PICH_Ec/lor</u>	<u>dB</u>		<u>n.a.</u>		<u>n.a.</u>			<u>-3</u>			
<u>SCH_Ec/lor</u>	<u>dB</u>		<u>-9</u>		<u>n.a.</u>			<u>-9</u>			
<u>SCH_t<sub>offset</sub></u>	<u>dB</u>		<u>5</u>		<u>n.a.</u>	_		<u>5</u>			
DPCH_Ec/lor	dB		<u>n.a.</u>	<u>n</u>	<u>.a.</u>	Note 1		<u>n.a.</u>			
OCNS_Ec/lor	<u>dB</u>		<u>-3.12</u>		<u>0</u> <u>Note 2</u>		<u>-3.12</u>				
$\hat{I}_{or}/I_{oc}$	<u>dB</u>	<u>-Inf</u>	<u>6</u>	<u>-Inf</u>	<u>-Inf</u> <u>6</u>			<u>6</u>			
P-CCPCH RSCP	dBm	<u>-Inf</u>	<u>-67</u>		<u>n.a.</u>		<u>n.a.</u>				
Ioc	<u>dBm/</u> <u>3,84</u> <u>MHz</u>				<u>-7</u>	<u>0</u>					
Propagation Condition					AW	GN					
Note 1: The DPCH level is a	controlled	by the	power contr	ol loop							
Note 2: The power of the O	CNS chai	nnel tha	t is added s	nall make	the tota	l power fro	om the c	ell to be e	qual to		
lor.								-			
Note that the transmit energy	y per PN	chip fo	r the SCH is	average	<u>d over th</u>	<u>ie 256 chip</u>	o duratic	on when th	e SCH		
is present in the time slot.											

### 8.3.3.4.1 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 with Compressed mode parameters as in Table 8.3.2.2.1.
- 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 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 DPCCH to cell 2 less than 70 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

Specific Message Contents

<u>All messages indicated above shall use the same content as described in the default message content in clause 9 of 34.108 [3] and in Annex A of 34.123-1 [21], with the following exceptions:</u>

## MEASUREMENT CONTROL message, event 2C (step 4):

Information Element/Group name	Value/Remark
Message Type (10.2.17)	Valac/Remark
LIE information elements	
-BBC transaction identifier	0
-Integrity check info	Vot Present
Measurement Information elements	
-Measurement Identity	1
-Measurement Command (10.3.7.46)	<u>–</u> Modify
-Measurement Reporting Mode (10.3.7.40)	<u>Modify</u>
-Measurement Report Transfer Mode	AMRIC
-Periodical Reporting / Event Trigger Reporting Mode	Event trigger
-Additional measurements list (10.3.7.1)	Not Present
-CHOICE Measurement type	Inter-frequency measurement
-Inter-frequency measurement (10.3.7.16)	mor nequency medearement
-Inter-frequency measurement objects list (10.3.7.13)	Not Present
-Inter-frequency measurement quantity (10.3.7.18)	
-CHOICE reporting criteria	Inter-frequency reporting criteria
-Inter-frequency reporting criteria	<u></u>
-Filter coefficient	0
-CHOICE mode	TDD
-Measurement quantity for frequency quality estimate	Primary CCPCH RSCP
-Inter-frequency reporting quantity (10.3.7.21)	
-UTRA Carrier RSSI	FALSE
-Frequency quality estimate	FALSE
-Non frequency related cell reporting quantities (10.3.7.5)	
-SFN-SFN observed time difference reporting indicator	Type 1
-Cell synchronisation information reporting indicator	TRUE
-Cell Identity reporting indicator	TRUE
-CHOICE mode	TDD
-Timeslot ISCP reporting indicator	TRUE
-Proposed TGSN reporting required	FALSE
-Primary CCPCH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	TRUE
-Reporting cell status (10.3.7.61)	
-CHOICE reported cell	Report cells within monitored set on non-
	used frequency
<ul> <li>Maximum number of reported cells per reported non-used</li> </ul>	<u>1</u>
frequency	
-Measurement validity (10.3.7.51)	Not Present
-Inter-frequency set update (10.3.7.22)	Not Present
<u>-CHOICE report criteria</u>	Inter-frequency measurement reporting
	criteria
<u>-Inter-frequency measurement reporting criteria (10.3.7.19)</u>	
-Parameters required for each event	$\frac{1}{5}$
<u>-Inter-frequency event identity (10.3.7.14)</u>	Event 2C
- I hreshold used frequency	Not Present
<u>vv used frequency</u>	Not Present
<u>-Hysteresis</u>	
<u>- I lime to trigger</u>	<u>o ms</u>
	Papart calls within manifored act on par
	Report cens within monitored set on non-
Maximum number of reported cells per reported per used	
	<b>∸</b>
-Parameters required for each non-used frequency	1
-Threshold non-used frequency	-80 dBm
-W non-used frequency	1
Physical channel information elements	
-DPCH compressed mode status info (10.3.6.34)	Not Present

### PHYSICAL CHANNEL RECONFIGURATION message (step 7):

Information Element	Value/Remark
Message Type	
UE Information Elements	
-RRC transaction identifier	$\underline{0}$
-Integrity check info	Not Present
-Integrity protection mode into	Not Present
-Ciphering mode into	Not Present
	AL 13 Not Procent
	Not Present
-RRC State Indicator	CELL DCH
-UTRAN DRX cycle length coefficient	Not Present
CN Information Elements	
-CN Information info	Not Present
UTRAN mobility information elements	
-URA identity	Not Present
RB information elements	
-Downlink counter synchronisation info	Not Present
-RB with PDCP information list	Not Present
-RB With PDCP Information  PhyCH information elements	Not Present
-Frequency info (10.3.6.36)	
-CHOICE mode	חחד
-UARECN (Nt)	Same UARFCN as used for cell 2
Uplink radio resources	
-Maximum allowed UL TX power	33 dBm
-CHOICE channel requirement	Uplink DPCH info
-Uplink DPCH info (10.3.6.88)	
-Uplink DPCH power control info (10.3.6.91)	
<u>-CHOICE mode</u>	TDD
-CHOICE TDD option	<u>3.84 Mcps TDD</u>
<u>-UL Target SIR</u>	Not Present
<u>-CHOICE UL OL PC into</u>	Individually signalled
<u>-CHOICE TDD option</u>	
-Individual timeslot interference (10 3 6 38)	<u> </u>
-Timeslot Number (10.3.6.84)	
-CHOICE TDD option	3.84 Mcps TDD
-Timeslot number	10
- UL Timeslot Interference	<u>-90 dBm</u>
-CHOICE mode	TDD
-Uplink timing advance control (10.3.6.96)	
-CHOICE Timing Advance	Disabled
<u>-UL CC I rCH list</u>	
<u>-UL Target SIR</u>	IBD 0B
- Activation Time	ТЗ
-Duration	Infinite
-Common timeslot info	Not Present
-Uplink DPCH timeslots and codes (10.3.6.94)	
-Dynamic SF Usage	False
-First individual timeslot info (10.3.6.37)	
-Timeslot Number (10.3.6.84)	
-CHOICE TDD option	<u>3.84 Mcps</u>
- <u>Timeslot number</u>	$\frac{10}{7}$
- IFUI existence	Irue
-ivilgample snift and burst type (10.3.6.41)	2.94 Mono
-Midamble Allocation Mode	Default
-Midamble configuration burst type 1 and 3	16
-Midamble shift	Not present
-CHOICE TDD option	3.84 Mcps
-First timeslot code list	1
-Channelisation code	<u>8/1</u>
-CHOICE more timeslots	No more timeslots

Information Element	Value/Remark
Downlink radio resources	
-CHOICE mode	TDD
-Downlink information common for all radio links (10.3.6.24)	
-Downlink DPCH info common for all RL (10.3.6.18)	
-Timing indicator	Initialise
-CFN-targetSFN frame offset	Not Present
-Downlink DPCH power control information (10.3.6.23)	
-CHOICE mode	TDD
-TPC Step size	<u>1 dB</u>
<u>-CHOICE mode</u>	TDD
-CHOICE mode	TDD
-CHOICE TDD option	3.84 Mcps
-TX Diversity mode (10.3.6.86)	None
-Default DPCH Offset Value (10.3.6.16)	<u>0</u>
-Downlink information per radio link list	<u>1</u>
-Downlink information for each radio link (10.3.6.27)	
-CHOICE mode	TDD
-Primary CCPCH info (10.3.6.57)	
- CHOICE mode	TDD
- CHOICE TDD option	3.84 Mcps
- CHOICE sync case	Case 2
<u> </u>	<u>0</u>
- Cell parameters ID	<u>20</u>
- SCTD indicator	False
-Downlink DPCH info for each RL (10.3.6.21)	
-CHOICE mode	TDD
- DL CCTrCH list	<u>1</u>
<u>-TFCS ID</u>	Not Present
<u>-Time Info (10.3.6.83)</u>	
<u>-Activation Time</u>	<u>T3</u>
<u>-Duration</u>	Infinite
<u>-Common timeslot info</u>	Not Present
- Downlink DPCH timeslots and codes (10.3.6.32)	
- First individual timeslot info (10.3.6.37)	
- Timeslot Number (10.3.6.84)	
- CHOICE TDD option	3.84 Mcps
- Timeslot number	$\frac{2}{\tau}$
- IFCI existence	Irue
- Midamble shift and burst type (10.3.6.41)	0.04 Мала
	3.84 MCps
- CHOICE Burst Type	<u>Type 1</u>
- Midamble Allocation Mode	Default
- Midamble configuration burst type 1 and 3	<u>10</u> Not an exact
	Not present
<u> </u>	3.84 MCps
- First timestot channelisation codes (10.3.6.17)	Consecutive codes
<u>- UNUE COURS representation</u>	
- riist channelisation code	<u>10/1</u> <u>16/2</u>
- Last channelisation code CHOICE more timeslets	<u>10/2</u> No more timeslete
- UNULE INDIVE UNITESIDIS	Not Drocont
	NULFIESENL

### MEASUREMENT REPORT message for Inter frequency test cases

This message is common for all inter frequency test cases in clause 8.7 and is described in Annex I.

# 8.3.3.5 Test requirements

For the test to pass, the total number of successful tests shall be more than 90% with a confidence level of [FFS]% of the cases.

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

# Tdoc T1020474

			(	CHANGE	REC	UE	ST				CR-Form-v7
ж		<mark>34.121</mark>	CR	196	жrev	-	ж	Current vers	ion:	3.9.0	ж
For <b>HELP</b> on using this form, see bottom of this page or look at the pop-up text over the <b>#</b> symbols.											
Proposed chang	Proposed change affects: UICC apps ME X Radio Access Network Core Network										
Title:	ж	Test Req	uireme	nts for Cell Re	-Selectio	<mark>n in l</mark>	JRA_	PCH			
Source:	ж	T1RF									
Work item code:	ж	-						Date: ೫	01/	/07/2002	
Category:	ж	F Use <u>one</u> of F (con A (cor B (add C (fun D (edi Detailed exp be found in	the follc rection) respond lition of ctional n torial m blanatio 3GPP <u>1</u>	owing categories ds to a correction feature), modification of f odification) ns of the above <u>FR 21.900</u> .	s: n in an ea ceature) categorie	erlier re	elease	Release: # Use <u>one</u> of 2 (e) R96 R97 R98 R99 Rel-4 Rel-5 Rel-6	R9 the fc (GSN (Rele (Rele (Rele (Rele (Rele (Rele	9 bllowing rele M Phase 2) ease 1996) ease 1997) ease 1998) ease 1999) ease 4) ease 5) ease 6)	eases:

Reason for change:	ж	Test Requirements are missing.
Summary of change	:Ж	Test Requirements are included.
Consequences if	ж	Test could fail "good UEs" because Test Requirements differ from the Minimum
not approved:		Requirements
Clauses affected:	ж	8.3.7
		YN
Other specs	ж	X Other core specifications %
affected:		X Test specifications
		X O&M Specifications
	L	
Other comments	ж	Isolated Impact Analysis: Does not affect implementation of the UE.
		T1-020456 (author: Juha Savolinen, Nokia), T1-020475 (author: Peter George,
		Anritsu) and T1-020474 (autor: Thomas Maucksch, R&S), are CRs on the same
		item. In case of conflict please ask the authors of the CRs.

### How to create CRs using this form:

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

- 1) Fill out the above form. The symbols above marked **#** contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be

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

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

# 8.3.7 Cell Re-selection in URA\_PCH

## 8.3.7.1 One frequency present in the neighbour list

### 8.3.7.1.1 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 makes the UE camp on a new cell, and starts to send preambles on the PRACH for the URA UPDATE message with cause value "URA reselection" in the new cell.

The requirements and this test apply to the FDD UE.

### 8.3.7.1.2 Minimum requirement

The cell re-selection delay shall be less than 8 s with a DRX cycle length of 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:

TevaluateFDD	See table 4.1 in TS 25.133 [2] clause 4.2.2.
T <sub>SI</sub>	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 25.133 [2] clauses 5.7.2 and A.5.7.1.

### 8.3.7.1.3 Test purpose

To verify that the UE meets the minimum requirement.

### 8.3.7.1.4 Method of test

### 8.3.7.1.4.1 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.

This scenario implies the presence of 1 carrier and 6 cells as given in tables 8.3.7.1.1 and 8.3.7.1.2. The UE is requested to monitor neighbouring cells on 1 carrier. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1 280 ms. Cell 1 and cell 2 shall belong to different Location Areas.

### Table 8.3.7.1.1: General test parameters for Cell Re-selection single carrier multi-cell case in URA\_PCH

	Parameter	Unit	Value	Comment
Initial	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		Cell1	
Access Se - Persisten	rvice Class (ASC#0) ce value	-	1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.
DRX cycle	length	S	1,28	The value shall be used for all cells in the test.
HCS				Not used
T1		S	15	T1 need to be defined so that cell re- selection reaction time is taken into account.
T2		S	15	T2 need to be defined so that cell re- selection reaction time is taken into account.

# Table 8.3.7.1.2: Test parameters for Cell re-selection single carrier multi cell Cell specific test parameters for Cell re-selection in URA\_PCH state

Parameter	Unit	C	ell 1	Ce	ell 2	Cell 3		Ce	Cell 4 Cell 5		Cell 6		
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel		Chan	nol 1	Chann	Channel 1		nol 1	Chann		Chan	nol 1	Chapr	ool 1
Number		Chan					Channel I					Chan	
CPICH_Ec/lor	dB	-10		-10		-10		-10		-10		-10	
PCCPCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12	
SCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12	
PICH_Ec/lor	dB	-15		-15		-15		-15		-15		-15	
OCNS_Ec/lor	dB	-0,94	1	-0,941		-0,94	1	-0,941		-0,94	1	-0,941	1
$\hat{I}_{or}/I_{oc}$	dB	7,3	10,27	10,27	7,3	0,27		0,27		0,27		0,27	
I <sub>oc</sub>	dBm / 3,84 MHz	-70											
CPICH_Ec/lo	dB	-16	-13	-13	-16	-23		-23		-23		-23	
Propagation Condition							AWO	GN					
Cell_selection_and_													
reselection_quality_		CPIC	H E <sub>c</sub> /N <sub>0</sub>	CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH	Η E <sub>c</sub> /N <sub>0</sub>
measure													
Qqualmin	dB		·20	-:	20	-	-20	-20		-20		-2	20
Qrxlevmin	dBm	-	115	-1	15	-'	115	-1	15	-115		-1	15
UE_TXPWR_MAX_ RACH	dB		21	2	21		21	2	:1		21	2	21
		C1,	C2: 0	C2,	C1: 0	C3,	C1: 0	C4, 0	C1: 0	C5,	C1: 0	C6,	C1: 0
		C1,	C3: 0	C2,	C3: 0	C3,	C2: 0	C4, 0	C2: 0	C5,	C2: 0	C6,	C2: 0
Qoffset2 <sub>s, n</sub>	dB	C1,	C4: 0	C2,	C4: 0	C3,	C4: 0	C4, 0	C3: 0	C5,	C3: 0	C6,	C3: 0
		C1,	C5: 0	C2,	C5: 0	C3,	C5: 0	C4, 0	C5: 0	C5,	C4: 0	C6,	C4: 0
		C1,	C6: 0	C2,	C6: 0	C3,	C6: 0	C4, 0	C6: 0	C5,	C6: 0	C6,	C5: 0
Qhyst2	dB		0		0		0	(	)	0		1	0
PENALTY_TIME	<del>\$</del>		0	L	0		0	(	•	ļ	0		0
TEMPORARY_OFF	dB		θ		Ð		θ	θ		Ð			θ
Treselection	S		0		0		0	(	0		0		0
Sintrasearch	dB	no	tsent	not	sent	not	t sent	not	sent	not	t sent	not	sent

#### 8.3.7.1.4.2 Procedure

- 1) The SS activates cell 1-6 with T1 defined parameters in table 8.3.7.1.3 and monitors cell 1 and 2 for random access requests from the UE.
- 2) The UE is switched on.
- 3) A RRC connection is set up according the generic set-up procedure specified in TS 34.108 [3] subclause 7.4.2 to place the UE in URA\_PCH state.
- 4) The SS waits for random access requests from the UE on cell 2.
- 5) After 15 s, the parameters are changed as described for T2 in table 8.3.7.1.3.
- 6) The SS waits for random access requests from the UE.
- 7) If the UE responds on cell 1 within 8 s then the number of successful tests is increased by one.
- 8) After another 15 s, the parameters are changed as described for T1 in table 8.3.7.1.3.
- 9) The SS waits for random access requests from the UE.

10) If the UE responds on cell 2 within 8 s then the number of successful tests is increased by one.

11)Repeat step 5) to 10) [TBD] times.

### 8.3.7.1.5 Test requirements

For the test to pass, the total number of successful attempts shall be more than 90% with a confidence level of [FFS]% of the cases.

	Parameter <b>A Barameter</b>	<u>Unit</u>	Ce	ell 1	Ce	ll 2	Cel	Cell 3		<u>Cell 4</u>		Cell 5		Cell 6	
			<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	
<u>U</u> T	RA RF Channel		Chan	cannel 1 Channel 1		<u>ا</u> ا	Channel 1		Channel 1		Channel 1		Channel 1		
Nu	<u>mber</u>		<u>onun</u>			<u> </u>	Onann	<u> </u>	Ondrin	<u> </u>					
CF	ICH_Ec/lor	<u>dB</u>	-10.1	<u>-9.9</u>	-9.9	<u>-10.1</u>	<u>-10</u>		<u>-10</u>		<u>-10</u>		<u>-10</u>		
PC	CPCH_Ec/lor	<u>dB</u>	<u>-12</u>		<u>-12</u>		<u>-12</u>		<u>-12</u>		<u>-12</u>		<u>-12</u>		
SC	H_Ec/lor	<u>dB</u>	<u>-12</u>		<u>-12</u>		<u>-12</u>		<u>-12</u>		<u>-12</u>		<u>-12</u>		
PI	CH_Ec/lor	<u>dB</u>	<u>-15</u>		<u>-15</u>		<u>-15</u>		<u>-15</u>		<u>-15</u>		<u>-15</u>		
00	NS_Ec/lor	<u>dB</u>	-0.928	-0.953	<u>-0.953</u>	-0.928	<u>-0.941</u>		<u>-0.941</u>		<u>-0.941</u>		<u>-0.941</u>		
Î <sub>o</sub>	$r/I_{oc}$	<u>dB</u>	<u>7</u>	<u>10.57</u>	<u>10.57</u>	<u>7</u>	<u>0.27</u>		<u>0.27</u>		<u>0.27</u>		<u>0.27</u>		
$I_o$	<u></u>	<u>dBm /</u> <u>3.84 MHz</u>	<u>-70</u>												
CF	ICH_Ec/lo	<u>dB</u>	-16.4	<u>-12.7</u>	<u>-12.7</u>	<u>-16.4</u>	<u>-23.1</u>		-23.1		-23.1		-23.1		
Pro	pagation							AWO	GN						
Ce	Il selection and														
reg	election quality		CPIC		CPICH	E <sub>2</sub> /N <sub>2</sub>			E <sub>o</sub> /N <sub>o</sub>	CPICH E <sub>2</sub> /N <sub>0</sub>		CPICH	F./No		
me	asure		<u></u>	<u>· <u> </u></u>	<u></u>	<u></u>	<u></u>	<u></u>					<u></u>	<u> </u>	
Qo	ualmin	dB	-	20	-2	20	-2	0	-2	0	-20		-2	20	
Qr	klevmin	dBm	-1	15	-1	15	-11	15	-11	15	-1	15	-1	15	
		dB		21	2	1	2	1	2	1	2	1	2	1	
<u> </u>			C1	C2·0	C2 (	<u>21·0</u>	C3 (	1.0	C4 (	1.0	C5 (	21.0	C6 (	C1· 0	
			$\frac{01}{01}$	$\frac{02.0}{03.0}$	$\frac{02,0}{02,0}$	31.0	$\frac{03,0}{03,0}$	2.0	$\frac{04, 0}{04}$	2.0	$\frac{0.5, 0}{0.5, 0}$	21.0	<u>C6 (</u>	$\frac{51.0}{22.0}$	
00	ffset2	dB	$\frac{O1}{C1}$	$C4 \cdot 0$	$\frac{02}{C2}$	<u></u>	$\frac{00, 0}{03}$	2.0	$\frac{04}{C4}$	3.0	$\frac{00, 0}{05, 0}$	$\frac{32.0}{33.0}$	<u>C6</u>	32.0	
<u></u>	<u>110012</u> 5, 11		<u>C1</u>	C5:0	$\frac{O2}{C2}$	$\frac{C2, C4, 0}{C2, C5; 0}$ C2, C6; 0		25:0	$\frac{O_{1, C}}{C4}$	2 <u>5:0</u>	$\frac{00,0}{C5}$	C4· 0	<u>C6</u>	24.0	
			C1.	C6: 0	C2. (			26: 0	C4. C	26: 0	C5. 0	C6: 0	<u>C6.</u> 0	C5: 0	
Qh	yst2	dB		0	(	)	C	)	0	0 0		)	0		
Tre	eselection	S		0	(	)	C	0 0		0 0		)	(	<u>)</u>	
Sir	trasearch	dB	not	<u>sent</u>	not	<u>sent</u>	not s	not sent		not sent		ent not sent		<u>not sent</u>	

Table 8.3.7.1.3: Test parameters for Cell re-selection single carrier multi cell

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.

### 8.3.7.2 Two frequencies present in the neighbour list

### 8.3.7.2.1 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 makes the UE camp on a new cell, and starts to send preambles on the PRACH for the URA UPDATE message with cause value "URA reselection" in the new cell.

The requirements and this test apply to the FDD UE.

### 8.3.7.2.2 Minimum requirement

The cell re-selection delay shall be less than 8 s with a DRX cycle length of 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:

TevaluateFDD	See table 4.1 in TS 25.133 [2] clause 4.2.2.
Tsi	Maximum repetition period of relevant system info blocks that needs to be received by
	the UE to camp on a cell. 1280 ms is assumed in this test case.

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

The normative reference for this requirement is TS 25.133 [2] clauses 5.7.2 and A.5.7.2.

### 8.3.7.2.3 Test purpose

To verify that the UE meets the minimum requirement.

### 8.3.7.2.4 Method of test

### 8.3.7.2.4.1 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.

This scenario implies the presence of 2 carriers and 6 cells as given in tables 8.3.7.2.1 and 8.3.7.2.2. The UE is requested to monitor neighbouring cells on 2 carriers. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1 280 ms. Cell 1 and cell 2 shall belong to different Location Areas.

### Table 8.3.7.2.1: General test parameters for Cell Re-selection in multi carrier case URA PCH

P	Parameter		Value	Comment
Initial	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3,Cell4,	
	-		Cell5, Cell6	
Initial	Active cell Cell2		Cell1	
condition				
Access Serv	rice Class (ASC#0)			Selected so that no additional delay is caused by
- Persistence	e value	-	1	the random access procedure. The value shall be
				used for all cells in the test.
HCS				Not used
DRX cycle le	ength	S	1,28	The value shall be used for all cells in the test.
	T1 s		30	T1 need to be defined so that cell re-selection
				reaction time is taken into account.
	T2	S	15	T2 need to be defined so that cell re-selection
				reaction time is taken into account.

# Table 8.3.7.2.2: Test parameters for Cell re-selection multi carrier multi cell Cell specific test parameters for Cell Re-selection in URA\_PCH state

Parameter	Unit	Cel	11	Cel	12	Cel	3	Ce	ell 4	Ce	15	Ce	ell 6	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	
UTRA RF Channel		Chan	nol 1	Chan	nol 2	Chapr	1 امر	Cha	nnel 1	Chan	nol 2	Cha	anal 2	
Number		Chan		Chan		Chan		Cha		Chan		Cha		
CPICH_Ec/lor	dB	-1	0	-1	0	-1	0	-	10	- ^	0	-	10	
PCCPCH_Ec/lor	dB	-1	2	-1	2	-12		-12		-12		-12		
SCH_Ec/lor	dB	-1	2	-1	2	-12		-12		-12		-12		
PICH_Ec/lor	dB	-1	5	-1	5	-1	5	-	15	- ^	5	-	15	
OCNS_Ec/lor	dB	-0.9	41	-0.9	41	-0.9	41	-0.	941	-0.9	941	-0.	941	
$\hat{I}_{or}/I_{oc}$	dB	-3.4	2.2	2.2	-3.4	-7.4	-4.8	-7.4	-4.8	-4.8	-7.4	-4.8	-7.4	
I <sub>oc</sub>	dBm / 3.84 MHz						-7	70						
CPICH_Ec/lo	dB	-16 -13 -13 -16			-16	-20	)	-)	20	-2	0	-20		
Propagation Condition							AW	'GN						
Cell_selection_and_ reselection_quality_ measure		CPICH	CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>	
Qqualmin	dB	-2	0	-20		-20		-20		-20		-20		
Qrxlevmin	dBm	-11	5	-11	5	-115		-115		-115		-115		
UE_TXPWR_MAX_ RACH	dB	2′	1	21	1	21		21		21		21		
		C1, C	2: 0	C2, C	:1:0	C3, C	1: 0	C4,	C1: 0	C5, 0	C1: 0	C6, C1: 0		
		C1, C	3: 0	C2, C	3: 0	C3, C	2: 0	C4,	C2: 0	C5, 0	C2: 0	C6,	C2: 0	
Qoffset2 <sub>s, n</sub>	dB	C1, C	:4: 0	C2, C	:4: 0	C3, C	4: 0	C4,	C3: 0	C5, 0	23: 0	C6,	C3: 0	
		C1, C	5:0	C2, C	5:0	C3, C	5:0	C4,	C5: 0	C5, 0	24:0	C6,	C4: 0	
		C1, C	6: 0	C2, C	6: 0	C3, C	6: 0	C4,	<u>C6: 0</u>	C5, C	26:0	C6,	C5: 0	
Qhyst2	dB	0		0		0			0	(	)		0	
PENALIY_HME	<del>8</del>	0		0		0			θ	- t	<b>,</b>		θ.	
SET	d₿	0		0		0		θ		θ		θ		
Treselection	S	0		0		0			0	(	)	0		
Sintrasearch	dB	not s	sent	not s	ent	not s	ent	not	sent	not	sent	not sent		
Sintersearch	dB	not s	sent	not s	ent	not sent		not sent		not sent		not sent		

#### 8.3.7.2.4.2 Procedures

- 1) The SS activates cell 1-6 with T1 defined parameters in table 8.3.7.2.3 and monitors cell 1 and 2 for random access requests from the UE.
- 2) The UE is switched on.
- 3) A RRC connection is set up according the generic set-up procedure specified in TS 34.108 [3] subclause 7.4.2 to place the UE in URA\_PCH state.
- 4) The SS waits for random access requests from the UE on cell 2.
- 5) After 30 s, the parameters are changed as described for T2 in table 8.3.7.2.3.
- 6) The SS waits for random access request from the UE. If the UE responds on cell 1 within 8 s then the number of successful tests is increased by one.
- 7) After another 15 s, the parameters are changed as described for T1 in table 8.3.7.2.3.
- 8) The SS waits for random access requests from the UE. If the UE responds on cell 2 within 8 s then the number of successful tests is increased by one.
- 9) Reduce T1 to 15 s and repeat step 5) to 8) [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.

### 8.3.7.2.5 Test requirements

For the test to pass, the total number of successful tests shall be more than 90% with a confidence level of [FFS]% of the cases.

### Table 8.3.7.2.3: Test parameters for Cell re-selection multi carrier multi cell

	Parameter	Unit	Ce	II 1	Ce	12	Ce	II 3	Ce	II 4	Ce	15	Ce	ll 6
ĺ			<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	T2
UT Nu	<u>RA RF Channel</u> mber		Chan	nel 1	Chan	nel 2	Chan	<u>nel 1</u>	Chan	nel 1	<u>Chan</u>	nel 2	Char	nnel 2
CP	ICH_Ec/lor	<u>dB</u>	<u>-10.1</u>	<u>-9.9</u>	<u>-9.9</u> <u>-10.1</u>		<u>-10</u>		<u>-10</u>		-1	0	<u>-10</u>	
PC	CPCH_Ec/lor	dB	ì	12	-	-12		<u>-12</u>		<u>-12</u>		2	<u>-12</u>	
SC	H_Ec/lor	<u>dB</u>	- ^	<u>12</u>	-1	2	<u>-12</u>		-12		<u>-12</u>		<u>-12</u>	
PIC	<u>CH_Ec/lor</u>	<u>dB</u>	- ^	1 <u>5</u>	-1	5		5	_^	1 <u>5</u>	-1	5	-	1 <u>5</u>
00	NS Ec/lor	<u>dB</u>	-0.928	-0.953	-0.953	<u>-0.928</u>	-0.9	94 <u>1</u>	-0.9	94 <u>1</u>	-0.9	9 <u>41</u>	<u>-0.</u>	<u>941</u>
$\hat{I}_o$	. / I <sub>oc</sub>	<u>dB</u>	<u>-3.7</u>	<u>2.5</u>	<u>2.5</u>	<u>-3.7</u>	<u>-7.4</u>	<u>-4.8</u>	<u>-7.4</u>	<u>-4.8</u>	<u>-4.8</u>	<u>-7.4</u>	<u>-4.8</u>	<u>-7.4</u>
$I_{o}$	2	<u>dBm / 3.84</u> <u>MHz</u>						<u>7(</u>	<u>)</u>					
CP	ICH_Ec/lo	<u>dB</u>	<u>-16.3</u>	<u>-12.8</u>	<u>-12.8</u> <u>-16.3</u>		<u>-19.9</u>	<u>-20.2</u>	<u>-19.9</u>	<u>-20.2</u>	-20.2	<u>-19.9</u>	<u>-20.2</u>	<u>-19.9</u>
Pro Co	ppagation ndition							<u>AW</u>	<u>GN</u>					
<u>Ce</u> res me	Il selection and election quality asure		CPICH	<u>I E<sub>c</sub>/N<sub>0</sub></u>	<u>CPICH E<sub>c</sub>/N<sub>0</sub></u>		<u>CPICH E<sub>c</sub>/N<sub>0</sub></u>		<u>CPICH E<sub>c</sub>/N₀</u>		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>	
Qq	ualmin	<u>dB</u>	-2	20	-2	20	-2	20	-20		-20		-20	
Qr	<u>devmin</u>	<u>dBm</u>	-1	1 <u>5</u>	<u>-1</u>	<u>15</u>	<u>-1</u>	1 <u>5</u>	-1	<u>15</u>	<u>-1′</u>	15	-115	
<u>UE</u> RA	<u></u>	<u>dB</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>1</u>	2	<u>1</u>	2	<u>21</u>
<u>Qo</u>	ffset2 <sub>s.n</sub>	<u>dB</u>	<u>C1, (</u> <u>C1, (</u> <u>C1, (</u> <u>C1, (</u> <u>C1, (</u>	C2: 0 C3: 0 C4: 0 C5: 0 C6: 0	<u>C2, 0</u> <u>C2, 0</u> <u>C2, 0</u> <u>C2, 0</u> <u>C2, 0</u>	<u>C2, C1: 0</u> <u>C2, C3: 0</u> <u>C2, C4: 0</u> <u>C2, C5: 0</u> <u>C2, C6: 0</u>		<u>C3, C1: 0</u> <u>C3, C2: 0</u> <u>C3, C4: 0</u> <u>C3, C5: 0</u> <u>C3, C6: 0</u>		C1: 0 C2: 0 C3: 0 C5: 0 C6: 0	<u>C5, C1: 0</u> <u>C5, C2: 0</u> <u>C5, C3: 0</u> <u>C5, C4: 0</u> <u>C5, C6: 0</u>		$\begin{array}{c c} \underline{C6, C1:} \\ \underline{C6, C2:} \\ \underline{C6, C3:} \\ \underline{C6, C4:} \\ \underline{C6, C4:} \\ \underline{C6, C5:} \\ \underline{C6, C5:} \end{array}$	
Qh	yst2	<u>dB</u>	(	)	(	)	(	)	(	)	C			0
Tre	selection	<u>s</u>	(	)	(	)	(	)	(	)	0			0
Sir	trasearch	dB	not	sent	not	sent	not	sent	not	sent	nots	sent	not	sent
Sin	tersearch	<u>dB</u>	not	sent	not s	sent	not	sent	not sent		not sent		not sent	

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.

		CHANGE F	REQUEST		CR-Form-v7					
ж	34.121 C	R <mark>197</mark> ж	rev <mark>-</mark> <sup>#</sup>	Current vers	ion: <b>3.9.0</b> <sup>#</sup>					
For <u>HELP</u> on u	sing this form, s	see bottom of this pa	age or look at the	pop-up text	over the # symbols.					
Proposed change	affects: UIC	Capps#	ME X Radio Ac	cess Networ	k Core Network					
Title: #	Correction to test procedur	clause 8.3.7 Cell Re to cope with error	e-selection in UR/ recovery	A_PCH and	Improvements to the					
Source: ೫	T1/RF									
Work item code: ℜ	-			<i>Date:</i>	31/07/2002					
Category: अ	F Use <u>one</u> of the f F (correcti A (corresp B (addition C (function D (editoria Detailed explana be found in 3GF	ollowing categories: on) onds to a correction in of feature), al modification of feat modification) ations of the above ca P <u>TR 21.900</u> .	n an earlier release) ure) tegories can	Release: ¥ Use <u>one</u> of 2 R96 R97 R98 R99 Rel-4 Rel-5 Rel-6	R99 the following releases: (GSM Phase 2) (Release 1996) (Release 1997) (Release 1998) (Release 1999) (Release 4) (Release 5) (Release 6)					
Reason for change	e: ೫ <mark>It is not o</mark>	lear in the procedu	e what should ha	appen in the	event of an error					
	1) There is T <sub>SI</sub> : The according information test case.	s mention of the Tsi time required for re to the reception pro n blocks defined in	in TS25,133 A.5 ecciving all the re occdure and the F 25.331 for a UTR	.5.1.2 and A levant system RRC procedu AN cell.1280	5.5.2.2 as follows. m information data ure delay of system 0 ms is assumed in this					
	informatic delay in o	n blocks, T <sub>st</sub> of 1280 n blocks, T <sub>st</sub> of 128 rder to allow the SI	0 ms could be inc 3 repetition period	alues for rep creased by th d of 1280 ms	eating system ne RRC procedure					
	As for TS considera	As for TS34.121, the RRC procedure delay for receiving SIB is not taken into consideration.								
	2) Periodi is set up i Hence the procedure and so the procedure	2) Periodical Location Updating timer and periodical Routing Area Updating times set up in the generic set-up procedure described in TS 34.108 subclause 7. Hence the UE may perform a Location Updating or Routing Area Updating procedure that is not expected in test procedure since UE is in URA_PCH state and so the test procedure is not executed correctly. Periodical URA update procedure is also initiated in URA_PCH state according to T305.								
	3) The be	ginning of time perio	od T1 isn't clear ir	n "Procedure	"·					
	4)It is not	clear how random a	access procedure	is terminate	d in test procedure.					
	The follow	ving modification is	added into T1R02	20233.						
	5) Minimu to 1).	m requirement is no	ot changed and te	est procedure	e is modified according					

Summary of change: ೫	<ul> <li>Changes in T1R020255</li> <li>1. An error recovery process is proposed that avoids the possibility of double counting errors.</li> <li>2. Some textual clarification is also proposed for the test purpose.</li> </ul>
	Changes in T1R020248
	1) $T_{SI}$ of 1280 ms is increased by the maximum RRC procedure delay for Broadcast of system information described in TS25.331 13.5.2. This is 100 ms as maximum. Therefore Tsi is set to 1380ms.
	<ul> <li>2) Test procedure described in TS34.108 7.3.3 in which periodical AS and NAS timers are deactivated is used in this test case with a modification as IE "RRC State Indicator" in RADIO BEARER SETUP (STEP3) is set to "URA_PCH".</li> <li>3) The timing when call set up has completed at step 3 is made the beginning of time period T1.</li> <li>4) URA URDATE and URA URDATE CONFIRM message is used to terminate the set of the</li></ul>
	random access procedure. Also URA identity in each cell is set to different value so that UE can initiate URA updating procedure when UE detects more suitable cell.
	The following modification is added into T1R020233.
	5) Additional timer value from RRC procedure delay for Tsi is explained in test procedure.
Consequences if % not approved:	This test case may give false readings which may unfairly penalise a good UE.
	1)34.121 and 25.133 will be inconsistent.
	2) The test procedure cannot be executed properly with a compliant UE and test requirement cannot be met.
	3) Ability beyond Minimum requirement is required. Even "Good UE" may not pass this test.
	4) Test procedure will not terminate properly.
( Jausos affortod · · · · · · · · · · · · · · · · · · ·	837

Clauses affected:	36 8.3.7 ΥΝ
Other specs affected:	%     Other core specifications     %       Test specifications     %       O&M Specifications
Other comments:	策 T1-020474 and T1-20456 are the CRs to the same section

### How to create CRs using this form:

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

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

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

# 8.3.7 Cell Re-selection in URA\_PCH

# 8.3.7.1 One frequency present in the neighbour list

### 8.3.7.1.1 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 makes the UE camp on a new cell, and starts to send preambles on the PRACH for the URA UPDATE message with cause value "URA reselection" in the new cell.

The requirements and this test apply to the FDD UE.

### 8.3.7.1.2 Minimum requirement

The cell re-selection delay shall be less than 8 s with a DRX cycle length of 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:

TevaluateFDD	See table 4.1 in TS 25.133 [2] clause 4.2.2.
Tsi	Maximum repetition period of relevant system info blocks that needs to be received
	by the UE to camp on a cell. 1280 ms is assumed in this test case.

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

The normative reference for this requirement is TS 25.133 [2] clauses 5.7.2 and A.5.7.1.

### 8.3.7.1.3 Test purpose

To verify that the UE meets the minimum requirement and is capable of camping on to a new cell, within the required time, when the preferred cell conditions change.

### 8.3.7.1.4 Method of test

8.3.7.1.4.1 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.

This scenario implies the presence of 1 carrier and 6 cells as given in tables 8.3.7.1.1 and 8.3.7.1.2. The UE is requested to monitor neighbouring cells on 1 carrier. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1 280 ms. <u>In System Information Block Type 2 cellCell</u> 1 and cell 2 <u>URA identity is set to a different valueshall belong to different Location Areas</u>.

### Table 8.3.7.1.1: General test parameters for Cell Re-selection single carrier multi-cell case

Parameter	Unit	Value	Comment
SYSTEM INFORMATION BLOCK TYPE 2 - URA identity list - URA identity	=	0000 0000 0000 0001(B) (Cell 1) 0000 0000 0000 0002(B) (Cell 2)	
Access Service Class (ASC#0) - Persistence value	-	1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.
DRX cycle length	S	1,28	The value shall be used for all cells in the test.
T1	S	15	T1 need to be defined so that cell re- selection reaction time is taken into account.
T2	S	15	T2 need to be defined so that cell re- selection reaction time is taken into account.

Table 8.3.7.1.2: Test parameters for Cell re-selection single carrier multi cell

Parameter	Unit	C	ell 1	Cell 2		Cell 3		Cell 4		Cell 5		Cell 6		
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	
UTRA RF Channel		Chan	nol 1	Chann	ol 1	Chan	aol 1	Chann	ol 1	Chan	Channel 1		Channel 1	
Number		Chan		Chann		Chan		Chann		Ghan		Chan		
CPICH_Ec/lor	dB	-10		-10		-10		-10		-10	-10		-10	
PCCPCH_Ec/lor	dB	-12		-12		-12		-12	-12		-12		-12	
SCH_Ec/lor	dB	-12		-12		-12		-12	-12		-12		-12	
PICH_Ec/lor	dB	-15		-15		-15		-15		-15		-15		
OCNS_Ec/lor	dB	-0,94	1	-0,941		-0,941		-0,941		-0,94	1	-0,941		
$\hat{I}_{or}/I_{oc}$	dB	7,3	10,27	10,27	7,3	0,27		0,27		0,27		0,27		
I <sub>oc</sub>	dBm / 3,84 MHz	-70												
CPICH_Ec/lo	dB	-16	-13	-13	-13 -16			-23		-23		-23	-23	
Propagation			A14/CN											
Condition														
Cell_selection_and_														
reselection_quality_		CPIC	H E <sub>c</sub> /N <sub>0</sub>	CPICH E <sub>c</sub> /N <sub>0</sub>		CPICI	CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		Η E <sub>c</sub> /N <sub>0</sub>	
measure														
Qqualmin	dB	-	·20	-20		-20		-20		-20		-2	20	
Qrxlevmin	dBm	- '	115	-1	15	-1	15	-1	15	- ^	115	-1	15	
UE_TXPWR_MAX_	dB		21	2	21		21		21		21		21	
RACH	40	_												
		C1,	C2: 0	C2,	C1: 0	C3,	C1: 0	C4, 0	C1: 0	C5,	C1: 0	C6,	C1: 0	
		C1,	C3: 0	C2, C3: 0		C3,	C2: 0	C4, (	C2: 0	C5,	C2: 0	C6,	C2: 0	
Qoffset2 <sub>s, n</sub>	dB	C1,	C4: 0	C2,	C4: 0	C3,	C4: 0	C4, 0	23:0	C5,	C3: 0	C6,	C3: 0	
		C1,	C5: 0	C2,	C5: 0	C3,	C5: 0	C4, 0	55:0	C5,	C4: 0	C6,	C4: 0	
0 10	10	C1,	0 :0	C2,	<u>C6: 0</u>	C3,	0 :0	C4, (	26:0	C5,	06:0	C6,	05:0	
Qnyst2	dB		0		0		0	(	)		0		0	
PENALIY_TIME	S		0		0		0	0		0			0	
SET2	dB		0		0		0		0		0		0	
Treselection	S		0		0		0	(	)		0	(	0	
Sintrasearch	dB	not	t sent	not	sent	not	sent	not	not sent		not sent		not sent	

### 8.3.7.1.4.2 Procedure

- 1) The SS activates cell 1-6 with T1 defined parameters and monitors cell 1 and 2 for random access requests from the UE.
- 2) The UE is switched on.

- 3) An RRC connection is set up according to the generic set-up procedure specified in TS 34.108 [3] subclause 7.4.27.3.3 to place the UE in the URA\_PCH state on Cell 2 and then the SS waits for this process to complete.
- 4) The SS waits for random access requests from the UE on cell 2.
- 54) After 15 s from the completion of step 3 or the beginning of T1, the parameters are changed as to those defined described for T2.
- 65) If the UE responds on Cell 1 with a PRACH (URA UPDATE message cause "URA reselection") within 8s, then a success is recorded, the SS shall transmit a URA UPDATE CONFIRM message and then the procedure moves to step 7. The SS waits for random access requests from the UE.
- 76) Since the UE has failed to respond with the correct message within the allowed time, a failure is recorded. The SS shall then wait for a total of 15s from the beginning of T2 and if no response is received, the UE shall be switched off and the procedure returns to step 1. Otherwise the SS shall transmit a URA UPDATE CONFIRM message and then the procedure continues with step 7. If the UE responds on cell 1 within 8 s then the number of successful tests is increased by one.
- <u>87</u>)After <u>a total of 15 s from the beginning of T2</u>, the parameters are changed as to those defined described for T1.
- 98) If the UE responds on Cell 2 with a PRACH (URA UPDATE message cause "URA reselection") within 8s, then a success is recorded and the procedure moves to step 10. The SS waits for random access requests from the UE.
- 109) Since the UE has failed to respond with the correct message within the allowed time, a failure is recorded. The SS shall then wait for a total of 15s from the beginning of T1 and if no response is received the UE shall be switched off and the procedure returns to step 1. Otherwise the SS shall transmit a URA UPDATE CONFIRM message and then the procedure continues with step 10. If the UE responds on cell 2 within 8 s then the number of successful tests is increased by one.
- <u>Steps 4 to 10 are repeated until a total of [TBD] successes and failures have been recorded.</u>
   <u>Repeat step 5) to</u>
   <u>10) [TBD] times.</u>
- NOTE:The time required for receiving all the relevant system information data according to the receptionprocedure and the RRC procedure delay of system information blocks defined in 25.331 for a UTRANcell. Since the maximum repetition period of the relevant system info blocks that needs to be received bythe UE to camp on a cell is 1280ms and the maximum RRC procedure delay for reception systeminformation block is 100ms, 1380 ms is assumed in this test case. Therefore this gives a total of7.78s(Minimum requirement + 100ms), allow 8s in the test case.

### Specific Message Contents

All messages indicated above shall use the same content as described in the default message content in clause 9 of 34.108 [3], with the following exceptions:

### RADIO BEARER SETUP (STEP3)

Information Element	Value/remark
RRC State Indicator	URA PCH
UTRAN DRX cycle length coefficient	<u>7</u>
Downlink information for each radio link	
- Primary CPICH info	
<ul> <li>Primary scrambling code</li> </ul>	<u>100</u>

### 8.3.7.1.5 Test requirements

For the test to pass, the total number of successful attempts shall be more than 90% with a confidence level of [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.

# 8.3.7.2 Two frequencies present in the neighbour list

### 8.3.7.2.1 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 makes the UE camp on a new cell, and starts to send preambles on the PRACH for the URA UPDATE message with cause value "URA reselection" in the new cell.

The requirements and this test apply to the FDD UE.

### 8.3.7.2.2 Minimum requirement

The cell re-selection delay shall be less than 8 s with a DRX cycle length of 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:

TevaluateFDD	See table 4.1 in TS 25.133 [2] clause 4.2.2.
T <sub>SI</sub>	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 25.133 [2] clauses 5.7.2 and A.5.7.2.

## 8.3.7.2.3 Test purpose

To verify that the UE meets the minimum requirement and is capable of camping on to a new cell, within the required time, when the preferred cell conditions change.

### 8.3.7.2.4 Method of test

### 8.3.7.2.4.1 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.

This scenario implies the presence of 2 carriers and 6 cells as given in tables 8.3.7.2.1 and 8.3.7.2.2. The UE is requested to monitor neighbouring cells on 2 carriers. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1 280 ms. In System Information Block Type 2 in cellCell 1 and cell 2 URA identity is set to different valueshall belong to different Location Areas.

### Table 8.3.7.2.1: General test parameters for Cell Re-selection in multi carrier case

Parameter	Unit	Value	Comment
SYSTEM INFORMATION BLOCK TYPE 2 - URA identity list - URA identity	=	0000 0000 0000 0001(B) (Cell 1) 0000 0000 0000 0002(B) (Cell 2)	
Access Service Class (ASC#0) - Persistence value	-	1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.
DRX cycle length	S	1,28	The value shall be used for all cells in the test.
T1	S	<del>30<u>15</u></del>	T1 need to be defined so that cell re- selection reaction time is taken into account.
T2	S	15	T2 need to be defined so that cell re- selection reaction time is taken into account.

### Table 8.3.7.2.2: Test parameters for Cell re-selection multi carrier multi cell

Parameter	Unit	Cel	11	Cell 2		Cell 3		Cell 4		Cell 5		Cell 6		
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	
UTRA RF Channel		Chan	nol 1	Chan		Chapr	nol 1	Cha	nnol 1	Chan	nol 2	Cha	nnol 2	
Number		Ghan		Chan		Chan		Gha		Chai		Cha		
CPICH_Ec/lor	dB	-1	0	-1	0	-1	0	-10		-10		-10		
PCCPCH_Ec/lor	dB	-1	-12		-12		-12		-12		-12		-12	
SCH_Ec/lor	dB	-1	2	-1	2	-12		-12		-12		-12		
PICH_Ec/lor	dB	-1	5	-1	5	-1	5		·15	- ^	5	-	15	
OCNS_Ec/lor	dB	-0.9	941	-0.9	41	-0.9	41	-0	.941	-0.9	941	-0.	941	
$\hat{I}_{or}/I_{oc}$	dB	-3.4	2.2	2.2	-3.4	-7.4	-4.8	-7.4	-4.8	-4.8	-7.4	-4.8	-7.4	
I <sub>oc</sub>	dBm / 3.84 MHz						-	70						
CPICH_Ec/lo	dB	-16 -13 -13 -16				-20	)	-	20	-2	0	-	20	
Propagation Condition							AW	/GN						
Cell_selection_and_ reselection_quality_ measure		CPICH	CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E₀/N₀		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>	
Qqualmin	dB	-2	0	-20	)	-20		-20		-20		-20		
Qrxlevmin	dBm	-11	15	-11	5	-115		-115		-115		-115		
UE_TXPWR_MAX_ RACH	dB	2'	1	21		21		21		21		21		
		C1, C	2: 0	C2, C	:1:0	C3, C1: 0		C4, C1: 0		C5, 0	C1: 0	C6, C1: 0		
		C1, C	3: 0	C2, C3: 0		C3, C2: 0		C4,	C2: 0	C5, 0	C2: 0	C6,	C2: 0	
Qoffset2 <sub>s, n</sub>	dB	C1, C	24: 0	C2, C	4:0	C3, C	4:0	C4,	C3: 0	C5, 0	C3: 0	C6,	C6, C3: 0	
		C1, C	25:0	C2, C	5:0	C3, C	5:0	C4,	C5: 0	C5, 0	C4: 0	C6,	C4: 0	
0 10	15	C1, C	6:0	C2, C	6:0	C3, C	6:0	C4,	<u>C6: 0</u>	C5, C	<u>56: 0</u>	C6,	<u>C5: 0</u>	
Qhyst2	dB	0	)	0		0			0	(	)		0	
PENALIY_TIME	S	0	)	0		0			0	(	)		0	
SET	dB	0	)	0		0		0		0			0	
Treselection	S	0	)	0		0			0	(	)	0		
Sintrasearch	dB	not s	sent	not s	ent	not s	ent	not	sent	not	sent	not sent		
Sintersearch	dB	not s	sent	not s	ent	not s	ent	not	sent	not sent		not	not sent	

### 8.3.7.2.4.2 Procedures

1) The SS activates cell 1-6 with T1 defined parameters and monitors cell 1 and 2 for random access requests from the UE.

- 2) The UE is switched on.
- 3) An RRC connection is set up according the generic set-up procedure specified in TS 34.108 [3] subclause 7.4.27.3.3 to place the UE in URA\_PCH state on cell 2. The SS waits for this process to complete.
- 4) After 15 s from the completion of step 3 or the beginning of T1, the parameters are changed to those defined for <u>T2.</u>
- 5) If the UE responds on Cell 1 with a PRACH (URA UPDATE message cause "URA reselection") within 8s, then a success is recorded, the SS shall transmit a URA UPDATE CONFIRM message and then the procedure moves to step 7.
- 6) Since the UE has failed to respond with the correct message within the allowed time, a failure is recorded. The SS shall then wait for a total of 15s from the beginning of T2 and if no response is received the UE shall be switched off and the procedure returns to step 1. Otherwise the SS shall transmit a URA UPDATE CONFIRM message and then the procedure continues with step 7.
- 7) After a total of 15 s from the beginning of T2, the parameters are changed to those defined for T1.
- 8) If the UE responds on Cell 2 with a PRACH (URA UPDATE message cause "URA reselection") within 8s, then a success is recorded and the procedure moves to step 10.
- 9) Since the UE has failed to respond with the correct message within the allowed time, a failure is recorded. The SS shall then wait for a total of 15s from the beginning of T1 and if no response is received the UE shall be switched off and the procedure returns to step 1. Otherwise the SS shall transmit a URA UPDATE CONFIRM message and then the procedure continues with step 10.

10)Steps 4 to 10 are repeated until a total of [TBD] successes and failures have been recorded.

- 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.
- NOTE: The 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. Since the maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell is 1280ms and the maximum RRC procedure delay for reception system information block is 100ms, 1380 ms is assumed in this test case. Therefore this gives a total of 7.78s(Minimum requirement + 100ms), allow 8s in the test case.

### Specific Message Contents

All messages indicated above shall use the same content as described in the default message content in clause 9 of 34.108 [3], with the following exceptions:

### RADIO BEARER SETUP (Step 3)

Information Element	Value/remark
RRC State Indicator	URA PCH
UTRAN DRX cycle length coefficient	7
Downlink information for each radio link	
- Primary CPICH info	
<ul> <li>Primary scrambling code</li> </ul>	<u>100</u>

### 8.3.7.2.5 Test requirements

For the test to pass, the total number of successful tests shall be more than 90% with a confidence level of [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							
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### How to create CRs using this form:

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

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

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

# 5.4.2 Inner Loop Power Control in the Uplink

# 5.4.2.1 Definition and applicability

Inner loop power control in the uplink is the ability of the UE transmitter to adjust its output power in accordance with one or more TPC commands received in the downlink.

The power control step is the change in the UE transmitter output power in response to a single TPC command, TPC\_cmd, derived at the UE.

This clause does not cover all the requirements of compressed mode or soft handover.

The requirements and this test apply to all types of UTRA for the FDD UE.

## 5.4.2.2 Minimum requirements

The UE transmitter shall have the capability of changing the output power with a step size of 1 dB, 2 dB and 3 dB according to the value of  $\Delta_{TPC}$  or  $\Delta_{RP-TPC}$ , in the slot immediately after the TPC\_cmd can be derived.

- a) The transmitter output power step due to inner loop power control shall be within the range shown in table 5.4.2.1.
- b) The transmitter aggregate output power step due to inner loop power control shall be within the range shown in table 5.4.2.2. Here a TPC\_cmd group is a set of TPC\_cmd values derived from a corresponding sequence of TPC commands of the same duration.

The inner loop power step is defined as the relative power difference between the mean power of the original (reference) timeslot and the mean power of the target timeslot, not including the transient duration. The transient duration is from 25µs before the slot boundary to 25µs after the slot boundary.

TPC_cmd		Transmitter power control range (all units are in dB)					
	1 dB st	1 dB step size		2 dB step size		3 dB step size	
	Lower	Upper	Lower	Upper	Lower	Upper	
+1	+0,5	+1,5	+1	+3	+1,5	+4,5	
0	-0,5	+0,5	-0,5	+0,5	-0,5	+0,5	
	-0,5	-1,5	-1	-3	-1,5	-4,5	

### Table 5.4.2.1: Transmitter power control range

TPC_cmd group	Transmitter power control range after 10 equal TPC_cmd group (all units are in dB)				Transmitter power control range after 7 equal TPC_cmd groups		
			(all units are in dB)				
	1 dB step size		2 dB step size		3 dB step size		
	Lower	Upper	Lower	Upper	Lower	Upper	
+1	+8	+12	+16	+24	+16	+26	
0	-1	+1	-1	+1	-1	+1	
-1	-8	-12	-16	-24	-16	-26	
0,0,0,0,+1	+6	+14	N/A	N/A	N/A	N/A	
0,0,0,0,-1	-6	-14	N/A	N/A	N/A	N/A	

The UE shall meet the above requirements for inner loop power control over the power range bounded by the Minimum output power as defined in clause 5.4.3.2, and the Maximum output power supported by the UE (i.e. the actual power as would be measured assuming no measurement error). This power shall be in the range specified for the power class of the UE in clause 5.2.2.

NOTE: 3 dB inner loop power control steps are only used in compressed mode.
The reference for this requirement is TS 25.101 [1] clause 6.4.2.1.1.

The requirements for the derivation of TPC\_cmd are detailed in TS 25.214 [5] clauses 5.1.2.2.2 and 5.1.2.2.3.

# 5.4.2.3 Test purpose

- To verify that the UE inner loop power control size and response is meet to the described value shown in clause 5.4.2.2.
- To verify that TPC\_cmd is correctly derived from received TPC commands.

An excess error of the inner loop power control decreases the system capacity.

The UE shall be tested for the requirements for inner loop power control over the power range bounded by the Min power threshold for test and the Max power threshold for test.

The Min power threshold for test is defined as the Minimum Output Power Test Requirement (clause 5.4.3.5).

The Max power threshold for test is defined as the Measured Maximum output power of the UE in the relevant Step of the test (using the same method as in clause 5.2.4.2 step 2) minus the Test Tolerance specified for test 5.2 Maximum Output Power in table F.2.1.

For the final power step adjacent to the Min or Max power threshold for test, the lower step size requirement does not apply.

# 5.4.2.4 Method of test

#### 5.4.2.4.1 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 the SS to the UE antenna connector as shown in figure A.1.
- 2) A call is set up according to the Generic call setup procedure. The Uplink DPCH Power Control Info shall specify the Power Control Algorithm as algorithm 2 for interpreting TPC commands.
- 3) Enter the UE into loopback test mode and start the loopback test.

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

5.4.2.4.2 Procedure





- 1) Before proceeding with paragraph (2) (Step A) below, set the output power of the UE, measured at the UE antenna connector, to be in the range  $-10 \pm 9$  dBm. This may be achieved by setting the downlink signal ( $\hat{I}_{or}$ ) to yield an appropriate open loop output power and/or by generating suitable downlink TPC commands from the SS.
- 2) Step A: Transmit a sequence of at least 30 and no more than 60 TPC commands, which shall commence at a frame boundary and last for a whole number of frames, and which shall contain:
  - no sets of 5 consecutive "0" or "1" commands which commence in the 1<sup>st</sup>, 6<sup>th</sup> or 11<sup>th</sup> slots of a frame;
  - at least one set of 5 consecutive "0" commands which does not commence in the 1<sup>st</sup>, 6<sup>th</sup> or 11<sup>th</sup> slots of a frame;
  - at least one set of 5 consecutive "1" commands which does not commence in the 1<sup>st</sup>, 6<sup>th</sup> or 11<sup>th</sup> slots of a frame.

The following is an example of a suitable sequence of TPC commands:

- 3) Step B: Transmit a sequence of 50 TPC commands with the value 1.
- 4) Step C: Transmit a sequence of 50 TPC commands with the value 0.
- 5) Step D: Reconfigure the uplink channel to set the Power Control Algorithm to algorithm 1, and the TPC step size to 1 dB. When the reconfiguration is complete, transmit a sequence of TPC commands with the value 1 until the UE output power is above the maximum power threshold.
- 6) Step E: Transmit a sequence of 150 (note $\underline{-1}$ ) TPC commands with the value 0.
- 7) Step F: Transmit a sequence of 150 (note-1) TPC commands with the value 1.
- 8) Step G: Reconfigure the uplink channel to set the TPC step size to 2 dB (with the Power Control Algorithm remaining as algorithm 1). When the reconfiguration is complete, transmit a sequence of TPC commands with the value 1 until the UE output power is above the maximum power threshold. Transmit a sequence of 75 (note-1) TPC commands with the value 0.
- 9) Step H: Transmit a sequence of 75 (note<u>-1</u>) TPC commands with the value 1.

10)During steps A to H the mean power of every slot shall be measured, with the following exceptions:

- In steps D and F, measurement of the mean power is not required in slots after the 10<sup>th</sup> slot after the mean power has exceeded the maximum power threshold;
- In steps E and G, measurement of the mean power is not required in slots after the 10<sup>th</sup> slot after the mean power has fallen below the minimum power threshold.

The transient periods of 25  $\mu s$  before each slot boundary and 25  $\mu s$  after each slot boundary shall not be included in the power measurements.

NOTE-1: These numbers of TPC commands are given as examples. The actual number of TPC commands transmitted in these steps shall be at least 10 more than the number required to ensure that the UE reaches the relevant maximum or minimum power threshold in each step, as shown in figure 5.4.2.4.

NOTE-2: In order to make it more practical to measure the entire power control dynamic range (between min power threshold and max power threshold with suitable margins), it is permissible to segment the power control sequences into smaller subsequence. For example, Step-E can be divided into different stages while still fulfilling the purpose of the test to measure the entire dynamic range.

# 5.4.2.5 Test requirements

a) During Step A, the difference in mean power between adjacent slots shall be within the prescribed range for a TPC\_cmd of 0, as given in table 5.4.2.1.

- b) During Step A, the change in mean power over 10 consecutive slots shall be within the prescribed range for a TPC\_cmd group of 0, as given in table 5.4.2.2.
- c) During Step B, the difference in mean power between adjacent slots shall be within the prescribed range given in table 5.4.2.1, given that every 5<sup>th</sup> TPC\_cmd should have the value +1, with a step size of 1 dB, and all other TPC\_cmd should have the value 0.
- d) During Step B, the change in mean power over 50 consecutive slots shall be within the prescribed range for a TPC\_cmd group of {0,0,0,0,+1}, as given in table 5.4.2.2.
- e) During Step C, the difference in mean power between adjacent slots shall be within the prescribed range given in table 5.4.2.1, given that every 5<sup>th</sup> TPC\_cmd should have the value -1, with a step size of 1 dB, and all other TPC\_cmd should have the value 0.
- f) During Step C, the change in mean power over 50 consecutive slots shall be within the prescribed range for a TPC\_cmd group of {0,0,0,0,-1}, as given in table 5.4.2.2.
- g) During Step E, the difference in mean power between adjacent slots shall be within the prescribed range given in table 5.4.2.1 for a TPC\_cmd of -1 and step size of 1 dB. This applies when the original (reference) timeslot power and the target timeslot power are between the Min power threshold for test and the Max power threshold for test derived from the Measured Maximum output power in Step D. For the power step adjacent to the Min or Max power threshold for test, the lower step size requirement does not apply.
- h) During Step E, the change in mean power over 10 consecutive slots shall be within the prescribed range for a TPC\_cmd group of -1, and step size of 1 dB as given in table 5.4.2.2. This applies when the original (reference) timeslot power and the target timeslot power are between the Min power threshold for test and the Max power threshold for test derived from the Measured Maximum output power in Step D. The power step adjacent to the Min or Max power threshold for test should not be part of the 10 consecutive slots tested.
- i) During Step F, the difference in mean power between adjacent slots shall be within the prescribed range given in table 5.4.2.1 for a TPC\_cmd of +1 and step size of 1 dB. This applies when the original (reference) timeslot power and the target timeslot power are between the Min power threshold for test and the Max power threshold for test derived from the Measured Maximum output power in Step F. For the power step adjacent to the Min or Max power threshold for test, the lower step size requirement does not apply.
- j) During Step F, the change in mean power over 10 consecutive slots shall be within the prescribed range for a TPC\_cmd group of +1, and step size of 1 dB as given in table 5.4.2.2. This applies when the original (reference) timeslot power and the target timeslot power are between the Min power threshold for test and the Max power threshold for test derived from the Measured Maximum output power in Step F. The power step adjacent to the Min or Max power threshold for test should not be part of the 10 consecutive slots tested.
- k) During Step G, the difference in mean power between adjacent slots shall be within the prescribed range given in table 5.4.2.1 for a TPC\_cmd of -1 and step size of 2 dB. This applies when the original (reference) timeslot power and the target timeslot power are between the Min power threshold for test and the Max power threshold for test derived from the Measured Maximum output power in Step F. For the power step adjacent to the Min or Max power threshold for test, the lower step size requirement does not apply.
- During Step G, the change in mean power over 10 consecutive slots shall be within the prescribed range for a TPC\_cmd group of -1, and step size of 2 dB as given in table 5.4.2.2. This applies when the original (reference) timeslot power and the target timeslot power are between the Min power threshold for test and the Max power threshold for test derived from the Measured Maximum output power in Step F. The power step adjacent to the Min or Max power threshold for test should not be part of the 10 consecutive slots.
- m) During Step H, the difference in mean power between adjacent slots shall be within the prescribed range given in table 5.4.2.1 for a TPC\_cmd of +1 and step size of 2 dB. This applies when the original (reference) timeslot power and the target timeslot power are between the Min power threshold for test and the Max power threshold for test derived from the Measured Maximum output power in Step H. For the power step adjacent to the Min or Max power threshold for test, the lower step size requirement does not apply.

n) During Step H, the change in mean power over 10 consecutive slots shall be within the prescribed range for a TPC\_cmd group of +1, and step size of 2 dB as given in table 5.4.2.2. This applies when the original (reference) timeslot power and the target timeslot power are between the Min power threshold for test and the Max power threshold

for test derived from the Measured Maximum output power in Step H. The power step adjacent to the Min or Max power threshold for test should not be part of the 10 consecutive slots tested.

	CHAN	NGE REQU	IEST		CR-Form-v5.1
ж <mark>32</mark>	<mark>l.121</mark> CR <mark>199</mark>	жrev	<mark>-</mark> # Curre	ent version:	<mark>3.9.0</mark> <sup>#</sup>
For <u>HELP</u> on using	this form, see bottom	of this page or lo	ok at the pop-	up text over	the # symbols.
Proposed change affe	cts: ೫ (U)SIM	ME/UE X R	adio Access N	Network	Core Network
Title: # Co	prrection to clause 8.4	.1 RRC Re-establ	ishment delay	/	
Source: ೫ T1	I/RF				
Work item code: 🕱 🛛 -			D	<b>)ate:</b>	2-07-17
Category: ₩ F Use Det be f	<ul> <li><u>one</u> of the following cat</li> <li><i>F</i> (correction)</li> <li><i>A</i> (corresponds to a co</li> <li><i>B</i> (addition of feature),</li> <li><i>C</i> (functional modificational modificat</li></ul>	egories: prrection in an earlie ion of feature) n) above categories c <u>0</u> .	<b>Rele</b> a Use 22 er release) F F F F san F F F San F	ase: % R99 o <u>one</u> of the fol (GSM R96 (Relea R97 (Relea R98 (Relea R99 (Relea REL-4 (Relea REL-5 (Relea	lowing releases:   Phase 2) ase 1996) ase 1997) ase 1998) ase 1999) ase 4) ase 5)
Reason for change: #	1) There is mention	of the Tsi in TS25	.133 A.5.5.1.2	2 and A.5.5.2	.2 as follows.
neuson for enange.	<ul> <li>T<sub>si</sub>: The time required according to the receinformation blocks dutest case.</li> <li>NOTE: Since 1280 information blocks, T delay in order to allo As for TS34.121, the consideration.</li> <li>2) In the case of 8.4. Failure, the UE may requirement needs to 3) When the SS rest delay is not taken information blocks.</li> <li>4) The uplink radio boost to 1).</li> </ul>	ired for receiving eption procedure a efined in 25.331 for 0 ms is one of the $\Gamma_{SI}$ of 1280 ms cou- w the SIB repetition a RRC procedure 1.2 Test 2, before identify cell2. If co- o be changed. ores the power set to consideration. bearer is not define cation is added into nent is not change	all the relevan and the RRC p or a UTRAN c typical values uld be increase on period of 12 delay for receive the UE has c ell2 is known b ettings from T2 ed. to T1R020234 ed and test pro	a for repeating ed by the RR a for repeating ed by the RR 280 ms. iving SIB is n detected the I by the UE, the 2 to T1, The o 4.	odified according
Summary of change: ₩	2) T <sub>SI</sub> of 1280 ms is Broadcast of system maximum. Therefore 2) The compressed measure the inter-free	increased by the r information desc Tsi is set to 1380 pattern sequence equency cells.	ribed in TS25. Oms. is not configu	.331 13.5.2.	this is 100 ms as

	3) After the CELL UPDATE message with cause set to radio link failure is received from the UE, the SS release RRC connection of the UE to make the UE transit to idle mode.
	4) UL Reference Measurement Channel 12.2 kbps is used as same as defined for downlink DCH parameter so that UL parameter can be set in call setup procedure.
	The following modification is added into T1R020234.
	5) Additional timer value from RRC procedure delay for Tsi is explained in test procedure.
Consequences if #	1) 34.121 and 25.133 will be inconsistent.
not approved:	2) The test procedure is not executed correctly and test requirement cannot be confirmed.
	3) The test procedure is not executed correctly and test requirement cannot be confirmed.
	4) A test condition is insufficient.
Clauses affected: %	8.4.1

Clauses allected:	ቆ 0.4.1
Other specs affected:	%       Other core specifications       %         Test specifications       O&M Specifications
Other comments:	x

## How to create CRs using this form:

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

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

# 8.4.1 RRC Re-establishment delay

# 8.4.1.1 Test 1

# 8.4.1.1.1 Definition and applicability

The UE Re-establishment delay requirement ( $T_{UE-RE-ESTABLISH-REQ}$ ) is defined as the time between the moment when radio link failure is considered by the UE, to when the UE starts to send preambles on the PRACH.

 $T_{UE-RE-ESTABLISH-REQ}$  is depending on whether the target cell is known by the UE or not. A cell is known if either or both of the following conditions are true:

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

The phase reference is the primary CPICH.

The requirements of this test apply to the FDD UE.

#### 8.4.1.1.2 Minimum requirement

The Re-establishment delay  $T_{RE-ESTABLISH}$  to a known cell shall be less than 1.9 s.

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

NOTE: The Re-establishment delay in this case can be expressed as

 $T_{\text{RE-ESTABLISH}} = T_{\text{RRC-RE-ESTABLISH}} + T_{\text{UE-RE-ESTABLISH-REQ-KNOWN}}.$ 

where

```
T_{RRC-RE-ESTABLISH} = 160ms + (N_{313}-1)*10ms + T_{313}
```

 $T_{UE\text{-}RE\text{-}ESTABLISH\_REQ\text{-}KNOWN} = 50ms + T_{search} + T_{SI} + T_{RA},$ 

N <sub>313</sub> =	20
T <sub>313</sub> =	Os
$T_{search} =$	100ms
$T_{RA} =$	The additional delay caused by the random access procedure. 40 ms is assumed in this test case.
T <sub>SI</sub>	is the 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 1820ms, allow 1.9s in the test case.

#### 8.4.1.1.3 Test purpose

To verify that the UE meets the minimum requirement.

#### 8.4.1.1.4 Method of test

#### 8.4.1.1.4.1 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 8.4.1.1 and table 8.4.1.2 below. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1280 ms. And DRX cycle length shall be 1280ms. In the measurement control information it is indicated to the UE that periodic reporting shall be used. The test consist of 2 successive time periods, with a time duration of T1 and T2 respectively. At the start of time period T2, the dedicated channel is removed.

Parameter	Unit	Value	Comment
DCH Parameters		DL and UL Reference	As specified in <del>TS 25.101,</del> clause <u>AC</u> .3.1 <u>and C2.1</u>
		12.2 kbps	
Power Control		0n	
Active cell Initial		Cell 1	
condition			
Active cell, Final		Cell 2	
condition			
N313		20	
N315		1	
T313	Seconds	0	
T <sub>SI</sub>	ms	<del>1280</del>	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) Note: Since 1280 ms is one of the typical values for repeating system information blocks, T <sub>SI</sub> of 1280 ms could be increased by the RRC procedure delay in order to allow the SIB repetition period of 1280 ms
Monitored cell list size		24	Monitored set shall only include intra frequency neighbours.
Cell 2			Included in the monitored set
Reporting frequency	Seconds	4	
T1	s	10	
T2	S	6	

Table 8.4.1.1 General test parameters for RRC re-establishment delay, Test 1

Table 8.4.1.2 Cell s	specific parameters	for RRC re-establishment	delay test, Test 1
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Parameter	Unit	Cell 1		Ce	2
		T1	T2	T1	T2
Cell Frequency	ChNr		1	1	
CPICH_Ec/lor	dB	-1	0	-10	
PCCPCH_Ec/lor	dB	-1	2	-1	2
SCH_Ec/lor	dB	-1	2	-12	
PICH_Ec/lor	dB	-1	5	-15	
DCH_Ec/lor	dB	-17 -Infinity		Not applicable	
OCNS_Ec/lor	dB	-1.049 -0.941		-0.941	
$\hat{I}_{or}/I_{oc}$	dB	2,39 -Infinity 4,39		39	
I <sub>oc</sub>	dBm/ 3.84 MHz	-70			
CPICH_Ec/lo	dB	-15	-Infinity	-1	3
Propagation Condition		AWGN			

## 8.4.1.1.4.2 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 without Compressed mode parameters.
- [Editor's note: subclause 7.3.4 in TS 34.108 (Message sequence chart for Handover Test procedure) is not yet specified.

- 4) The SS waits for random access requests from the UE on cell 2.
- 5) After-10 s after step3 has completed, the parameters are changed to that as described for T2.
- 6) If the UE responds on cell 2 within 2.01.9 s from the beginning of time period T2after the parameters are changed with a CELL\_UPDATE command then the number of successful tests is increased by one.
- 7) SS shall transmit a RRC CONNECTION RELEASE message to make the UE transit to idle mode.
- 8) After 6 seconds from the beginning of time period T2, the RF parameters are set up according to T1.
- 9) The SS shall wait for 30s to make the UE complete cell reselection to cell1.
- 10) Repeat step 3-97 [TBD] times.

# NOTE: The 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. Since the maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell is 1280ms and the maximum RRC procedure delay for reception system information block is 100ms, 1380 ms is assumed in this test case. Therefore this gives a total of 1920ms(Minimum requirement + 100ms), allow 2s in the test case.

# 8.4.1.1.5 Test requirements

For the test to pass, the total number of successful tests shall be more than 90% with a confidence level of [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.

### 8.4.1.2 Test 2

#### 8.4.1.2.1 Definition and applicability

The UE Re-establishment delay requirement ( $T_{UE-E-ESTABLISH-REQ}$ ) is defined as the time between the moment when radio link failure is considered by the UE, to when the UE starts to send preambles on the PRACH.

 $T_{UE-RE-ESTABLISH-REQ}$  is depending on whether the target cell is known by the UE or not. A cell is known if either or both of the following conditions are true:

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

The phase reference is the primary CPICH.

The requirements of this test apply to the FDD UE.

#### 8.4.1.2.2 Minimum requirement

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

NOTE: The Re-establishment delay in this case can be expressed as

 $T_{RE-ESTABLISH} = T_{RRC-RE-ESTABLISH} + T_{UE-RE-ESTABLISH-REQ-UNKNOWN}.$ 

#### where

```
T_{RRC-RE-ESTABLISH} = 160ms + (N_{313}-1)*10ms + T_{313}
```

 $T_{UE-RE-ESTABLISH-REQ-UNKNOWN} = 50 \text{ms} + T_{search} * \text{NF} + T_{SI} + T_{RA}$ 

N<sub>313</sub>= 20

$T_{313} =$	0s
T <sub>search</sub> =	800ms
NF	is the number of different frequencies in the monitored set. 3 frequencies are assumed in this test case.
$T_{RA} =$	The additional delay caused by the random access procedure. 40 ms is assumed in this test case.
T <sub>SI</sub>	is the 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 4120ms, allow 4.2s in the test case.

#### 8.4.1.2.3 Test purpose

To verify that the UE meets the minimum requirement.

#### 8.4.1.2.4 Method of test

8.4.1.2.4.1 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 8.4.1.3 and table 8.4.1.4 below. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1280 ms. And DRX cycle length shall be 1280ms. In the measurement control information it is indicated to the UE that periodic reporting shall be used. The test consists of 2 successive time periods, with a time duration of T1 and T2 respectively. At the start of time period T2, the dedicated channel is removed.

Table 8.4.1.3 General test parameters for RRC re-establishment delay, Test 2

Parameter	Unit	Value	Comment
DCH Parameters		DL <u>and UL</u> Reference measurement channel 12.2 kbps	As specified in TS 25.101, clause A.3.1 and A2.1
Power Control		On	
Active cell, initial condition		Cell 1	
Active cell, final condition		Cell 2	
N313		20	
N315		1	
T313	Seconds	0	
Ŧsı	ms	<del>1280</del>	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) Note: Since 1280 ms is one of the typical values for repeating system information blocks, T <sub>SI</sub> -of 1280 ms could be increased by the RRC procedure delay in order to allow the SIB repetition period of 1280 ms
Monitored cell list size		24	Monitored set shall include 2 additional frequencies.
Cell 2			Cell 2 is not included in the monitored set. Cell 2 is located on one of the 2 additional frequencies of the monitored set.
Reporting frequency	Seconds	4	
T1	S	10	
T2	S	6	

Parameter	Unit	Cell 1		Cell 2	
		T1	T2	T1	T2
Cell Frequency	ChNr		1	2	
CPICH_Ec/lor	dB	-	10	-10	
PCCPCH_Ec/lor	dB	-	12	-12	
SCH_Ec/lor	dB	-	12	-12	
PICH_Ec/lor	dB	-15		-15	
DCH_Ec/lor	dB	-17 -Infinity		Not applicable	
OCNS_Ec/lor	dB	-1.049 -0.941		-0.941	
$\hat{I}_{or}/I_{oc}$	dB	-3,35	-Infinity	-Infinity	0,02
I <sub>oc</sub>	dBm/ 3.84 MHz	-70			
CPICH_Ec/lo	dB	-15	-Infinity	-Infinity	-13
Propagation Condition		AWGN			

#### Table 8.4.1.4 Cell specific parameters for RRC re-establishment delay test, Test 2

#### 8.4.1.2.4.2 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 without Compressed mode parameters.

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

- 4) The SS waits for random access requests from the UE on cell 2.
- 5) After-10 s after step3 has completed, the parameters are changed to that as described for T2.
- 6) 6) 6) If the UE responds on cell 2 within 4.31.9 s from the beginning of time period T2 after the parameters are changed with a CELL\_UPDATE command then the number of successful tests is increased by one.
- 7) SS shall transmit a RRC CONNECTION RELEASE message to make the UE transit to idle mode.
- $\underline{87}$ ) After 6 seconds the RF parameters are set up according to T1

9) The SS shall wait for 30s to make the UE complete cell reselection to cell1.

- 108) Repeat step 3-97 [TBD] times
- NOTE: The 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. Since the maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell is 1280ms and the maximum RRC procedure delay for reception system information block is 100ms, 1380 ms is assumed in this test case. Therefore this gives a total of 4220ms(Minimum requirement + 100ms), allow 4.3s in the test case.

#### 8.4.1.2.5 Test requirements

For the test to pass, the total number of successful tests shall be more than 90% with a confidence level of [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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# 3GPP TSG-T1 Meeting #16 Yokohama, Japan, 29 July – 2 August 2002

# Tdoc T1-020478

	CR-Form-v5.1 CHANGE REQUEST
ж	<b>34.121</b> CR <b>200 # rev</b> - <b>#</b> Current version: <b>3.9.0 #</b>
For <u>HELP</u> on us	sing this form, see bottom of this page or look at the pop-up text over the $#$ symbols.
Proposed change a	ffects: # (U)SIM ME/UE X Radio Access Network Core Network
Title: ₩	Correction to clause 8.7.3 UTRA Carrier RSSI
Source: ೫	T1/RF
Work item code: ₩	- Date: % 2002-07-17
Category: ೫	F       Release: % R99         Use one of the following categories:       Use one of the following releases:         F (correction)       2       (GSM Phase 2)         A (corresponds to a correction in an earlier release)       R96       (Release 1996)         B (addition of feature),       R97       (Release 1997)         C (functional modification of feature)       R98       (Release 1998)         D (editorial modification)       R99       (Release 1999)         Detailed explanations of the above categories can       REL-4       (Release 4)         be found in 3GPP TR 21.900.       REL-5       (Release 5)         **       1.       Used RRC message contents contain some errors accroding to TS25.331V3.b.0       2.         C To measure the relative difference between cells with different frequency, the measurement result in serving cell is required as the reference.       3.         Annex.A of TS34.123-1 has been moved to clause 9 of TS34.108, this reference is proposed to be removed       5.
	The following modification is added into T1R020242. 4 In initial condition TGPRC and TGCFN in table C5.2 set 1 is set to N/A. But in TS25.331 these IE should be set to a value in case that TGPS Status Flag is set to activate.
Summary of change	e: # In clause 8.7.3.1
	<ul> <li>The contents of PHYSICAL CHANNEL RECONFIGURATION message -(step 1) and MEASUREMENT CONTROL message for Inter frequency measurement (Step 3) were corrected according to TS25.331V3.b.0.</li> <li>In specific message contents, the reference of Annex.A in TS34.123-1 was removed.</li> <li>In clause 8.7.3.2</li> <li>In specific message contents, the reference of Annex.A in TS34.123-1 was removed.</li> <li>The following modification is added into T1R020242.</li> </ul>

	<ul> <li>The initial condition is revised so that TGPRC and TGCFN is set to a value.</li> </ul>
Consequences if not approved:	<ol> <li>The test procedure cannot be executed correctly and test requirement cannot be met.</li> </ol>
Clauses affected:	<b>#</b> 873
Other specs affected:	#       Other core specifications       #         Test specifications       0&M Specifications
Other comments	¥
outer comments.	

#### How to create CRs using this form:

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

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

# 8.7.3 UTRA Carrier RSSI

NOTE: This measurement is for Inter-frequency handover evaluation.

# 8.7.3.1 Absolute measurement accuracy requirement

# 8.7.3.1.1 Definition and applicability

The absolute accuracy of UTRA Carrier RSSI is defined as the UTRA Carrier RSSI measured from one frequency compared to the actual UTRA Carrier RSSI power of that same frequency.

The requirements and this test apply to all types of UTRA for the FDD UE.

# 8.7.3.1.2 Minimum Requirements

# Table 8.7.3.1.1: UTRA Carrier RSSI Inter frequency absolute accuracy

		Accur	Conditions	
Parameter	Unit	Normal condition	Normal condition Extreme condition	
	dBm	± 4	± 7	-9470
UTRA Calliel RSSI	dBm	±6	± 9	-7050

The normative reference for this requirement is TS 25.133 [2] clause 9.1.3.1.

# 8.7.3.1.3 Test purpose

The purpose of this test is to verify that the UTRA Carrier RSSI measurement is within the specified limits. This measurement is for inter-frequency handover evaluation.

# 8.7.3.1.4 Method of test

# 8.7.3.1.4.1 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 and compressed mode is applied. The gap length is 7, detailed definition is in clause C.5, Set 1 of table C.5.2 [14 slots is FFS] except for TGRRC and TGCFN. TGPRC and TGCFN shall set to "Infinity" and "(Current CFN + (256 - TTI/10msec))mod 256". UTRA Carrier RSSI absolute accuracy requirements are tested by using test parameters in table 8.7.3.1.2.

Parameter	Unit	Tes	st 1	Tes	st 2	Test 3		
Farameter	Unit	Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2	
UTRA RF Channel number		Channel 1	Channel 2	Channel 1	Channel 2	Channel 1	Channel 2	
CPICH_Ec/lor	dB	-1	10	-1	0	-1	0	
PCCPCH_Ec/lor	dB	-1	12	-1	2	-1	2	
SCH_Ec/lor	dB	-1	12	-1	2	-1	2	
PICH_Ec/lor	dB	-1	15	-1	15	-1	15	
DPCH_Ec/lor	dB	-15	-	-6	-	-6	-	
OCNS_Ec/lor	dB	-1.11	-0.94	-2.56	-0.94	-2.56	-0.94	
loc	dBm/ 3.84 MHz	-52.22	-52.22	-70.27	-70.27	-94.46	-94.46	
Îor/loc	dB	-1.75	-1.75	-4.7	-4.7	-9.54	-9.54	
CPICH Ec/lo, Note 1	dBm	-14.0	-14.0	-16.0	-16.0	-20.0	-20.0	
lo, Note 1	dBm/3.84 MHz	-50	-50	-69	-69	-94	-94	
Propagation condition	Propagation condition - AWGN AWGN AWGN							
NOTE 1: CPICH Ec/lo and lo levels have been calculated from other parameters for information purposes. They								
are not settable parameters themselves.								
Tests shall be done seq	uentially. Test	1 shall be do	one first. After	test 1 has be	en executed	test paramet	ers for tests	
2 and 3 shall be set within 5 seconds so that UE does not loose the Cell 2 in between the tests								

# Table 8.7.3.1.2: UTRA Carrier RSSI Inter frequency test parameters

1) A call is set up according to the test procedure specified in TS 34.108 [3] subclause 7.3.2.3. The RF parameters for Test 1 are set up according to table 8.7.3.1.2.

#### 8.7.3.1.4.2 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 UTRA carrier RSSI value of Channel 2 in MEASUREMENT REPORT messages. UTRA carrier RSSI power of Channel 2 reported by UE is compared to actual UTRA Carrier RSSI value of Channel 2 for each MEASUREMENT REPORT message.
- 6) 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 8.7.3.1.2 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 5) above is repeated. After further 1000 MEASUREMENT REPORT messages have been received from UE, the RF parameters are set up according to table 8.7.3.1.2 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 5) above is repeated.
- 7) After further 1000 MEASUREMENT REPORT messages have been received from UE, the SS shall transmit RRC CONNECTION RELEASE message.
- 8) UE shall transmit RRC CONNECTION RELEASE COMPLETE message.

#### Specific Message Contents

All messages indicated above shall use the same content as described in default message content in clause 9 of 34.108 [3]-and in Annex A of 34.123 1 [21], with the following exceptions:

PHYSICAL CHANNEL RECONFIGURATION message for Inter frequency measurement (step 1):

Information Element	Value/Remark
Message Type	
UE Information Elements	
-RRC transaction identifier	U Not Procent
-Integrity protection mode info	Not Present
-Ciphering mode info	Not Present
-Activation time	Not Present <del>240 CFN</del>
-New U-RNTI	Not Present
-New C-RNTI	Not Present
-RRC State Indicator	CELL_DCH
-UTRAN DRX cycle length coefficient	Not Present
CN Information Elements	Not Propert
-CN Information info	Not Flesent
-URA identity	Not Present
RB information elements	
-Downlink counter synchronisation info	Not Present
PhyCH information elements	
-Frequency info	Not Present
Uplink radio resources	
-Maximum allowed UL TX power	Not Present
- CHOICE channel requirement	Not Present
CHOICE mode	EDD
-Downlink PDSCH information	Not Present
-Downlink information common for all radio links	Not resent
-Downlink DPCH info common for all RL	Not Present
-CHOICE mode	FDD
-DPCH compressed mode info	
-Transmission gap pattern sequence	
-IGPSI	
-IGPS Status Flag	Activatee (Current CEN + (256 TTI/10msee))mod
-TOCHN	256Not Present
-Transmission gap pattern sequence	
configuration parameters	
-TGMP	FDD measurement
-TGPRC	Not presentInfinity
-TGSN	4
-IGL1	/ Not Dropont
-IGL2 TCD	Not Present
-TGPL1	3
-TGPL2	Not Present
-RPP	Mode 0
-ITP	Mode 0
-CHOICE UL/DL mode	UL and DL
-Downlink compressed mode method	SF/2
-Uplink compressed mode method	SF/2
-Downlink frame type	B 30
-DeltaSIRafter1	3.0
-DeltaSIR2	Not Present
-DeltaSIRafter2	Not Present
-N Identify abort	Not Present
-T Reconfirm abort	Not Present
-TX Diversity Mode	Not Present
-SSDT information	Not Present
-Default DPCH Offset Value	Not Present
-Downlink information for each radio link	NOLPTESEN
Primary CPICH info	
Primary scrambling code	100

-PDSCH with SHO DCH Info	Not Present
PDSCH code mapping	Not Present
Downlink DPCH info for each RL	
	FDD
<ul> <li>Primary CPICH usage for channel estimation</li> </ul>	Primary CPICH may be used
	θ
Secondary CPICH info	Not Present
<ul> <li>Secondary scrambling code</li> </ul>	Not Present
	64
	<del>63</del>
<ul> <li>Scrambling code change</li> </ul>	No code change
	θ
	Not Present
<ul> <li>Closed loop timing adjustment mode</li> </ul>	Not Present
SCCPCH Information for FACH	Not Present

# MEASUREMENT CONTROL message for Inter frequency measurement (step 3):

Information Element	Value/Remark
Message Type	
LIE information elements	
-RRC transaction identifier	0
-Integrity check info	Not Present
Measurement Information elements	
-Measurement Identity	42
-Measurement Command	ModifySetup
-Measurement Reporting Mode	
<ul> <li>Measurement Report Transfer Mode</li> </ul>	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting	Periodical reporting
Mode	
-Additional measurement list	Not Present
-CHOICE Measurement Type	Inter-frequency measurement
-Inter-frequency measurement	
-Inter-frequency cell into list	Not Present
	Not Present
	Not Present
Inter-frequency cell id	
No inter-frequency cells removed	Not Present
-New inter-frequency cells	Not Present-Cell 2 information is included.
-Cell for measurement	Not Present
-Inter-frequency measurement quantity	
-CHOICE reporting criteria	Inter-frequency reporting criteria
-Filter coefficient	0
-CHOICE mode	FDD
-Measurement quantity for frequency quality	CPICH RSCP
estimate	
	TRUE
-Erequency quality estimate	TRUE
-Non frequency related cell reporting quantities	INCE
-SFN-SFN observed time difference reporting	Type 1
indicator	
-Cell synchronisation information reporting	TRUE
indicator	
-Cell Identity reporting indicator	TRUE
-CHOICE mode	FDD
-CPICH Ec/N0 reporting indicator	TRUE
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	IRUE
	Report all active set cells + cells within
	monitored set on used frequency
-Maximum number of reported cells	Virtual/active set cells + 2
-Measurement validity	Not Present
-Inter-frequency set update	Not Present
-CHOICE report criteria	Periodical reporting criteria
-Amount of reporting	Infinity
-Reporting interval	500 ms
-Measurement Reporting Mode	
Measurement Report Transfer Mode	Acknowledged mode RLC
Periodical Reporting / Event Trigger Reporting	Periodical reporting
Additional magguramenta list	Not Procent
-Auditional measurements list	
-DPCH compressed mode status info	Not Present
-TGPS reconfiguration CEN	240
-Transmission gap pattern sequence	
	4
TGPS Status Flag	Active
TGCFN	Not present

#### MEASUREMENT REPORT message for Inter frequency test cases

This message is common for all inter frequency test cases in clause 8.7 and is described in Annex I.

# 8.7.3.1.5 Test requirements

The UTRA Carrier RSSI absolute measurement accuracy shall meet the requirements in clause 8.7.3.1.2. The effect of assumed thermal noise and noise generated in the receiver (–99 dBm) shall be added into the required accuracy defined in subclause 8.7.3.1.2 as shown in table 8.7.3.1.3.

		Accura	Conditions	
Parameter	Unit	Normal condition	Extreme condition	lo [dBm/3.84 MHz]
	dBm	-45.2	-78.2	-9487
UTRA Carrier RSSI	dBm	± 4	± 7	-8770
	dBm	± 6	± 9	-7050

Table 8.7.3.1.3: UTRA	Carrier RSS	absolute accuracy
-----------------------	-------------	-------------------

The normative reference for this requirement is TS 25.133 [2] clause A.9.1.3.2.

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.

# 8.7.3.2 Relative measurement accuracy requirement

## 8.7.3.2.1 Definition and applicability

The relative accuracy requirement is defined as the UTRA Carrier RSSI measured from one frequency compared to the UTRA Carrier RSSI measured from another frequency.

The requirements and this test apply to all types of UTRA for the FDD UE.

# 8.7.3.2.2 Minimum Requirements

The accuracy requirements in table 8.7.3.2.1 are valid under the following condition:

 $| Channel 1\_Io|_{dBm/3.84 MHz} - Channel 2\_Io|_{dBm/3.84 MHz} | < 20 dB.$ 

### Table 8.7.3.2.1: UTRA Carrier RSSI Inter frequency relative accuracy

		Accur	acy [dB]	Conditions
Parameter	Unit	Normal condition	Extreme condition	lo [dBm/3.84 MHz]
UTRA Carrier RSSI	dBm	± 7	± 11	-9450

The normative reference for this requirement is TS 25.133 [2] clause 9.1.3.2.

# 8.7.3.2.3 Test purpose

The purpose of this test is to verify that the UTRA Carrier RSSI measurement is within the specified limits. This measurement is for inter-frequency handover evaluation.

# 8.7.3.2.4 Method of test

#### 8.7.3.2.4.1 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 both cells are on different frequencies and compressed mode is applied. The gap length is 7, detailed definition is in clause C.5, Set 1 of table C.5.2 [14 slots is FFS] except for TGRRC and TGCFN. TGPRC and TGCFN shall set to "Infinity" and "(Current CFN + (256 - TTI/10msec))mod 256". UTRA Carrier RSSI relative accuracy requirements are tested by using test parameters in table 8.7.3.1.2.

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 8.7.3.1.2.

#### 8.7.3.2.4.2 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 UTRA carrier RSSI value of Channel 1 and Channel 2 in MEASUREMENT REPORT messages. UTRA carrier RSSI power value measured from Channel 1 is compared to UTRA carrier RSSI power value measured from Channel 2 for each MEASUREMENT REPORT message.
- 6) The result of step 5) is compared to actual power level difference of UTRA Carrier RSSI of Channel 1 and Channel 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 8.7.3.1.2 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. After further 1000 MEASUREMENT REPORT messages have been received from UE, the RF parameters are set up according to table 8.7.3.1.2 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 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.

#### Specific Message Contents

All messages indicated above shall use the same content as described in default message content in clause 9 of 34.108 [3] and in Annex A of 34.123 1 [21], with the following exceptions:

PHYSICAL CHANNEL RECONFIGURATION message and MEASUREMENT CONTROL message for Inter frequency measurement in clause 8.7.3.1.4.2 is used.

#### MEASUREMENT REPORT message for inter – frequency test cases

This message is common for all inter frequency test cases in clause 8.7 and is described in Annex I.

# 8.7.3.2.5 Test requirements

The UTRA Carrier RSSI relative measurement accuracy shall meet the requirements in clause 8.7.3.2.2. The effect of assumed thermal noise and noise generated in the receiver (–99 dBm) shall be added into the required accuracy defined in clause 8.7.3.2.2 as shown in table 8.7.3.2.2.

		Accura	Conditions	
Parameter	Unit	Normal condition	Extreme condition	lo [dBm/3.84 MHz]
	dBm	-45.2	-78.2	-9487
UTRA Carrier RSSI	dBm	± 4	± 7	-8770
	dBm	±6	± 9	-7050

#### Table 8.7.3.2.2: UTRA Carrier RSSI relative accuracy

The normative reference for this requirement is TS 25.133 [2] clause A.9.1.3.2.

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.

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

# Tdoc T1-020479

	CHANGE REQUEST									
ж	34.	121	CR 201	жre	ev -	ж	Current vers	ion:	3.9.0	ж
For <u>HELP</u> on	using th	nis fori	m, see bottom	of this pag	e or look	at the	e pop-up text	over	the X sy	mbols.
Proposed change	e affects	s: #	(U)SIM	ME/UE	X Rac	dio Ac	cess Network	k	Core Ne	etwork
Title: ៖	# Corre	ection	to clause 8.7.4	1 and 8.7.5	SFN-CF	N/SFI	N observed ti	me d	ifference	
Source: ३	<mark>ዜ T1/F</mark>	RF								
Work item code: ३	₩ -						<i>Date:</i> ೫	200	02-07-21	
Category: ३	F       Use o       F       A       E       O       Detaile       be fou	ne of t (corr (corr (add (func (edit ed exp ind in 3	the following cat responds to a co lition of feature), ctional modificatio orial modificatio planations of the 3GPP <u>TR 21.90</u>	egories: prrection in a ion of feature n) above categ <u>0</u> .	n earlier r e) gories can	elease	Release: # Use <u>one</u> of 2 (e) R96 R97 R98 R99 REL-4 REL-4 REL-5	R9 the fc (GSN (Rele (Rele (Rele (Rele (Rele	9 M Phase 2) pase 1996) pase 1997) pase 1998) pase 1999) pase 4) pase 5)	eases:
Reason for change:       # 1) Relative delay of path received from cell 2 with respect to cell 1 is not described.         2) The description of Annex A of 34.123-1 was moved to TS34.108 clause 9.         3) The MEASUREMENT CONTROL message and PHYSICAL CHANNEL RECONFIGURATION message contain some errors in terms of IE definitions values.         The following modification is added into T1R020243.         4) In initial condition TGPRC and TGCFN in table C5.2 set 1 is set to N/A. But TS25.331 these IE should be set to a value in case that TGPS Status Flag is to activate.							e 9. L ions and . But in g is set			
Summary of chan	nge: # 1 2 0 1 2	1) Rela 2) The 3) The CHAN The fo 4) The	ative delay of reference to specific mess NEL RECONF llowing modifie initial condition	path receive Annex A of Sage conter FIGURATIC cation is ad on is revised	ed from o 34.123-1 hts of ME N are co ded into d so that	cell 2 Lis de ASUI orrecte T1R0 TGPI	with respect t eleted. RMENT CON ed. 020243. RC and TGCI	to cel ITRO FN is	I 1 is adde L and PH set to a v	ed. YSICAL alue.
Consequences if not approved:	₩ 1	Test c	onditions will t	oe insufficie	nt to ach	ieve 1	the test purpo	ose.		

Other specs affected:	¥	Other core specifications\$Test specifications0&M Specifications	æ	
Other comments:	ж			

#### How to create CRs using this form:

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

# 8.7.4 SFN-CFN observed time difference

# 8.7.4.1 Intra frequency measurement requirement

# 8.7.4.1.1 Definition and applicability

The intra frequency SFN-CFN observed time difference is defined as the SFN-CFN observed time difference from the active cell to a neighbour cell that is in the same frequency. This measurement is specified in clause 5.1.8 of TS 25.215 [22].

The reference point for the SFN-CFN observed time difference shall be the antenna connector of the UE.

The requirements and this test apply to all types of UTRA for the FDD UE.

# 8.7.4.1.2 Minimum requirements

The accuracy requirement in table 8.7.4.1.1 is valid under the following conditions:

CPICH\_RSCP1,2 $|_{dBm} \ge -114 \text{ dBm}.$ 

$$\begin{aligned} \left| CPICH \_RSCP1 \right|_{in \, dBm} - CPICH \_RSCP2 \right|_{in \, dBm} \right| &\leq 20 dB \\ \hline \left. \frac{I_o}{\left( \hat{I}_{or} \right)} \right|_{in \, dB} &= \left( \frac{CPICH \_E_c}{I_{or}} \right)_{in \, dB} \leq 20 dB \\ \hline \left. \frac{I_o}{\left( \hat{I}_{or} \right)} \right|_{in \, dB} &= \left( \frac{P - CCPCH \_E_c}{I_{or}} \right)_{in \, dB} \text{ is low enough to ensure successful SFN decoding.} \end{aligned}$$

#### Table 8.7.4.1.1

			Conditions
Parameter	Unit	Accuracy [chip]	lo [dBm/3.84 MHz]
SFN-CFN observed time difference	chip	± 1	-9450

The normative reference for this requirement is TS 25.133 [2] clauses 9.1.7.1 and A.9.1.4.2.

# 8.7.4.1.3 Test Purpose

The purpose of this test is to verify that the SFN-CFN observed time difference measurement accuracy is within the specified limits in the clause 8.7.4.1.2. This measurement is for handover timing purposes to identify active cell and neighbour cell time difference.

# 8.7.4.1.4 Method of test

#### 8.7.4.1.4.1 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.

During the test the timing difference between Cell 1 and 2 can be set to value from 0...9830399 chips.

In this case all cells are in the same frequency. Table 8.7.4.1.2 defines the limits of signal strengths and code powers, where the requirements are applicable.

Parameter	Unit	Test 1		Test 2		Test 3		
Farameter	Unit	Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2	
UTRA RF Channel number		Char	nnel 1	Channel 1		Channel 1		
CPICH_Ec/lor	dB	- '	0	-10		-10		
PCCPCH_Ec/lor	dB	-*	-12		-12		-12	
SCH_Ec/lor	dB	-*	12	-12		-12		
PICH_Ec/lor	dB	-*	15	-15		-15		
DPCH_Ec/lor	dB	-′	15	-15		-15		
OCNS_Ec/lor	dB	-1.11		-1.11		-1.11		
Îor/loc	dB	10.5		10.5		10.5		
		Io -13.7 dB = Ioc,		lo −13.7 dB = loc,		lo - 13.7 dB = loc,		
100		Note 1		Note 1		Note 1		
lo	dBm/3.84 MHz	-50		-72		-9	94	
Relative delay of path received				,				
from cell 2 with respect to cell	<u>chip</u>	Note 2						
<u>1</u>								
Propagation condition	-	AWGN AWGN AWGN			/GN			
NOTE 1: loc level shall be adjusted according the total signal power lo at receiver input and the geometry factor								
Îor/loc.								
NOTE2: for example, x= 491520 or 9830399								
Tests shall be done sequentially. Test 1 shall be done first. After test 1 has been executed test parameters for tests								
2 and 3 shall be set within 5 seconds so that UE does not loose the Cell 2 in between the tests.								

Table 8.7.4.1.2: SFN-CFN observed time difference Intra frequency test parameters

1) A call is set up according to the test procedure specified in TS 34.108 [3] subclause 7.3.2.3. The RF parameters for Test 1 are set up according to table 8.7.4.1.2.

#### 8.7.4.1.4.2 Procedure

- 1) SS shall transmit MEASUREMENT CONTROL message.
- 2) UE shall transmit periodically MEASUREMENT REPORT message.
- 3) SS shall check "OFF" and "Tm" values in MEASUREMENT REPORT message and calculate SFN-CFN observed time difference value according to the definition in clause 5.1.8 of TS 25.215 [22]. This value shall be compared to the actual SFN-CFN observed time difference value for each MEASUREMENT REPORT message.
- 4) SS shall count the 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 8.7.4.1.2 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 8.7.4.1.2 for Test 3. While RF parameters are being set up, MEASUREMENT REPORT messages have been received from UE, the RF parameters are set up according to table 8.7.4.1.2 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 from UE are ignored. SS shall wait for additional 1s and ignore the 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.

#### Specific Message Contents

All messages indicated above shall use the same content as described in the default message content in clause 9 of 34.108 [3] and in Annex A of 34.123 1 [21], with the following exceptions:

#### MEASUREMENT CONTROL message for intra frequency measurement

Information Element	Value/Remark		
Message Type			
LIE information alamants			
-RRC transaction identifier	0		
-Integrity check info	Not Present		
Measurement Information elements	Not resent		
-Measurement Identity	1		
-Measurement Command	Modify		
-Measurement Reporting Mode	Wouldy		
- Measurement Report Transfer Mode	Acknowledged mode RLC		
- Periodical Reporting / Event Trigger Reporting	Periodical reporting		
Mode			
-Additional measurement list	Not Present		
-CHOICE Measurement Type	Intra-frequency measurement		
-Intra-frequency measurement			
<ul> <li>Intra-frequency measurement objects list</li> </ul>	Not Present		
Intra-frequency cell info list			
-Intra-frequency measurement quantity			
-Filter coefficient	0		
-CHOICE mode	FDD		
-Measurement quantity	CPICH RSCP		
-Intra-frequency reporting quantity			
-Reporting quantities for active set cells			
-SFN-SFN observed time difference reporting	No report		
indicator	TRUE		
-Cell Identity reporting indicator	TRUE		
-CHOICE mode	FDD		
-CPICH Ec/N0 reporting indicator	TRUE		
-CPICH RSCP reporting indicator	TRUE		
-Pathloss reporting indicator	TRUE		
-Reporting quantities for monitored set cells			
-SFN-SFN observed time difference reporting	No report		
indicator			
-Cell synchronisation information reporting	TRUE		
indicator			
-Cell Identity reporting indicator	TRUE		
-CHOICE mode	FDD		
-CPICH Ec/N0 reporting indicator	IRUE		
-CPICH RSCP reporting indicator	IRUE		
-Pathloss reporting indicator	IRUE Nat Dragant		
-Reporting quantities for detected set cells	Not Present		
	Penort all active set cells + cells within		
	monitored set on used frequency		
-Maximum number of reported cells	Virtual/active set cells + 2		
-Measurement validity	Not Present		
-CHOICE report criteria	Periodical reporting criteria		
-Amount of reporting	Infinity		
-Reporting interval	250 ms		
-Measurement Reporting Mode			
Measurement Report Transfer Mode	AM RLC		
-Periodical Reporting / Event Trigger Reporting	Periodical reporting		
Mode			
-Additional measurements list	Not Present		
Physical channel information elements			
-DPCH compressed mode status info	Not Present		

#### MEASUREMENT REPORT message for Intra frequency test cases

This message is common for all intra frequency test cases in clause 8.7 and is described in Annex I.

# 8.7.4.1.5 Test requirements

The SFN-CFN observed time difference measurement accuracy shall meet the requirements in clause 8.7.4.1.2.

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.

# 8.7.4.2 Inter frequency measurement requirement

# 8.7.4.2.1 Definition and applicability

The inter frequency SFN-CFN observed time difference is defined as the SFN-CFN time difference from the active cell to a neighbour cell that is in a different frequency. This measurement is specified in clause 5.1.8 of TS 25.215 [22].

The reference point for the SFN-CFN observed time difference shall be the antenna connector of the UE.

The requirements and this test apply to all types of UTRA for the FDD UE.

# 8.7.4.2.2 Minimum requirements

The accuracy requirement in table 8.7.4.2.1 is valid under the following conditions:

CPICH\_RSCP1,2 $|_{dBm} \ge -114 \text{ dBm}.$ 

$$\left| CPICH \_RSCP1 \right|_{in \, dBm} - CPICH \_RSCP2 \right|_{in \, dBm} \le 20 dB$$

| Channel 1\_Io|<sub>dBm/3.84 MHz</sub> -Channel 2\_Io|<sub>dBm/3.84 MHz</sub> |  $\leq$  20 dB.

$$\frac{I_o}{(\hat{I}_{or})}\Big|_{in\ dB} - \left(\frac{CPICH\_E_c}{I_{or}}\right)_{in\ dB} \le 20dB$$

Table 8.7.4.2.1

Parameter	Unit	Accuracy [chip]	Conditions Io [dBm/3.84 MHz]
SFN-CFN observed time difference	chip	± 1	-9450

The normative reference for this requirement is TS 25.133 [2] clauses 9.1.7.2 and A.9.1.4.2.

# 8.7.4.2.3 Test purpose

The purpose of this test is to verify that the SFN-CFN observed time difference measurement accuracy is within the specified limits in the clause 8.7.4.2.2. This measurement is for handover timing purposes to identify active cell and neighbour cell time difference.

# 8.7.4.2.4 Method of test

# 8.7.4.2.4.1 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.

During the test the timing difference between Cell 1 and 2 can be set to value from 0...9830399 chips.

In this test case both cells are in different frequency and compressed mode is applied. The gap length is 7, detailed definition is in clause C.5, set 1 of table C.5.2] except for TGRRC and TGCFN. TGPRC and TGCFN shall set to <u>"Infinity" and "(Current CFN + (256 – TTI/10msec))mod 256"</u>. Table 8.7.4.2.2 defines the limits of signal strengths and code powers, where the requirement is applicable.

Baramatar	Unit	Test 1		Test 2		Test 3	
Falalletei	Unit	Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2
UTRA RF Channel number		Channel	Channel	Channel	Channel	Channel	Channel
	ID.	1 2		1 2			
CPICH_EC/lor	dВ	-10		-10		-10	
PCCPCH_Ec/lor	dB	-12		-12		-12	
SCH_Ec/lor	dB	-1	2	-12		-12	
PICH_Ec/lor	dB	-1	5	-15		-15	
DPCH_Ec/lor	dB	-15		-15		-15	
OCNS_Ec/lor	dB	-1.11		-1.11		-1.11	
Îor/loc	dB	10.1		10.1		10.1	
	dBm/ 3.84 MHz		Io -10.6 dB = Ioc,		Io - 10.6 dB = Ioc,		dB = loc,
		Note 1		Note 1		Note 1	
lo	dBm/3.84 MHz	-50 -72		-9	94		
Relative delay of path received		× ×					
from cell 2 with respect to cell	<u>chip</u>	A Note 2					
<u>1</u>		INOLE Z					
Propagation condition	-	AWGN AWGN AWGN					'GN
NOTE 1: loc level shall be adjusted in each carrier frequency according the total signal power lo at receiver input							
and the geometry factor <i>Îor/loc</i> .							
<u>NOTE2: for example, x= 491520 or 9830399</u>							
Tests shall be done sequentially. Test 1 shall be done first. After test 1 has been executed test parameters for tests							

#### Table 8.7.4.2.2: SFN-CFN observed time difference Inter frequency tests parameters

Tests shall be done sequentially. Test 1 shall be done first. After test 1 has been executed test parameters for tests 2 and 3 shall be set within 5 seconds so that UE does not loose the Cell 2 in between the tests.

1) A call is set up according to the test procedure specified in TS 34.108 [3] subclause 7.3.2.3. The RF parameters for Test 1 are set up according to table 8.7.4.2.2.

#### 8.7.4.2.4.2 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 "OFF" and "Tm" values in MEASUREMENT REPORT message and calculate SFN-CFN observed time difference value according to the definition in clause 5.1.8 of TS 25.215 [22]. This value shall be compared to the actual SFN-CFN observed time difference value for each MEASUREMENT REPORT message.
- 6) 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 8.7.4.2.2 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 8.7.4.2.2 for Test 3. While RF parameters are set up according to table 8.7.4.2.2 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 from UE are ignored. SS shall wait for additional 1s and ignore the MEASUREMENT REPORT messages during this period. Then, steps 4) and 5) above are repeated.
- 7) After further 1000 MEASUREMENT REPORT messages have been received from UE, the SS shall transmit RRC CONNECTION RELEASE message.
- 8) UE shall transmit RRC CONNECTION RELEASE COMPLETE message.

#### Specific Message Contents

All messages indicated above shall use the same content as described in the default message content in clause 9 of 34.108 [3]-and in Annex A of  $34.123 \cdot 1 [21]$ , with the following exceptions:

# PHYSICAL CHANNEL RECONFIGURATION message for inter frequency measurement

Information Element	Value/Remark
Message Type	
UE Information Elements	0
-RRC transaction identifier	U Not Dropont
-Integrity check into	Not Present
-integrity protection mode info	Not Present
	NOL Present
	240 GFININOL PIESEIIL Net Brogent
	Not Present
-New C-RNTI PPC State Indicator	
-LITRAN DRX cycle length coefficient	Not Present
CN Information Elements	Not i lesent
-CN Information info	Not Present
LITRAN mobility information elements	Norriboont
-LIRA identity	Not Present
RB information elements	Norriboont
-Downlink counter synchronisation info	Not Present
PhyCH information elements	
-Frequency info	Not Present
Uplink radio resources	
-Maximum allowed UL TX power	Not Present
- CHOICE channel requirement	Not Present
Downlink radio resources	
-CHOICE mode	FDD
-Downlink PDSCH information	Not Present
-Downlink information common for all radio links	
-Downlink DPCH info common for all RL	Not Present
-CHOICE mode	FDD
-DPCH compressed mode info	
-Transmission gap pattern sequence	
-TGPSI	1
-TGPS Status Flag	Activ <u>atee</u>
-IGCEN	(Current CFN + (256 – 111/10msec))mod
Transmission can pottern acquence	256 Not Present
- Transmission gap patient sequence	
	EDD maasurament
	Not present la finity
TGSN	A
-TGL1	7
-TGL2	Not Present
-TGD	0
-TGPL1	3
-TGPL2	Not Present
-RPP	Mode 0
-ITP	Mode 0
-CHOICE UL/DL mode	UL and DL
-Downlink compressed mode method	SF/2
-Uplink compressed mode method	SF/2
-Downlink frame type	В
-DeltaSIR1	3.0
-DeltaSIRafter1	3.0
-DeltaSIR2	Not Present
-DeltaSIRafter2	Not Present
-N Identify abort	Not Present
- I Recontirm abort	Not Present
- I X Diversity Mode	Not Present
-SSUT Information	Not Present
-Derault DPCH Offset Value	Not Present
-Downlink information per radio link list	INUL PIESEIIL
Downlink information for Bach Tadio link	FDD
- Primary CPICH info	
Primary scrambling code	<del>100</del>

-PDSCH with SHO DCH Info	Not Present
—-PDSCH code mapping	Not Present
Downlink DPCH info for each RL	
CHOICE mode	FDD
<ul> <li>Primary CPICH usage for channel estimation</li> </ul>	Primary CPICH may be used
	θ
Secondary CPICH info	Not Present
<ul> <li>Secondary scrambling code</li> </ul>	Not Present
	64
	<del>63</del>
<ul> <li>Scrambling code change</li> </ul>	No code change
	θ
	Not Present
<ul> <li>Closed loop timing adjustment mode</li> </ul>	Not Present
SCCPCH Information for FACH	Not Present

# MEASUREMENT CONTROL message for Inter frequency measurement

Information Element	Value/Remark
Message Type	
LIE information alamanta	
-RPC transaction identifier	0
-Integrity check info	Not Present
Measurement Information elements	Not Tresent
-Measurement Identity	12
-Measurement Command	MedifySetup
-Measurement Reporting Mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting	Periodical reporting
Mode	
-Additional measurement list	Not Present
-CHOICE Measurement Type	Inter-frequency measurement
-Inter-frequency measurement	
-Inter-frequency cell info list	
-CHOICE Inter-frequency cell removal	Not Present
	Not Present
Kemove some Inter-trequency cells	
	Not Droppet
	Not Present
New inter-frequency cells	Cell 2 information is includedNot Present
-Cell for measurement	Cell 2 Information is included Not Fresent
-Inter-frequency measurement quantity	Inter-frequency reporting criteria
-CHOICE reporting criteria	
-Filter coefficient	0
-CHOICE mode	FDD
-Measurement quantity for frequency quality	CPICH RSCP
estimate	
-Inter-frequency reporting quantity	
-UTRA Carrier RSSI	TRUE
-Frequency quality estimate	TRUE
-Non frequency related cell reporting quantities	
-SFN-SFN observed time difference reporting	No report
indicator	TOUE
-Cell synchronisation information reporting	IRUE
Coll Identity reporting indicator	TRUE
-CPICH Ec/N0 reporting indicator	
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	TRUE
-Reporting cell status	
-CHOICE reported cell	Report all active set cells + cells within
	monitored set on used frequency
-Maximum number of reported cells	Virtual/active set cells + 2
-Measurement validity	Not Present
-Inter-frequency set update	Not Present
-CHOICE report criteria	Periodical reporting criteria
-Amount of reporting	Infinity
-Reporting Interval	500 ms
-Measurement Reporting Mode	A alva avula da a da DLC
weasurement Report Hanster Mode	Acknowledged mode KLC
Г	
-Additional measurements list	Not Present
Physical channel information elements	
-DPCH compressed mode status info	Not Present
-TGPS reconfiguration CFN	240
-Transmission gap pattern sequence	
TGPSI	4
TGPS Status Flag	Active
TGCFN	Not present

#### MEASUREMENT REPORT message for Inter frequency test cases

This message is common for all inter frequency test cases in clause 8.7 and is described in Annex I.

## 8.7.4.2.5 Test requirements

The SFN-CFN observed time difference measurement accuracy shall meet the requirements in clause 8.7.4.2.2.

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.

# 8.7.5 SFN-SFN observed time difference

# 8.7.5.1 SFN-SFN observed time difference type 1

#### 8.7.5.1.1 Definition and applicability

This measurement is specified in clause 5.1.9 of TS 25.215 [22]. The reference point for the SFN-SFN observed time difference type 1 shall be the antenna connector of the UE.

The requirements and this test apply to all types of UTRA for the FDD UE.

#### 8.7.5.1.2 Minimum requirements

The accuracy requirement in table 8.7.5.1.1 is valid under the following conditions:

CPICH\_RSCP1,2 $|_{dBm} \ge -114 \text{ dBm}.$ 

$$\begin{aligned} \left| CPICH \_RSCP1 \right|_{in \, dBm} - CPICH \_RSCP2 \right|_{in \, dBm} \right| &\leq 20 dB \\ \frac{I_o}{\left(\hat{I}_{or}\right)} \right|_{in \, dB} &- \left( \frac{CPICH \_E_c}{I_{or}} \right) \right|_{in \, dB} \leq 20 dB \\ \frac{I_o}{\left(\hat{I}_{or}\right)} \right|_{in \, dB} &- \left( \frac{P - CCPCH \_E_c}{I_{or}} \right) \right|_{in \, dB} \text{ is low enough to ensure successful SFN decoding} \end{aligned}$$

#### Table 8.7.5.1.1

Parameter	Unit	Accuracy [chip]	Conditions Io [dBm/3.84 MHz]
SFN-SFN observed time difference type1	chip	± 1	-9450

The normative reference for this requirement is TS 25.133 [2] clause 9.1.8.1.1 and A.9.1.5.1.2.

# 8.7.5.1.3 Test purpose

The purpose of this test is to verify that the measurement accuracy of SFN-SFN observed time difference type 1 is within the limit specified in clause 8.7.5.1.2. This measurement is for identifying time difference between two cells.

# 8.7.5.1.4 Method of test

8.7.5.1.4.1 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.

During the test the timing difference between Cell 1 and 2 can be set to value from 0...9830399 chips.

- 1) Connect SS to the UE antenna connector as shown in figure A.1
- 2) A call is set up according to the test procedure specified in TS 34.108 [3] subclause 7.3.2.3. The RF parameters for Test 1 are set up according to table 8.7.5.1.2.

In this case all cells are in the same frequency. Table 8.7.5.1.2 defines the limits of signal strengths and code powers, where the requirements are applicable.

#### Table 8.7.5.1.2: SFN-SFN observed time difference type 1 Intra frequency test parameters

		_			
Baramatar	Unit	Test 1	Test 2	Test 3	
Farameter	Unit	Cell 1 Cell 2	Cell 1 Cell 2	Cell 1 Cell 2	
UTRA RF Channel number		Channel 1	Channel 1	Channel 1	
CPICH_Ec/lor	dB	-10	-10	-10	
PCCPCH_Ec/lor	dB	-12	-12	-12	
SCH_Ec/lor	dB	-12	-12	-12	
PICH_Ec/lor	dB	-15	-15	-15	
DPCH_Ec/lor	dB	-15	-15	-15	
OCNS_Ec/lor	dB	-1.11	-1.11	-1.11	
Îor/loc	dB	10.5 10.5		10.5	
	dDm/2.04 MHz	Io -13.7 dB = Ioc,	lo - 13.7  dB = loc,	lo - 13.7  dB = loc,	
100		Note 1	Note 1	Note 1	
lo	dBm/3.84 MHz	-50	-72	-94	
Relative delay of path received			V		
from cell 2 with respect to cell	<u>chip</u>	Note 2			
<u>1</u>			<u>Note z</u>		
Propagation condition	-	AWGN AWGN AWGN			
NOTE 1: <i>loc</i> level shall be adjusted according the total signal power <i>lo</i> at receiver input and the geometry factor					
Îor/loc.					

NOTE2: for example, x= 491520 or 9830399

Tests shall be done sequentially. Test 1 shall be done first. After test 1 has been executed test parameters for tests 2 and 3 shall be set within 5 seconds so that UE does not loose the Cell 2 in between the tests.

#### 8.7.5.1.4.2 Procedure

- 1) SS shall transmit MEASUREMENT CONTROL message.
- 2) UE shall transmit periodically MEASUREMENT REPORT message.
- SS shall check "SFN-SFN observed time difference type 1" value in MEASUREMENT REPORT message. The reported value shall be compared to actual SFN-SFN observed time difference type 1 value for each MEASUREMENT REPORT message.
- 4) SS shall count the 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 8.7.5.1.2 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 8.7.5.1.2 for Test 3. While RF parameters are being set up, MEASUREMENT REPORT messages have been received from UE, the RF parameters are set up according to table 8.7.5.1.2 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 from UE are ignored. SS shall wait for additional 1s and ignore the 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.

#### Specific Message Contents

All messages indicated above shall use the same content as described in the default message content in clause 9 of 34.108 [3] and in Annex A of 34.123 1 [21], with the following exceptions:

#### MEASUREMENT CONTROL message for Intra frequency measurement (Step 1):

Information Element	Value/Remark
Message Type	
UE information elements	
-RRC transaction identifier	0
-Integrity check info	Not Present
Measurement Information elements	
-Measurement Identity	
-Measurement Command	Modify
-Measurement Reporting Mode	A almoutle decidemends DLC
- Periodical Reporting / Event Trigger Reporting	Periodical reporting
Mode	
-Additional measurement list-CHOICE	Not Present
Measurement Type	Intra-frequency measurement
-Intra-frequency measurement	
- Intra-frequency measurement objects list	Not Present
Intra-trequency cell into list	
-Intra-frequency measurement quantity	0
Moscurement quantity	
-Intra-frequency reporting quantity	CFICITINGOF
-Reporting quantities for active set cells	
-SEN-SEN observed time difference reporting	
indicator	Type 1
-Cell synchronisation information reporting	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
indicator	TRUE
-Cell Identity reporting indicator	TRUE
-CHOICE mode	FDD
-CPICH Ec/N0 reporting indicator	TRUE
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	TRUE
-Reporting quantities for monitored set cells	
-SFN-SFN observed time difference reporting	Type 1
indicator	TOUE
-Cell synchronisation information reporting	IRUE
Indicator	TRUE
CRICH Ec/NO reporting indicator	
-CPICH PSCP reporting indicator	TRUE
-Pathloss reporting indicator	
-Reporting quantities for detected set cells	Not Present
-Reporting cell status	
-CHOICE reported cell	Report all active set cells + cells within
	monitored set on used frequency
-Maximum number of reported cells	Virtual/active set cells + 2
-Measurement validity	Not Present
-CHOICE report criteria	Periodical reporting criteria
-Amount of reporting	Infinity
-Reporting interval	250 ms
-Measurement Reporting Mode	
-Measurement Report Transfer Mode	AMRLC
Periodical Reporting / Event Trigger Reporting	Periodical reporting
Additional measurements list	Not Present
Physical channel information elements	
-DPCH compressed mode status info	Not Present

#### MEASUREMENT REPORT message for Intra frequency test cases

This message is common for all intra frequency test cases in clause 8.7 and is described in Annex I.
### 8.7.5.1.5 Test requirements

The SFN-SFN observed time difference type 1 accuracy shall meet the requirements in clause 8.7.5.1.2.

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.

### 8.7.5.2 SFN-SFN observed time difference type 2

Void.

### 3GPP TSG-T1 Meeting #16 Yokohama, Japan, 29<sup>th</sup>July- 2<sup>nd</sup> August, 2002

# **Tdoc #T1-020480**

			CR-Form-v7							
CHANGE REQUEST										
x	34.121 CR 202 #rev - #	Current vers	ion: 3.9.0 <sup>#</sup>							
Eor HELP or	using this form, soo bottom of this page or look at the	o non un toxt	over the fl symbols							
	using this form, see bollom of this page of fook at the	e pop-up lexi	over the a symbols.							
Proposed chang	e affects: UICC apps# ME X Radio A	ccess Networ	k Core Network							
, i opocou onang										
Title:	Addition of a set of Compressed mode reference	pattern 2 para	ameters							
Source:	۴ T1/RF									
Work item code:	fi -	Date: ೫	31/07/2002							
Category:	f F	Release: ೫	R99							
	Use <u>one</u> of the following categories:	Use <u>one</u> of	the following releases:							
	F (correction)	2	(GSM Phase 2)							
	A (corresponds to a correction in an earlier release	e) R96	(Release 1996)							
	<b>B</b> (addition of feature),	R97	(Release 1997)							
	C (functional modification of feature)	R98	(Release 1998)							
	<b>D</b> (editorial modification)	R99	(Release 1999)							
	Detailed explanations of the above categories can	Rel-4	(Release 4)							
	be found in 3GPP TR 21.900.	Rel-5	(Release 5)							
		Rel-6	(Release 6)							

Reason for change: अ	The existing compressed mode reference pattern sets currently provided in C.5 for test cases in 34.121 subclause 8 do not not include a pattern set compatible with the required transmission gap length for TDD Cell measurements. This CR covers 25.101 CR165.
Summary of change: अ	Set 3 is added in 34.121 table C.5.2.
Consequences if अ not approved:	Needed pattern set for TC 8.3.3 FDD/TDD handover and TC 8.6.3 TDD measurements is missing in 34.121. TS 25.101 and TS 34.121 are inconsistent.
Clauses affected: #	0.5
	YN
Other specs #	X Other core specifications *
affected:	X Dest specifications
Other comments: #	

#### How to create CRs using this form:

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

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

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

#### C.5 DL reference compressed mode parameters

Parameters described in table C.5.1 are used in some test specified in TS 25.101 while parameters described in table C.5.2 are used in some tests specified in TS 25.133.

Set 1 parameters in table C.5.1 are applicable when compressed mode by spreading factor reduction is used in downlink. Set 2 parameters in table C.5.1 are applicable when compressed mode by puncturing is used in downlink.

Parameter	Set 1	Set 2	Note
TGSN (Transmission Gap Starting Slot Number)	11	11	
TGL1 (Transmission Gap Length 1)	7	7	
TGL2 (Transmission Gap Length 2)	-	-	Only one gap in use.
TGD (Transmission Gap Distance)	0	0	Only one gap in use.
TGPL1 (Transmission Gap Pattern Length)	4	4	
TGPL2 (Transmission Gap Pattern Length)	-	-	Only one pattern in use.
TGPRC (Transmission Gap Pattern Repetition	NA	NA	Defined by higher layers
Count)			
TGCFN (Transmission Gap Connection Frame	NA	NA	Defined by higher layers
Number):			
UL/DL compressed mode selection	DL & UL	DL & UL	2 configurations possible
			DL &UL / DL
UL compressed mode method	SF/2	SF/2	
DL compressed mode method	SF/2	Puncturing	
Downlink frame type and Slot format	11B	11A	
Scrambling code change	No	No	
RPP (Recovery period power control mode)	0	0	
ITP (Initial transmission power control mode)	0	0	

|--|

#### Table C.5.2: Compressed mode reference pattern 2 parameters

Parameter	Set 1	Set 2	<u>Set 3</u>	Note
TGSN (Transmission Gap Starting Slot Number)	4	4	<u>10</u>	
TGL1 (Transmission Gap Length 1)	7	7	<u>10</u>	
TGL2 (Transmission Gap Length 2)	-	-	_	Only one gap in use.
TGD (Transmission Gap Distance)	0	0	<u>0</u>	
TGPL1 (Transmission Gap Pattern Length)	3	12	<u>11</u>	
TGPL2 (Transmission Gap Pattern Length)	-	-	=	Only one pattern in use.
TGPRC (Transmission Gap Pattern Repetition Count)	NA	NA	<u>NA</u>	Defined by higher layers
TGCFN (Transmission Gap Connection Frame Number):	NA	NA	NA	Defined by higher layers
UL/DL compressed mode selection	DL & UL	DL & UL	<u>DL &amp; UL</u>	2 configurations possible. DL & UL / DL
UL compressed mode method	SF/2	SF/2	<u>SF/2</u>	
DL compressed mode method	SF/2	SF/2	Puncturing	
Downlink frame type and Slot format	11B	11B	<u>11A</u>	
Scrambling code change	No	No	<u>No</u>	
RPP (Recovery period power control mode)	0	0	<u>0</u>	
ITP (Initial transmission power control mode)	0	0	0	

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														CR-Form-v7
CHANGE REQUEST														
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		Use <u>one</u> of	the follo	wing catego	ories:				Use	e <u>one</u> of	the fo	ollowing	g rele	ases:
		<b>F</b> (cor	rection)						2	2	(GSN	/ Phas	e 2)	
		A (cor	respond	ls to a corre	ection in	an ear	lier re	elease	e) I	R96	(Rele	ease 19	996)	
		<b>B</b> (add	dition of	feature),					1	R97	(Rele	ease 19	997)	
<b>C</b> (functional modification of feature) R98 (Release 1998)														
		D (edi	torial mo	odification)					1	R99	(Rele	ease 19	999)	
		Detailed exp	olanatio	ns of the ab	ove cate	gories	can			Rel-4	(Rele	ease 4)		
		be found in	3GPP <mark>1</mark>	<u>R 21.900</u> .					I	Rel-5	(Rele	ease 5)		
										Rel-6	(Rele	ease 6)		

Reason for change:	B Downlink compressed mode requirements have been modified in TS 25.101. This CR covers 25.101 CR178.
Summary of change:	Test parameters are modified in TS 34.121 tables 7.9.2 and 7.9.4.
Consequences if	tS 25.101 and TS 34.121 are inconsistent.
not approved:	
Clauses affected:	f 7.9

Other specs affected:	ж	Υ	N X X X	Other core specifications # Test specifications O&M Specifications	8				
Other comments:	ж								

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

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

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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# 7.9 Downlink compressed mode

Downlink compressed mode is used to create gaps in the downlink transmission, to allow the UE to make measurements on other frequencies.

# 7.9.1 Single link performance

### 7.9.1.1 Definition and applicability

The receiver single link performance of the Dedicated Traffic Channel (DCH) in compressed mode is determined by the Block Error Ratio (BLER) and transmitted DPCH\_Ec/Ior power ratio in the downlink.

The compressed mode parameters are given in clause C.5. Tests 1 and 2 are using Set 1 compressed mode pattern parameters from table C.5.1 in clause C.5 while tests 3 and 4 are using Set 2 compressed mode patterns from the same table.

The requirements and this test apply to all types of UTRA for the FDD UE.

### 7.9.1.2 Minimum requirements

For the parameters specified in table 7.9.1 the downlink  $\frac{DPCH\_E_c}{I_{or}}$  power ratio measured values, which are

averaged over one slot, shall be below the specified value in table 7.9.2 more than 90% of the time. The measured quality on DTCH shall be as required in table 7.9.2.

Downlink power control is ON during the test. Uplink TPC commands shall be error free. System simulator shall increase the transmitted power during compressed frames by the same amount that UE is expected to increase its SIR target during those frames.

Parameter	Test 1	Test 2	Test 3	Test 4	Unit				
Delta SIR1	0	3	0	3	dB				
Delta SIR after1	0	3	0	3	dB				
Delta SIR2	0	0	0	0	dB				
Delta SIR after2	0	0	0	0	dB				
$\hat{I}_{or}/I_{oc}$		9							
I <sub>oc</sub>		-60							
Information Data Rate		kbps							
Propagation condition		Ca	se 2						
Target quality value on DTCH		0,	01		BLER				
Maximum DL Power (note)			7		dB				
Minimum DL Power (note)		-1	18		dB				
DL Power Control step size,		dD							
$\Delta_{TPC}$		uБ							
Limited Power Increase		-							
NOTE: Power is compared to	o P-CPICH as	specified in [9].							

 Table 7.9.1: Test parameter for downlink compressed mode

100

Parameter	Test 1	Test 2	Test 3	Test 4	Unit		
$\frac{DPCH\_E_c}{I_{or}}$	- <del>15,4<u>14,6</u></del>	No requirements	- <del>15,4<u>15,2</u></del>	No requirements	dB		
Measured quality of compressed and recovery frames	No requirements	< 0,001	No requirements	< 0,001	BLER		
Measured quality on DTCH	0,01 ± 30 %						

Table 7.9.2: Requirements in	downlink	compressed	mode
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The reference for this requirement is TS 25.101 [1] clause 8.9.1.1.

### 7.9.1.3 Test purpose

The purpose of this test is to verify the reception of DPCH in a UE while downlink is in a compressed mode. The UE needs to preserve the BLER using sufficient low DL power. It is also verified that UE applies the Delta SIR values, which are signaled from network, in its outer loop power control algorithm.

### 7.9.1.4 Method of test

7.9.1.4.1 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.

- 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 7.9.1. SS shall increase the transmitted power during compressed mode frames by the same amount that UE is expected to increase its SIR target during those frames.
- 4) Set compressed mode parameters according to table C.5.1. Tests 1 and 2 are using Set 1 compressed mode pattern parameters and while tests 3 and 4 are using Set 2 compressed mode pattern parameters.
- 5) Enter the UE into loopback test mode and start the loopback test.
- 6) SS signals to UE target quality value on DTCH as specified in table 7.9.1. Uplink TPC commands shall be error free. SS will vary the physical channel power in downlink according to the TPC commands from UE. SS response time for UE TPC commands shall be one slot. At the same time BLER is measured. 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.

#### 7.9.1.4.2 Procedure

- 1) Test 1: Measure quality on DTCH and  $\frac{DPCH_{-}E_{c}}{I_{or}}$  power ratio values averaged over one slot.
- 2) Test 2: Measure quality on DTCH and quality of compressed and recovery frames.
- 3) Test 3: Measure quality on DTCH and  $\frac{DPCH_{-}E_{c}}{I_{or}}$  power ratio values averaged over one slot.
- 4) Test 4: Measure quality on DTCH and quality of compressed and recovery frames.

### 7.9.1.5 Test requirements

The test parameters are specified in table 7.9.3.

1

Parameter	Test 1	Test 2	Test 3	Test 4	Unit			
Delta SIR1	0	3 0		3	dB			
Delta SIR after1	0	3	0	3	dB			
Delta SIR2	0	0	0	0	dB			
Delta SIR after2	0	0	0	0	dB			
$\hat{I}_{or}/I_{oc}$		9	,6		dB			
I <sub>oc</sub>		-60						
Information Data Rate		kbps						
Propagation condition		Cas	se 2					
Target quality value on DTCH		0,	01		BLER			
Maximum DL Power (note)		-	7		dB			
Minimum DL Power (note)		-1	18		dB			
DL Power Control step size,		dP						
$\Delta_{TPC}$		uБ						
Limited Power Increase		"Not	used"		-			
NOTE: Power is compared to	P-CPICH as	specified in [9].						

Table 7.9.3: Test parameter for downlink compressed mode

a) Test 1: The downlink  $\frac{DPCH_{-}E_{c}}{I_{or}}$  power ratio values averaged over one slot shall be below the values in table

7.9.4 more than 90 % of the time. The measured quality on DTCH shall be as required in table 7.9.4.

- b) Test 2: Measured quality on DTCH and measured quality of compressed and recovery frames do not exceed the values in table 7.9.4.
- c) Test3: The downlink  $\frac{DPCH_{-}E_{c}}{I_{or}}$  power ratio values averaged over one slot shall be below the values in table 7.9.2 more than 90 % of the time. The measured quality on DTCH shall be as required in table 7.9.4.
- d) Test 4: Measured quality on DTCH and measured quality of compressed and recovery frames do not exceed the values in table 7.9.4.

Table 7.9.4: Rec	quirements in	downlink com	pressed mode
------------------	---------------	--------------	--------------

Parameter	Test 1	Test 2	Test 3	Test 4	Unit
$DPCH \_E_c$	- <del>15,3<u>14,5</u></del>	No	- <del>15,3<u>15,1</u></del>	No	dB
$I_{or}$		requirements		requirements	
Measured quality of compressed and recovery frames	No requirements	< 0,001	No requirements	< 0,001	BLER
Measured quality on DTCH		BLER			

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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Reason for change:	* The current test procedure does not describe how to control Tx power level during Rx testing and signaling setup information. This may cause incorrect test conditions.
Summary of change:	<b>#</b> Tx power level control procedure and signaling setup information are added.
Consequences if	B Due to ambiguity of test procedure, test conditions may not be set up correctly
not opproved:	
not approved:	
Clauses affected:	# 6.3, 6.4, 6.5, 6.6, and 6.7
Other specs affected:	Y       N         %       X         Other core specifications       %         X       Test specifications         X       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.
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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.

# 6.3 Maximum Input Level

## 6.3.1 Definition and applicability

This is defined as the maximum mean power received at the UE antenna port, which shall not degrade the specified BER performance.

The requirements and this test apply to all types of UTRA for the FDD UE.

## 6.3.2 Minimum requirements

The BER shall not exceed 0.001 for the parameters specified in table 6.3.

The reference for this requirement is TS 25.101 [1] clause 7.4.1.

NOTE: Since the spreading factor is large (10log(SF)=21dB), the majority of the total input signal consists of the OCNS interference. The structure of OCNS signal is defined in clause E.3.3.

## 6.3.3 Test purpose

To verify that the UE BER shall not exceed 0,001 for the parameters specified in table 6.3.

The lack of the maximum input level decreases the coverage area at the near side from Node B.

## 6.3.4 Method of test

6.3.4.1 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 the SS to the UE antenna connector as shown in figure A.3.
- 2) <u>RF parameters are set up according to table 6.3 and table E.3.3.</u>
- 3) A call is set up according to the Generic call setup procedure <u>specified in TS34.108[3] sub clause 7.3.2, with the</u> <u>following exception for information elements in RADIO BEARER SETUP message. With this exception, the</u> <u>Power Control Algorithm for the Uplink is set to algorithm 2., and RF parameters are set up according to</u> <u>table 6.3 and table E.3.3.</u>

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

#### Table 6.3A Contents of RADIO BEARER SETUP message: AM or UM

Information Element	Value/Remark
CHOICE channel requirement	Uplink DPCH info
- Power Control Algorithm	Algorithm2

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

Parameter	Level / Status	Unit
Î <sub>or</sub>	-25	dBm / 3,84MHz
$DPCH\_E_c$	–19	dB
I <sub>or</sub>		
UE transmitted mean power	20 (for Power class 3)	dBm
	18 (for Power class 4)	

#### Table 6.3: Test parameters for Maximum Input Level

#### 6.3.4.2 Procedure

1) Set the power level of UE according to the table 6.3 or send the power control commands (1dB step size should be used.) to the UE until UE output power measured by Test System shall be kept at the specified power level with  $\pm$ 1dB tolerance.

2) Measure the BER of DCH received from the UE at the SS.

### 6.3.5 Test requirements

The measured BER, derived in step 1), shall not exceed 0,001.

# 6.4 Adjacent Channel Selectivity (ACS)

# 6.4.1 Definition and applicability

Adjacent Channel Selectivity (ACS) is a measure of a receiver's ability to receive a W-CDMA signal at its assigned channel frequency in the presence of an adjacent channel signal at a given frequency offset from the centre frequency of the assigned channel. ACS is the ratio of the receive filter attenuation on the assigned channel frequency to the receive filter attenuation on the adjacent channel(s).

The requirements and this test apply to all types of UTRA for the FDD UE.

# 6.4.2 Minimum Requirements

For the UE of power class 3 and 4, the BER shall not exceed 0,001 for the parameters specified in table 6.4.1. This test condition is equivalent to the ACS value 33 dB.

Parameter	Level / Status	Unit
DPCH_Ec	-103	dBm / 3,84 MHz
Î <sub>or</sub>	-92,7	dBm / 3,84 MHz
l <sub>oac</sub> mean power (modulated)	-52	dBm
F <sub>uw</sub> (offset)	–5 or +5	MHz
UE transmitted mean power	20 (for Power class 3)	dBm
	18 (for Power class 4)	

Fable 6.4.1: Test parameters	for Adjacent	<b>Channel Selectivity</b>
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The normative reference for this requirement is TS 25.101 [1] clause 7.5.1.

NOTE: The  $I_{oac}$  (modulated) signal consists of the common channels needed for tests as specified in table E.4.1 and 16 dedicated data channels as specified in table E.3.6.

### 6.4.3 Test purpose

To verify that the UE BER does not exceed 0,001 for the test parameters specified in table 6.4.1.

The lack of the ACS decreases the coverage area when other transmitter exists in the adjacent channel.

## 6.4.4 Method of test

6.4.4.1 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 the SS to the UE antenna connector as shown in figure A.4.
- 2) <u>RF parameters are set up according to table 6.4.2.</u>
- 3) A call is set up according to the Generic call setup procedure <u>specified in TS34.108[3] sub clause 7.3.2, with the</u> <u>following exception for information elements in RADIO BEARER SETUP message. With this exception, the</u> <u>Power Control Algorithm for the Uplink is set to algorithm 2., and RF parameters are set up according to</u> <u>table 6.4.2.</u>

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

#### Table 6.4.1A Contents of RADIO BEARER SETUP message: AM or UM

Information Element	Value/Remark
CHOICE channel requirement	Uplink DPCH info
<ul> <li>Power Control Algorithm</li> </ul>	Algorithm2

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

#### 6.4.4.2 Procedure

- 1) Set the parameters of the interference signal generator as shown in table 6.4.2.
- 2) <u>Set the power level of UE according to the table 6.4.2 or send the power control commands (1dB step size should be used.) to the UE until UE output power measured by Test System shall be kept at the specified power level with ±1dB tolerance.</u>
- 3) Measure the BER of DCH received from the UE at the SS.

# 6.4.5 Test requirements

The measured BER, derived in step 1), shall not exceed 0,001.

Table 6.4.2: Tes	st parameters	for Adjacent	<b>Channel Selectivity</b>
------------------	---------------	--------------	----------------------------

Parameter	Level / Status	Unit
DPCH_Ec	-103	dBm / 3,84 MHz
Î <sub>or</sub>	-92,7	dBm / 3,84 MHz
loac mean power (modulated)	-52	dBm
F <sub>uw</sub> (offset)	–5 or +5	MHz
UE transmitted mean power	20 (for Power class 3)	dBm
	18 (for Power class 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.

# 6.5 Blocking Characteristics

# 6.5.1 Definition and applicability

The blocking characteristic is a measure of the receiver's ability to receive a wanted signal at its assigned channel frequency in the presence of an unwanted interferer on frequencies other than those of the spurious response or the adjacent channels, without this unwanted input signal causing a degradation of the performance of the receiver beyond a specified limit. The blocking performance shall apply at all frequencies except those at which a spurious response occur.

The requirements in clause 6.5.2.1 and 6.5.2.2 and this test apply to all types of UTRA for the FDD UE.

The requirements in clause 6.5.2.3 and this test apply to the FDD UE supporting band II or band III.

## 6.5.2 Minimum Requirements

### 6.5.2.1 Minimum Requirements (In-band blocking)

The BER shall not exceed 0,001 for the parameters specified in table 6.5.1.

The normative reference for this requirement is TS 25.101 [23] clause 7.6.1.

NOTE: I<sub>blocking</sub> (modulated) consists of the common channels needed for tests as specified in table E.4.1 and 16 dedicated data channels as specified in table E3.6.

Table 6.5.1:	Test r	barameters	for	In-band	blockina	characteristics
				in Sana	Slooking	01101 00101 101100

Parameter	Unit	Level	
DPCH_Ec	dBm/3.84 MHz	<refsens>+3 dB</refsens>	
Î <sub>or</sub>	dBm/3.84 MHz	<refî<sub>or&gt;</refî<sub>	+ 3 dB
I <sub>blocking</sub> mean power (modulated)	dBm	-56 (for F <sub>uw</sub> offset ±10 MHz)	-44 (for F <sub>uw</sub> offset ±15 MHz)
UE transmitted mean power	dBm	20 (for Pow 18 (for Pow	er class 3) er class 4)

### 6.5.2.2 Minimum requirements (Out of-band blocking)

The BER shall not exceed 0.001 for the parameters specified in table 6.5.2. For table 6.5.2 up to 24 exceptions are allowed for spurious response frequencies in each assigned frequency channel when measured using a 1 MHz step size.

The normative reference for this requirement is TS 25.101 [23] clause 7.6.2.

Parameter	Unit	Frequency range 1	Frequency range 2	Frequency range 3	
	dBm/3.84	<refsens>+3 dB</refsens>	<refsens>+3 dB</refsens>	<refsens>+3 dB</refsens>	
	MHz				
Î	dBm/3.84	∠REEĴ> + 3 dB	∠REEĴ> + 3 dB	<beeĵ~> + 3 dB</beeĵ~>	
IOF	MHz				
Iblocking (CW)	dBm	-44	-30	-15	
Fuw		2050 <f <2095<="" td=""><td>2025 <f <2050<="" td=""><td>1&lt; f &lt;2025</td></f></td></f>	2025 <f <2050<="" td=""><td>1&lt; f &lt;2025</td></f>	1< f <2025	
(Band I	MHz	2185 <f <2230<="" td=""><td>2230 <f <2255<="" td=""><td>2255<f<12750< td=""></f<12750<></td></f></td></f>	2230 <f <2255<="" td=""><td>2255<f<12750< td=""></f<12750<></td></f>	2255 <f<12750< td=""></f<12750<>	
operation)		21001112200		2200 (1212) 00	
Fuw		1870 <f <1915<="" td=""><td>1845 <f <1870<="" td=""><td>1&lt; f &lt;1845</td></f></td></f>	1845 <f <1870<="" td=""><td>1&lt; f &lt;1845</td></f>	1< f <1845	
(Band II	MHz	2005 <f <2050<="" td=""><td>2050 <f <2075<="" td=""><td>2075<f<12750< td=""></f<12750<></td></f></td></f>	2050 <f <2075<="" td=""><td>2075<f<12750< td=""></f<12750<></td></f>	2075 <f<12750< td=""></f<12750<>	
operation)					
, F <sub>uw</sub>		1745 <f <1790<="" td=""><td>1720 <f 1745<="" <="" td=""><td>1&lt; f &lt;1720</td></f></td></f>	1720 <f 1745<="" <="" td=""><td>1&lt; f &lt;1720</td></f>	1< f <1720	
(Band III	MHz	1895 <f <1940<="" td=""><td>1940<f 1965<="" <="" td=""><td>1965<f<12750< td=""></f<12750<></td></f></td></f>	1940 <f 1965<="" <="" td=""><td>1965<f<12750< td=""></f<12750<></td></f>	1965 <f<12750< td=""></f<12750<>	
operation)					
UE transmitted			20 (for Power class 3)		
mean power	dBm		18 (for Power class 4)		
Band Loneration	For 2095 <f<2110 2170<f<2185="" and="" appropriate="" blocking="" in-band="" mhz="" mhz,="" or<="" td="" the=""></f<2110>				
Danu i operation	adjacent channel selectivity in clause 7.5.1 and clause 7.6.1 shall be applied.				
Dand II an arotion	For 1915 <f<1930 1990<f<2005="" and="" appropriate="" blocking="" in-band="" mhz="" mhz,="" or<="" td="" the=""></f<1930>				
band if operation	adjacent channel selectivity in clause 7.5.1 and clause 7.6.2 shall be applied				
Devel III en enetien	For 1790 <f<1805 1880<f<1895="" and="" appropriate="" blocking="" in-band="" mhz="" mhz,="" or<="" td="" the=""></f<1805>				
Band III operation	adjacent channel selectivity in clause 7.5.1 and clause 7.6.2 shall be applied.				

 Table 6.5.2: Test parameters for Out of band blocking characteristics

### 6.5.2.3 Minimum requirements (Narrow band blocking)

The BER shall not exceed 0.001 for the parameters specified in table 6.5.3. This requirement is measure of a receiver's ability to receive a W-CDMA signal at its assigned channel frequency in the presence of an unwanted narrow band interferer at a frequency, which is less than the nominal channel spacing. The requirements and this test apply to UTRA for the FDD UE supporting band II or band III.

The normative reference for this requirement is TS 25.101 [23] clause 7.6.3

Table 6.5.3: Test parameters	for narrow band blocking
------------------------------	--------------------------

Parameter	Unit	Band II	Band III
DPCH_Ec	dBm/3.84 MHz	<refsens> + 10 dB</refsens>	<refsens> + 10 dB</refsens>
Î <sub>or</sub>	dBm/3.84 MHz	<refî<sub>or&gt; + 10 dB</refî<sub>	<refî<sub>or&gt; + 10 dB</refî<sub>
Iblocking (GMSK)	dBm	-57	-56
F <sub>uw</sub> (offset)	MHz	2.7	2.8
UE transmitted mean	dBm	20 (for Powe	er class 3)
power	ubili	18 (for Powe	er class 4)

NOTE: I<sub>blocking</sub> (GMSK) is an interfering signal as defined in TS 45.004. It is a GMSK modulated carrier following the structure of the GSM signals, but with all modulating bits (including the midamble period) derived directly from a random or pseudo random data stream.

# 6.5.3 Test purpose

To verify that the UE BER does not exceed 0,001 for the parameters specified in table 6.5.1, table 6.5.2 and table 6.5.3. For table 6.5.2 up to (24) exceptions are allowed for spurious response frequencies in each assigned frequency channel when measured using a 1 MHz step size.

The lack of the blocking ability decreases the coverage area when other transmitter exists (except in the adjacent channels and spurious response).

## 6.5.4 Method of test

6.5.4.1 Initial conditions

For in-band case:

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

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

For out-of-band case:

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

Frequency to be tested: 1 arbitrary frequency chosen from the low, mid or high range; see clause G.2.4.

For narrow-band case:

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 the SS to the UE antenna connector as shown in figure A.5.
- 2) RF parameters are set up according to table 6.5.4, table 6.5.5 and table 6.5.6.
- 3) A call is set up according to the Generic call setup procedure <u>specified in TS34.108[3]</u> sub clause 7.3.2, with the following exception for information elements in RADIO BEARER SETUP message. With this exception, the Power Control Algorithm for the Uplink is set to algorithm 2., and RF parameters are set up according to table 6.5.4, table 6.5.5 and table 6.5.6.

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

#### Table 6.5.3A Contents of RADIO BEARER SETUP message: AM or UM

Information Element	Value/Remark
CHOICE channel requirement	Uplink DPCH info
- Power Control Algorithm	Algorithm2

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

#### 6.5.4.2 Procedure

- 1) Set the parameters of the CW generator or the interference signal generator as shown in table 6.5.4, 6.5.5 and table 6.5.6. For table 6.5.5, the frequency step size is 1 MHz.
- 2) Set the power level of UE according to the table 6.5.4, table 6.5.5, and table 6.5.6, or send the power control commands (1dB step size should be used.) to the UE until UE output power measured by Test System shall be kept at the specified power level with ±1dB tolerance.

3) Measure the BER of DCH received from the UE at the SS.

 $\underline{43}$ ) For table 6.5.5, record the frequencies for which BER exceed the test requirements.

### 6.5.5 Test requirements

For table 6.5.4, the measured BER, derived in step 2), shall not exceed 0.001. For table 6.5.5, the measured BER, derived in step 2) shall not exceed 0,001 except for the spurious response frequencies, recorded in step 3). The number of spurious response frequencies, recorded in step 3) shall not exceed 24. For table 6.5.6, the measured BER, derived in step 2), shall not exceed 0.001.

Parameter	Unit	Level	
DPCH_Ec	dBm/3.84 MHz	<refsens>+3 dB</refsens>	
Î <sub>or</sub>	dBm/3.84 MHz	<refî<sub>or&gt; + 3 dB</refî<sub>	
I <sub>blocking</sub> mean power (modulated)	dBm	-56 (for F <sub>uw</sub> offset ±10 MHz)	-44 (for F <sub>uw</sub> offset ±15 MHz)
UE transmitted mean power	dBm	20 (for Power class 3) 18 (for Power class 4)	

Table 6.5.4:	Test	parameters	for	In-band	blocking	characteristics

#### Table 6.5.5: Test parameters for Out of band blocking characteristics

Parameter	Unit	Frequency range 1	Frequency range 2	Frequency range 3
DPCH_Ec	dBm/3.84 MHz	<refsens>+3 dB</refsens>	<refsens>+3 dB</refsens>	<refsens>+3 dB</refsens>
Î <sub>or</sub>	dBm/3.84 MHz	<refî<sub>or&gt; + 3 dB</refî<sub>	<refî<sub>or&gt; + 3 dB</refî<sub>	<refî<sub>or&gt; + 3 dB</refî<sub>
Iblocking (CW)	dBm	-44	-30	-15
F <sub>uw</sub> (Band I operation)	MHz	2050 <f <2095<br="">2185<f <2230<="" td=""><td>2025 <f <2050<br="">2230 <f <2255<="" td=""><td>1&lt; f &lt;2025 2255<f<12750< td=""></f<12750<></td></f></f></td></f></f>	2025 <f <2050<br="">2230 <f <2255<="" td=""><td>1&lt; f &lt;2025 2255<f<12750< td=""></f<12750<></td></f></f>	1< f <2025 2255 <f<12750< td=""></f<12750<>
F <sub>uw</sub> (Band II operation)	MHz	1870 <f <1915<br="">2005<f <2050<="" td=""><td>1845 <f <1870<br="">2050 <f <2075<="" td=""><td>1&lt; f &lt;1845 2075<f<12750< td=""></f<12750<></td></f></f></td></f></f>	1845 <f <1870<br="">2050 <f <2075<="" td=""><td>1&lt; f &lt;1845 2075<f<12750< td=""></f<12750<></td></f></f>	1< f <1845 2075 <f<12750< td=""></f<12750<>
F <sub>uw</sub> (Band III operation)	MHz	1745 <f <1790<br="">1895<f <1940<="" td=""><td>1720 <f 1745<br="" <="">1940<f 1965<="" <="" td=""><td>1&lt; f &lt;1720 1965<f<12750< td=""></f<12750<></td></f></f></td></f></f>	1720 <f 1745<br="" <="">1940<f 1965<="" <="" td=""><td>1&lt; f &lt;1720 1965<f<12750< td=""></f<12750<></td></f></f>	1< f <1720 1965 <f<12750< td=""></f<12750<>
UE transmitted mean power	dBm	20 (for Power class 3) 18 (for Power class 4)		
Band I operation	For 2095 <f<2110 2170<f<2185="" 7.5.1="" 7.6.1="" adjacent="" and="" applied.<="" appropriate="" be="" blocking="" channel="" clause="" in="" in-band="" mhz="" mhz,="" or="" selectivity="" shall="" td="" the=""></f<2110>			
Band II operation	For 1915 <f<1930 1990<f<2005="" 7.5.1="" 7.6.2="" adjacent="" and="" applied<="" appropriate="" be="" blocking="" channel="" clause="" in="" in-band="" mhz="" mhz,="" or="" selectivity="" shall="" td="" the=""></f<1930>			
Band III operation	For 1790 <f<180 adjacent channe</f<180 	5 MHz and 1880 <f<189 I selectivity in clause 7.</f<189 	95 MHz, the appropriate 5.1 and clause 7.6.2 sh	in-band blocking or all be applied.

Table 6.5.6: Test parameters for narrow band blocking

Parameter	Unit	Band II	Band III
DPCH_Ec	dBm/3.84 MHz	<refsens> + 10 dB</refsens>	<refsens> + 10 dB</refsens>
Î <sub>or</sub>	dBm/3.84 MHz	<refî<sub>or&gt; + 10 dB</refî<sub>	<refî<sub>or&gt; + 10 dB</refî<sub>
Iblocking (GMSK)	dBm	-57	-56
F <sub>uw</sub> (offset)	MHz	2.7	2.8
UE transmitted mean	dPm	20 (for Powe	er class 3)
power	UDIII	18 (for Powe	er class 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.

# 6.6 Spurious Response

## 6.6.1 Definition and applicability

Spurious response is a measure of the receiver's ability to receive a wanted signal on its assigned channel frequency without exceeding a given degradation due to the presence of an unwanted CW interfering signal at any other frequency at which a response is obtained i.e. for which the out of band blocking limit is not met.

The requirements and this test apply to all types of UTRA for the FDD UE.

# 6.6.2 Minimum Requirements

The BER shall not exceed 0,001 for the parameters specified in table 6.6.1.

The normative reference for this requirement is TS 25.101 [23] clause 7.7.1.

Parameter	Level	Unit
DPCH_Ec	<refsens> +3 dB</refsens>	dBm / 3,84MHz
Î <sub>or</sub>	<refî<sub>or&gt; +3 dB</refî<sub>	dBm / 3,84MHz
I <sub>blocking</sub> (CW)	-44	dBm
F <sub>uw</sub>	Spurious response frequencies	MHz
UE transmitted mean power	20 (for Power class 3)	dBm
	18 (for Power class 4)	

### Table 6.6.1: Test parameters for Spurious Response

## 6.6.3 Test purpose

To verify that the UE BER does not exceed 0,001 for the parameters specified in table 6.6.1.

The lack of the spurious response ability decreases the coverage area when other unwanted interfering signal exists at any other frequency.

# 6.6.4 Method of test

#### 6.6.4.1 Initial conditions

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

Frequency to be tested: the same frequency as chosen in clause 6.5.4.1 for Blocking characteristics out-of-band case.

- 1) Connect the SS to the UE antenna connector as shown in figure A.6.
- 2) <u>RF parameters are set up according to table 6.6.2.</u>
- 3) A call is set up according to the Generic call setup procedure <u>specified in TS34.108[3] sub clause 7.3.2, with the</u> following exception for information elements in RADIO BEARER SETUP message. With this exception, the <u>Power Control Algorithm for the Uplink is set to algorithm 2.</u>, and RF parameters are set up according to table 6.6.2.

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

#### Table 6.6.1A Contents of RADIO BEARER SETUP message: AM or UM

Information Element	Value/Remark
CHOICE channel requirement	Uplink DPCH info
<ul> <li>Power Control Algorithm</li> </ul>	<u>Algorithm2</u>

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

#### 6.6.4.2 Procedure

- 1) Set the parameter of the CW generator as shown in table 6.6.2. The spurious response frequencies are determined in step 3) of clause 6.5.4.2.
- 2) Set the power level of UE according to the table 6.6.2 or send the power control commands (1dB step size should be used.) to the UE until UE output power measured by Test System shall be kept at the specified power level with ±1dB tolerance.
- <u>3)</u> Measure the BER of DCH received from the UE at the SS.

# 6.6.5 Test requirements

The measured BER, derived in step 2), shall not exceed 0,001.

Table 6.6.2: Test paramete	s for Spurious Response
----------------------------	-------------------------

Parameter	Level	Unit
DPCH_Ec	<refsens> +3 dB</refsens>	dBm / 3,84MHz
Î <sub>or</sub>	<refî<sub>or&gt; +3 dB</refî<sub>	dBm / 3,84MHz
I <sub>blocking</sub> (CW)	-44	dBm
Fuw	Spurious response	MHz
	frequencies	
UE transmitted mean power	20 (for Power class 3)	dBm
	18 (for Power class 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.

# 6.7 Intermodulation Characteristics

# 6.7.1 Definition and applicability

Third and higher order mixing of the two interfering RF signals can produce an interfering signal in the band of the desired channel. Intermodulation response rejection is a measure of the capability of the receiver to receive a wanted signal on its assigned channel frequency in the presence of two or more interfering signals which have a specific frequency relationship to the wanted signal.

The requirements and this test apply to all types of UTRA for the FDD UE. The test parameters in tables 6.7.2 and 6.7.4 applies to the FDD UE supporting Band II and Band II.

# 6.7.2 Minimum Requirements

The BER shall not exceed 0,001 for the parameters specified in table 6.7.1 and in table 6.7.2.

The normative reference for this requirement is TS 25.101 [23] clause 7.8.1 and clause 7.8.2.

NOTE: I<sub>ouw2</sub> (modulated) consists of the common channels needed for tests as specified in table E.4.1 and 16 dedicated data channels as specified in table E.3.6.

Parameter	Le	vel	Unit
DPCH_Ec	<refsen< td=""><td>IS&gt; +3 dB</td><td>dBm / 3,84 MHz</td></refsen<>	IS> +3 dB	dBm / 3,84 MHz
Î <sub>or</sub>	<refî<sub>or</refî<sub>	> +3 dB	dBm / 3,84 MHz
I <sub>ouw1</sub> (CW)		16	dBm
I <sub>ouw2</sub> mean power (modulated)	-46		dBm
F <sub>uw1</sub> (offset)	10	-10	MHz
F <sub>uw2</sub> (offset)	20	-20	MHz
UE transmitted mean power	20 (for Pov	ver class 3)	dBm
	18 (for Pov	ver class 4)	

#### Table 6.7.1: Test parameters for Intermodulation Characteristics

#### Table 6.7.2: Test parameters for narrow band intermodulation characteristics

Parameter	Unit	Ban	d II	Band III		
DPCH_Ec	dBm/3.84 MHz	<refsens< td=""><td>S&gt;+ 10 dB</td><td colspan="3"><refsens>+ 10 dB</refsens></td></refsens<>	S>+ 10 dB	<refsens>+ 10 dB</refsens>		
Î <sub>or</sub>	dBm/3.84 MHz	<refî<sub>or&gt; + 10 dB</refî<sub>		[ <refî<sub>or&gt; +10 dB</refî<sub>		
I <sub>ouw1</sub> (CW)	dBm	-44		-43		
I <sub>ouw2</sub> (GMSK)	dBm	-44	4	-43		
F <sub>uw1</sub> (offset)	MHz	3.5	-3.5	3.6	-3.6	
F <sub>uw2</sub> (offset)	MHz	5.9	-5.9	6.0	-6.0	
UE transmitted mean	dBm	20 (for Power class 3)				
power	ubili	18 (for Power class 4)				

NOTE: I<sub>ouw2</sub> (GMSK) is an interfering signal as defined in TS 45.004. It is a GMSK modulated carrier following the structure of the GSM signals, but with all modulating bits (including the midamble period) derived directly from a random or pseudo random data stream.

# 6.7.3 Test purpose

To verify that the UE BER does not exceed 0,001 for the parameters specified in table 6.7.1 and in table 6.7.2.

The lack of the intermodulation response rejection ability decreases the coverage area when two or more interfering signals, which have a specific frequency relationship to the wanted signal, exist.

# 6.7.4 Method of test

6.7.4.1 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 the SS to the UE antenna connector as shown in figure A.7.
- 2) <u>RF parameters are set up according to table 6.7.4 and table 6.7.4.</u>
- 3) A call is set up according to the Generic call setup procedure <u>specified in TS34.108[3] sub clause 7.3.2</u>, with the following exception for information elements in RADIO BEARER SETUP message. With this exception, the Power Control Algorithm for the Uplink is set to algorithm 2., and RF parameters are set up according to table 6.7.3 and table 6.7.4.

 $\underline{43}$ )Enter the UE into loopback test mode and start the loopback test.

#### Table 6.7.2A Contents of RADIO BEARER SETUP message: AM or UM

Value/Remark
Uplink DPCH info
Algorithm2

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

#### 6.7.4.2 Procedure

- 1) Set the parameters of the CW generator and interference signal generator as shown in table 6.7.3 and in table 6.7.4.
- Set the power level of UE according to the tables 6.7.3, and table 6.7.4 or send the power control commands (1dB step size should be used.) to the UE until UE output power measured by Test System shall be kept at the specified power level with ±1dB tolerance.

3) Measure the BER of DCH received from the UE at the SS.

### 6.7.5 Test requirements

The measured BER, derived in step 1), shall not exceed 0,001.

#### Table 6.7.3: Test parameters for Intermodulation Characteristics

Parameter	Le	vel	Unit
DPCH_Ec	<refsen< td=""><td>NS&gt; +3 dB</td><td>dBm / 3.84 MHz</td></refsen<>	NS> +3 dB	dBm / 3.84 MHz
Î <sub>or</sub>	<refî₀< td=""><td>r&gt; +3 dB</td><td>dBm / 3.84 MHz</td></refî₀<>	r> +3 dB	dBm / 3.84 MHz
I <sub>ouw1</sub> (CW)		46	dBm
I <sub>ouw2</sub> mean power (modulated)		46	dBm
F <sub>uw1</sub> (offset)	10	-10	MHz
F <sub>uw2</sub> (offset)	20	-20	MHz
UE transmitted mean power	20 (for Pov	ver class 3)	dBm
	18 (for Pov	ver class 4)	

#### Table 6.7.4: Test parameters for narrow band intermodulation characteristics

Parameter	Unit	Ban	d II	Band III		
DPCH_Ec	DdBm/3.84 MHz	<refsens< td=""><td>S&gt;+ 10 dB</td><td colspan="3"><refsens>+ 10 dB</refsens></td></refsens<>	S>+ 10 dB	<refsens>+ 10 dB</refsens>		
Î <sub>or</sub>	DdBm/3.84 MHz	DdBm/3.84 MHz <refî<sub>or&gt; + 10 dB</refî<sub>		[ <refî<sub>or&gt; +10 dB</refî<sub>		
I <sub>ouw1</sub> (CW)	dBm	-44		-43		
I <sub>ouw2</sub> (GMSK)	dBm	-4	-44		43	
F <sub>uw1</sub> (offset)	MHz	3.5	-3.5	3.6	-3.6	
F <sub>uw2</sub> (offset)	MHz	5.9	-5.9	6.0	-6.0	
UE transmitted mean power	dBm	20 (for Power class 3) 18 (for Power class 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.

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# How to create CRs using this form:

Other comments:

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

- 1) Fill out the above form. The symbols above marked # contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be

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

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

# F.6 General rules for statistical testing

## F.6.1 Statistical testing of receiver BER/BLER performance

### F.6.1.1 Error Definition

1) Bit Error Ratio (BER)

The Bit Error Ratio is defined as the ratio of the bits wrongly received to all data bits sent. The bits are the information bits above the convolutional/turbo decoder

2) Block Error Ratio (BLER)

A Block Error Ratio is defined as the ratio of the number of erroneous blocks received to the total number of blocks sent. An erroneous block is defined as a Transport Block, the cyclic redundancy check (CRC) of which is wrong.

### F.6.1.2 Test Method

Each test is performed in the following manner:

- a) Setup the required test conditions.
- b) Record the number of samples tested and the number of occurred events (bit error or block error)
- c) Stop the test at a stop criterion which is minimum test time or an early pass or an early fail event.
- d) Once the test is stopped decide according to the pass fail decision rules (subclause F.6.1.7)

### F.6.1.3 Test Criteria

The test shall fulfil the following requirements:

- a) good pass fail decision
  - 1) to keep reasonably low the probability (risk) of passing a bad unit for each individual test;
  - 2) to have high probability of passing a good unit for each individual test;
- b) good balance between testtime and statistical significance
  - 3) to perform measurements with a high degree of statistical significance;
  - 4) to keep the test time as low as possible.

### F.6.1.4 Calculation assumptions

It is assumed, that error events are independent statistical events. Due to the memory of the convolutional / turbo coder in the BER tests this is not quite true. Due to lack of information the assumption of independent error events is applied.

In the BLER test with fading there is the memory of the multipath fading channel which interferes the statistical independency. Independent error events are assumed but a minimum test time is introduced to average fluctuations of the multipath fading channel.

The formulas, applied to describe the BER BLER test, are primarily based on the following experiment:

(1) After having observed a certain number of errors (**ne**) the number of samples are counted to calculate BER BLER. Provisions are made (note 1) such that the complementary experiment is valid as well:

(2) After a certain number of samples (ns) the number of errors, occurred, are counted to calculate BER BLER.

Experiment (1) stipulates to use the following Chi Square Distribution with degree of freedom ne:

2\*dchisq(2\*NE,2\*ne) for all calculations.

(NE: average of the distribution)

### F.6.1.5 Definition of good pass fail decision.

This is defined by the probability of wrong decision D. The probability of a correct decision is 1-D.

The probability (risk) to fail a good DUT shall be  $\leq D$  according to the following definition: A DUT is failed, accepting a probability of  $\leq D$  that the DUT is still better than the specified error ratio (Test requirement).

The probability to pass a bad DUT shall be  $\leq D$  according to the following definition: A DUT is passed, accepting a probability of  $\leq D$  that the DUT is still worse than M times the specified error ratio. (M>=1 is the bad DUT factor).

This definitions lead to an early pass and an early fail limit:

Early fail: ber>= berlim<sub>fail</sub>

$$ber \lim_{fail} (D, ne) = \frac{2^* ne}{qchisq(D, 2^* ne)}$$
(1)

For ne>[5]

Early pass: ber <=berlimbad<sub>pass</sub>

$$ber \lim bad_{pass}(D, ne) = \frac{2 * ne * M}{qchisq(1 - D, 2 * ne)}$$
(2)

For ne  $\geq =1$ 

With

ber (normalized BER, BLER): BER, BLER according to F.6.1.1 divided by Test requirement

D: wrong decision probability see table F.6.1.8TBD

ne: Number of error events

M: bad DUT factor see table F.6.1.8<u>TBD</u>

qchisq: inverse cumulative chi squared distribution

### F.6.1.6 Good balance between testtime and statistical significance

Three independent test parameters are introduced into the test and shown in Table F.6.1.6.1. These are the obvious basis of test time and statistical significance. From the first two of them three dependent test parameters are derived. The third independent test parameter is justified separately.

Independe	ent test para	ameters	Dependent test parameters			
Test Parameter	Value	Reference	Test parameter	Value	Reference	
Target number of	[200]	Table <u>TBD</u> F.6.1.8	Early pass/fail	curves	Subclause F.6.1.5	
error events			condition		Figure 6.1.9	
Probability of wrong	[0.2%]	Subclause F.6.1.5	Bad DUT factor M	[1.5]	Table 6.1.8	
pass/fail decision D	[0.02%]					
			Test limit factor TL	[1.24]	Table 6.1.8	
Minimum test time		Table F.6.1.6.2				

Table F.6.1.6.1 independent and dependent test parameters

The minimum test time is derived from the following justification:

- 1) For no propagation conditions and static propagation condition
  - No early fail calculated from fractional number of errors <1 (see note 1)
- 2) For multipath fading condition

No stop of the test until 990 wavelengths are crossed with the speed given in the fading profile.

3) For birth death propagation conditions

No stop of the test until 200 birth death transitions occur

4) For moving propagation conditions: 628 sec

This is necessary in order to pass all potential critical points in the moving propagation profile:

Maximum rake window

Maximum adjustment speed

Intersection of moving taps

Table F.6.1.6.2 : minimum Test time

Fading prof	Minimum test time	
Multipath propagation	3 km/h	164 sec
Multipath propagation	50 km/h	9.8 sec
Multipath propagation	120 km/h	4.1 sec
Multipath propagation	250 km/h	2 sec
Birth Death propagatior	ו	38.2 sec
Moving propagation		628 sec

In table F.6.1.8TBD the minimum test time is converted in minimum number of samples.

### F.6.1.7 Pass fail decision rules

TBDNo decision is allowed before the minimum test time is elapsed.

- If minimum Test time < time for target number of error events then the following applies: The required confidence level (= correct decision probability 1-D) shall be achieved. This is fulfilled at an early pass or early fail event. The pass/fail decision is done accordingly.
- 2) If the minimum test time >= time for target error events, then the test runs for the minimum test time and the decision is done by comparing the result with the test limit.

### F.6.1.8 Test conditions for BER, BLER tests

TBD

<del>Type of test</del> <del>(BER)</del>	Propagation conditions	<del>Test</del> r <del>equirement</del> (BER/BLER)	Test limit (BER/BLER) = Test requirement (BER/BLER) x TL TL	Target number of error events (time)	Minimum number of samples	Prob that good unit will fail = Prob that bad unit will pass -{%}	<del>Bad unit</del> <del>BER/BLE</del> <del>R factor M</del>
Reference Sensitivity Level	-	<del>0.001</del>	<del>[1.24]</del>	<del>[200]</del> <del>(13.2s)</del>	Note 1	<del>[0.2]</del>	<del>[1.5]</del>
Maximum Input Level	-	<del>0.001</del>	<del>[1.24]</del>	<del>[200]</del> <del>(13.2s)</del>	Note 1	<del>[0.2]</del>	<del>[1.5]</del>
Adjacent Channel Selectivity	-	<del>0.001</del>	<del>[1.24]</del>	<del>[200]</del> <del>(13.2s)</del>	Note 1	<del>[0.2]</del>	<del>[1.5]</del>
Blocking Characteristics Pass condition Note 3	-	<del>0.001</del>	<del>[1.262]</del>	[ <del>252]</del> <del>(16.6s)</del>	Note 1	<del>[0.2]</del>	<del>[1.5]</del>
Blocking Characteristics Fail condition -Note 3	-	<del>0.001</del>	[ <del>1.262]</del>	<del>[252]</del> <del>(16.6s)</del>	Note 1	<del>[0.02]</del>	<del>[1.5]</del>
Spurious Response	-	0.001	[1.24]	[ <u>200]</u> (13.2s)	Note 1	[0.2]	<del>[1.5]</del>
Intermodulation Characteristics	-	<del>0.001</del>	<del>[1.24]</del>	[ <u>200]</u> ( <del>13.2s)</del>	Note 1	<del>[0.2]</del>	<del>[1.5]</del>

### Table F.6.1.8: Test conditions for a single BER/BLER tests

<del>Type of test</del> (BLER)	Information Bit rate	<del>Test</del> requirement (BER/BLER)	Test limit (BER/BLER) = Test requirement (BER/BLER) x TL	<del>Target</del> number of error events (time)	Minimum number of samples	Prob that bad unit will pass = Prob that good unit will fail [%]	Bad unit BER/BLER factor M
			ŦĿ				
Demodulation in Static Propagation conditions	<del>12.2</del> 64 144 384	0.01 0.1 0.01 0.1 0.01 0.01 0.1	<del>[1.24]</del>	[200] (322.6s) (32.3s) (322.6s) (32.3s) (322.6s) (322.6s) (16.1s)	Note1	<del>[0.2]</del>	<del>[1.5]</del>
		0.01		<del>(161.3s)</del>			
Demodulation of DCH in Multi-path Fading Propagation conditions							
3km/h			<del>[1.24]</del>	[ <del>200]</del>		<del>[0.2]</del>	<del>[1.5]</del>
<del>(Case 1, Case 2,</del> <del>Case 4)</del>	<del>12.2</del> 64 144	0.01 0.1 0.01 0.1		( <del>322.6s)</del> ( <del>32.3s)</del> ( <del>322.6s)</del> (32.3c)	[ <del>90]</del> [ <del>90]</del> [ <del>90]</del>		
	384	0.01 0.01 0.1		( <del>322.6s)</del> ( <del>16.1s)</del> (161.3s)	[90] [90] [180]		
120 km/h		0.01	[1.24]	[200]		[0.2]	[1.5]
<del>(Case3)</del>	<del>12.2</del> 64	0.01 0.1 0.01	[	( <del>322.6s)</del> ( <del>32.3s)</del> ( <del>322.6s)</del>	<del>[3]</del> [ <del>3]</del> [ <del>3]</del>	[]	[]
	<del>144</del> <del>384</del>	0.1 0.01 0.1		( <del>32.3s)</del> ( <del>322.6s)</del> ( <del>16.1s)</del>	<del>[3]</del> [ <del>3]</del> [ <del>5]</del>		
250 km/h		0.01	[1.24]	( <del>161.38)</del> [200]	<del>[ə]</del>	[0.2]	[1.5]
(Case 6)	<del>12.2</del> 64	0.01 0.1 0.01	[]	( <u>322.6s)</u> ( <u>32.3s)</u> ( <u>322.6s)</u>	[ <del>2]</del> [ <del>2]</del> [ <del>2]</del>	[0.2]	[110]
	<del>144</del> <del>384</del>	0.1 0.01 0.1 0.01		( <del>32.3s)</del> ( <del>322.6s)</del> ( <del>16.1s)</del> (161.3s)	[ <del>2]</del> [ <del>2]</del> [3] [3]		
Demodulation of DCH in Moving Propagation	<del>12.2</del> 64	0.01 0.01	<del>[1.24]</del>	<del>[200]</del> <del>(322.6)</del>	[7850] [7850] [7850]	<del>[0.2]</del>	<del>[1.5]</del>
Demodulation of DCH in Birth-Death Propagation	<del>12.2</del> 64	0.01 0.01	<del>[1.24]</del>	<del>[200]</del> ( <del>322.6s)</del> ( <del>322.6s)</del>	<del>(Note 2)</del> [ <del>96]</del> [ <del>96]</del>	<del>[0.2]</del>	<del>[1.5]</del>
conditions			[1 24]	[200]	[00]	[0 2]	[1 5]
in Base Station Transmit diversity modes (3 km/h, case1)	<del>12.2</del>	<del>0.01</del>	[1.24]	<del>(322.68)</del>	[30]	<del>[U.Z]</del>	<u>[1:0]</u>
Demodulation of DCH in closed loop transmit diversity mode (3 km/h, case1)			<del>[1.24]</del>	<del>[200]</del>		<del>[0.2]</del>	<del>[1.5]</del>
Mode 1	<del>12.2</del>	0.01		<del>(322.6s)</del>	<del>[90]</del>		
Mode 2	<del>12.2</del>	<del>0.01</del>		<del>(322.6s)</del>	<del>[90]</del>		

#### Table F.6.1.8-2: Test conditions for BLER tests

Demodulation of DCH			<del>[1.24]</del>	<del>[200]</del>	<del>[90]</del>	<del>[0.2]</del>	<del>[1.5]</del>
in Site Selection	<del>12.2</del>	<del>0.01</del>		<del>(322.6)</del>			
Diversity							
Transmission Power							
Control mode							
Demodulation of DCH			<del>[1.24]</del>	<del>[200]</del>		<del>[0.2]</del>	<del>[1.5]</del>
in Inter-Cell Soft	<del>12.2</del>	<del>0.01</del>		<del>(322.6s)</del>	<del>[3]</del>		
Handover	<del>64</del>	<del>0.1</del>		<del>(32.3s)</del>	<del>[3]</del>		
<del>(120 km/h, case3)</del>		<del>0.01</del>		<del>(322.6s)</del>	<del>[3]</del>		
	144	<del>0.1</del>		<del>(32.3s)</del>	<del>[3]</del>		
		<del>0.01</del>		<del>(322.6s)</del>	<del>[3]</del>		
	<del>384</del>	<del>0.1</del>		<del>(16.1s)</del>	<del>[3]</del>		
		<del>0.01</del>		<del>(161.3s)</del>	<del>[5]</del>		
Combining of TPC				Not			
commands from radio				applicable			
links of different radio							
link sets							
Power control in the				Not			
downlink, constant				applicable			
BLER target							
Power control in the				Not			
downlink, initial				applicable			
convergence							
Power control in the				Not			
downlink, wind up				applicable			
effects							
Downlink compressed				Not			
mode				applicable			
Blind transport format				Not			
detection				applicable			

# F.6.1.9 Practical Use (informative)

#### TBDSee figure F.6.1.9:

The early fail limit represents formula (1) in F.6.1.5 The range of validity is [ne>5, >6 in case of blocking test] to [ne=200]

The early pass limit represents the formula (2) in F.6.1.5 The range of validity is ne=1 to [ne =200]. See note 1

The intersection co-ordinates of both curves are : number of errors ne = [200] and test limit TL = [1.24].

The range of validity for TL is ne>200.

A typical BER BLER test, calculated form the number of samples and errors (F.6.1.2.(b)) using experimental method (1) or (2) (see F.6.1.4. calculation assumptions) runs along the yellow trajectory. With an errorless sample the trajectory goes down vertically. With an erroneous sample it goes up right. The tester checks if the BER BLER test intersects the early fail or early pass limits. The real time processing can be reduced by the following actions:

BER BLER is calculated only in case of an error event.

So the early fail limit cannot be missed by errorless samples.

The check against the early pass limit may be done by transforming formula (2) in F.6.1.5 such that the tester checks against a Limit Number of samples (NL(ne)) depending on the current number of errors.

Early pass if

 $\frac{NL(ne) \ge \frac{qchisq(1-D,2*ne)}{2*TR*M}}{2$ 

TR: test requirement (0.001)



# F.6.2 Statistical testing of RRM delay performance

Delay tests in clause 8.2 shall be repeated [50] times in order to determine the required success ratio

NOTE: A statistical approach needs to be developed. The number of repetitions required for the test will target towards a good compromise between test time and wrong decision risk.

CHANGE REQUEST						
ж <mark>34</mark>	4.121 CR 206 <b># rev</b> - <sup># Current version: 3.9.0 <sup>#</sup></sup>					
For <u>HELP</u> on using	$\eta$ this form, see bottom of this page or look at the pop-up text over the $st$ symbols.					
Proposed change affects: # (U)SIM ME/UE X Radio Access Network Core Network						
Title: # Co	orrection to clause 8.3.5 Cell Re-selection in CELL_EACH					
Source: # 11						
Work item code: # -	Date: 第 2002-07-17					
Category: # F Use Detr be f	Release: % R99e one of the following categories:Use one of the following releases:F (correction)2(GSM Phase 2)A (corresponds to a correction in an earlier release)R96(Release 1996)B (addition of feature),R97(Release 1997)C (functional modification of feature)R98(Release 1998)D (editorial modification)R99(Release 1999)tailed explanations of the above categories canREL-4(Release 4)found in 3GPP TR 21.900.REL-5(Release 5)					
Reason for change: अ	<ul> <li>there is mention of the Tsi in TS25,133 A.5.5.1.2 and A.5.5.2.2 as follows.</li> <li>T<sub>SI</sub>: The 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.1280 ms is assumed in this test case.</li> <li>NOTE: Since 1280 ms is one of the typical values for repeating system information blocks, T<sub>SI</sub> of 1280 ms could be increased by the RRC procedure delay in order to allow the SIB repetition period of 1280 ms.</li> </ul>					
	As for TS34.121, the RRC procedure delay for receiving SIB is not taken into consideration.					
	2) Periodical Location Updating timer and periodical Routing Area Updating timer is set up in the generic set-up procedure described in TS 34.108 subclause 7.4.2. Hence the UE may perform a Location Updating or Routing Area Updating procedure that is not expected in test procedure since UE is in CELL_FACH state, and so the test procedure is not executed correctly. Periodical cell update procedure is also initiated in CELL_FACH state according to T305.					
	3)The number of FDD frequencies in the Inter-frequency cell info list is not clear.					
	4)The beginning of time period T1 isn't clear in "Procedure".					
	5)It is not clear how random access procedure is terminated in test procedure.					
	The following modification is added into T1R020232.					
	6) Minimum requirement is not changed and test procedure is modified according to 1).					
Summary of change: ₩	1) T <sub>SI</sub> of 1280 ms is increased by the maximum RRC procedure delay for Broadcast of system information described in TS25.331 13.5.2. This delay is 100 ms as maximum. Therefore Tsi is set to 1380ms.					

	2) Test procedure described in TS34.108 7.3.3 in which periodical AS and NAS timers are deactivated is used in this test case.
	3) The number of FDD frequencies in the Inter-frequency cell info lists is changed to 2.
	4) The timing when call set up has completed at step 3 is made the beginning of time period T1.
	5) CELL UPDATE and CELL UPDATE CONFIRM message is used to terminate the random access procedure.
	The following modification is added into T1R020232.
	6) Additional timer value from RRC procedure delay for Tsi is explained in test procedure.
Consequences if #	1)34.121 and 25.133 will be inconsistent.
not approved:	2) The test procedure cannot be executed correctly with a compliant UE, and test requirement cannot be met.
	3) T <sub>Measurement_inter</sub> becomes different from 480ms
	4) Ability beyond Minimum requirement is required. Even "Good UE" may not pass this test.
	5) Test procedure is not terminated properly.
Clauses affected: #	8.3.5

Other specs affected:	Ħ	Other core specifications       #         Test specifications       0&M Specifications				
	_					
Other comments:	ж	T1-020456 and T1-020485 are CRs on the same item.				

#### How to create CRs using this form:

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

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

# 8.3.5 Cell Re-selection in CELL\_FACH

### 8.3.5.1 One frequency present in neighbour list

#### 8.3.5.1.1 Definition and applicability

The cell re-selection delay is defined as the time between the occurrence of an event which will trigger Cell Reselection process and the moment in time when the UE starts sending the the preambles on the PRACH for sending RRC CELL UPDATE message to the UTRAN.

#### 8.3.5.1.2 Minimum requirements

The cell re-selection delay shall be less than 1.6 s.

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

If a cell has been detectable at least  $T_{identify,intra}$ , the cell reselection delay in CELL\_FACH state to a cell in the same frequency shall be less than

$$T_{reselection, intra} = T_{Measurement_Period Intra} + T_{IU} + 20 + T_{SI} + T_{RA} ms$$

where

 $T_{Measurement\_Period Intra} = 200 \text{ ms.}$ 

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

 $T_{SI}$  = The 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. 1280 ms is assumed in this test case.

 $T_{RA}$  = The additional delay caused by the random access procedure.  $T_{RA}$  is a delay is caused by the physical random access procedure described in TS 25.214 clause 6.1. A persistence value is assumed to be 1 in this test case and therefore  $T_{RA}$  in this test case is 40 ms.

These requirements assume radio conditions to be sufficient, so reading of system information can be done without errors.

The normative reference for this requirement is TS 25.133 [2] clauses 5.5.2.1.1 and A.5.5.1.

#### 8.3.5.1.3 Test purpose

The purpose of this test is to verify the requirement for the cell re-selection delay in CELL\_FACH state in the single carrier case

#### 8.3.5.1.4 Method of test

#### 8.3.5.1.4.1 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 8.3.5.1.1 to 8.3.5.1.4. The UE is requested to monitor neighbouring cells on 1 carrier. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1280 ms.

	Parameter	Unit	Value	Comment
initial	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5, Cell6	
final condition	Active cell		Cell1	
Access Service Class (ASC#0) – Persistence value		-	1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.
T1		S	15	
T2		S	15	

### Table 8.3.5.1.1: General test parameters for Cell Re-selection in CELL\_FACH

The transport and physical parameters of the S-CCPCH carrying the FACH are defined in table 8.3.5.1.2 and table 8.3.5.1.3.

### Table 8.3.5.1.2: Physical channel parameters for S-CCPCH.

Parameter	Unit	Level
Channel bit rate	kbps	60
Channel symbol rate	ksps	30
Slot Format #I	-	4
TFCI	-	OFF
Power offsets of TFCI and Pilot fields relative to data field	dB	0

### Table 8.3.5.1.3: Transport channel parameters for S-CCPCH

Parameter	FACH													
Transport Channel Number	1													
Transport Block Size	240													
Transport Block Set Size	240													
Transmission Time Interval	10 ms													
Type of Error Protection	Convolution Coding													
Coding Rate	1/2													
Rate Matching attribute	256													
Size of CRC	16													
Position of TrCH in radio frame	Fixed													
Parameter	Unit	Ce	ell 1	Cell 2		Ce	Cell 3		Cell 4		Cell 5		Cell 6	
--------------------------------------------------------	-----------------	---------------------------------------------------------------	----------	-------------------------------------------------------	-------------	-------------------------------------------	-------------------------------------------	---------------------------------------------------------------	--------------------------------------	---------------------------------	-------------------------------------------	-------------------------------------------	-------------------------------------------	--
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	
UTRA RF Channel		Cha	nol 1	Chan	Oh ann al 4		nol 1	Cha	Ohannal 4				Ohannald	
Number		Chai	nner	Chan	Channel 1		ner	Channel 1		Channel 1		Chan	ner	
CPICH_Ec/lor	dB	-	10	-1	0	-1	-10 -10		-	-10	- '	10		
PCCPCH_Ec/lor	dB	-	12	-1	2	-1	2	-	12	-	-12	-1	12	
SCH_Ec/lor	dB	-	12	-1	2	-1	2	-	12	-	-12		12	
PICH_Ec/lor	dB	-	15	-1	5	-1	5	-	15	-	-15	-1	15	
S-CCPCH_Ec/lor	dB	-	12	-1	2	-1	2	-'	12	-	12	-1	2	
OCNS_Ec/lor	dB	-1.	295	-1.2	295	-1.2	295	-1.	295	-1.	.295	-1.2	295	
$\hat{I}_{or}/I_{oc}$	dB	7.3	10.27	10.27	7.3	0.2	27	0.	27	0	.27	0.2	27	
I <sub>oc</sub>	dBm/3.84 MHz		-70											
CPICH_Ec/lo	dB	-16	-13	-13	-16	-2	23	-	23	-	-23	-2	23	
Propagation Condition			AWGN											
Cell_selection_and_ reselection_quality_ measure		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		CPI E√	CH N₀	CPICI	CPICH E <sub>c</sub> /N <sub>0</sub>		H E₀/N₀	CPI E <sub>c</sub> /	ICH ∕N₀	
Qqualmin	dB	-20		-20		-2	0	-:	-20		20	-2	<u>20</u>	
Qrxlevmin	dBm	-1	15	-115		-11	15	-115		-1	115	-1	15	
UE_TXPWR_ MAX_RACH	dBm	2	21	21		2	1	21		2	21	2	1	
Qoffset 2 <sub>s, n</sub>	dB	C1, C2: 0 C1, C3: 0 C1, C4: 0 C1, C5: 0 C1, C6: 0		$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		C3, C C3, C C3, C C3, C C3, C	C1: 0 C2: 0 C4: 0 C5: 0 C6: 0	C4, C1: 0 C4, C2: 0 C4, C3: 0 C4, C5: 0 C4, C6: 0		C5, C5, C5, C5, C5,	C1: 0 C2: 0 C3: 0 C4: 0 C6: 0	C6, 0 C6, 0 C6, 0 C6, 0 C6, 0	C1: 0 C2: 0 C3: 0 C4: 0 C5: 0	
Qhyst	dB		0	C	)	0	)		0		0	(	)	
PENALTY_TIME	S	0		0	)	0	)		0		0	(	)	
TEMPORARY_OFF SET	dB	0		C	)	C	)		0		0	(	)	
Treselection	S	0		C	)	0	0 0		0	0		(	)	
Sintrasearch	dB	not sent		not s	sent	not s	sent	not	not sent		sent	not	sent	
IE "FACH Measurement occasion info"		not	not sent		not sent		sent	not	sent	not	sent	not	sent	

### Table 8.3.5.1.4: Cell specific test parameters for Cell Re-selection in CELL\_FACH

#### 8.3.5.1.4.2 Procedure

- 1) The SS activates cell 1-6 with RF parameters set up according to T1.
- 2) The UE is switched on.
- An RRC connection is set up according to the signalling sequence in the generic set-up procedure specified in TS 34.108 [3] subclause <u>7.3.37.4.2</u> to place the UE in CELL\_FACH.
- 4) After 15 seconds after step3 has completed, the SS shall switch the power settings from T1 to T2.
- 5) The SS waits for random access requests from the UE. If the UE responds on cell 1 within <u>1.7</u><u>1.6</u> s from the beginning of time period T2 then the number of successful tests is increased by one. And if the SS receive a CELL UPDATE message from the UE, the SS shall transmit a CELL UPDATE CONFIRM-message according to cell update procedure specified in TS 25.331 subclause 8.3.1.
- 6) After another 15 s from the beginning of time period T2, the parameters are changed to that as described for T1.
- 7) 7) The SS waits for random access requests from the UE. If the UE responds on cell 2 within <u>1.74.6 s from the beginning of time period T1</u> then the number of successful tests is increased by one. And if the SS receive a CELL UPDATE message from the UE, the SS shall transmit a CELL UPDATE CONFIRM-message according to cell update procedure specified in TS 25.331 subclause 8.3.1.
- 8) After 15 s from the beginning of time period T1, the parameters are changed to that as described for T2.

<u>98</u>)Repeat step 45) to <u>87</u>) [TBD] times.

NOTE: The 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. Since the maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell is 1280ms and the maximum RRC procedure delay for reception system information block is 100ms, 1380 ms is assumed in this test case. Therefore the cell re-selection delay shall be less than 1.7 s.(Minimum requirement + 100ms).

#### 8.3.5.1.5 Test requirements

For the test to pass, the total number of successful attempts shall be more than 90% with a confidence level of [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.

#### 8.3.5.2 Two frequencies present in the neighbour list

#### 8.3.5.2.1 Definition and applicability

The cell re-selection delay is defined as the time between the occurrence of an event which will trigger Cell Reselection process and the moment in time when the UE starts sending the the preambles on the PRACH for sending RRC CELL UPDATE message to the UTRAN.

#### 8.3.5.2.2 Minimum requirements

The cell re-selection delay shall be less than 1.9 s.

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

If a cell has been detectable at least  $T_{identify,inter}$ , the cell reselection delay in CELL\_FACH state to a FDD cell on a different frequency shall be less than

 $T_{\text{reselection, inter}} = T_{\text{Measurement inter}} + T_{\text{IU}} + 20 + T_{\text{SI}} + T_{\text{RA}} \text{ ms}$ 

where

T<sub>Measurement inter</sub> is 480 ms in this case

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

 $T_{SI}$  = The 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. 1280 ms is assumed in this test case.

 $T_{RA}$  = The additional delay caused by the random access procedure.  $T_{RA}$  is a delay is caused by the physical random access procedure described in TS 25.214 clause 6.1. A persistence value is assumed to be 1 in this test case and therefore  $T_{RA}$  in this test case is 40 ms.

These requirements assume radio conditions to be sufficient, so that reading of system information can be done without errors.

The normative reference for this requirement is TS 25.133 [2] clauses 5.5.2.1.2 and A.5.5.2.

#### 8.3.5.2.3 Test purpose

The purpose of this test is to verify the requirement for the cell re-selection delay in CELL\_FACH state in the single carrier case

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### 8.3.5.2.4 Method of test

#### 8.3.5.2.4.1 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.

The test parameters are given in table 8.3.5.2.1 to 8.3.5.2.4. The UE is requested to monitor neighbouring cells on 24 carriers. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1280 ms

#### Table 8.3.5.2.1: General test parameters for Cell Re-selection in CELL\_FACH

Parameter		Unit	Value	Comment
initial	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5, Cell6	
final condition	Active cell		Cell1	
Access Service Class (ASC#0) – Persistence value		-	1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.
T1		S	15	
T2		S	15	

The transport and physical parameters of the S-CCPCH carrying the FACH are defined in table 8.3.5.2.2 and table 8.3.5.2.3.

Table 8.3.5.2.2: Physical channel parameters for S-CCPCH.

Parameter	Unit	Level
Channel bit rate	kbps	60
Channel symbol rate	ksps	30
Slot Format #I	-	4
TFCI	-	OFF
Power offsets of TFCI and Pilot fields relative to data field	dB	0

#### Table 8.3.5.2.3: Transport channel parameters for S-CCPCH

Parameter	FACH
Transport Channel Number	1
Transport Block Size	240
Transport Block Set Size	240
Transmission Time Interval	10 ms
Type of Error Protection	Convolution Coding
Coding Rate	1/2
Rate Matching attribute	256
Size of CRC	16
Position of TrCH in radio frame	Fixed

Parameter	Unit	Cell	1	Cell 2		Cell 3		Cell 4		Cell 5		Cell 6					
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2				
UTRA RF Channel Number		Channe	1	Channel 2		Channel 1		Channel 1		Channel 2		Chanr	nel 2				
CPICH_Ec/lor	dB	-10		-10		-10		-10		-10		-10					
PCCPCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12					
SCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12					
PICH_Ec/lor	dB	-15		-15		-15		-15		-15		-15					
S-CCPCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12					
OCNS_Ec/lor	dB	-1.295		-1.295	5	-1.295		-1.295		-1.295		-1.295	1				
$\hat{I}_{or}/I_{oc}$	dB	-3.4 2	.2	2.2	-3.4	-7.4	-4.8	-7.4	-4.8	-4.8	-7.4	-4.8	-7.4				
I <sub>oc</sub>	dBm/3.8 4 MHz	-70									I						
CPICH_Ec/lo	dB	-16	-13	-13	-16	-2	0	-2	20	-2	0	-:	20				
Propagation Condition		AWGN															
Cell_selection_ and_reselection_ quality_measure		CPICH         CPICH           E_/N_0         E_/N_0		CPIC⊦ E₀/N₀	l	CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH	ΗE₀/N₀						
Qqualmin	dB	-20		-20		-20		-20		-20		-20					
Qrxlevmin	dBm	-115		-115		-115		-115		-115		-115					
UE_TXPWR_ MAX_RACH	dBm	21 21		21		21		21		21		21					
Qoffset2 <sub>s, n</sub>	dB	C1, C2: 0 C2, C C1, C3: 0 C2, C C1, C4: 0 C2, C C1, C5: 0 C2, C C1, C5: 0 C2, C		C2, C1: 0 C2, C3: 0 C2, C4: 0 C2, C5: 0 C2, C6: 0		C3, C1: 0       C4, C1: 0         C3, C2: 0       C4, C2: 0         C3, C4: 0       C4, C3: 0         C3, C5: 0       C4, C5: 0         C3, C6: 0       C4, C6: 0		C5, C1: 0 C5, C2: 0 C5, C3: 0 C5, C4: 0 C5, C6: 0		C6, C C6, C C6, C C6, C C6, C	1: 0 2: 0 3: 0 4: 0 5: 0						
Qhyst2	dB	0 0		0		0		0		0							
PENALTY_TIME	S	0		0		0		0		0		0					
TEMP_OFFSET	dB	0		0		0		0		0		0					
Treselection	S	0		0		0		0		0		0					
Sintrasearch	dB	not sent		not se	ent	not se	nt	not sent		not sent		not se	nt				
Sintersearch	dB	not sent		not se	ent	not se	nt	not sent		not sent		not se	nt				
IE "FACH Measurement occasion info"		sent	sent sent		sent		sent		Sent		sent						
FACH Measurement occasion cycle length coefficient		3		3		3		3		3		3		3		3	
Inter-frequency FDD measurement indicator		TRUE		TRUE		TRUE		TRUE		TRUE		TRUE					
Inter-frequency TDD measurement indicator		FALSE		FALSE		FALSE		FALSE		FALSE		FALSE	Ξ				

## Table 8.3.5.2.4: Cell specific test parameters for Cell re-selection in CELL\_FACH state

### 8.3.5.2.4.2

#### Procedure

- 1) The RF parameters for cell 1 are set up according to T1.
- 2) The UE is switched on.
- An RRC connection is set up according to the signalling sequence in the generic set-up procedure specified in TS 34.108 [3] subclause <u>7.3.37.4.2</u> to place the UE in CELL\_FACH.
- 4) After-15 seconds after step3 has completed, the SS shall switch the power settings from T1 to T2.
- 5) The SS waits for random access requests from the UE. If the UE responds on cell 1 within 2.01.6 s from the beginning of time period T2 then the number of successful tests is increased by one. And if the SS receive a CELL UPDATE message from the UE, the SS shall transmit a CELL UPDATE CONFIRM-message according to cell update procedure specified in TS 25.331 subclause 8.3.1.

- 6) After another 15 s from the beginning of time period T2, the parameters are changed to that as described for T1.
- 7) 7) The SS waits for random access requests from the UE. If the UE responds on cell 2 within 2.01.6 s from the beginning of time period T1 then the number of successful tests is increased by one. And if the SS receive a CELL UPDATE message from the UE, the SS shall transmit a CELL UPDATE CONFIRM message according to cell update procedure specified in TS 25.331 subclause 8.3.1.
- 8) After 15 s from the beginning of time period T1, the parameters are changed to that as described for T2.

<u>98</u>)Repeat step <u>54</u>) to <u>87</u>) [TBD] times.

NOTE: The 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. Since the maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell is 1280ms and the maximum RRC procedure delay for reception system information block is 100ms, 1380 ms is assumed in this test case. Therefore the cell re-selection delay shall be less than 2.0 s.(Minimum requirement + 100ms).

#### 8.3.5.2.5 Test requirements

For the test to pass, the total number of successful attempts shall be more than 90% with a confidence level of [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.

## 3GPP TSG-T WG1 16 Meeting #16 Yokohama, Japan, 29 July – 2 August 2002

## Tdoc T1-020485

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For <b>HELP</b> on using this form, see bottom of this page or look at the pop-up text over the <b>#</b> symbols.												
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Reason for change: #	Test Requirements are missing.						
Summary of change: #	Test Requirements are included.						
Consequences if #	Test could fail "good UEs" because Test Requirements differ from the Minimum						
not approved:	Requirements						
Clauses affected: #	8.3.5						
Other specs अ affected:	Y       N         X       Other core specifications         X       Test specifications         X       O&M Specifications						
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Other comments:	a isolated impact Analysis. Does not affect implementation of the UE.						

#### How to create CRs using this form:

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

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

## 8.3.5 Cell Re-selection in CELL\_FACH

## 8.3.5.1 One frequency present in neighbour list

## 8.3.5.1.1 Definition and applicability

The cell re-selection delay is defined as the time between the occurrence of an event which will trigger Cell Reselection process and the moment in time when the UE starts sending the the preambles on the PRACH for sending RRC CELL UPDATE message to the UTRAN.

## 8.3.5.1.2 Minimum requirements

The cell re-selection delay shall be less than 1.6 s.

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

If a cell has been detectable at least  $T_{identify,intra}$ , the cell reselection delay in CELL\_FACH state to a cell in the same frequency shall be less than

$$T_{reselection,\,intra} = T_{Measurement\_Period\,Intra} + T_{IU} + 20 + T_{SI} + T_{RA} \ ms$$

where

 $T_{Measurement\_Period Intra}$  = 200 ms.

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

 $T_{SI}$  = The 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. 1280 ms is assumed in this test case.

 $T_{RA}$  = The additional delay caused by the random access procedure.  $T_{RA}$  is a delay is caused by the physical random access procedure described in TS 25.214 clause 6.1. A persistence value is assumed to be 1 in this test case and therefore  $T_{RA}$  in this test case is 40 ms.

These requirements assume radio conditions to be sufficient, so reading of system information can be done without errors.

The normative reference for this requirement is TS 25.133 [2] clauses 5.5.2.1.1 and A.5.5.1.

## 8.3.5.1.3 Test purpose

The purpose of this test is to verify the requirement for the cell re-selection delay in CELL\_FACH state in the single carrier case

### 8.3.5.1.4 Method of test

### 8.3.5.1.4.1 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 8.3.5.1.1 to 8.3.5.1.4. The UE is requested to monitor neighbouring cells on 1 carrier. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1280 ms.

Parameter		Unit	Value	Comment
initial	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5, Cell6	
final	Active cell		Cell1	
condition				
Access Service Class (ASC#0)				Selected so that no additional delay is
- Persistence value		-	1	caused by the random access
				all cells in the test.
T1		S	15	
T2		S	15	

The transport and physical parameters of the S-CCPCH carrying the FACH are defined in table 8.3.5.1.2 and table 8.3.5.1.3.

## Table 8.3.5.1.2: Physical channel parameters for S-CCPCH.

Parameter	Unit	Level
Channel bit rate	kbps	60
Channel symbol rate	ksps	30
Slot Format #I	-	4
TFCI	-	OFF
Power offsets of TFCI and Pilot fields relative to data field	dB	0

## Table 8.3.5.1.3: Transport channel parameters for S-CCPCH

Parameter	FACH
Transport Channel Number	1
Transport Block Size	240
Transport Block Set Size	240
Transmission Time Interval	10 ms
Type of Error Protection	Convolution Coding
Coding Rate	1/2
Rate Matching attribute	256
Size of CRC	16
Position of TrCH in radio frame	Fixed

Table 8.3.5.1.4: Cell spe	ecific test parameters for	r Cell Re-selection in CELL_FACH
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Parameter	Unit	Ce	ell 1	Ce	12	Ce	13	C	ell 4	Ce	ell 5	Ce	II 6
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel		Char	anal 1	Chan	nol 1	Chan	nol 1	Cha	nnol 1	Cha	nnol 1	Char	nol 1
Number		Unar		Chan	neri	Chan		Una		Una		Char	
CPICH_Ec/lor	dB	-	10	-1	-10		-10		-10		·10	-10	
PCCPCH_Ec/lor	dB	-	-12		-12		-12		-12		-12		12
SCH_Ec/lor	dB	-	12	-1	2	-1	-12		-12		·12	- ^	12
PICH_Ec/lor	dB	-	15	-1	5	-1	5		-15	-	·15	- ^	15
S-CCPCH_Ec/lor	dB	-	12	-1	2	-1	2	-	12	-	12	-1	2
OCNS_Ec/lor	dB	-1.	295	-1.2	295	-1.2	95	-1	.295	-1.	.295	-1.2	295
$\hat{I}_{or}/I_{oc}$	dB	7.3	10.27	10.27	7.3	0.2	27	0	.27	0	.27	0.:	27
I <sub>oc</sub>	dBm/3.84 MHz						-7	0					
CPICH_Ec/lo	dB	-16	-13	-13	-16	-2	3		-23	-	·23	-2	23
Propagation Condition			AWGN										
Cell_selection_and_ reselection_quality_ measure		CPIC	CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		ICH ∕N₀
Qqualmin	dB	-2	20	-20		-20		-	-20		-20		20
Qrxlevmin	dBm	-1	15	-115		-115		-115		-115		-1	15
UE_TXPWR_ MAX_RACH	dBm	2	21	21		21		21		21		2	1
Qoffset 2 <sub>s, n</sub>	dB	C1, C1, C1, C1, C1, C1,	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 (		C1: 0 C2: 0 C3: 0 C5: 0 C6: 0	C5, C1: 0 C5, C2: 0 C5, C3: 0 C5, C4: 0 C5, C6: 0		C6, 0 C6, 0 C6, 0 C6, 0 C6, 0	C1: 0 C2: 0 C3: 0 C4: 0 C5: 0
Qhyst	dB		0	C	)	0	)		0		0	(	)
PENALTY_TIME	<del>\$</del>	1	0	Ģ	).	G	L .		0		0	(	•
TEMPORARY_OFF	d₿		θ		)	Ģ	ŀ		θ		θ		÷
Treselection	S		0	C	)	C	)		0		0	(	)
Sintrasearch	dB	not	sent	not s	sent	not s	sent	not	sent	not	not sent		sent
IE "FACH Measurement occasion info"		not	sent	not sent		not sent not		sent	not sent		not sent		

### 8.3.5.1.4.2 Procedure

- 1) The SS activates cell 1-6 with RF parameters set up according to T1 in table 8.3.5.1.5.
- 2) The UE is switched on.
- 3) An RRC connection is set up according to the signalling sequence in the generic set-up procedure specified in TS 34.108 [3] subclause 7.4.2 to place the UE in CELL\_FACH.
- 4) After 15 seconds, the SS shall switch the power settings from T1 to T2 in table 8.3.5.1.5.
- 5) The SS waits for random access requests from the UE. If the UE responds on cell 1 within 1.6 s then the number of successful tests is increased by one.
- 6) After another 15 s, the parameters are changed as described for T1 in table 8.3.5.1.5.
- 7) The SS waits for random access requests from the UE. If the UE responds on cell 2 within 1.6 s then the number of successful tests is increased by one.
- 8) Repeat step 4) to 7) [TBD] times.

## 8.3.5.1.5 Test requirements

For the test to pass, the total number of successful attempts shall be more than 90% with a confidence level of [FFS]% of the cases.

	Parameter	Unit	Ce	<u>   1</u>	Ce	12	Cell 3	3	Ce	14	C	ell <u>5</u>	Ce	II 6
			<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>
U	RA RF Channel		Char	nel 1	Chan	nel 1	Channe	1	Chan	nel 1	Cha	nnel 1	Char	nel 1
Νι	imber		<u></u>	<u></u>	<u>orian</u>			<u>,, ,</u>	<u>- 011011</u>		0110			
C	<u>PICH_Ec/Ior</u>	<u>dB</u>	<u>-10.1</u>	<u>-10.1</u> <u>-9.9</u>		<u>-9.9</u> <u>-10.1</u>		<u>-10</u>		<u>-10</u>		<u>-10</u>		<u>10</u>
<u>P</u> (	CPCH_Ec/lor	<u>dB</u>	-*	<u>12</u>	-1	<u>-12</u>		<u>-12</u>		<u>-12</u>		<u>-12</u>		<u>12</u>
<u>S(</u>	CH_Ec/lor	<u>dB</u>	<u></u>	<u>12</u>	<u>-1</u>	2	<u>-12</u>		<u>-1</u>	2	-	<u>-12</u>		<u>12</u>
PI	<u>CH_Ec/lor</u>	<u>dB</u>	<u></u>	<u>15</u>	<u>-1</u>	<u>5</u>	<u>-15</u>		<u>-1</u>	<u>5</u>	-	<u>-15</u>	<u>-'</u>	<u>15</u>
<u>S-</u>	<u>CCPCH_Ec/lor</u>	<u>dB</u>	-1	12	<u>-1</u>	2	<u>-12</u>		<u>-1</u>	2		<u>-12</u>	-1	12
00	CNS_Ec/lor	<u>dB</u>	<u>-1.282</u>	<u>-1.309</u>	<u>-1.309</u>	<u>1.282</u>	<u>-1.29</u>	5	-1.2	<u>95</u>	<u>-1</u>	.295	-1.2	<u>295</u>
$\hat{I}_{c}$	$r/I_{oc}$	<u>dB</u>	<u>7</u>	<u>10.57</u>	<u>10.57</u>	<u>7</u>	<u>0.27</u>		<u>0.27</u>		<u>C</u>	). <u>27</u>	<u>0.</u>	<u>27</u>
$I_o$	<u>c</u>	<u>dBm/3.84</u> <u>MHz</u>		<u></u>										
CF	PICH_Ec/lo	<u>dB</u>	<u>-16.4</u>	<u>-16.4</u> <u>-12.7</u> <u>-1</u>		-16.4	-23.1		<u>-23.1</u>		<u>-23.1</u>		-2	<u>3.1</u>
Pr	opagation													
<u>C</u>	ndition			ΑννοΝ										
Ce	Il_selection_and_						CPICI	4					CP	юн
res	selection_quality_		CPICH	<u>I E<sub>c</sub>/N<sub>0</sub></u>	<u>CPICH E<sub>c</sub>/N<sub>0</sub></u>		$\frac{O(1011)}{E_c/N_0}$		<u>CPICH</u>	<u>E<sub>c</sub>/N<sub>0</sub></u>	<u>CPIC</u>	:H <u>E_/N</u> ₀	<u>– 5</u>	/No
<u>m</u> e	easure												<u>– u</u>	<u>110</u>
<u>Q</u>	ualmin	<u>dB</u>	-2	<u>20</u>	<u>-20</u>		<u>-20</u>		<u>-20</u>		<u>-20</u>		-2	20
<u>Q</u> r	<u>xlevmin</u>	<u>dBm</u>	<u>-1</u>	<u>15</u>	<u>-1′</u>	5	<u>-115</u>		<u>-1′</u>	<u>15</u>	-	<u>115</u>	<u>-1</u>	<u>15</u>
<u>U</u> E M/	<u>TXPWR</u> AX_RACH	<u>dBm</u>	2	<u>:1</u>	<u>2</u>	<u>1</u>	<u>21</u>	<u>21</u> <u>21</u>		<u>21</u>		2	<u>1</u>	
<u>Q</u> (	offset 2 <sub>s. n</sub>	<u>dB</u>	<u>C1,0</u> <u>C1,0</u> <u>C1,0</u> <u>C1,0</u> <u>C1,0</u>	C2: 0 C3: 0 C4: 0 C5: 0 C6: 0	<u>C2, C</u> <u>C2, C</u> <u>C2, C</u> <u>C2, C</u> <u>C2, C</u>	$     \begin{array}{r} \underline{C2, C1: 0} \\     \underline{C2, C3: 0} \\     \underline{C2, C4: 0} \\     \underline{C2, C5: 0} \\      \underline{C2, C5: 0} \\      \underline{C2, C5: 0} \\      \underline{C2, C5: 0} \\      \underline{C2, C5: 0} \\      \underline{C2, C5: 0} \\      \underline{C2, C5: 0} \\       \underline{C2, C5: 0} \\       \underline{C2, C5: 0} \\       \underline{C2, C5: 0} \\       \underline{C2, C5: 0} \\       \underline{C2, C5: 0} \\       \underline{C2, C5: 0} \\       \underline{C2, C5: 0} \\        \underline{C2, C5: 0} \\        \underline{C2, C5: 0} \\        \underline{C2, C5: 0} \\        \underline{C2, C5: 0} \\        \underline{C2, C5: 0} \\                                   $		<u>C3, C1: 0</u> <u>C3, C2: 0</u> <u>C3, C4: 0</u> <u>C3, C5: 0</u> <u>C3, C6: 0</u>		<u>C4, C1: 0</u> <u>C4, C2: 0</u> <u>C4, C3: 0</u> <u>C4, C5: 0</u> <u>C4, C6: 0</u>		<u>C5, C1: 0</u> <u>C5, C2: 0</u> <u>C5, C3: 0</u> <u>C5, C4: 0</u> <u>C5, C6: 0</u>		C1: 0 C2: 0 C3: 0 C4: 0 C5: 0
Qł	nyst	<u>dB</u>	(	)	0		<u>0</u>		C			0	(	<u>)</u>
Tr	eselection	S	(	2	0		<u>0</u>		C			0	(	2
Si	ntrasearch	dB	not	sent	not s	sent	not se	nt	nots	sent	no	t sent	not	sent
IE Me oc	"FACH asurement casion info"		not	sent	nots	sent	not se	nt	not sent		not sent		not sent	

Table 8.3.5.1.5: Cell specific test parameters for Cell Re-selection in CELL FACH

## 8.3.5.2 Two frequencies present in the neighbour list

### 8.3.5.2.1 Definition and applicability

The cell re-selection delay is defined as the time between the occurrence of an event which will trigger Cell Reselection process and the moment in time when the UE starts sending the the preambles on the PRACH for sending RRC CELL UPDATE message to the UTRAN.

## 8.3.5.2.2 Minimum requirements

The cell re-selection delay shall be less than 1.9 s.

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

If a cell has been detectable at least  $T_{identify,inter}$ , the cell reselection delay in CELL\_FACH state to a FDD cell on a different frequency shall be less than

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.

 $T_{\text{reselection, inter}} = T_{\text{Measurement inter}} + T_{\text{IU}} + 20 + T_{\text{SI}} + T_{\text{RA}} \text{ ms}$ 

where

 $T_{Measurement\_inter}$  is 480 ms in this case

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

 $T_{SI}$  = The 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. 1280 ms is assumed in this test case.

 $T_{RA}$  = The additional delay caused by the random access procedure.  $T_{RA}$  is a delay is caused by the physical random access procedure described in TS 25.214 clause 6.1. A persistence value is assumed to be 1 in this test case and therefore  $T_{RA}$  in this test case is 40 ms.

These requirements assume radio conditions to be sufficient, so that reading of system information can be done without errors.

The normative reference for this requirement is TS 25.133 [2] clauses 5.5.2.1.2 and A.5.5.2.

## 8.3.5.2.3 Test purpose

The purpose of this test is to verify the requirement for the cell re-selection delay in CELL\_FACH state in the single carrier case

## 8.3.5.2.4 Method of test

8.3.5.2.4.1 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.

The test parameters are given in table 8.3.5.2.1 to 8.3.5.2.4. The UE is requested to monitor neighbouring cells on 1 carrier. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1280 ms

Table 8.3.5.2.1: General test	parameters for Cell Re-selection in Cl	ELL_FACH
-------------------------------	----------------------------------------	----------

Parameter		Unit	Value	Comment
initial	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5, Cell6	
final	Active cell		Cell1	
condition				
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.
T1		S	15	
T2		S	15	

The transport and physical parameters of the S-CCPCH carrying the FACH are defined in table 8.3.5.2.2 and table 8.3.5.2.3.

Parameter	Unit	Level
Channel bit rate	kbps	60
Channel symbol rate	ksps	30
Slot Format #I	-	4
TFCI	-	OFF
Power offsets of TFCI and Pilot fields relative to data field	dB	0

## Table 8.3.5.2.2: Physical channel parameters for S-CCPCH.

Table 8.3.5.2.3: Transport channel parameters for S-CCPCH

Parameter	FACH						
Transport Channel Number	1						
Transport Block Size	240						
Transport Block Set Size	240						
Transmission Time Interval	10 ms						
Type of Error Protection	Convolution Coding						
Coding Rate	1/2						
Rate Matching attribute	256						
Size of CRC	16						
Position of TrCH in radio frame	Fixed						

Table 8.3.5.2.4: Cell specific test para	ameters for Cell re-selection in CELL_FACH state
------------------------------------------	--------------------------------------------------

Parameter	Unit	Ce	II 1	Cell 2		Cell 3		Cell 4		Cel	5	Cell 6		
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	
UTRA RF Channel Number		Chanr	nel 1	Chan	nel 2	Chann	el 1	Chann	el 1	Channel 2		Chanr	nel 2	
CPICH_Ec/lor	dB	-10		-10		-10		-10		-10		-10		
PCCPCH_Ec/lor	dB	-12	-12			-12		-12		-12		-12		
SCH_Ec/lor	dB	-12		-12	-12		-12			-12		-12		
PICH_Ec/lor	dB	-15		-15		-15		-15		-15		-15		
S-CCPCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12		
OCNS_Ec/lor	dB	-1.295	5	-1.295		-1.295		-1.295		-1.295		-1.295		
$\hat{I}_{or}/I_{oc}$	dB	-3.4	2.2	2.2	-3.4	-7.4	-4.8	-7.4	-4.8	-4.8	-7.4	-4.8	-7.4	
I <sub>oc</sub>	dBm/3.8 4 MHz	-70			•	-		-				•		
CPICH_Ec/lo	dB	-16	-13	-13	-16	-2	0	-2	20	-2	0	-)	20	
Propagation Condition		AWGI	N											
Cell_selection_ and_reselection_ quality measure		CPICI E <sub>c</sub> /N <sub>0</sub>	Η	CPIC E <sub>c</sub> /N <sub>0</sub>	Н	CPICH E <sub>c</sub> /N <sub>0</sub>	ł	CPICH	I E <sub>c</sub> /N <sub>0</sub>	CPICH E	∃₀/N₀	CPICH E <sub>c</sub> /N <sub>0</sub>		
Qqualmin	dB	-20		-20		-20		-20		-20		-20		
Qrxlevmin	dBm	-115		-115		-115		-115		-115		-115		
UE_TXPWR_ MAX_RACH	dBm	21	21		21		21			21		21		
Qoffset2 <sub>s, n</sub>	dB	C1, C C1, C C1, C C1, C C1, C	C1, C2: 0 C1, C3: 0 C1, C4: 0 C1, C5: 0 C1, C6: 0		C2, C1: 0 C2, C3: 0 C2, C4: 0 C2, C5: 0 C2, C6: 0		C3, C1: 0 C3, C2: 0 C3, C4: 0 C3, C5: 0 C3, C6: 0		C4, C1: 0 C4, C2: 0 C4, C3: 0 C4, C5: 0 C4, C6: 0		C5, C1: 0 C5, C2: 0 C5, C3: 0 C5, C4: 0 C5, C6: 0		C6, C1: 0 C6, C2: 0 C6, C3: 0 C6, C4: 0 C6, C5: 0	
Qhyst2	dB	0		0		0		0		0		0		
PENALTY_TIME	<del>s</del>	0		0		0		0		0		θ		
TEMP_OFFSET	dB	θ		0		θ		θ		0		θ		
Treselection	S	0		0		0		0		0		0		
Sintrasearch	dB	not se	ent	not se	ent	not se	nt	not se	nt	not sent		not se	nt	
Sintersearch	dB	not se	ent	not se	ent	not se	nt	not se	nt	not sent		not se	nt	
IE "FACH Measurement occasion info"		sent		sent		sent		sent		Sent		sent		
FACH Measurement occasion cycle length coefficient		3		3		3		3		3		3		
Inter-frequency FDD measurement indicator		TRUE	TRUE		TRUE		TRUE		TRUE		TRUE		TRUE	
Inter-frequency TDD measurement indicator		FALS	E	FALS	E	FALSE		FALSE		FALSE		FALSE		

#### 8.3.5.2.4.2

#### Procedure

- 1) The RF parameters for cell 1 are set up according to T1 in table 8.3.5.2.5.
- 2) The UE is switched on.
- An RRC connection is set up according to the signalling sequence in the generic set-up procedure specified in TS 34.108 [3] subclause 7.4.2 to place the UE in CELL\_FACH.
- 4) After 15 seconds, the SS shall switch the power settings from T1 to T2 in table 8.3.5.2.5.
- 5) The SS waits for random access requests from the UE. If the UE responds on cell 1 within 1.6 s then the number of successful tests is increased by one.
- 6) After another 15 s, the parameters are changed as described for T1 in table 8.3.5.2.5.

- 7) The SS waits for random access requests from the UE. If the UE responds on cell 2 within 1.6 s then the number of successful tests is increased by one.
- 8) Repeat step 4) to 7) [TBD] times.

### 8.3.5.2.5 Test requirements

For the test to pass, the total number of successful attempts shall be more than 90% with a confidence level of [FFS]% of the cases.

Parameter	Unit	Ce	II 1	Ce	Cell 2		II 3	Cell 4		Cell 5		Cell 6		
		<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u></u>	<u>T2</u>	
UTRA RF Channel		Chanr	ol 1	Chann	al 2	Chann		Chan		Chan	nol 2	Chanr	ol 2	
<u>Number</u>														
CPICH_Ec/lor	<u>dB</u>	-10.1	<u>-10.1 -9.9</u>		<u>-10.1</u>	<u>-10</u>	-10		<u>-10</u>		<u>-10</u>		<u>-10</u>	
PCCPCH_Ec/lor	<u>dB</u>	<u>-12</u>		<u>-12</u>		<u>-12</u>		<u>-12</u>		<u>-12</u>		<u>-12</u>		
<u>SCH_Ec/lor</u>	<u>dB</u>	<u>-12</u>		<u>-12</u>		<u>-12</u>		<u>-12</u>		<u>-12</u>		<u>-12</u>		
PICH_Ec/lor	<u>dB</u>	<u>-15</u>		<u>-15</u>	<u>-15</u>		<u>-15</u>			<u>-15</u>		<u>-15</u>		
<u>S-CCPCH_Ec/lor</u>	<u>dB</u>	<u>-12</u>		<u>-12</u>	<u>-12</u>		<u>-12</u>			<u>-12</u>		<u>-12</u>		
OCNS_Ec/lor	<u>dB</u>	1.282	1.309	<u>-1.309</u>	1.282	<u>-1.295</u>		<u>-1.29</u> 5	5	<u>-1.29</u>	5	<u>-1.295</u>		
$\hat{I}_{or}/I_{oc}$	<u>dB</u>	<u>-3.7</u>	<u>2.5</u>	<u>2.5</u>	<u>-3.7</u>	<u>-7.4</u>	<u>-4.8</u>	<u>-7.4</u>	<u>-4.8</u>	<u>-4.8</u>	<u>-7.4</u>	<u>-4.8</u>	<u>-7.4</u>	
	<u>dBm/3.8</u> <u>4 MHz</u>	<u>-70</u>	-70					-			_			
CPICH_Ec/lo	<u>dB</u>	<u>-16.3</u>	<u>-12.8</u>	<u>-12.8</u>	<u>-16.3</u>	-19. <u>9</u>	-20.2	-19.9	-20.2	-20.2	<u>-19.9</u>	-20.2	<u>-19.9</u>	
Propagation Condition		AWG	1											
Cell selection and reselection duality measure		CPICH	<u>CPICH E<sub>c</sub>/N<sub>0</sub></u>		<u>I E<sub>c</sub>/N<sub>0</sub></u>		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		<u>CPICH E<sub>c</sub>/N₀</u>	
Qqualmin	dB	-20	-20			-20		-20		-20		<u>-20</u>		
Qrxlevmin	dBm	-115	-115			-115		-115		<u>-115</u>		<u>-115</u>		
<u>VE_TXPWR_</u> MAX_RACH	<u>dBm</u>	<u>21</u>	<u>21</u>			<u>21</u>		<u>21</u>		<u>21</u>		<u>21</u>		
Qoffset2 <sub>s, n</sub>	<u>dB</u>	<u>C1, C</u> <u>C1, C</u> <u>C1, C</u> <u>C1, C</u> C1, C	$     \begin{array}{r} \underline{C1, C2: 0} \\ \underline{C1, C3: 0} \\ \underline{C1, C4: 0} \\ \underline{C1, C5: 0} \\ \underline{C1, C6: 0} \end{array} $		<u>C2, C1: 0</u> <u>C2, C3: 0</u> <u>C2, C4: 0</u> <u>C2, C5: 0</u> <u>C2, C6: 0</u>		<u>C3, C1: 0</u> <u>C3, C2: 0</u> <u>C3, C4: 0</u> <u>C3, C5: 0</u> <u>C3, C6: 0</u>		<u>C4, C1: 0</u> <u>C4, C2: 0</u> <u>C4, C3: 0</u> <u>C4, C5: 0</u> C4, C6: 0		<u>C5, C1: 0</u> <u>C5, C2: 0</u> <u>C5, C3: 0</u> <u>C5, C4: 0</u> C5, C6: 0		<u>C6, C1: 0</u> <u>C6, C2: 0</u> <u>C6, C3: 0</u> <u>C6, C4: 0</u> C6, C5: 0	
Qhyst2	dB	0		0		0	0		0		0		0	
Treselection	s	0		0		0		0		0		0		
Sintrasearch	dB	not se	nt	not se	nt	not ser	nt	not se	ent	not se	ent	not se	nt	
Sintersearch	<u>dB</u>	not se	nt	not se	<u>nt</u>	not se	nt	not se	ent	not se	ent	not se	<u>nt</u>	
IE "FACH Measurement occasion info"		<u>sent</u>		<u>sent</u>		<u>sent</u>		<u>sent</u>		<u>Sent</u>		sent		
FACH Measurement occasion cycle length coefficient		<u>3</u>		<u>3</u>		<u>3</u>		<u>3</u>	3		3			
Inter-frequency FDD measurement indicator		<u>TRUE</u>	TRUE			TRUE		TRUE		TRUE		<u>TRUE</u>		
Inter-frequency TDD measurement indicator		FALS		FALSE	FALSE		FALSE		FALSE		FALSE		<u> </u>	

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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affected:	X Test specifications
Other comments:	器 Isolated Impact Analysis: Does not affect implementation of the UE.

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

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

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

# Annex F (normative): General test conditions and declarations

The requirements of this clause apply to all applicable tests in the present document.

Many of the tests in the present document measure a parameter relative to a value that is not fully specified in the UE specifications. For these tests, the Minimum Requirement is determined relative to a nominal value specified by the manufacturer.

When specified in a test, the manufacturer shall declare the nominal value of a parameter, or whether an option is supported.

In all the relevant clauses in this clause all Bit Error Ratio (BER), Block Error Ratio (BLER), False transmit format Detection Ratio (FDR) measurements shall be carried out according to the general rules for statistical testing in clause F.6.

# F.1 Acceptable uncertainty of Test System

The maximum acceptable uncertainty of the Test System is specified below for each test, where appropriate. The Test System shall enable the stimulus signals in the test case to be adjusted to within the specified range, and the equipment under test to be measured with an uncertainty not exceeding the specified values. All ranges and uncertainties are absolute values, and are valid for a confidence level of 95 %, unless otherwise stated.

A confidence level of 95 % is the measurement uncertainty tolerance interval for a specific measurement that contains 95 % of the performance of a population of test equipment.

For RF tests it should be noted that the uncertainties in clause F.1 apply to the Test System operating into a nominal 50 ohm load and do not include system effects due to mismatch between the DUT and the Test System.

## F.1.1 Measurement of test environments

The measurement accuracy of the UE test environments defined in annex G, Test environments shall be.

- Pressure  $\pm 5$  kPa.
- Temperature  $\pm 2$  degrees.
- Relative Humidity  $\pm 5$  %.
- DC Voltage  $\pm 1,0$  %.
- AC Voltage  $\pm 1,5$  %.
- Vibration 10 %.
- Vibration frequency 0,1 Hz.

The above values shall apply unless the test environment is otherwise controlled and the specification for the control of the test environment specifies the uncertainty for the parameter.

## F.1.2 Measurement of transmitter

Table F.1.2: Maximum Test System Uncertainty for transmitter	' tests
--------------------------------------------------------------	---------

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
5.2 Maximum Output Power	±0.7 dB	
5.3 Frequency Error	±10 Hz	
5.4.1 Open loop power control in uplink	±1,0 dB	The uncertainty of this test is a combination of the downlink level setting error and the uplink power measurement that are uncorrelated.
		SQRT(source_level_error <sup>2</sup> + power_meas_error <sup>2</sup> )
5.4.2 Inner loop power control in the uplink - One step	±0,1 dB relative over a 1,5 dB range (1 dB and 0 dB step) ±0,15 dB relative over a 3,0 dB range (2 dB step) ±0,2 dB relative over a 4.5 dB range (3 dB step)	This accuracy is based on the linearity of the absolute power measurement of the test equipment.
5.4.2 Inner loop power control in the uplink – seven and ten steps	$\pm$ [0,3] dB relative over a 26 dB range	
5.4.3 Minimum Output Power	±1,0 dB	Measured on a static signal
5.4.4 Out-of-synchronisation handling of output power: $\frac{DPCCH - E_c}{I}$	±0,4 dB	0.1 dB uncertainty in DPCCH ratio
I or		0.3 dB uncertainty in $\hat{I}_{or}/I_{oc}$ based on power meter measurement after the combiner
		Overall error is the sum of the $\hat{I}_{or}/I_{oc}$ ratio error and the DPCCH_Ec/lor ratio. The absolute error of the AWGN loc is not important but is specified as 1.0 dB
5.5.1 Transmit OFF Power: (static case)	±1,0 dB	Measured on a static signal
5.5.2 Transmit ON/OFF time mask (dynamic case)	On power +0,7 dB – 1,0 dB Off power (dynamic case) TBD	Assume asymmetric meas error -1.0 dB / 0.7 dB comprising RSS of: -0.7 dB downlink error plus -0.7 dB meas error, and +0.7 dB for upper limit (assume UE won't go above 24 nominal). For the off power, the accuracy of a two-pass measurement needs to be analysed.
5.6 Change of TFC: power control step size (7 dB step)	±0,3 dB relative over a 9 dB range	
5.7 Power setting in uplink compressed mode:-UE output power	Will be a subset of 5.4.2.	
5.8 Occupied Bandwidth	±100 kHz	Accuracy = $\pm 3^{*}$ RBW. Assume 30 kHz bandwidth.
5.9 Spectrum emission mask	±1,5 dB	
5.10 ACLR	5 MHz offset: ±0,8 dB	
	10 MHz offset: ± 0,8 dB	

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
5.11 Spurious emissions	$\pm$ 2,0 dB for UE and coexistence bands for results > -60 dBm	
	$\pm$ 3,0 dB for results < -60 dBm	
	Outside above:	
	f≤2.2GHz: ± 1.5 dB	
	2.2 GHz < f ≤ 4 GHz:	
	± 2.0 dB	
	f > 4 GHz: ±4.0 dB	
5.12 Transmit Intermodulation	± 2.2 dB	CW Interferer error is 0.7 dB for the UE power RSS with 0.7 dB for CW setting = 1.0 dB
		Measurement error of intermod product is 0.7 dB for UE power RSS with 0.7 dB for relative = 1.0 dB
		Interferer has an effect of 2 times on the intermod product so overall test uncertainty is $2*1.0$ RSS with $1.0 = 2.2$ dB.
		Apply half any excess test system uncertainty to increase the interferer level
5.13.1 Transmit modulation: EVM	±2.5 % (for single code)	
5.13.2 Transmit modulation: peak code	±1.0dB	
5.13.1 Transmit modulation: EVM 5.13.2 Transmit modulation: peak code domain error	±2.5 % (for single code) ±1.0dB	

## F.1.3 Measurement of receiver

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
6.2 Reference sensitivity level	± 0.7 dB	
6.3 maximum input level:	± 0.7 dB	The critical parameter is the overall signal level and not the -19 dB DPCH_Ec/lor ratio. 0.7 dB absolute error due to signal measurement DPCH_Ec/lor ratio error is <0.1 dB but is not important so is ignored
6.4 Adjacent channel selectivity	± 1.1 dB	Overall system uncertainty comprises three quantities: 1. Wanted signal level error 2. Interferer signal level error 3. Additional impact of interferer ACLR Items 1 and 2 are assumed to be uncorrelated so can be root sum squared to provide the ratio error of the two signals. Assume for simplicity this ratio error is linearly added to the interferer ACLR. Test System uncertainty = SQRT (wanted_level_error <sup>2</sup> + interferer_level_error <sup>2</sup> ) + ACLR effect. The ACLR effect is calculated by:(Formula to follow) (E.g. ACLR at 5 MHz of 51 dB gives additional error of .0765 dB. ACLR of 48 gives error of -0.15 dB.)
6.5 Blocking characteristics	System error with f <15 MHz offset: $\pm$ 1.4 dB f >= 15 MHz offset and f <sub>b</sub> $\leq$ 2.2 GHz: $\pm$ [1.0] dB 2.2 GHz < f $\leq$ 4 GHz: $\pm$ [1.7] dB f > 4 GHz: $\pm$ [3.1] dB	Using ± 0.7 dB for signal and interferer as currently defined and 68 dB ACLR @ 10 MHz.
6.6 Spurious Response	f ≤ 2.2 GHz: ± 1.0 dB 2.2 GHz < f ≤ 4 GHz: ±1.7 dB f > 4 GHz: ±3.1 dB	

## Table F.1.3: Maximum Test System Uncertainty for receiver tests

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
6.7 Intermodulation Characteristics	±1.3 dB	Similar issues to 7.4 ACS test. ETR028 says impact f the closer signal is twice that of the far signal. If both signals drop 1 dB, intermod product drops 2 dB. Formula = $\sqrt{(2 \cdot CW_{level\_error)^2} + (mod_{level\_error)^2}}$ (Using CW interferer ±0.5 dB, modulated interferer ±0.5 dB, wanted signal ±0.7 dB) 1.3 dB! Broadband noise/ACLR not considered but may have impact.
6.8 Spurious emissions	$\pm$ 3.0 dB for UE receive band (-78 dBm) Outside above: f≤2.2GHz: $\pm$ 2.0 dB (-57 dBm) 2.2 GHz < f ≤ 4 GHz: $\pm$ 2.0 dB (-47 dBm) f > 4 GHz: $\pm$ 4.0 dB (-47 dBm)	

# F.1.4 Performance requirement

## Table F.1.4: Maximum Test System Uncertainty for Performance Requirements

Clause	Maximum T	est System Uncertainty	Derivation of Test System Uncertainty
7.2 Demodulation in Static Propagation Condition	$\hat{I}_{or}/I_{oc}$	±0.3 dB	0.1 dB uncertainty in DPCH_Ec ratio
	$\frac{DPCH\_E_c}{I_{or}}$	±0.1 dB	0.3 dB uncertainty in $\hat{I}_{or}/I_{oc}$ based on power meter measurement after the combiner
			Overall error is the sum of the $\hat{I}_{or}/I_{oc}$ ratio error and the DPCH_Ec/lor ratio but is not RSS for simplicity. The absolute error of the AWGN loc is not important for any tests in clause 7 but is specified as 1.0 dB.
7.3 Demodulation of DCH in multipath Fading Propagation conditions	$\frac{\hat{I}_{or}/I_{oc}}{I_{oc}}$ $\frac{DPCH\_E_c}{I_{or}}$	±0.56 dB ±1.0 dB ±0.1 dB	Worst case gain uncertainty due to the fader from the calibrated static profile is $\pm 0.5$ dB In addition the same $\pm 0.3$ dB $\hat{I}_{or}/I_{oc}$ ratio error as 7.2. These are uncorrelated so can be RSS.
			Overall error in $\hat{I}_{or}/I_{oc}$ is $(0.5^2 + 0.3^2)^{0.5} = 0.6 \text{ dB}$
7.4 Demodulation of DCH in Moving Propagation conditions	$\frac{\hat{I}_{or}/I_{oc}}{I_{oc}}$ $\frac{DPCH\_E_c}{I_{or}}$	±0.6 dB ±1.0 dB ±0.1 dB	Same as 7.3
7.5 Demodulation of DCH in Birth-Death Propagation conditions	$\frac{\hat{I}_{or}/I_{oc}}{I_{oc}}$ $\frac{DPCH\_E_c}{I_{or}}$	±0.6 dB ±1.0 dB ±0.1 dB	Same as 7.3
7.6.1 Demodulation of DCH in open loop Transmit diversity mode	$\frac{\hat{I}_{or}/I_{oc}}{I_{oc}}$ $\frac{DPCH\_E_c}{I_{or}}$	±0.8 dB ±1.0 dB ±0.1 dB	Worst case gain uncertainty due to the fader from the calibrated static profile is $\pm 0.5$ dB per output In addition the same $\pm 0.3$ dB $\hat{I}_{or}/I_{oc}$ ratio error as 7.2.
			be RSS. Overall error in $\hat{I}_{or}/I_{oc}$ is (0.5 <sup>2</sup> + 0.5 <sup>2</sup> + 0.3 <sup>2</sup> ) <sup>0.5</sup> = 0.768 dB. Round up to 0.8 dB

Clause	Maximum Test System Uncertainty		Derivation of Test System Uncertainty
7.6.2 Demodulation of DCH in closed	$\hat{I}_{or}/I_{oc}$	±0.8 dB	Same as 7.6.1
loop Transmit diversity mode	I <sub>oc</sub>	±1.0 dB	
	$\frac{DPCH\_E_c}{I_{or}}$	±0.1 dB	
7.6.3, Demodulation of DCH in site	$\hat{I}_{or}/I_{oc}$	±0.8 dB	Same as 7.6.1
control mode	I <sub>oc</sub>	±1.0 dB	
	$\frac{DPCH\_E_c}{I_{or}}$	±0.1 dB	
7.7.1 Demodulation in inter-cell soft	$\hat{I}_{or}/I_{oc}$	±0.8 dB	Same as 7.6.1
Handover	I <sub>oc</sub>	±1.0 dB	
	$\frac{DPCH\_E_c}{I_{cr}}$	±0.1 dB	
7.7.2 Combining of TPC commands Test	$\hat{I}$ /I		Have two lor1 and lor2, and
1	$I_{or}/I_{oc}$	±0.5 dB	no AWGN. So error is only 0.3
	$1_{OC}$	±1.0 dD	dB
	$\frac{DICH_{L_c}}{I_{or}}$	±0.1 dB	Test is looking for changes in power – need to allow for relaxation in criteria for power step of probably 0.1 dB to 0.4 dB
7.7.2 Combining of TPC commands Test	$\hat{I}_{or}/I_{oc}$	±0.8 dB	Same as 7.6.1
2	I <sub>oc</sub>	±1.0 dB	
	$\frac{DPCH\_E_c}{I_{or}}$	±0.1 dB	
7.8.1 Power control in downlink constant	$\hat{I}_{or}/I_{oc}$	±0.6 dB	Same as 7.3
BLER target	I <sub>oc</sub>	±1.0 dB	
	$\frac{DPCH\_E_c}{I_{or}}$	±0.1 dB	
7.8.2, Power control in downlink initial	$\hat{I}_{or}/I_{oc}$	±0.6 dB	Same as 7.3
convergence	I <sub>oc</sub>	±1.0 dB	
	$\frac{DPCH\_E_c}{I_{or}}$	±0.1 dB	
7.8.3, Power control in downlink: wind up	$\hat{I}_{ar}/I_{ac}$	±0.6 dB	Same as 7.3
effects		±1.0 dB	
	$\frac{\frac{DPCH\_E_c}{I_{or}}}{I_{or}}$	±0.1 dB	
7.9 Downlink compressed mode	$\hat{I}_{or}/I_{oc}$	±0.6 dB	Same as 7.3
	I <sub>oc</sub>	±1.0 dB	
	$\frac{DPCH\_E_c}{I_{or}}$	±0.1 dB	
7.10 Blind transport format detection	$\hat{I}_{ar}/I_{ac}$	±0.3 dB	Same as 7.2
Tests 1, 2, 3	I <sub>oc</sub>	±1.0 dB	
	$\frac{DPCH\_E_c}{I_{or}}$	±0.1 dB	

Clause	Maximum Test System Uncertainty		Derivation of Test System Uncertainty
7.10 Blind transport format detection	$\hat{I}_{or}/I_{oc}$	±0.6 dB	Same as 7.3
	I <sub>oc</sub>	±1.0 dB	
	$\frac{DPCH\_E_c}{I_{or}}$	±0.1 dB	

# F.1.5 Requirements for support of RRM

## Table F.1.5: Maximum Test System Uncertainty for Radio Resource Management Tests

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
8.2 Idle Mode Tasks		
8.2.2 Cell Re-Selection		
8.2.2.1 Scenario 1: Single carrier case	$ \begin{array}{ccc} \hat{I}_{or}/I_{oc} & \pm 0.3 \text{ dB} \\ I_{oc} & \pm 1.0 \text{ dB} \\ \hline \underline{CPICH}_{E_{c}} & \pm 0.1 \text{ dB} \end{array} $	0.1 dB uncertainty in CPICH_Ec ratio
	I <sub>or</sub>	0.3 dB uncertainty in $\hat{I}_{\it or}/I_{\it oc}$
		based on power meter measurement after the combiner
		The absolute error of the AWGN is specified as 1.0 dB.
8.2.2.2 Scenario 2: Multi carrier case	$\hat{I}_{or}/I_{oc}$ ±0.3 dB $I_{oc}$ ±1.0 dB	0.1 dB uncertainty in CPICH_Ec ratio
	$I_{oc1}/I_{oc2}$ ±0.3 dB	0.3 dB uncertainty in $\hat{I}_{or}/I_{oc}$
	$\frac{CPICH\_E_c}{I_{or}} = \pm 0.1 \text{ dB}$	based on power meter measurement after the combiner
		0.3 dB uncertainty in loc1/loc2 based on power meter measurement after the combiner
		Overall error for the CPICH_Ec/lo is the sum of the $2 - \frac{1}{2}$
		$I_{or}/I_{oc}$ ratio error and the CPICH_Ec/lor ratio.
		The absolute error of the AWGN is specified as 1.0 dB.
8.2.3 UTRAN to GSM Cell Re-Selection		

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty	
8.2.3.1 Scenario 1: Both UTRA and GSM	$\hat{I}_{ar}/I_{ac}$ ±0.3 dB	0.1 dB uncertainty in	
level changed	$I_{ax}/RXLEV$ ±0.3 dB	CPICH_Ec ratio	
	$L_{ac}$ ±1.0 dB		
	RXLEV ±1.0 dB	<b>^</b> (	
		0.3 dB uncertainty in $I_{\it or}/I_{\it oc}$	
	$\frac{CPICH\_E_c}{I_{or}} = \pm 0.1 \text{ dB}$	based on power meter measurement after the combiner	
		0.3 dB uncertainty in loc/RXLEV based on power meter measurement after the combiner	
		The absolute error of the AWGN is specified as 1.0 dB.	
		The absolute error of the RXLEV is specified as 1.0 dB.	
8.2.3.2 Scenario 2: Only UTRA level	$\hat{I}_{or}/I_{oc}$ ±0.3 dB	Same as 8.2.3.1	
changed	$I_{ac}/RXLEV$ ±0.3 dB		
	$L_{ac}$ ±1.0 dB		
	RXLEV ±1.0 dB		
	$\frac{CPICH \_ E_c}{E_c}$ = ±0.1 dB		
	I I or		
8.2.4 FDD/TDD cell re-selection	$\hat{I}_{ac}/I_{ac}$ ±0.3 dB	Same as 8.2.2.2	
	$I_{ac}$ ±1.0 dB		
	$\Gamma_{oc1}/\Gamma_{oc2}$ 10.0 db		
	$\frac{CPICH \_E_c}{\pm 0.1 \text{ dB}}$		
	I or		
8.3 UTRAN Connected Mode Mobility			
8.3.1 FDD/FDD Soft Handover		No test case	
8.3.3 FDD/TDD Handover	TBD		
8.3.4 Inter-system Handover form	TBD		
UTRAN FDD to GSM			
8.3.5.1 One frequency present in the	Same as 8.2.2.1 <del>TBD</del>	Same as 8.2.2.1	
neighbour list			
8.3.5.2 Two frequencies present in the	Same as 8.2.2.2	Same as 8.2.2.2	
8.3.6 Cell Re-selection in CELL PCH			
8.3.6.1 One frequency present in the	Same as 8.2.2.1 TBD	Same as 8.2.2.1	
neighbour list		Sama aa 8 2 2 2	
neighbour list	Jaille as 0.2.2.2+DD	<u>Same as 0.2.2.2</u>	
8.3.7 Cell Re-selection in URA_PCH			
8.3.7.1 One frequency present in the	Same as 8.2.2.1 TBD	Same as 8.2.2.1	
8.3.7.2 Two frequencies present in the	Same as 8.2.2.2 <del>TBD</del>	Same as 8.2.2.2	
neighbour list			
8.4 RRC Connection Control	TBD		

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
8.4.2 Random Access	$\hat{I}_{ac}/I_{ac}$ ±0.3 dB	0.1 dB uncertainty in AICH_Ec
	$I_{oc}$ ±1.0 dB	ratio
	AICH _ E	0.3 dB uncertainty in $\hat{I}_{ax}/I_{aa}$
	±0.1 dB	based on power meter
	or	measurement after the combiner
		Overall error is the sum of the
		$\hat{I}_{or}/I_{oc}$ ratio error and the
		AICH_Ec/lor ratio.
		The absolute error of the AWGN is specified as 1.0 dB
8.5 Timing and Signalling Characteristics		0.1 dB uncertainty in
0.5.1 DE Hansmit Hinning	<i>I</i> <sub>or</sub> ±1.0 dB	DPCH_Ec ratio
	$I_{or1}/I_{or2}$ ±0.3 dB	
	$DPCH \_E_c$	
	$I_{ar}$ ±0.1 dB	0.3 dB uncertainty in Ior1/Ior2
	07	measurement after the
		combiner
		The absolute error of the lor is specified as 1.0 dB.
8.6 UE Measurements Procedures		
8.6.1 FDD intra frequency measurements		
8.6.1.1 Event triggered reporting in	TBD	
8.6.1.2 Event triggered reporting of	TBD	
multiple neighbours in AWGN		
propagation condition		
8.6.1.3 Event triggered reporting of two	TBD	
detectable neighbours in AWGN		
8.6.1.4 Correct reporting of neighbours in	TBD	
fading propagation condition		
8.6.2 FDD inter frequency measurements	700	
AWGN propagation condition	IBD	
8.6.2.2 Correct reporting of neighbours in	TBD	
Fading propagation condition		
8.6.3 TDD measurements	TBD	
8.6.3.1Correct reporting of TDD	IBD	
condition		
8.7 Measurements Performance		
Requirements		
8.7.1 CHICH KSCP		Same as 8.2.2.1
accuracy	$I_{oc}$ ±0.3 dB	Same as 0.2.2.1
	<i>I<sub>oc</sub></i> ±1.0 dB	
	$CPICH \_E_c$	
	$I_{or}$ ±0.1 dB	

Clause	Maximum Test System Uncertainty	Derivation of Test System
8.7.1.2 Inter frequency measurement	<i>î /I</i> +0.3 dB	Same as 8.2.2.2
accuracy	$I_{or}/I_{oc} = 0.5 \text{ dB}$	
	$I_{oc1}/I_{oc2}$ ±0.3 dB	
	$CPICH \_E_c$	
	$\frac{1}{I_{ar}} = \pm 0.1 \text{ dB}$	
8.7.2 CPICH Ec/lo	0	
8.7.1.1 Intra frequency measurements	$\hat{I}_{or}/I_{oc}$ ±0.3 dB	Same as 8.2.2.1
accuracy	<i>I<sub>oc</sub></i> ±1.0 dB	
	CPICH E	
	$\frac{1}{I} = \frac{1}{2} = \frac{1}$	
8.7.1.2 Inter frequency measurement	$\hat{I}/I$ ±0.3 dB	Same as 8.2.2.2
accuracy	$I_{oc}$ ±1.0 dB	
	$I_{ac1}/I_{ac2}$ ±0.3 dB	
	CPICH E	
	$\frac{1}{I_{ar}} = \frac{1}{c} = \pm 0.1 \text{ dB}$	
8.7.3 UTRA Carrier RSSI	$\hat{I}_{ac}/I_{ac}$ ±0.3 dB	0.3 dB uncertainty in $\hat{I}$ /I
	$I_{ac}$ ±1.0 dB	based on power meter
	$I_{oc1}/I_{oc2}$ ±0.3 dB	measurement after the combiner
		0.3 dB uncertainty in loc1/loc2 based on power meter measurement after the combiner
		The absolute error of the AWGN is specified as 1.0 dB
8.7.4 SFN-CFN observed time difference	TBD	
8.7.6 UE Rx-Tx time difference		$\hat{\mathbf{r}}$
	$I_{or}/I_{oc}$ ±0.3 dB	0.3 dB uncertainty in $I_{or}/I_{oc}$
	<i>I<sub>oc</sub></i> ±1.0 dB	based on power meter
	Rx-Tx Timing Accuracy [±0.5 chip]	combiner
		The absolute error of the AWGN is specified as 1.0 dB.
8.7.7 Observed time difference to GSM	TBD	
8.7.8 P-CCPCH RSCP	TBD	

# F.2 Test Tolerances (This clause is informative)

The Test Tolerances defined in this clause have been used to relax the Minimum Requirements in the present document to derive the Test Requirements.

The Test Tolerances are derived from Test System uncertainties, regulatory requirements and criticality to system performance. As a result, the Test Tolerances may sometimes be set to zero.

The test tolerances should not be modified for any reason e.g. to take account of commonly known test system errors (such as mismatch, cable loss, etc.).

## F.2.1 Transmitter

Clause	Test Tolerance
5.2 Maximum Output Power	0.7 dB
5.3 Frequency error	10 Hz
5.4.1 Open loop power control in uplink	1.0 dB
5.4.2 Inner loop power control in the	0.1 dB (1 dB and 0 dB step)
uplink - One step	0.15 dB (2 dB step)
	0.2 dB (3 dB step)
5.4.2 Inner loop power control in the	[0.3] dB
uplink - seven and ten steps	
5.4.3 Minimum Output Power	1.0 dB
5.4.4 Out-of-synchronisation handling of	0.4 dB
output power: $\underline{DPCCH \_ E_c}$	
I <sub>or</sub>	
5.4.4 Out-of-synchronisation handling of	0 ms
output power: transmit ON/OFF time	
5.5.1 Transmit OFF power	1.0 dB
5.5.2 Transmit ON/OFF time mask	On power +0.7 dB / -1.0 dB
(dynamic case)	
	Off power TT [] dB
5.6 Change of TFC: power control step	0.3 dB
5.7 Power setting in uplink compressed	See subset of 5.4.2
mode:-UE output power	
5.8 Occupied Bandwidth	0 kHz
5.9 Spectrum emission mask	1.5 dB (0 dB for additional requirements for Band II)
5.10 ACLR	0.8 dB for ratio
	1.5 dB for absolute power
5.11 Spurious emissions	0 dB
5.12 Transmit Intermodulation	0 dB
5.13.1 Transmit modulation: EVM	0%
5.13.2 Transmit modulation: peak code	1.0 dB
domain error	

Table F.2.1: Test Tolerances for transmitter tests.

## F.2.2 Receiver

Table F.2.2: Test Tolerances for receiver tests.

Clause	Test Tolerance
6.2 Reference sensitivity level	0.7 dB
6.3 Maximum input level:	0.7 dB
6.4 Adjacent channel selectivity	0 dB
6.5 Blocking characteristics	0 dB
6.6 Spurious Response	0 dB
6.7 Intermodulation Characteristics	0 dB
6.8 Spurious emissions	0 dB

# F.2.3 Performance requirements

Clause	Test Tolerance
7.2 Demodulation in Static Propagation	0.3 dB for $\hat{I}_{ar}/I_{ac}$
Condition	0.1 dB for DPCH_Ec/lor
7.3 Demodulation of DCH in multipath	0.6 dB for $\hat{I}_{ar}/I_{ac}$
Fading Propagation conditions	0.1 dB for DPCH_Ec/lor
7.4 Demodulation of DCH in Moving	0.6 dB for $\hat{I}_{ac}/I_{ac}$
Propagation conditions	0.1 dB for DPCH_Ec/lor
7.5 Demodulation of DCH in Birth-Death	0.6 dB for $\hat{I}_{ac}/I_{ac}$
Propagation conditions	0.1 dB for DPCH_Ec/lor
7.6.1 Demodulation of DCH in open loop	0.8 dB for $\hat{I}_{ac}/I_{ac}$
Transmit diversity mode	0.1 dB for DPCH_Ec/lor
7.6.2 Demodulation of DCH in closed	0.8 dB for $\hat{I}_{or}/I_{oc}$
loop Transmit diversity mode	0.1 dB for DPCH_Ec/lor
7.6.3, Demodulation of DCH in site	0.8 dB for $\hat{I}_{or}/I_{oc}$
control mode	0.1 dB for DPCH_Ec/lor
7.7.1 Demodulation in inter-cell soft	0.8 dB for $\hat{I}_{or}/I_{oc}$
Handover conditions	0.1 dB for DPCH_Ec/lor
7.7.2 Combining of TPC commands Test	0.8 dB for $\hat{I}_{or}/I_{oc}$
1	0.1 dB for DPCH_Ec/lor
7.7.2 Combining of TPC commands Test	0.3 dB for $\hat{I}_{or}/I_{oc}$
8	0.1 dB for DPCH_Ec/lor
7.8.1 Power control in downlink constant	0.6 dB for $\hat{I}_{or}/I_{oc}$
BLER target	0.1 dB for DPCH_Ec/lor
7.8.2, Power control in downlink initial	0.6 dB for $\hat{I}_{or}/I_{oc}$
	0.1 dB for DPCH_Ec/lor
7.8.3, Power control in downlink: wind up	0.6 dB for $\hat{I}_{or}/I_{oc}$
	0.1 dB for DPCH_Ec/lor
7.9 Downlink compressed mode	0.6 dB for $\hat{I}_{or}/I_{oc}$
	0.1 dB for DPCH_Ec/lor
7.10 Blind transport format detection	0.3 dB for $\hat{I}_{or}/I_{oc}$
	0.1 dB for DPCH_Ec/lor
7.10 Blind transport format detection	0.6 dB for $\hat{I}_{or}/I_{oc}$
10313 4, 0, 0	0.1 dB for DPCH_Ec/lor

## Table F.2.3: Test Tolerances for Performance Requirements.

# F.2.4 Requirements for support of RRM

## Table F.2.4: Test Tolerances for Radio Resource Management Tests

Clause	Test Tolerance
8.2 Idle Mode Tasks	
8.2.2 Cell Re-Selection	
8.2.2.1 Scenario 1: Single carrier case	0.3 dB for $\hat{I}$ /I
	0.5  dB for  CDICH E c/lor
8 2 2 2 Scepario 2: Multi carrier case	
	0.3 dB for $I_{or}/I_{oc}$
	0.1 dB for CPICH_Ec/lor
8.2.3 UTRAN to GSM Cell Re-Selection	
8.2.3.1 Scenario 1: Both UTRA and GSM	0.3 dB for $\hat{I}_{aa}/I_{aa}$
level changed	0.1 dB for CPICH Ec/lor
	0.3 dB for loc/RXLEV
8.2.3.2 Scenario 2: Only UTRA level	$0.2 d D \tan \hat{I} / I$
changed	0.3 dB for $I_{or}/I_{oc}$
	0.1 dB for CPICH_Ec/lor
8.2.4 EDD/TDD cell re-selection	
	0.3 dB for $I_{or}/I_{oc}$
	0.1 dB for CPICH_Ec/lor
	0.3 dB for loc1/loc2
8.3 UTRAN Connected Mode Mobility	
8.3.1 FDD/FDD Soft Handover	TRD
8.3.3 FDD/FDD Handover	TBD
8.3.4 Inter-system Handover form	TBD
UTRAN FDD to GSM	
8.3.5 Cell Re-selection in CELL_FACH	
8.3.5.1 One frequency present in the	0.3 dB for $\hat{I}_{a}/I_{a}$
neignbour list	
8 3 5 2 Two frequencies present in the	
neighbour list	$0.3 \text{ dB for } I_{or} / I_{oc}$
	0.1 dB for CPICH_Ec/lorTBD
8.3.6 Cell Re-selection in CELL_PCH	
8.3.6.1 One frequency present in the	0.3 dB for $\hat{I}/I$
neighbour list	
8 2 6 2 Two fraguancies procent in the	
neighbour list	$0.3 \text{ dB for } I_{or}/I_{oc}$
	0.1 dB for CPICH Ec/lor <del>TBD</del>
8.3.7 Cell Re-selection in URA_PCH	
8.3.7.1 One frequency present in the	0.3 dB for $\hat{I}/I$
neighbour list	
9.2.7.2 Two fraguancias propert in the	0.1 dB for CPICH_Ec/lor-IBD
neighbour list	0.3 dB for $I_{or}/I_{oc}$
	0.1 dB for CPICH_Ec/lorTBD
8.4 RRC Connection Control	
8.4.1 RRC Re-establishment delay	TBD
8.4.2 Random Access	0.3 dB for $\hat{I}/I$
	0.0  dB for  A C   Follor
8.5 Timing and Signalling Characteristics	
8.5.1 UE Transmit Timing	TBD
8.6 UE Measurements Procedures	
8.6.1 FDD intra frequency measurements	
8.6.1.1 Event triggered reporting in	TBD
AWGN propagation conditions	

Clause	Test Tolerance
8.6.1.2 Event triggered reporting of	TBD
multiple neighbours in AWGN	
propagation condition	
8.6.1.3 Event triggered reporting of two	TBD
detectable neighbours in AWGN	
propagation condition	
8.6.1.4 Correct reporting of neighbours in	IBD
fading propagation condition	
8.6.2 FDD Inter frequency measurements	TRD
AWGN propagation condition	עסו
8.6.2.2 Correct reporting of peighbours in	TBD
Fading propagation condition	
8.6.3 TDD measurements	
8.6.3.1Correct reporting of TDD	TBD
neighbours in AWGN propagation	
condition	
8.7 Measurements Performance	TBD
Requirements	
8.7.1 CPICH RSCP	
8.7.1.1 Intra frequency measurements	0.3 dB for $\hat{I}/I$
accuracy	$r_{or}/r_{oc}$
	0.1 dB for CPICH_EC/Ior
9712 Inter frequency measurement	
	0.3 dB for $I_{or}/I_{oc}$
accuracy	0.1 dB for CPICH_Ec/lor
	0.3 dB for loc1/loc2
	1.0 dB for loc
8.7.2 CPICH Ec/lo	
8.7.1.1 Intra frequency measurements	0.2 dB for $\hat{I}$ /I
accuracy	
074044	0.1 dB for CPICH_Ec/lor
8.7.1.2 Inter frequency measurement	0.3 dB for $\hat{I}_{ar}/I_{ac}$
accuracy	0.1 dB for CPICH_Ec/lor
8.7.3 UTRA Carrier RSSI	0.3 dB for $\hat{I}$ /I
	1.0 dB for loc
8.7.4. SEN-CEN observed time difference	
8.7.5 SEN-SEN observed time difference	
8.7.6 UE Rx-Tx time difference	0.2 dB for $\hat{I}$ /I
	U.S UD IUI $I_{or}/I_{oc}$
	1.0 dB for loc
9.7.7 Observed time differences to COM	LU.5 Chipj for KX-TX Timing Accuracy
o.r.r Observed time difference to GSM	עסו
8 7 8 P-CCPCH RSCP	TBD

## F.3 Interpretation of measurement results

The measurement results returned by the Test System are compared – without any modification – against the Test Requirements as defined by the shared risk principle.

The Shared Risk principle is defined in ETR 273-1-2 clause 6.5.

The actual measurement uncertainty of the Test System for the measurement of each parameter shall be included in the test report.

The recorded value for the Test System uncertainty shall be, for each measurement, equal to or lower than the appropriate figure in clause F.1 of the present document.

If the Test System for a test is known to have a measurement uncertainty greater than that specified in clause F.1, it is still permitted to use this apparatus provided that an adjustment is made value as follows.

Any additional uncertainty in the Test System over and above that specified in clause F.1 shall be used to tighten the Test Requirement – making the test harder to pass. (For some tests e.g. receiver tests, this may require modification of stimulus signals). This procedure will ensure that a Test System not compliant with clause F.1does not increase the chance of passing a device under test where that device would otherwise have failed the test if a Test System compliant with clause F.1 had been used.

## F.4 Derivation of Test Requirements (This clause is informative)

The Test Requirements in the present document have been calculated by relaxing the Minimum Requirements of the core specification using the Test Tolerances defined in clause F.2. When the Test Tolerance is zero, the Test Requirement will be the same as the Minimum Requirement. When the Test Tolerance is non-zero, the Test Requirements will differ from the Minimum Requirements, and the formula used for this relaxation is given in table F.4.

Test	Minimum Requirement in TS T		Test Requirement in TS 34.121
	25.101	Tolerance	
		(TT)	
5.2 Maximum Output	Power class 1 (33 dBm)	0.7 dB	Formula: Upper Tolerance limit + TT
Power	Tolerance = +1/-3 dB		Lower Tolerance limit – TT
	Power class 2 (27 dBm)		For power classes 1-3:
	Tolerance = +1/-3 dB		Upper Tolerance limit = +1.7 dB
	Power class 3 (24 dBm)		Lower Tolerance limit = -3.7 dB
	Tolerance = +1/-3 dB		For power class 4:
	Power class 4 (21 dBm)		Upper Tolerance limit = +2.7 dB
	Tolerance = ±2 dB		Lower Tolerance limit = -2.7 dB
5.3 Frequency Error	The UE modulated carrier frequency shall be accurate to	10 Hz	Formula: modulated carrier frequency error + TT
	within ±0.1 ppm compared to the carrier frequency received from		modulated carrier frequency error = $\pm (0.1)$
	the Node B.		ppm + 10 Hz).
5.4.1 Open loop power	Open loop power control	1.0 dB	Formula: Upper Tolerance limit + TT
control in the uplink	tolerance ±9 dB (Normal)		Lower Tolerance limit – TT
	Open loop power control		For Normal conditions:
	tolerance ±12 dB (Normal)		Upper Tolerance limit = +10 dB
			Lower Tolerance limit = -10 dB
			For Extreme conditions:
			Upper Tolerance limit = +13 dB
			Lower Tolerance limit = -13 dB
5.4.2 Inner loop power	See table 5.4.2.1 and 5.4.2.2	0.25dB	Formula: Upper Tolerance limit + TT
control in uplink		0.15 dB	Lower Tolerance limit – TT
		0.2 dB	
		[0.3 dB]	
5.4.3 Minimum Output	UE minimum transmit power	1.0 dB	Formula:
Power	shall be less than -50 dBm		UE minimum transmit power + TT
			UE minimum transmit power = -49 dBm

Table F.4.1: Derivation of Test Requirements (Transmitter tests)

Test	Minimum Requirement in TS	Test	Test Requirement in TS 34.121
	25.101	Tolerance (TT)	
5.4.4 Out-of- synchronisation handling of output power:	$\frac{DPCCH\_E_c}{I_{or}}$ levels $\frac{I_{or}}{AB: -22 \text{ dB}}$ BD: -28 dB DE: -24 dB EF: -18 dB transmit ON/OFF time 200ms $\frac{DPDCH\_E_c}{I_{or}} = -16.6 \text{ dB}$ $I_{oc} - 60 \text{ dBm}$ $\hat{I}_{or}/I_{oc} = -1 \text{ dB}$	$\begin{array}{c} 0.4 \text{ dB} \\ \text{for} \\ \underline{DPCCH\_E} \\ I_{or} \end{array}$ 0 ms for timing measurem ent	Formulas: Ratio between A and B + TT Ratio between B and D – TT Ratio between D and E – TT Ratio between E and F + TT transmit ON/OFF time + TT timing $\frac{DPDCH\_E_c}{I_{or}} = -16.6 \text{ dB}$ $I_{or} / I_{oc} = -1 \text{ dB}$ $\frac{DPCCH\_E_c}{I_{or}} \text{ levels:}$ $I_{or}$ AB: -21.6 dB BD: -28.4 dB DE: -24.4 dB EF: -17.6 dB transmit ON/OFF time 200ms timing Uncertainty of OFF power measurement is handled by Transmit OFF power test and uncertainty of ON power measurement is handled by Minimum output power test.
5.5.1 Transmit OFF power (static case)	Transmit OFF power shall be less than -56 dBm	1.0 dB	Formula: Transmit OFF power + TT Transmit OFF power = -55dBm.
5.5.2 Transmit ON/OFF time mask (dynamic case) 5.6 Change of TFC: power control step size	Transmit ON power shall be the target value as defined in clause 5.5.2.2 Transmit OFF power shall be less than -56 dBm	On power upper TT = 0.7 dB On power lower TT = 1.0 dB Off power TT [] dB 0.3 dB	Formula for transmit ON power: Transmit ON power target upper limit + On power upper TT Transmit ON power target lower limit - On power lower TT To calculate Transmit ON power target value range take the nominal TX power range from Table 5.5.2.3 then apply table 5.4.1.1 open limits then apply table 5.7.1 (only if there has been a transmission gap) then cap the upper value using table 5.2.1. Formula for transmit OFF power: Transmit OFF power + Off power TT <u>Transmit OFF power = []dBm</u> Formula: Upper Tolerance limit + TT Lower Tolerance limit – TT
			Upper limit = -4.7 dB Lower limit = -9.3 dB
5.7 Power setting in uplink compressed mode	Various	TBD (Subset of 5.4.2)	TBD

Test	Minimum Requirement in TS 25 101		Test Tolerance	Test Requirement in TS 34.121	
			(TT)		
5.8 Occupied Bandwidth	The occupied channel bandwidth shall be less than 5 MHz based on a chip rate of		0 kHz	Formula: occupied channel bandwidth: + TT	
5.0 Spectrum omission	3.84 Mcps.			occupied channel bandwidth = 5.0 MHz	
mask	TS25.101 Table 6.1	0.	1.5 00	Lower limit + TT	
	The lower limit shall	be –50 dBm		Add 1.5 to Minimum requirement entries	
	/ 3.84 MHz or which	ever is		in TS25.101 Table 6.10.	ad for
	nigher.			Additional requirements for	Band II due
				to FCC regulatory requirem	nents.
				MHz or which ever is highe	3.5 abm / 3.84 er.
5.10 Adjacent Channel Leakage Power Ratio (ACLR)	If the adjacent channel power is greater than –50 dBm then the ACLR shall be higher than the values specified below.		1.5 dB	Formula: Absolute power threshold + TT	
	Power Classes 3 an	nd 4:	0.8 dB	Formula: ACLR limit - TT	
	UE channel +5 MHz	z or -5 MHz,		Power Classes 3 and 4: UF channel +5 MHz or -5 M	/Hz ACLR
	UE channel +10 MH	lz or -10		limit: 32.2 dB	
	MHz, ACLR limit: 43	3 dB		UE channel +10 MHz or -1 limit: 42.2 dB	0 MHz, ACLR
5.11 Spurious				Formula: Minimum Require	ement+ TT
ETHISSIONS				Requirements in table 5.11	.1a and
	Ensame and Daniel	N dia income		5.11.1b.	D dia increas
	Frequency Band	Requireme nt		Frequency Band	Requirement
	9 kHz ≤ f < 150 kHz	–36dBm /1kHz	0 dB	9kHz ≤ f < 1GHz	–36dBm /1kHz
	150 kHz ≤ f < 30 MHz	–36dBm /10kHz	0 dB	150 kHz ≤ f < 30 MHz	–36dBm /10kHz
	30 MHz ≤ f < 1000 MHz	–36dBm /100kHz	0 dB	30 MHz ≤ f < 1000 MHz	–36dBm /100kHz
	1 GHz ≤ f < 12.75 GHz	–30dBm /1MHz	0 dB	1 GHz ≤ f < 2.2 GHz	–30dBm /1MHz
			0 dB	2.2 GHz ≤ f < 4 GHz	–30dBm /1MHz
			0 dB	4 GHz ≤ f < 12.75 GHz	–30dBm /1MHz
	1893.5 MHz < f < 1919.6 MHz	-41dBm /300kHz	0 dB	1893.5 MHz < f < 1919.6 MHz	-41dBm /300kHz
	925 MHz ≤ f ≤ 935 MHz	-67dBm /100kHz	0 dB	925 MHz ≤ f ≤ 935 MHz	-67dBm /100kHz
	935 MHz < f ≤ 960 MHz	–79dBm /100kHz	0 dB	935 MHz < f ≤ 960 MHz	–79dBm /100kHz
	1805 MHz ≤ f ≤ 1880 MHz	–71dBm /100kHz	0 dB	1805 MHz ≤ f ≤ 1880 MHz	–71dBm /100kHz
5.12 Transmit	Intermodulation Pro	duct	0 dB	Formula: CW interferer leve	el – TT/2
Intermodulation	5MHz -31 dBc 10MHz -41 dBc CW Interferer level = -40 dBc			Intermod Products limits remain unchanged.	
				CW interferer level = -40 dl	Bc
5.13.1 Transmit modulation: EVM	The measured EVM shall not exceed 17.5%.		0%	Formula: EVM limit + TT EVM limit = 17.5 %	
5.13.2 Transmit	The measured Peak	< code	1.0 dB	Formula: Peak code domai	n error + TT
modulation: peak code domain error	domain error shall not exceed -15 dB.			Peak code domain error =	-14 dB
Test	Minimum Requi 25.10	rement in TS )1	Test Tolerance (TT)	Test Requirement in	TS 34.121
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6.2 Reference sensitivity level	for = -106.7 dBm / DPCH_Ec = -117 MHz BER limit = 0.001	′ 3.84 MHz dBm / 3.84	0.7 dB	Formula: Îor+ TT DPCH_Ec + TT BER limit unchanged Îor = -106 dBm / 3 DPCH_Ec = -116.3 dBm /	8.84 MHz / 3.84 MHz
6.3 Maximum input level	-25 dBm lor -19 dBc DPCH_E	c/lor	0.7 dB	Formula: lor-TT lor = -25.7 dBm	
6.4 Adjacent Channel Selectivity	for = -92.7 dBm / 3 DPCH_Ec = -103 MHz loac (modulated) = dBm/3.84 MHz BER limit = 0.001	3.84 MHz dBm / 3.84 = -52	0 dB	Formula: Îor unchanged DPCH_Ec unchanged Ioac – TT BER limit unchanged Ioac = -52 dBm/3.84 MHz	
6.5 Blocking Characteristics	See Table 6.5.3 a TS34.121 BER limit = 0.001	nd 6.5.4. in	0 dB	Formula: I blocking (modulated) - TT (d I blocking (CW) - TT (dBm) BER limit unchanged	Bm/3.84MHz)
6.6 Spurious Response	Iblocking(CW) –44 Fuw: Spurious response BER limit = 0.001	4 dBm e frequencies	0 dB	Formula: I <sub>blocking</sub> (CW) - TT Fuw unchanged BER limit unchanged I <sub>blocking</sub> (CW) = -44 dBm	(dBm)
6.7 Intermodulation Characteristics	louw1 (CW) louw2 (modulated 3.84 MHz Fuw1 (offset) 10 Fuw2 (offset) 20 lor = -103.7 dBm/3 DPCH_Ec = -114 BER limit = 0.001	-46 dBm ) –46 dBm / MHz 3.84 MHz dBm/3.84	0 dB	Formula: lor + TT DPCH_Ec + TT louw1 level unchanged louw2 level unchanged BER limit unchanged. lor = -114 dBm BER limit. = 0.001	
6.8 Spurious Emissions				Formula: Maximum level + Add zero to all the values o	TT of Maximum
	Frequency Band	Maximum level		Frequency Band	Maximum level
	9kHz ≤ f < 1GHz	-57dBm /100kHz	0 dB	9kHz ≤ f < 1GHz	-57dBm /100kHz
	1GHz ≤ f ≤ 12.75GHz	-47dBm /1MHz	0 dB	1GHz ≤ f ≤ 2.2GHz	-47dBm /1MHz
			0 dB	$2.2GHz < f \le 4GHz$	-47dBm /1MHz
			0 dB	$4GHz < f \le 12.75GHz$	-47dBm /1MHz
	1920MHz ≤ f ≤ 1980MHz	-60dBm /3.84MHz	0 dB	$1920MHz \le f \le 1980MHz$	-60dBm /3.84MHz
	2110MHz ≤ f ≤ 2170MHz	-60dBm /3.84MHz	0 dB	$2110MHz \le f \le 2170MHz$	-60dBm /3.84MHz

Test	Minimum Requirement in TS 25.101	Test Tolerance (TT)	Test Requirement in TS 34.121
7.2 Demodulation of DPCH in static conditions	$\frac{DPCH_{-}E_{c}}{I_{or}} -5.5 \text{ to } -16.6 \text{ dB}$ $I_{oc} = -60 \text{ dBm}$ $\hat{I}_{or}/I_{oc} = -1 \text{ dB}$	0.1 dB for $\frac{DPCH_E_c}{I_{or}}$ 0.3 dB for $\hat{I}_{or}/I_{oc}$	Formulas: $\frac{DPCH\_E_c}{I_{or}} = \text{ratio} + \text{TT}$ $\hat{I}_{or}/I_{oc} = \text{ratio} + \text{TT}$ $I_{oc} \text{ unchanged}$ $\hat{I}_{or}/I_{oc} = -0.7 \text{ dB}$ $\frac{DPCH\_E_c}{I_{or}} -5.4 \text{ to } -16.5 \text{ dB}:$
7.3 Demodulation of DPCH in multi-path fading propagation conditions Tests 1-4	$\frac{DPCH\_E_c}{I_{or}} -2.2 \text{ to } -15.0$ $I_{oc} = -60 \text{ dBm}$ $\hat{I}_{or}/I_{oc} = 9 \text{ dB to } -3 \text{ dB}$	0.1 dB for $\frac{DPCH\_E_c}{I_{or}}$ 0.6 dB for $\hat{I}_{or}/I_{oc}$	Formulas: $\frac{DPCH\_E_c}{I_{or}} = \text{ratio} + \text{TT}$ $\hat{I}_{or}/I_{oc} + \text{ratio} + \text{TT}$ $I_{oc} \text{ unchanged}$ $\hat{I}_{or}/I_{oc} = 9.6 \text{ to } -2.4 \text{ dB}$ $\frac{DPCH\_E_c}{I_{or}} -2.1 \text{ to } -14.9 \text{ dB}$
7.3 Demodulation of DPCH in multi-path fading propagation conditions Tests 5-8	$\frac{DPCH\_E_c}{I_{or}} -3.2 \text{ to } -7.7 \text{ dB}$ $I_{oc} = -60 \text{ dBm}$ $\hat{I}_{or}/I_{oc} = 6 \text{ dB to } -3 \text{ dB}$	0.1 dB for $\frac{DPCH_E_c}{I_{or}}$ 0.6 dB for $\hat{I}_{or}/I_{oc}$	Formulas: $\frac{DPCH\_E_c}{I_{or}} = \text{ratio} + \text{TT}$ $\hat{I}_{or}/I_{oc} = \text{ratio} + \text{TT}$ $I_{oc} \text{ unchanged}$ $\hat{I}_{or}/I_{oc} = 6.6 \text{ to } -2.4 \text{ dB}$ $\frac{DPCH\_E_c}{I_{or}} -3.1 \text{ to } -7.6 \text{ dB}$
7.3 Demodulation of DPCH in multi-path fading propagation conditions Tests 9-12	$\frac{DPCH_{-}E_{c}}{I_{or}} -4.4 \text{ to } -11.8 \text{ dB}$ $I_{oc} = -60 \text{ dBm}$ $\hat{I}_{or}/I_{oc} = 6 \text{ dB to } -3 \text{ dB}$	0.1 dB for $\frac{DPCH_E_c}{I_{or}}$ 0.6 dB for $\hat{I}_{or}/I_{oc}$	Formulas: $\frac{DPCH_{-}E_{c}}{I_{or}} = \text{ratio} + \text{TT}$ $\hat{I}_{or}/I_{oc} = \text{ratio} + \text{TT}$ $I_{oc} \text{ unchanged}$ $\hat{I}_{or}/I_{oc} = 6.6 \text{ to } -2.4 \text{ dB}$ $\frac{DPCH_{-}E_{c}}{I_{or}} -4.3 \text{ to } -11.7 \text{ dB}:$

Table F.4.3: Derivation of Test Requirements (Performance tests)

Test	Minimum Requirement in TS 25.101	Test Tolerance (TT)	Test Requirement in TS 34.121
7.3 Demodulation of DPCH in multi-path fading propagation conditions Tests 13-16	$\frac{DPCH\_E_c}{I_{or}} -2.2 \text{ to } -15.0 \text{ dB}$ $I_{oc} = -60 \text{ dBm}$ $\hat{I}_{or}/I_{oc} = 9 \text{ dB}$	0.1 dB for $\frac{DPCH_E_c}{I_{or}}$ 0.6 dB for $\hat{I}_{or}/I_{oc}$	Formulas: $\frac{DPCH\_E_c}{I_{or}} = \text{ratio} + \text{TT}$ $\hat{I}_{or}/I_{oc} = \text{ratio} + \text{TT}$ $I_{oc} \text{ unchanged}$ $\hat{I}_{or}/I_{oc} = 9.6$ $\frac{DPCH\_E_c}{I_{or}} -2.1 \text{ to } -14.9 \text{ dB}:$
7.3 Demodulation of DPCH in multi-path fading propagation conditions Tests 17-20	$\frac{DPCH_{-}E_{c}}{I_{or}} -1.4 \text{ to } -8.8 \text{ dB}$ $I_{oc} = -60 \text{ dBm}$ $\hat{I}_{or}/I_{oc} = 6 \text{ to } -3 \text{ dB}$	0.1 dB for $\frac{DPCH\_E_c}{I_{or}}$ 0.6 dB for $\hat{I}_{or}/I_{oc}$	Formulas: $\frac{DPCH\_E_c}{I_{or}} = \text{ratio} + \text{TT}$ $\hat{I}_{or}/I_{oc} = \text{ratio} + \text{TT}$ $I_{oc} \text{ unchanged}$ $\hat{I}_{or}/I_{oc} = 6.6 \text{ to } -2.4 \text{ dB}$ $\frac{DPCH\_E_c}{I_{or}} -1.3 \text{ to } -8.7 \text{ dB}$
7.4 Demodulation of DPCH in moving propagation conditions	$\frac{DPCH\_E_c}{I_{or}} -10.9 \text{ to } -14.5$ $I_{oc} = -60 \text{ dBm}$ $\hat{I}_{or}/I_{oc} = -1 \text{ dB}$	0.1 dB for $\frac{DPCH\_E_c}{I_{or}}$ 0.6 dB for $\hat{I}_{or}/I_{oc}$	Formulas: $\frac{DPCH\_E_c}{I_{or}} = \text{ratio} + \text{TT}$ $\hat{I}_{or}/I_{oc} = \text{ratio} + \text{TT}$ $I_{oc} \text{ unchanged}$ $\hat{I}_{or}/I_{oc} = -0.4 \text{ dB}$ $\frac{DPCH\_E_c}{I_{or}} -10.8 \text{ to} -14.4 \text{ dB}$
7.5 Demodulation of DPCH birth-death propagation conditions	$\frac{DPCH\_E_c}{I_{or}} -8.7 \text{ to } -12.6 \text{ dB}$ $I_{oc} = -60 \text{ dBm}$ $\hat{I}_{or}/I_{oc} = -1 \text{ dB}$	0.1 dB for $\frac{DPCH\_E_c}{I_{or}}$ 0.6 dB for $\hat{I}_{or}/I_{oc}$	Formulas: $\frac{DPCH\_E_c}{I_{or}} = \text{ratio} + \text{TT}$ $\hat{I}_{or}/I_{oc} = \text{ratio} + \text{TT}$ $I_{oc} \text{ unchanged}$ $\hat{I}_{or}/I_{oc} = -0.4 \text{ dB}$ $\frac{DPCH\_E_c}{I_{or}} -18.6 \text{ to } -12.5 \text{ dB}$

Test	Minimum Requirement in TS 25 101	Test Tolerance	Test Requirement in TS 34.121
	20.101	(TT)	
7.6.1 Demodulation of DPCH in transmit diversity propagation conditions	$\frac{DPCH\_E_c}{I_{or}} \text{ -16.8 dB}$	0.1 dB for $\frac{DPCH\_E_c}{I}$	Formulas: $\frac{DPCH\_E_c}{I_{or}} = \text{ratio} + \text{TT}$
	$I_{oc} = -60 \text{ dBm}$	I <sub>or</sub>	$\hat{I}_{or}/I_{oc}$ = ratio + TT
	$\hat{I}_{or}/I_{oc}$ = 9 dB	0.8 dB for $\hat{I}_{or}/I_{oc}$	$I_{oc}$ unchanged
			$\hat{I}_{or}/I_{oc}$ = 9.8 dB
			$rac{DPCH_E_c}{I_{or}}$ -16.7 dB:
7.6.2 Demodulation of DCH in closed loop Transmit diversity	$\frac{DPCH\_E_c}{I_{or}}$ -18 to -18.3 dB	0.1 dB for $\underline{DPCH}_E_c$	Formulas: $\frac{DPCH_{-}E_{c}}{I_{or}} = \text{ratio} + \text{TT}$
mode	<i>I<sub>oc</sub></i> = - 60 dBm	$I_{or}$	$\hat{I}_{or}/I_{oc}$ = ratio + TT
	$\hat{I}_{or}/I_{oc} = 9 \text{ dB}$	0.8 dB for $\hat{I}_{or}/I_{oc}$	$I_{oc}$ unchanged
			$\hat{I}_{or}/I_{oc}$ = 9.8 dB
			$\frac{DPCH\_E_c}{I_{or}}$ -17.9 to -18.2 dB:
7.6.3, Demodulation of DCH in site selection diversity Transmission	$rac{DPCH\_E_c}{I_{or}}$ -7.5 to -9.2 dB	0.1 dB for $DPCH_E_c$	Formulas: $\frac{DPCH\_E_c}{I_{cr}} = \text{ratio} + \text{TT}$
power control mode	<i>I<sub>oc</sub></i> = - 60 dBm	I <sub>or</sub>	$\hat{I}_{or}/I_{oc}$ = ratio + TT
	$\hat{I}_{or}/I_{oc} = 0$ to -3 dB	0.8 dB for $\hat{I}_{or}/I_{oc}$	$I_{oc}$ unchanged
			$\hat{I}_{or}/I_{oc}$ = 0.8 to -2.2 dB
			$\frac{DPCH\_E_c}{I_{or}}$ -7.4 to -9.1 dB:
7.7.1 Demodulation in inter-cell soft Handover	$\frac{DPCH\_E_c}{I_{or}} \text{ -5.5 to -15.2 dB}$	0.1 dB for $DPCH_E_c$	Formulas: $\frac{DPCH_E_c}{I} = \text{ratio} + \text{TT}$
	<i>I<sub>oc</sub></i> = - 60 dBm	I <sub>or</sub>	$\hat{I}_{or}/I_{oc}$ = ratio + TT
	$\hat{I}_{or}/I_{oc} = \text{lor2/loc} = 6 \text{ to 0 dB}$	0.8 dB for $\hat{I}_{or}/I_{oc}$	I <sub>oc</sub> unchanged
			$\hat{I}_{or}/I_{oc}$ = 6.8 to 0.8 dB
			$\frac{DPCH\_E_c}{I_{or}}$ -5.4 to -15.4 dB:
7.7.2 Combining of			To be completed
7.7.2 Combining of			To be completed
TPC commands Test 2		1	

Test	Minimum Requirement in TS 25.101	Test Tolerance (TT)	Test Requirement in TS 34.121
7.8.1 Power control in downlink constant BLER target	$\frac{DPCH\_E_c}{I_{or}}$ -9 to -16 dB	0.1 dB for $\underline{DPCH_E_c}$	Formulas: $\frac{DPCH\_E_c}{I_{or}} = \text{ratio} + \text{TT}$
	<i>I<sub>oc</sub></i> = - 60 dBm	I <sub>or</sub>	$\hat{I}_{or}/I_{oc}$ = ratio + TT
	$\hat{I}_{or}/I_{oc}$ = 9 to -1 dB	0.6 dB for $\hat{I}_{or}/I_{oc}$	I <sub>oc</sub> unchanged
			$\hat{I}_{or}/I_{oc}$ = 9.6 to -0.4 dB
			$\frac{DPCH\_E_c}{I_{or}}$ -8.9 to -15.9 dB:
7.8.2, Power control in downlink initial convergence	$\frac{DPCH\_E_c}{I_{or}}$ -8.1 to -18.9 dB	0.1 dB for $\underline{DPCH\_E_c}$	Formulas: $\frac{DPCH\_E_c}{I_{or}} = \text{ratio} + \text{TT}$
	$I_{oc}$ = - 60 dBm	I <sub>or</sub>	$\hat{I}_{or}/I_{oc}$ = ratio + TT
	$\hat{I}_{or}/I_{oc}$ = -1 dB	0.6 dB for $\hat{I}_{or}/I_{oc}$	I <sub>oc</sub> unchanged
			$\hat{I}_{or}/I_{oc}$ = -0.4 dB
			$\frac{DPCH\_E_c}{I_{or}}$ -8.0 to -18.8 dB:
7.8.3, Power control in downlink: wind up effects	$\frac{DPCH\_E_c}{I_{or}}$ -13.3 dB	0.1 dB for $\underline{DPCH\_E_c}$	Formulas: $\frac{DPCH_{-}E_{c}}{I_{or}} = \text{ratio} + \text{TT}$
	<i>I<sub>oc</sub></i> = - 60 dBm	I <sub>or</sub>	$\hat{I}_{or}/I_{oc}$ = ratio + TT
	$\hat{I}_{or}/I_{oc} = 5 \text{ dB}$	0.6 dB for $\hat{I}_{or}/I_{oc}$	$I_{oc}$ unchanged
			$\hat{I}_{or}/I_{oc}$ = 5.6 dB
			$\frac{DPCH\_E_c}{I_{or}}$ -13.2 dB:
7.9 Downlink compressed mode	$\frac{DPCH\_E_c}{I_{or}}$ -15.4 dB	0.1 dB for DPCH_E	Formulas: $\frac{DPCH\_E_c}{I} = \text{ratio} + \text{TT}$
	<i>I<sub>oc</sub></i> = - 60 dBm	$I_{or}$	$\hat{I}_{or}/I_{oc}$ = ratio + TT
	$\hat{I}_{or}/I_{oc} = 9 \text{ dB}$	0.6 dB for $\hat{I}_{or}/I_{oc}$	I <sub>oc</sub> unchanged
			$\hat{I}_{or}/I_{oc}$ = 9.6 dB
			$\frac{DPCH\_E_c}{I_{or}}$ -15.3 dB:

Test	Minimum Requirement in TS 25.101	Test Tolerance	Test Requirement in TS 34.121
7.10 Blind transport format detection Tests 1, 2, 3	$\frac{DPCH\_E_c}{I_{or}} -17.7 \text{ to } -18.4 \text{ dB}$ $I_{oc} = -60 \text{ dBm}$ $\hat{I}_{or}/I_{oc} = -1 \text{ dB}$	$\frac{(11)}{0.1 \text{ dB}}$ for $\frac{DPCH\_E_c}{I_{or}}$ 0.3 dB for $\hat{I}_{or}/I_{oc}$	Formulas: $\frac{DPCH\_E_c}{I_{or}} = \text{ratio} + \text{TT}$ $\hat{I}_{or}/I_{oc} = \text{ratio} + \text{TT}$ $I_{oc} \text{ unchanged}$
			$\hat{I}_{or}/I_{oc} = -0.7 \text{ dB}$ $\frac{DPCH_E_c}{I_{or}}$ -17.6 to -18.3 dB:
7.10 Blind transport format detection Tests 4, 5, 6	$\frac{DPCH\_E_c}{I_{or}} -13.0 \text{ to } -13.8 \text{ dB}$ $I_{oc} = -60 \text{ dBm}$	0.1 dB for $\frac{DPCH\_E_c}{I_{or}}$	Formulas: $\frac{DPCH\_E_c}{I_{or}} = \text{ratio} + \text{TT}$ $\hat{I}_{or}/I_{oc} = \text{ratio} + \text{TT}$
	$\hat{I}_{or}/I_{oc} = -3 \text{ dB}$	0.6 dB for $\hat{I}_{or}/I_{oc}$	$I_{oc}$ unchanged $\hat{I}_{oc}/I_{co} = -2.4 \text{ dB}$
			$\frac{DPCH_E_c}{I_{or}}$ -12.9 to -13.7 dB:

Test	Test Parameters in TS 25.133	Test Tolerance (TT)	Test Requirement in TS 34.121
8.2 Idle Mode Tasks			
8.2.2 Cell Re-Selection			
8.2.2.1 Scenario 1: Single carrier case	$\frac{CPICH_{-}E_{c}}{I_{or}} = -10 \text{ dB}$ $I_{oc} = -70 \text{ dBm}$ $Ior/Ioc = 7.3 \text{ dB}$ Note: Parameters are valid for cell 1 at time T1 and cell 2 at time T2 $\frac{CPICH_{-}E_{c}}{I_{or}} = -10 \text{ dB}$	0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$ 0.3 dB for lor/loc 0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$	Formulas: $\frac{CPICH\_E_c}{I_{or}} = \text{ratio} - \text{TT}$ Ior/loc = ratio - TT $I_{oc} \text{ unchanged}$ Ior/loc = 7 dB $\frac{CPICH\_E_c}{I_{or}} -10.1 \text{ dB:}$ Formulas: $\frac{CPICH\_E_c}{I_{or}} = \text{ratio} + \text{TT}$
	$I_{oc}$ = - 70 dBm lor/loc = 10.27 dB Note: Parameters are valid for cell 1 at time T2 and cell 2 at time T1	0.3 dB for lor/loc	$I_{or}$ lor/loc = ratio + TT loc unchanged lor/loc = 10.57 dB $\frac{CPICH - E_c}{I_{or}}$ -9.9 dB:
8.2.2.2 Scenario 2: Multi carrier case	$\frac{CPICH\_E_c}{I_{or}} = -10 \text{ dB}$ $I_{oc} = -70 \text{ dBm}$ $Ior/Ioc = -3.4 \text{ dB}$ Note: Parameters are valid for cell 1 at time T1 and cell 2 at time T2	0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$ 0.3 dB for lor/loc	Formulas: $\frac{CPICH\_E_c}{I_{or}} = \text{ratio} - \text{TT}$ lor/loc = ratio - TT loc unchanged loc ratio unchanged lor/loc = -3.7 dB $\frac{CPICH\_E_c}{I_{or}} -10.1 \text{ dB}:$

Table F.4.4: Derivation of	<b>Test Requirement</b>	ទ (RRM tests)
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Test	Test Parameters in TS 25.133	Test Tolerance (TT)	Test Requirement in TS 34.121
Test         8.2.3 UTRAN to GSM         Cell Re-Selection         8.2.4 Sector	Test Parameters in TS 25.133 $\frac{CPICH_{-}E_{c}}{I_{or}} = -10 \text{ dB}$ $I_{oc} = -70 \text{ dBm}$ lor/loc = 2.2 dBNote: Parameters are valid for cell 1 at time T2 and cell 2 at time T1TBD	Test Tolerance (TT)         0.1 dB for <u>CPICH_E_</u> Ior         0.3 dB for lor/loc	Test Requirement in TS 34.121         Formulas: $\frac{CPICH - E_c}{I_{or}}$ = ratio + TT         Ior/loc = ratio + TT         loc unchanged         loc ratio unchanged         loc ratio unchanged         loc/loc = 2.5 dB $\frac{CPICH - E_c}{I_{or}}$ -9.9 dB:         Ior/loc = 2.5 dB
8.2.3.1 Scenario 1: Both UTRA and GSM level changed	$\frac{CPICH\_E_c}{I_{or}} = -10 \text{ dB}$ lor/loc = 0 dB	0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$ 0.3 dB for lor/loc 0.3 dB for loc/RXLEV	Formulas: $\frac{CPICH\_E_c}{I_{or}} = ratio + TT$ $lor/loc = ratio + TT$ $(loc/Rxlev)_{test requirement} =$ $(loc/Rxlev)_{minimum requirement} + TT$ $lor/loc = 0.3 dB$ $\frac{CPICH\_E_c}{I_{or}} = -9.9 dB:$
	$\frac{CPICH_E_c}{I_{or}} = -10 \text{ dB}$ lor/loc = - 5 dB	0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$ 0.3 dB for lor/loc 0.3 dB for loc/RXLEV	Formulas: $\frac{CPICH\_E_c}{I_{or}} = \text{ratio} - \text{TT}$ $\text{lor/loc} = \text{ratio} - \text{TT}$ $(\text{loc/Rxlev})_{\text{test requirement}} = (\text{loc/Rxlev})_{\text{minimum requirement}} - \text{TT}$ $\text{lor/loc} = -5.3 \text{ dB}$ $\frac{CPICH\_E_c}{I_{or}} -10.1 \text{ dB}:$
8.2.3.2 Scenario 2: Only UTRA level changed	$\frac{CPICH\_E_c}{I_{or}} = -10 \text{ dB}$ lor/loc = 20 dB	0.1 dB for <u>CPICH_E<sub>c</sub></u> I <sub>or</sub> 0.3 dB for lor/loc 0.3 dB for loc/RXLEV	Formulas: $\frac{CPICH\_E_c}{I_{or}} = \text{ratio} + \text{TT}$ $\text{lor/loc} = \text{ratio} + \text{TT}$ $(\text{loc/Rxlev})_{\text{test requirement}} = (\text{loc/Rxlev})_{\text{minimum requirement}} + \text{TT}$ $\text{lor/loc} = 20.3 \text{ dB}$ $\frac{CPICH\_E_c}{I_{or}} = -9.9 \text{ dB}:$
	CF	page 32	

Test	Test Parameters in TS 25.133	Test Tolerance (TT)	Test Requirement in TS 34.121
Test         8.2.4 FDD/TDD cell reselection         8.3 UTRAN Connected Mode Mobility         8.3.1 FDD/FDD Soft         Handover         8.3.2 FDD/FDD Hard         Handover         8.3.3 FDD/TDD         Handover         8.3.4 Inter-system         Handover form UTRAN         FDD to GSM         8.3.5 Cell Re-selection in CELL_FACH         8.3.5.1 One frequency present in the neighbour list	Test Parameters in TS 25.133 $\frac{CPICH\_E_c}{I_{or}}$ = -10 dB $Ior/loc$ = 20 dBIor/loc = 20 dBTBDTBDTBDTBDTBDTBDTBDTBDTBDTBDTBDTBDTBDTBDTBD	Test Tolerance (TT)         0.1 dB for $CPICH\_E_c$ $I_{or}$ 0.3 dB for lor/loc         0.3 dB for         loc/RXLEV	Test Requirement in TS 34.121         Formulas: $\frac{CPICH \_ E_c}{I_{or}}$ = ratio + TT         Ior/loc = ratio + TT         (loc/Rxlev)test requirement =         (loc/Rxlev)minimum requirement + TT         Ior/loc = 20.3 dB $\frac{CPICH \_ E_c}{I_{or}}$ = -9.9 dB:         I         Formulas: $\frac{CPICH \_ E_c}{I}$ = ratio - TT
	$\frac{I_{OC}}{I_{OC}} = 7.3 \text{ dB}$ $\frac{I_{OC} = 7.3 \text{ dB}}{I_{OC} = 1 \text{ at time T1 and cell}}$ $\frac{I_{OC} = 1 \text{ at time T2} \text{ TBD}}{I_{OC}}$ $\frac{I_{OC}}{I_{OC}} = -70 \text{ dBm}}{I_{OC}}$	$\frac{0.1 \text{ dB for}}{CPICH\_E_c}$ $\frac{I_{or}}{0.3 \text{ dB for lor/loc}}$	$\boxed{\frac{\text{lor/loc} = \text{ratio} - \text{TT}}{I_{oc} \underline{\text{unchanged}}}}$ $\boxed{\frac{Ior/loc = 7 \text{ dB}}{I_{oc}}}$ $\boxed{\frac{CPICH \_ E_c}{I_{or}} = 10.1 \text{ dB:}}$ $\boxed{\frac{CPICH \_ E_c}{I_{or}} = \text{ratio} + \text{TT}}$ $\boxed{\frac{Ior/loc = \text{ratio} + \text{TT}}{I_{or}}}$ $\boxed{\frac{\text{lor/loc} = 10.57 \text{ dB}}{I_{or}}}$

Test	Test Parameters in TS 25 133	Test Tolerance (TT)	Test Requirement in TS 34.121
8.3.5.2 Two frequencies present in the neighbour list	TS 25.133 $CPICH_E_c = -10 \text{ dB}$ $I_{or}$ $I_{or}$ $I_{oc} = -70 \text{ dBm}$ $I_{oc}$ $Ior/Ioc = -3.4 \text{ dB}$ $Iote: Parameters are valid for cell 1 at time T1 and cell 2 at time T2TBD   $	$\frac{(TT)}{\underbrace{O.1 \text{ dB for}}_{CPICH\_E_c}}$ $\underbrace{I_{or}}{0.3 \text{ dB for lor/loc}}$	Formulas:
	$\frac{CPICH\_E_c\_=-10 \text{ dB}}{I_{or}}$ $\frac{I_{oc}\_=-70 \text{ dBm}}{I_{oc}\_=-2.2 \text{ dB}}$ Note: Parameters are valid for cell 1 at time T2 and cell 2 at time T1	$\frac{0.1 \text{ dB for}}{CPICH\_E_c}$ $I_{or}$ 0.3 dB for lor/loc	Formulas:
8.3.6 Cell Re-selection in CELL_PCH	TBD		
8.3.6.1 One frequency present in the neighbour list	$\frac{CPICH_{-E_c} = -10 \text{ dB}}{I_{or}}$ $\frac{I_{oc} = -70 \text{ dBm}}{I_{or}}$ $\frac{Ior/loc = 7.3 \text{ dB}}{I_{or} \text{ cell 1 at time T1 and}}$ $\frac{Ior(loc = 7.3 \text{ dB})}{Cr(loc = 11 \text{ at time T1 and})}$	$     \begin{array}{r} \underline{0.1 \text{ dB for}} \\ \underline{CPICH\_E_c} \\ \hline I_{or} \\ \hline \hline 0.3 \text{ dB for lor/loc} \end{array} $	Formulas: $CPICH\_E_c\_= ratio - TT$ $I_{or}$ lot/loc = ratio - TT $I_{oc}\_unchanged$ lor/loc = 7 dB $CPICH\_E_c\10.1 dB$ : $I_{or}$

Test	Test Parameters in	Test Tolerance	Test Requirement in TS 34.121
	$\frac{CPICH\_E_c}{I_{or}} = -10 \text{ dB}$ $\frac{I_{oc}}{I_{oc}} = -70 \text{ dBm}$ $\frac{I_{oc}}{I_{oc}} = 10.27 \text{ dB}$ Note: Parameters are valid for cell 1 at time T2 and cell 2 at time T1	$\frac{(\text{TT})}{\underbrace{O.1 \text{ dB for}}{CPICH\_E_c}}$ $\underbrace{I_{or}}{0.3 \text{ dB for lor/loc}}$	Formulas:
8.3.6.2 Two frequencies present in the neighbour list	$\frac{CPICH_E_c}{I_{or}} = -10 \text{ dB}$ $\frac{I_{oc}}{I_{oc}} = -70 \text{ dBm}$ $\frac{Ior/loc}{I_{oc}} = -3.4 \text{ dB}$ Note: Parameters are valid for cell 1 at time T1 and cell 2 at time T2TBD	$\frac{0.1 \text{ dB for}}{\underline{CPICH}_E_c}$ $I_{or}$ 0.3 dB for lor/loc	Formulas: $CPICH \_ E_c \_ = ratio - TT$ $I_{or}$ $I_{or}$ loc unchanged       Ioc ratio unchanged         loc ratio unchanged       Ior/loc = -3.7 dB $CPICH \_ E_c \10.1 dB:$ $I_{or}$
	$\frac{CPICH_{-}E_{c}}{I_{or}} = -10 \text{ dB}$ $\frac{I_{oc}}{I_{oc}} = -70 \text{ dBm}$ $\frac{Ior/loc = 2.2 \text{ dB}}{Note: Parameters are valid}$ $\frac{for cell 1 \text{ at time T2 and}}{cell 2 \text{ at time T1}}$	$\frac{\underbrace{O.1 \text{ dB for}}{CPICH\_E_c}}{I_{or}}$ 0.3 dB for lor/loc	Formulas:
8.3.7 Cell Re-selection in URA_PCH	<del>TBD</del>		

Test	Test Parameters in TS 25.133	Test Tolerance (TT)	Test Requirement in TS 34.121
8.3.7.1 One frequency present in the neighbour list	$\frac{CPICH\_E_c}{I_{or}} = -10 \text{ dB}$ $\frac{I_{oc}}{I_{oc}} = -70 \text{ dBm}$	$ \frac{0.1 \text{ dB for}}{CPICH\_E_c} $ $ \frac{I_{or}}{0.3 \text{ dB for lor/loc}} $	$\frac{Formulas:}{\frac{CPICH \_ E_c}{I_{or}} = ratio - TT}}{\frac{Ior/loc = ratio}{I} - TT}$
	<u>Ior/loc = 7.3 dB</u> <u>Note: Parameters are valid</u> <u>for cell 1 at time T1 and</u> <u>cell 2 at time T2TBD</u>		$I_{oc} \underline{\text{unchanged}}$ $\underline{\text{lor/loc} = 7 \text{ dB}}$ $\underline{CPICH \_ E_c}_{I_{or}} \underline{-10.1 \text{ dB}}$
	$\frac{CPICH \_ E_c}{I_{or}} = -10 \text{ dB}$ $\frac{I_{oc} = -70 \text{ dBm}}{I_{or}}$ $\frac{I_{oc} = -70 \text{ dBm}}{I_{or} = 10.27 \text{ dB}}$ Note: Parameters are valid for cell 1 at time T2 and cell 2 at time T1	$\frac{\underbrace{O.1 \text{ dB for}}{CPICH\_E_c}}{I_{or}}$ $\overline{0.3 \text{ dB for lor/loc}}$	Formulas:
8.3.7.2 Two frequencies present in the neighbour list	$\frac{CPICH\_E_c}{I_{or}} = -10 \text{ dB}$ $\frac{I_{oc} = -70 \text{ dBm}}{I_{oc}}$ $\frac{I_{oc} = -3.4 \text{ dB}}{I_{oc} = -3.4 \text{ dB}}$ Note: Parameters are valid for cell 1 at time T1 and cell 2 at time T2TBD	$\frac{0.1 \text{ dB for}}{CPICH\_E_c}$ $\frac{I_{or}}{0.3 \text{ dB for lor/loc}}$	Formulas:
	$\frac{CPICH - E_c}{I_{or}} = -10 \text{ dB}$ $\frac{I_{oc}}{I_{oc}} = -70 \text{ dBm}$ $\frac{I_{oc}}{I_{oc}} = 2.2 \text{ dB}$ Note: Parameters are valid for cell 1 at time T2 and cell 2 at time T1	$\frac{\underbrace{0.1 \text{ dB for}}{CPICH\_E_c}}{I_{or}}$ $\underbrace{I_{or}}{0.3 \text{ dB for lor/loc}}$	Formulas:

Test	Test Parameters in TS 25 133	Test Tolerance (TT)	Test Requirement in TS 34.121
8.4 RRC Connection	TBD		
8.4.1 RRC Re-	TBD		
establishment delay			
8.4.2 Random Access	TBD		
8.5 Timing and	TBD		
Characteristics			
8.5.1 UE Transmit	TBD		
Liming			
Procedures			
8.6.1 FDD intra	TBD		
frequency			
8.6.1.1 Event triggered	TBD		
reporting in AWGN			
8 6 1 2 Event triggered	TBD		
reporting of multiple			
neighbours in AWGN			
8 6 1 3 Event triggered	TBD		
reporting of two			
detectable neighbours			
in AWGN propagation			
8.6.1.4 Correct	TBD		
reporting of neighbours			
in fading propagation			
8.6.2 FDD inter	TBD		
frequency			
8 6 2 1 Correct	TBD		
reporting of neighbours			
in AWGN propagation			
8.6.2.2 Correct	TBD		
reporting of neighbours			
in Fading propagation			
8.6.3 TDD	TBD		
measurements			
8.6.3.1Correct	TBD		
neighbours in AWGN			
propagation condition			
8.7 Measurements	TBD		
Requirements			
8.7.1 CPICH RSCP	TBD		
8.7.1.1 Intra frequency	TBD		
measurements			
8.7.1.2 Inter frequency	TBD		
measurement accuracy	700		
8.7.2 CPICH EC/IO	TBD		
measurements	עטי		
accuracy			
8.7.1.2 Inter frequency	IBD		
8.7.3 UTRA Carrier	TBD		
RSSI			

Test	Test Parameters in	Test Tolerance (TT)	Test Requirement in TS 34.121
8.7.4 SFN-CFN observed time difference	TBD		
8.7.5 SFN-SFN observed time difference	TBD		
8.7.6 UE Rx-Tx time difference	<i>lo</i> -10.9 <i>dB</i> = <i>loc</i> , Test 1: lo = -94 dBm Test2 : lo = -72dBm Test3 : lo = -50dBm Timing Accuracy ± 1.5 chip	1 dB for loc 0.3 dB for lor/loc [0.5 chip for timing accuracy]	Test 1: Io = -92.7 dBm, Ioc = -103.6 dBm Formula: Ioc*(1-TT <sub>Ioc</sub> + (Ior/Ioc-TT <sub>Ior/Ioc</sub> )) $\geq$ -94 Test 2: unchanged (no critical RF parameters) Test 3: Io = -51.3 dBm, Ioc = -62.2 dBm Formula: Ioc*(1+TT <sub>Ioc</sub> + (Ior/Ioc+TT <sub>Ior/Ioc</sub> )) $\leq$ - 50 Timing accuracy [±2.0] chip Formulas: Upper limit +TT Lower limit –TT
8.7.7 Observed time	TBD		
8.7.8 P-CCPCH RSCP	TBD		

# F.5 Acceptable uncertainty of Test Equipment (This clause is informative)

This informative clause specifies the critical parameters of the components of an overall Test System (e.g. Signal generators, Signal Analysers etc.) which are necessary when assembling a Test System that complies with clause F.1 Acceptable Uncertainty of Test System. These Test Equipment parameters are fundamental to the accuracy of the overall Test System and are unlikely to be improved upon through System Calibration.

### F.5.1 Transmitter measurements

#### Table F.5.1: Equipment accuracy for transmitter measurements

Test	Equipment accuracy	Test conditions
5.2 Maximum Output Power	Not critical	19 to 25 dBm
5.3 Frequency error		0 to 500 Hz
5.4.1 Open loop power control in unlink	10112	42.7 dBm to 25 dBm
5.4.2 Inner loop power control in the	±0.1 dB relative over a 1.5 dB range	+25 dBm to
uplink – single step	±0.15 dB relative over a 3.0 range	–50 dBm
	±0.2 dB relative over a 4.5 dB range	
5.4.2 Inner loop power control in the uplink – seven and ten steps	±0.3 dB relative over a 26 dB range	+25 dBm to -50 dBm
5.4.3 Minimum Output Power	Not critical	
5.4.4 Out-of-synchronisation handling of	±0.1 dB uncertainty in DPCCH_Ec/lor ratio	Ratio from –16.6 dB to –28 dB
output power: $\frac{DPCCH\_E_c}{I_{or}}$		
5.5.1 Transmit ON/OFF Power: UE	Not critical	-56 dBm (static power)
transmit OFF power		
5.5.2 Transmit ON/OFF Power: transmit ON/OFF time mask	TBD	-56 dBm (dynamic power over approx. 70 dB range)
5.6 Change of TFC: power control step size	±0.3 dB relative over a 9 dB range	+25 dBm to -50 dBm
5.7 Power setting in uplink compressed mode:-UE output power	Subset of 5.4.2	+25 dBm to -50 dBm
5.8 Occupied Bandwidth	±100 kHz	For results between 4 and 6 MHz?
5.9 Spectrum emission mask	Not critical	P_Max
		Accuracy applies ± 5 dB either side of UE requirements
5.10 ACLR	5 MHz offset ± 0.8 dB	19 to 25 dBm at 5 MHz offset for results between 40 dB and 50
	10 MHz offset $\pm 0.8$ dB	dB.
		results between 45 dB and 55
		dB.
5.11 Spurious emissions	Not critical	19 to 25 dBm
5.12 Transmit Intermodulation	Not critical	19 to 25 dBm
5.13.1 Transmit modulation: EVM	±2.5 % (for single code)	25 dBm to -21 dBm
5.13.2 Transmit modulation: peak code	±1.0dB	For readings between -10 dB to
domain error		–20 dB.

### F.5.2 Receiver measurements

#### Table F.5.2: Equipment accuracy for receiver measurements

Clause	Equipment accuracy	Test conditions
6.2 Reference sensitivity level	Not critical	
6.3 Maximum input level:	Not critical	
6.4 Adjacent channel selectivity	Not critical	
6.5 Blocking characteristics	Not critical	
6.6 Spurious Response	Not critical	
6.7 Intermod Characteristics	Not critical	
6.8 Spurious emissions	Not critical	

### F.5.3 Performance measurements

#### Table G.3: Equipment accuracy for performance measurements

Clause	Equipment accuracy	Test conditions
7.2 to 7.10	$\frac{DPCH\_E_c}{I_{or}} = \pm 0.1 \text{ dB}$	-2.2 to -18.9 dB

CHANGE REQUEST							CR-Form-v7				
¥		<mark>34.121</mark>	CR	209	ж <b>геv</b>	-	ж	Current vers	ion:	3.9.0	ж
For <b>HELP</b> on using this form, see bottom of this page or look at the pop-up text over the <b>#</b> symbols.											
Proposed chang	ie a	affects: l	JICC a	apps# 📃	ME X	Rad	dio A	ccess Networ	'k	Core Ne	twork
Title:	ж	Clarificatio	n of th	e definition of s	90 % suco	cess	rate				
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Reason for change:	The definition of the success rate of 90% is not clear.				
Summary of change: #	The 90% success rate is clarified to be on an event level.				
Consequences if 🛛 🕱	34.121 will be incorrect and may be interpreted in different ways.				
not approved:					
Clauses affected: अ	8.6				
	YN				
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 <u>http://www.3gpp.org/specs/CR.htm</u>. Below is a brief summary:

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

### 8.6 UE Measurements Procedures

#### 8.6.1 FDD intra frequency measurements

#### 8.6.1.1 Event triggered reporting in AWGN propagation conditions

#### 8.6.1.1.1 Definition and applicability

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

The requirements and this test apply to the FDD UE.

#### 8.6.1.1.2 Minimum requirements

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

$$T_{\text{identify intra}} = Max \left\{ 800, T_{\text{basic identify FDD, intra}} \cdot \frac{T_{\text{Measurement Period, Intra}}}{T_{\text{Intra}}} \right\} ms$$

A cell shall be considered detectable when CPICH Ec/Io  $\geq$  -20 dB, SCH\_Ec/Io  $\geq$  -20 dB and SCH\_Ec/Ior is equally divided between primary synchronisation code and secondary synchronisation code. When L3 filtering is used an additional delay can be expected.

In the CELL\_DCH state the measurement period for intra frequency measurements is 200 ms. When no transmission gap pattern sequence is activated, the UE shall be capable of performing CPICH measurements for 8 identified intra-frequency cells of the monitored set and/or the active set, and the UE physical layer shall be capable of reporting measurements to higher layers with the measurement period of 200 ms. When one or more transmission gap pattern sequences are activated, the UE shall be capable of performing CPICH measurements for at least  $Y_{measurement intra}$  cells , where  $Y_{measurement intra}$  is defined in the following equation. The measurement accuracy for all measured cells shall be as specified in the sub-clause 9.1.1 and 9.1.2 of TS 25.133 [2]. If the UE has identified more than  $Y_{measurement intra}$  cells, the UE shall perform measurements of all identified cells but the reporting rate of CPICH measurements of cells from UE physical layer to higher layers may be decreased.

$$\mathbf{Y}_{\text{measurement intra}} = Floor \left\{ X_{\text{basic measurement FDD}} \cdot \frac{\mathbf{T}_{\text{Intra}}}{\mathbf{T}_{\text{Measurement Period, Intra}}} \right\} \text{ cells}$$

where

 $X_{\text{basic measurement FDD}} = 8 \text{ (cells)}$ 

T<sub>Measurement\_Period Intra</sub> = 200 ms. The measurement period for Intra frequency CPICH measurements.

 $T_{Intra}$ : This is the minimum time that is available for intra frequency measurements, during the measurement period with an arbitrarily chosen timing.

 $T_{\text{basic\_identify}\_FDD, intra} = 800 \text{ ms.}$  This is the time period used in the intra frequency equation where the maximum allowed time for the UE to identify a new FDD cell is defined.

The event triggered measurement reporting delay, on cells belonging to monitored set, measured without L3 filtering, shall be less than the above defined T  $_{identify intra}$  defined above.

If a cell, belonging to monitored set, which the UE has identified and measured at least once over the measurement period, becomes undetectable for a period < 5 seconds and then the cell becomes detectable again and triggers an event, the measurement reporting delay shall be less than  $T_{Measurement\_Period Intra}$  ms provided the timing to that cell has not

changed more than +/-32 chips, the UE CPICH measurement capabilities defined above are valid and L3 filtering has not been used. When L3 filtering is used an additional delay can be expected.

If a cell belonging to monitored set has been detectable at least for the time period  $T_{identify\_intra}$  and then enters or leaves the reporting range, the event triggered measurement reporting delay shall be less than  $T_{Measurement\_Period Intra}$  when the L3 filter has not been used and the UE CPICH measurement capabilities defined above are valid.

The normative reference for these requirements is TS 25.133 [2] clauses 8.1.2.2 and A.8.1.1.

#### 8.6.1.1.3 Test purpose

To verify that the UE meets the minimum requirements.

#### 8.6.1.1.4 Method of test

8.6.1.1.4.1 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 8.6.1.1.1 and 8.6.1.1.2 below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A and 1B shall be used. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. During time duration T1, the UE shall not have any timing information of cell 2.

### Table 8.6.1.1.1: General test parameters for Event triggered reporting in AWGN propagation conditions

Parameter	Unit	Value	Comment
DCH parameters		DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 clause A.3.1
Power Control		On	
Active cell		Cell 1	
Reporting range	dB	3	Applicable for event 1A and 1B
Hysteresis	dB	0	
W		1	Applicable for event 1A and 1B
Reporting deactivation threshold		0	Applicable for event 1A
Time to Trigger	ms	0	
Filter coefficient		0	
Monitored cell list size		24	
T1	S	5	
T2	S	5	
T3	S	5	

# Table 8.6.1.1.2: Cell specific test parameters for Event triggered reporting in AWGN propagation conditions

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

#### 8.6.1.1.4.2 Procedure

- <u>1.</u> <u>1)</u> The RF parameters are set up according to T1.
- <u>2.</u><u>2</u>)—The UE is switched on.
- 3. 3) A call is set up according to the test procedure specified in TS 34.108 [3] sub clause 7.3.2.3.
- 4. 4)—SS shall transmit a MEASUREMENT CONTROL message.
- 5. 5)—After 5 seconds, the SS shall switch the power settings from T1 to T2.
- <u>6.</u> <u>6)</u> UE shall transmit a MEASUREMENT REPORT message triggered by event 1A. The measurement reporting delay from the beginning of T2 shall be less than 800 ms.. If the UE fails to report the event within the required delay, then a failure is recorded. If the reporting delay for this event is within the required limit, the number of successfull tests is increased by one.
- 7. 7)—After 5 seconds, the SS shall switch the power settings from T2 to T3.
- 8. 8)—UE shall transmit a MEASUREMENT REPORT message triggered by event 1B. The measurement reporting delay from the beginning of T3 shall be less than 200 ms. If the reporting delay for this event is within the required limit, the number of successful tests is increased by one.
- 9. 9) After 5 seconds, the UE is switched off. Any timing information of cell 2 is deleted in the UE.
- <u>10.</u> <del>10)</del> Repeat steps 1-9 [TBD<u>50</u>] times.

#### Specific Message Contents

All messages indicated above shall use the same content as described in the default message content in clause 9 of 34.108 [3] and in Annex A of 34.123-1 [21], with the following exceptions:

#### MEASUREMENT CONTROL message:

Information Element/Group name	Value/Remark
Message Type (10.2.17)	
UE information elements	
-RRC transaction identifier	0
-Integrity check into	Not Present
Measurement Information elements	1
-Measurement Command (10.3.7.46)	1 Modify
-Measurement Reporting Mode (10.3.7.49)	Weary
-Measurement Report Transfer Mode	AM RLC
-Periodical Reporting / Event Trigger Reporting Mode	Event trigger
-Additional measurements list (10.3.7.1)	Not Present
-CHOICE Measurement type	Intra-frequency measurement
-Intra-frequency measurement (10.3.7.36)	
-Intra-frequency measurement objects list (10.3.7.33)	Not Present
-intra-inequency measurement quantity (10.3.7.38)	0
-CHOICE mode	
-Measurement quantity	CPICH Ec/N0
-Intra-frequency reporting quantity (10.3.7.41)	
-Reporting quantities for active set cells (10.3.7.5)	
-SFN-SFN observed time difference reporting indicator	No report
-Cell synchronisation information reporting indicator	TRUE (Note 1)
-Cell Identity reporting indicator	TRUE
-CHOICE mode	
-CPICH EC/NU reporting indicator	
-Pathloss reporting indicator	TRUE
-Reporting quantities for monitored set cells (10.3.7.5)	
-SFN-SFN observed time difference reporting indicator	No report
-Cell synchronisation information reporting indicator	TRUE (Note 1)
-Cell Identity reporting indicator	TRUE
-CHOICE mode	FDD
-CPICH Ec/N0 reporting indicator	
-CPICH RSCP reporting indicator	
-Reporting quantities for detected set cells (10.3.7.5)	Not Present
-Reporting cell status (10.3.7.61)	
-CHOICE reported cell	Report all active set cells + cells within
	monitored set on used frequency
-Maximum number of reported cells	2
-Measurement validity (10.3.7.51)	Not Present
-CHOICE report criteria	Intra-frequency measurement reporting
-Intra-frequency measurement reporting criteria (10.3.7.39)	
-Parameters required for each event	2
-Intra-frequency event identity	Event 1A
-Triggering condition 2	Active set cells and monitored set cells
-Reporting Range Constant	3 dB
-Cells forbidden to affect Reporting Range	Not Present
-CHOICE mode	FDD
-M	10
-Hysteresis	0 dB
-Threshold used frequency	Not Present
-Reporting deactivation threshold	0
-Replacement activation threshold	Not Present
- I ime to trigger	U ms
-Amount of reporting	Not present
-Reporting interval	Not Present
-Intra-frequency event identity	Event 1B
-Triggering condition 1	Active set cells and monitored set cells
-Reporting Range Constant	3 dB
-Cells forbidden to affect Reporting Range	Not Present
-CHOICE mode	FDD

Information Element/Group name	Value/Remark						
-Primary CPICH info (10.3.6.60)							
-W	1.0						
-Hysteresis	0 dB						
-Threshold used frequency	Not Present						
-Reporting deactivation threshold	Not Present						
<ul> <li>Replacement activation threshold</li> </ul>	Not Present						
-Time to trigger	0 ms						
-Amount of reporting	Not Present						
-Reporting interval	0 ms (note 2)						
-Reporting cell status	Not Present						
Physical channel information elements							
-DPCH compressed mode status info (10.3.6.34)	Not Present						
Note 1: The SFN-CFN observed time difference is calculated	I from the OFF and Tm parameters contained						
in the IE "Cell synchronisation information ", TS 25.331, clause 10.3.7.6. According to TS 25.331							
8.6.7.7, this IE is included in MEASUREMENT REPORT if IE "Cell synchronisation information							
reporting indicator" in IE "Cell reporting quantities" TS 25.331, clause 10.3.7.5 is set to TRUE in							
MEASUREMENT CONTROL.							
Note 2 <sup>·</sup> Reporting interval = 0 ms means no periodical report	: Reporting interval = 0 ms means no periodical reporting						

#### MEASUREMENT REPORT message for Intra frequency test cases

This message is common for all intra frequency test cases is described in Annex I.

#### 8.6.1.1.5 Test requirements

For the test to pass, the total number of successful tests shall be at least 90%, with a confidence level of [FFS]% of the cases. The number of successful tests shall be on an event level, i.e. the SS shall check how many events are reported successfully out of the total number of events checked.

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.

# 8.6.1.2 Event triggered reporting of multiple neighbours in AWGN propagation condition

#### 8.6.1.2.1 Definition and applicability

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

The requirements and this test apply to the FDD UE.

#### 8.6.1.2.2 Minimum requirements

The requirements are the same as in sub clause 8.6.1.1.2.

The normative reference for these requirements is TS 25.133 [2] clauses 8.1.2.2 and A.8.1.2.

#### 8.6.1.2.3 Test purpose

To verify that the UE meets the minimum requirements.

#### 8.6.1.2.4 Method of test

8.6.1.2.4.1 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 8.6.1.2.1 and 8.6.1.2.2. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A, 1C and 1B shall be used and the periodical reporting of the events is not applied. The test consists of four successive time periods, with a time duration of T1, T2, T3 and T4 respectively. In the initial condition before the time T1 only Cell1 is active.

#### Table 8.6.1.2.1: General test parameters for Event triggered reporting of multiple neighbours in AWGN propagation conditions

Parameter	Unit	Value	Comment
DCH parameters		DL Reference Measurement Channel	As specified in TS 25.101 clause A.3.1
		12.2 kbps	
Power Control		On	
Active cell		Cell 1	
Reporting range	dB	3	Applicable for event 1A and 1B
Hysteresis	dB	0	
W		1	Applicable for event 1A and 1B
Replacement		0	Applicable for event 1C
activation threshold			
Reporting		0	Applicable for event 1A
deactivation			
threshold			
Time to Trigger	ms	0	
Filter coefficient		0	
Monitored cell list		32	
size			
T1	S	10	
T2	S	10	
T3	S	5	
T4	S	10	

# Table 8.6.1.2.2: Cell specific test parameters for Event triggered reporting of multiple neighbours in AWGN propagation condition

Parameter	Unit	Cell 1			Cell 2			Cell3					
		T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
CPICH_Ec/lor	dB		-1	0			-1	0		-10			
PCCPCH_Ec/	dB		-12		-12			-12					
SCH_Ec/lor	dB		-12		-12			-12					
PICH_Ec/lor	dB	-15			-15			-15					
DPCH_Ec/lor	dB	-17			N/A			N/A					
OCNS_Ec/lor	dB		-1.(	)49		-0.941				-0.941			
$\hat{I}_{or}/I_{oc}$	dB	6.97	6.93	5.97	6.12	-Inf	9.43	6.97	7.62	5.97	6.93	-Inf	5.62
	dBm/												
I <sub>oc</sub>	3.84 MHz		-85										
CPICH_Ec/lo	dB	-13	-16	-14	-15.5	-Inf	-13.5	-13	-14	-14	-16	-Inf	-16
Propagation Condition			AWGN										

#### 8.6.1.2.4.2 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] sub clause 7.3.2.3.
- 4) SS shall transmit a MEASUREMENT CONTROL message.
- 5) UE shall transmit a MEASUREMENT REPORT message for Cell 3 triggered by event 1A. The measurement reporting delay from the beginning of T1 shall be less than 800 ms.. If the UE fails to report the event within the required delay, then a failure is recorded. If the reporting delay for this event is within the required limit, the number of succesfull tests is increased by one.
- 6) UE may transmit a MEASUREMENT REPORT message for Cell 3 triggered by event 1C. In case it doesn't this shall not be considered as a failure.
- 7) After 10 seconds, the SS shall switch the power settings from T1 to T2.
- 8) UE shall transmit a MEASUREMENT REPORT message for Cell 2 triggered by event 1C. The measurement reporting delay from the beginning of T2 shall be less than 800 ms. If the UE fails to report the event within the required delay, then a failure is recorded. If the reporting delay for this event is within the required limit, the number of succesfull tests is increased by one.
- 9) UE shall transmit a MEASUREMENT REPORT message for Cell 2 triggered by event 1A. The measurement reporting delay from the beginning of T2 shall be less than 800 ms <u>If the UE fails to report the event within the</u> <u>required delay, then a failure is recorded. If the reporting delay for this event is within the required limit, the</u> <u>number of succesfull tests is increased by one.</u>
- 10) After 10 seconds, the SS shall switch the power settings from T2 to T3.
- 11)UE shall transmit a MEASUREMENT REPORT message for Cell 3 triggered by event 1B. The measurement reporting delay from the beginning of T3 shall be less than 200 ms. If the UE fails to report the event within the required delay, then a failure is recorded. If the reporting delay for this event is within the required limit, the number of succesfull tests is increased by one.
- 12) After 5 seconds, the SS shall switch the power settings from T3 to T4.
- 13) UE shall transmit a MEASUREMENT REPORT message for Cell 3 triggered by event 1A. The measurement reporting delay from the beginning of T4 shall be less than 200 ms.. If the reporting delay for this event is within the required limit, the number of succesful tests is increased by one.
- 14) UE may transmit a MEASUREMENT REPORT message for Cell 2 triggered by event 1C. In case it doesn't this shall not be considered as a failure.
- 15) UE may transmit a MEASUREMENT REPORT message for Cell 3 triggered by event 1C. In case it doesn't this shall not be considered as a failure.
- 16) After 10 seconds, the UE is switched off.
- 17)Repeat steps 1-16 [TBD50] times.

#### Specific Message Contents

All messages indicated above shall use the same content as described in the default message content in clause 9 of 34.108 [3] and in Annex A of 34.123-1 [21], with the following exceptions:

#### MEASUREMENT CONTROL message:

Information Element/Group name	Value/Remark
Message Type (10.2.17)	
UE information elements	-
-RRC transaction identifier	0 Not Brocont
Measurement Information elements	
-Measurement Identity	1
-Measurement Command (10.3.7.46)	Modify
-Measurement Reporting Mode (10.3.7.49)	
-Measurement Report Transfer Mode	AM RLC
-Periodical Reporting / Event Trigger Reporting Mode	Event trigger
-CHOICE Measurement type	Intra-frequency measurement
-Intra-frequency measurement (10.3.7.36)	
-Intra-frequency measurement objects list (10.3.7.33)	Not Present
-Intra-frequency measurement quantity (10.3.7.38)	
-Filter coefficient (10.3.7.9)	0
-CHOICE mode	
-Measurement quantity	CPICH_EC/NU
-Reporting quantities for active set cells (10.3.7.5)	
-SFN-SFN observed time difference reporting indicator	No report
-Cell synchronisation information reporting indicator	TRUE (Note 1)
-Cell Identity reporting indicator	TRUE
-CHOICE mode	FDD
-CPICH Ec/N0 reporting indicator	IRUE
-CPICH RSCP reporting indicator	
-Reporting quantities for monitored set cells (10.3.7.5)	
-SFN-SFN observed time difference reporting indicator	No report
-Cell synchronisation information reporting indicator	TRUE (Note 1)
-Cell Identity reporting indicator	TRUE
-CHOICE mode	FDD
-CPICH Ec/N0 reporting indicator	TRUE
-CPICH RSCP reporting indicator	
-Reporting quantities for detected set cells (10.3.7.5)	Not Present
-Reporting cell status (10.3.7.61)	
-CHOICE reported cell	Report all active set cells + cells within
	monitored set on used frequency
-Maximum number of reported cells	3 Not Drocort
-Measurement validity (10.3.7.51)	Not Present
	criteria
-Intra-frequency measurement reporting criteria (10.3.7.39)	
-Parameters required for each event	3
-Intra-frequency event identity	Event 1A
-Triggering condition 2	Active set cells and monitored set cells
-Reporting Range Constant	3 dB Not Present
-CHOICE mode	FDD
-Primary CPICH info (10.3.6.60)	
	1.0
-Hysteresis	0 dB
- I hreshold used frequency	Not Present
-Reporting deactivation threshold	U Not Present
-Time to trigger	0 ms
-Amount of reporting	Infinity
-Reporting interval	0 ms (Note 2)
-Reporting cell status	Not Present
-Intra-frequency event identity	Event 1B
- I riggering condition 1	Active set cells and monitored set cells
-Reporting Range Constant	S UD Not Present
-CHOICE mode	FDD
	•

Information Element/Group name	Value/Remark					
-Primary CPICH info (10.3.6.60)						
-W	1.0					
-Hysteresis	0 dB					
-Threshold used frequency	Not Present					
-Reporting deactivation threshold	Not Present					
-Replacement activation threshold	Not Present					
-Time to trigger	0 ms					
-Amount of reporting	Not Present					
-Reporting interval	0 ms (Note 2)					
-Reporting cell status	Not Present					
-Intra-frequency event identity	Event 1C					
-Triggering condition 2	Active set cells and monitored set cells					
-Reporting Range Constant	Not present					
<ul> <li>Cells forbidden to affect Reporting Range</li> </ul>	Not Present					
-CHOICE mode	FDD					
-Primary CPICH info (10.3.6.60)						
-W	Not present					
-Hysteresis	0 dB					
-Threshold used frequency	Not Present					
-Reporting deactivation threshold	Not present					
-Replacement activation threshold	0 ms					
-Time to trigger	0 ms					
-Amount of reporting	Infinity					
-Reporting interval	0 ms (Note 2)					
-Reporting cell status	Not Present					
Physical channel information elements						
-DPCH compressed mode status info (10.3.6.34)	Not Present					
NOTE 1: The SFN-CFN observed time difference is calculated	from the OFF and Tm parameters contained					
in the IE "Cell synchronisation information", TS 25.33	I, clause 10.3.7.6. According to TS 25.331,					
8.6.7.7, this IE is included in MEASUREMENT REPO	RT if IE "Cell synchronisation information					
reporting indicator" in IE "Cell reporting quantities" TS	25.331, clause 10.3.7.5 is set to TRUE in					
MEASUREMENT CONTROL.						
N)TE 2: Reporting interval = 0 ms means no periodical reporting.						

#### MEASUREMENT REPORT message for Intra frequency test cases

This message is common for all intra frequency test cases is described in Annex I.

#### 8.6.1.2.5 Test requirements

For the test to pass, the total number of successful tests shall be at least 90%, with a confidence level of [FFS]% of the cases. The number of successful tests shall be on an event level, i.e. the SS shall check how many events are reported successfully out of the total number of events checked.

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.

# 8.6.1.3 Event triggered reporting of two detectable neighbours in AWGN propagation condition

#### 8.6.1.3.1 Definition and applicability

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

The requirements and this test apply to the FDD UE.

#### 8.6.1.3.2 Minimum requirements

The requirements are the same as in sub clause 8.6.1.1.2.

The normative reference for these requirements is TS 25.133 [2] clauses 8.1.2.2 and A.8.1.3.

#### 8.6.1.3.3 Test purpose

To verify that the UE meets the minimum requirements.

#### 8.6.1.3.4 Method of test

8.6.1.3.4.1 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.

The test parameters are given in table 8.6.1.3.1 and 8.6.1.3.2. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A and 1B shall be used and the periodical reporting of the events is not applied. The test consists of four successive time periods, with a time duration of T1, T2, T3 and T4 respectively. In the initial condition before the time T1 only Cell1 is active.

#### Table 8.6.1.3.1: General test parameters for Event triggered reporting of two detectable neighbours in AWGN propagation condition

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

Parameter	Unit	Cell 1			Cell 2				Cell3				
		T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
CPICH_Ec/lor	dB		-^	10			-1	0		-10			
PCCPCH_Ec/ lor	dB	-12			-12				-12				
SCH_Ec/lor	dB		-12			-12				-12			
PICH_Ec/lor	dB	-15				-15				-15			
DPCH_Ec/lor	dB	-17			N/A			N/A					
OCNS_Ec/lor	dB		-1.0	049		-0.941			-0.941				
$\hat{I}_{or}/I_{oc}$	dB	14.5 5	28.5 1	14.4 5	28.5 1	-Inf	27.5 1	13.9 5	21.5 1	8.05	21.5 1	13.9 5	27.5 1
I <sub>oc</sub>	dBm/ 3.84 MHz		-85										
CPICH_Ec/lo	dB	-11	-13	-14.5	-13	-Inf	-14.0	-15	-20	-17.5	-20	-15	-14
Propagation Condition			AWGN										

### Table 8.6.1.3.2: Cell specific test parameters for Event triggered reporting of two detectable neighbours in AWGN propagation condition

#### 8.6.1.2.4.2 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] sub clause 7.3.2.3.
- 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 for Cell 2 triggered by event 1A. The measurement reporting delay from the beginning of T2 shall be less than 800 ms. If the UE fails to report the event within the required delay, then a failure is recorded. If the reporting delay for this event is within the required limit, the number of succesfull tests is increased by one.
- 7) After 10 seconds, the SS shall switch the power settings from T2 to T3.
- 8) UE shall transmit a MEASUREMENT REPORT message for Cell 3 triggered by event 1A. The measurement reporting delay from the beginning of T3 shall be less than 200 ms. If the UE fails to report the event within the required delay, then a failure is recorded. If the reporting delay for this event is within the required limit, the number of succesfull tests is increased by one.
- 9) After 10 seconds, the SS shall switch the power settings from T3 to T4.
- 10) UE shall transmit a MEASUREMENT REPORT message for Cell 2 triggered by event 1B. The measurement reporting delay from the beginning of T4 shall be less than 200 ms.. If the reporting delay for this event is within the required limit, the number of succesful tests is increased by one.
- 11) After 10 seconds, the UE is switched off.
- 12)Repeat steps 1-11 [TBD50] times.

#### Specific Message Contents

All messages indicated above shall use the same content as described in the default message content in clause 9 of 34.108 [3] and in Annex A of 34.123-1 [21], with the following exceptions:

MEASUREMENT CONTROL message:

Information Element/Group name	Value/Remark
Message Type (10.2.17)	
UE information elements	
-RRC transaction identifier	U Not Procent
Measurement Information elements	
-Measurement Identity	1
-Measurement Command (10.3.7.46)	Modify
-Measurement Reporting Mode (10.3.7.49)	
-Measurement Report Transfer Mode	AM RLC
-Periodical Reporting / Event Trigger Reporting Mode	Event trigger
	Intra fraguanav maasurament
-Intra-frequency measurement (10.3.7.36)	inita-frequency measurement
-Intra-frequency measurement objects list (10.3.7.33)	Not Present
-Intra-frequency measurement quantity (10.3.7.38)	
-Filter coefficient (10.3.7.9)	0
-CHOICE mode	FDD
-Measurement quantity	CPICH_Ec/N0
-Intra-frequency reporting quantity (10.3.7.41)	
-SEN-SEN observed time difference reporting indicator	No report
-Cell synchronisation information reporting indicator	TRUE (Note 1)
-Cell Identity reporting indicator	TRUE
-CHOICE mode	FDD
-CPICH Ec/N0 reporting indicator	TRUE
-CPICH RSCP reporting indicator	
-Pathioss reporting indicator	IRUE
-SEN-SEN observed time difference reporting indicator	No report
-Cell synchronisation information reporting indicator	TRUE (Note 1)
-Cell Identity reporting indicator	TRUE
-CHOICE mode	FDD
-CPICH Ec/N0 reporting indicator	TRUE
-CPICH RSCP reporting indicator	
-Pathioss reporting indicator	I RUE Not Present
-Reporting cell status (10.3.7.61)	
-CHOICE reported cell	Report all active set cells + cells within
	monitored set on used frequency
-Maximum number of reported cells	3
-Measurement validity (10.3.7.51)	Not Present
	criteria
-Intra-frequency measurement reporting criteria (10.3.7.39)	Chiena
-Parameters required for each event	2
-Intra-frequency event identity	Event 1A
-Triggering condition 2	Active set cells and monitored set cells
-Reporting Range Constant	3 dB
-Cells forbladen to affect Reporting Range	Not Present
-Primary CPICH info (10.3.6.60)	
-W	1.0
-Hysteresis	0 dB
-Threshold used frequency	Not Present
-Reporting deactivation threshold	0 Not Present
-replacement activation threshold	0 ms
-Amount of reporting	Not present
-Reporting interval	0 ms (Note 2)
-Reporting cell status	Not Present
-Intra-frequency event identity	Event 1B
-Triggering condition 1	Active set cells and monitored set cells
-Reporting Range Constant	3 aB Not Procent
-CHOICE mode	FDD
	·

Information Element/Group name	Value/Remark					
-Primary CPICH info (10.3.6.60)						
-W	1.0					
-Hysteresis	0 dB					
-Threshold used frequency	Not Present					
-Reporting deactivation threshold	Not Present					
-Replacement activation threshold	Not Present					
-Time to trigger	0 ms					
-Amount of reporting	Not Present					
-Reporting interval	0 ms (Note 2)					
-Reporting cell status	Not Present					
Physical channel information elements						
-DPCH compressed mode status info (10.3.6.34)	Not Present					
NOTE 1: The SFN-CFN observed time difference is calculated	from the OFF and Tm parameters contained					
in the IE "Cell synchronisation information ", TS 25.331, clause 10.3.7.6. According to TS 25.331						
8.6.7.7, this IE is included in MEASUREMENT REPORT if IE "Cell synchronisation informat						
reporting indicator" in IE "Cell reporting quantities" TS 25.331, clause 10.3.7.5 is set to TRUE in						
MEASUREMENT CONTROL.						
NOTE 2: Reporting interval = 0 ms means no periodical reporting	ng.					

#### MEASUREMENT REPORT message for Intra frequency test cases

This message is common for all intra frequency test cases is described in Annex I.

#### 8.6.1.3.5 Test requirements

For the test to pass, the total number of successful tests shall be at least 90%, with a confidence level of [FFS]% of the cases. The number of successful tests shall be on an event level, i.e. the SS shall check how many events are reported successfully out of the total number of events checked.

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.

#### 8.6.1.4 Correct reporting of neighbours in fading propagation condition

#### 8.6.1.4.1 Definition and applicability

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

The requirements and this test apply to the FDD UE.

#### 8.6.1.4.2 Minimum requirements

The requirements are the same as in sub clause 8.6.1.1.2.

The normative reference for these requirements is TS 25.133 [2] clauses 8.1.2.2 and A.8.1.4.

#### 8.6.1.4.3 Test purpose

To verify that the UE meets the minimum requirements and also verify that the UE performs sufficient layer 1 filtering of the measurements. The test is performed in fading propagation conditions.

#### 8.6.1.4.4 Method of test

8.6.1.4.4.1 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 8.6.1.4.1 and 8.6.1.4.2. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A and Event 1B shall be used. The test consists of two successive time periods, each with time duration of T1 and T2 respectively.

The TTI of the uplink DCCH shall be 20ms.

# Table 8.6.1.4.1: General test parameters for correct reporting of neighbours in fading propagation condition

Parameter	Unit	Value	Comment
DCH parameters		DL Reference Measurement Channel	As specified in TS 25.101 clause A.3.1
Power Control		On	
Active cell		Cell 1	
Reporting range	dB	0	Applicable for event 1A and 1B
Hysteresis	dB	0	
W		1	Applicable for event 1A and 1B
Reporting deactivation threshold		0	Applicable for event 1A
Time to Trigger	ms	120	
Filter coefficient		0	
Monitored cell list size		24	Signalled before time T1.
T1	S	200	
T2	S	201	

# Table 8.6.1.4.2: Cell specific test parameters for correct reporting of neighbours in fading propagation condition

Parameter	Unit	Cell 1		Ce	Cell 2	
		T1	T2	T1	T2	
CPICH_Ec/lor	dB	-10		-10		
PCCPCH_Ec/lor	dB	-12		-12		
SCH_Ec/lor	dB	-12		-12		
PICH_Ec/lor	dB	-15		-15		
DPCH_Ec/lor	dB	-17		N/A		
OCNS		-1.049		-0.941		
$\hat{I}_{or}/I_{oc}$	dB	7.29	3.29	3.29	7.29	
I <sub>oc</sub>	dBm/3.84 MHz	-70				
CPICH_Ec/lo	dB	-12	-16	-16	-12	
Propagation Condition	Case 5 as specified in table D.2.2.1					

#### 8.6.1.4.4.2 Procedure

- 1) The RF parameters are set up according to T1.
- 2) The UE is switched on.
- 3) A call is set up in AWGN conditions, according to the test procedure specified in TS 34.108 [3] sub clause 7.3.2.3.
- 4) The fading simulator is switched on, configured with the settings described in the tables above.

- 5) SS shall transmit a MEASUREMENT CONTROL message.
- 6) UE shall start transmitting MEASUREMENT REPORT messages triggered by event 1A.
- 7) SS shall count the reports. The number of received event 1A reports shall be less than 60. If the SS fails to receive less than 60 event 1A reports, then then a failure is recorded. If the SS receives number of event 1A reports within the required limit, the number of succesfull tests is increased by one.
- 8) After 200 seconds, the SS shall switch the power settings from T1 to T2.
- 9) UE shall start transmitting MEASUREMENT REPORT messages triggered by event 1B.

10) During the first 1s of time period T2 no event reports shall be counted.

- 11)After the first 1s SS shall start counting the reports. The number of received event 1B reports shall be less than 60. If the SS receives number of event 1B reports within the required limit, the number of succesfull tests is increased by one.
- 12) After 201 seconds, the UE is switched off.
- 13)Repeat steps 1-12 [TBD50] times.

#### Specific Message Contents

All messages indicated above shall use the same content as described in the default message content in clause 9 of 34.108 [3] and in Annex A of 34.123-1 [21], with the following exceptions:

MEASUREMENT CONTROL message:

Information Element/Group name	Value/Remark
Message Type (10.2.17)	
UE information elements	
-RRC transaction identifier	0 Not Drocort
-Integrity check into	Not Present
-Measurement Identity	1
-Measurement Command (10.3.7.46)	Modify
-Measurement Reporting Mode (10.3.7.49)	
-Measurement Report Transfer Mode	AM RLC
-Periodical Reporting / Event Trigger Reporting Mode	Event trigger
-Additional measurements list (10.3.7.1)	Not Present
-CHOICE Measurement type	Intra-frequency measurement
-Intra-frequency measurement (10.3.7.36)	Not Droppet
-Intra-frequency measurement objects list (10.3.7.33)	Not Present
-Filter coefficient (10.3.7.9)	0
-CHOICE mode	FDD
-Measurement quantity	CPICH Ec/N0
-Intra-frequency reporting quantity (10.3.7.41)	_
-Reporting quantities for active set cells (10.3.7.5)	
-SFN-SFN observed time difference reporting indicator	No report
-Cell synchronisation information reporting indicator	TRUE (Note 1)
-Cell Identity reporting indicator	
-CPICH Ec/NO reporting indicator	
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	TRUE
-Reporting quantities for monitored set cells (10.3.7.5)	
-SFN-SFN observed time difference reporting indicator	No report
-Cell synchronisation information reporting indicator	TRUE (Note 1)
-Cell Identity reporting indicator	TRUE
-CHOICE mode	FDD
-CPICH EC/NU reporting indicator	
-CFICITINGCF reporting indicator	TRUE
-Reporting quantities for detected set cells (10.3.7.5)	Not Present
-Reporting cell status (10.3.7.61)	
-CHOICE reported cell	Report all active set cells + cells within
	monitored set on used frequency
-Maximum number of reported cells	2
-Measurement Validity (10.3.7.51)	Not Present
	criteria
-Intra-frequency measurement reporting criteria (10.3.7.39)	
-Parameters required for each event	2
-Intra-frequency event identity	Event 1A
-Triggering condition 2	Active set cells and monitored set cells
-Reporting Range Constant	0 dB
	FDD
-Primary CPICH info (10.3.6.60)	
-W	1.0
-Hysteresis	0 dB
-Threshold used frequency	Not Present
-Reporting deactivation threshold	0 Net Decent
-keplacement activation threshold	NOT Present
- Time to trigger	Not present
-Reporting interval	0 ms (Note 2)
-Reporting cell status	Not Present
-Intra-frequency event identity	Event 1B
-Triggering condition 1	Active set cells and monitored set cells
-Reporting Range Constant	0 dB
-Cells forbidden to affect Reporting Range	Not Present
-CHOICE mode	FDD

Information Element/Group name	Value/Remark
-Primary CPICH info (10.3.6.60)	
-W	1.0
-Hysteresis	0 dB
-Threshold used frequency	Not Present
-Reporting deactivation threshold	Not Present
-Replacement activation threshold	Not Present
-Time to trigger	120 ms
-Amount of reporting	Not Present
-Reporting interval	0 ms (Note 2)
-Reporting cell status	Not Present
Physical channel information elements	
-DPCH compressed mode status info (10.3.6.34)	Not Present
Note 1: The SFN-CFN observed time difference is calculated from the OFF and Tm parameters contained	
in the IE "Cell synchronisation information ", TS 25.331, clause 10.3.7.6. According to TS 25.331,	
8.6.7.7, this IE is included in MEASUREMENT REPORT if IE "Cell synchronisation information	
reporting indicator" in IE "Cell reporting quantities" TS 25.331, clause 10.3.7.5 is set to TRUE in	
MEASUREMENT CONTROL.	
Note 2: Reporting interval = 0 ms means no periodical reporting	

#### MEASUREMENT REPORT message for Intra frequency test cases

This message is common for all intra frequency test cases is described in Annex I.

#### 8.6.1.4.5 Test requirements

For the test to pass, the total number of successful tests shall be at least 90%, with a confidence level of [FFS]% of the cases. The number of succesfull tests shall be on an event level, i.e. the SS shall check every time first if the number of the event 1A events is within the required limit, and then, check if the number of the event 1B events is within the required limit.

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.

### 8.6.2 FDD inter frequency measurements

#### 8.6.2.1 Correct reporting of neighbours in AWGN propagation condition

#### 8.6.2.1.1 Definition and applicability

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

The requirements and this test apply to the FDD UE.

#### 8.6.2.1.2 Minimum requirements

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

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

A cell shall be considered detectable when CPICH Ec/Io  $\geq$  -20 dB, SCH\_Ec/Io  $\geq$  -17 dB and SCH\_Ec/Ior is equally divided between primary synchronisation code and secondary synchronisation code. When L3 filtering is used an additional delay can be expected.
When transmission gaps are scheduled for FDD inter frequency measurements the UE physical layer shall be capable of reporting measurements to higher layers with measurement accuracy as specified in sub-clause 9.1.1 and 9.1.2 of 25.133 with measurement period given by

$$T_{\text{measurement inter}} = Max \left\{ T_{\text{Measurement\_Period Inter}}, T_{\text{basic measurement FDD inter}} \cdot \frac{T_{\text{Measurement\_Period Inter}}}{T_{\text{Inter}}} \cdot N_{Freq} \right\} ms$$

If the UE does not need compressed mode to perform inter-frequency measurements, the measurement period for inter frequency measurements is 480 ms.

The UE shall be capable of performing CPICH measurements for  $X_{\text{basic measurement FDD inter}}$  inter-frequency cells per FDD frequency of the monitored set or the virtual active set, and the UE physical layer shall be capable of reporting measurements to higher layers with the measurement period of  $T_{\text{Measurement_Inter.}}$ 

 $X_{\text{basic measurement FDDinter}} = 6$ 

 $T_{Measurement\_Period Inter} = 480$  ms. The period used for calculating the measurement period  $T_{measurement\_inter}$  for inter frequency CPICH measurements.

 $T_{\text{Inter:}}$  This is the minimum time that is available for inter frequency measurements , during the period  $T_{\text{Measurement}\_Period\ inter}$  with an arbitrarily chosen timing. The minimum time per transmission gap is calculated by using the actual idle length within the transmission gap as given in the table 11 of Annex B in TS 25.212 and by assuming 2\*0.5 ms for implementation margin and after that taking only full slots into account in the calculation.

 $T_{\text{basic_identify}_{\text{FDD,inter}}} = 800 \text{ ms.}$  This is the time period used in the inter frequency equation where the maximum allowed time for the UE to identify a new FDD cell is defined.

 $T_{basic\_measurement\_FDD inter} = 50$  ms. This is the time period used in the equation for defining the measurement period for inter frequency CPICH measurements.

N<sub>Freq</sub>: Number of FDD frequencies indicated in the inter frequency measurement control information.

The event triggered measurement reporting delay, measured without L3 filtering shall be less than T  $_{identify inter}$  defined in Clause 8.1.2.3.1 of 25.133 When L3 filtering is used an additional delay can be expected.

If a cell has been detectable at least for the time period  $T_{identify\_inter}$  and then enters or leaves the reporting range, the event triggered measurement reporting delay shall be less than  $T_{Measurement\_Period Inter}$  provided the timing to that cell has not changed more than +/-32 chips while transmission gap has not been available and the L3 filter has not been used.

The normative reference for these requirements is TS 25.133 [2] clauses 8.1.2.3 and A.8.2.1.

## 8.6.2.1.3 Test purpose

To verify that the UE meets the minimum requirements.

## 8.6.2.1.4 Method of test

8.6.2.1.4.1 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 consists of two successive time periods, with a time duration T1 and T2. The test parameters are given in tables 8.6.2.1.1 and 8.6.2.1.2 below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A and 2C shall be used. The CPICH Ec/I0 of the best cell on the unused frequency shall be reported together with Event 2C reporting.

Parameter	Unit	Value	Comment
DCH parameters		DL Reference Measurement Channel	As specified in C.3.1
		12.2 kbps	
Power Control		On	
Compressed mode		C.5.2 set 2	As specified in C.5.
Active cell		Cell 1	
Threshold non used	dB	-18	Absolute Ec/I0 threshold for event 2C
frequency			
Reporting range	dB	4	Applicable for event 1A
Hysteresis	dB	0	
W		1	Applicable for event 1A
W non-used frequency		1	Applicable for event 2C
Reporting deactivation		0	Applicable for event 1A
threshold			
Time to Trigger	ms	0	
Filter coefficient		0	
Monitored cell list size		24 on channel 1	Measurement control information is
		16 on channel 2	sent before the compressed mode
			pattern starts.
T1	S	10	
T2	S	5	

## Table 8.6.2.1.1: General test parameters for Correct reporting of neighbours in AWGN propagation condition

# Table 8.6.2.1.2: Cell Specific parameters for Correct reporting of neighbours in AWGN propagation condition

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

## 8.6.2.1.4.2 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] sub clause 7.3.2.3.
- 4) SS shall transmit a MEASUREMENT CONTROL message (inter frequency).
- 5) SS shall transmit PHYSICAL CHANNEL RECONFIGURATION message.
- 6) UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message.
- 7) UE shall transmit a MEASUREMENT REPORT message (inter frequency) triggered by event 2C. The measurement reporting delay from the beginning of T1 shall be less than 9 seconds. If the UE fails to report the event within the required delay, then a failure is recorded. If the reporting delay for this event is within the required limit, the number of succesfull tests is increased by one.

- 8) After 10 seconds, the SS shall switch the power settings from T1 to T2.
- 9) SS shall transmit a MEASUREMENT CONTROL message (intra frequency).
- 10) UE shall transmit a MEASUREMENT REPORT message (intra frequency) triggered by event 1A. The measurement reporting delay from the beginning of T2 shall be less than 956.2 ms.. If the reporting delay for this event is within the required limit, the number of succesful tests is increased by one.
- 11) After 5 seconds, the UE is switched off.

12)Repeat steps 1-11 [50] times.

#### Specific Message Contents

All messages indicated above shall use the same content as described in the default message content in clause 9 of 34.108 [3] and in Annex A of 34.123-1 [21], with the following exceptions:

PHYSICAL CHANNEL RECONFIGURATION message for Inter frequency measurement:

Information Element	Value/Remark
	Value/Keinark
Message Type	
UE Information Elements	
-RRC transaction identifier	0
-Integrity check info	Not Present
-Integrity protection mode info	Not Present
-Ciphering mode info	Not Present
-Activation time	240 CFN
-New U-RNTI	Not Present
-New C-RNTI	Not Present
-RRC State Indicator	CELL_DCH
-UTRAN DRX cycle length coefficient	Not Present
CN Information Elements	
-CN Information info	Not Present
UTRAN mobility information elements	
-URA identity	Not Present
RB information elements	
-Downlink counter synchronisation info	Not Present
PhyCH information elements	
-Frequency info	Not Present
Uplink radio resources	
-Maximum allowed UL TX power	Not Present
Downlink radio resources	
-CHOICE mode	FDD
-Downlink PDSCH information	Not Present
-Downlink information common for all radio links	
-Downlink DPCH info common for all RL	Not Present
-CHOICE mode	FDD
-DPCH compressed mode info	
-Transmission gap pattern sequence	
-TGPSI	1
-TGPS Status Flag	Active
-IGCFN	Not Present
- I ransmission gap pattern sequence	
	FDD measurement
TCL1	4
	/ Not Present
TCD	
	3
	Not Present
-RPP	Mode 0
-ITP	Mode 0
-CHOICE UL/DL mode	UL and DL
-Downlink compressed mode method	SF/2
-Uplink compressed mode method	SF/2
-Downlink frame type	B
-DeltaSIR1	3.0
-DeltaSIRafter1	3.0
-DeltaSIR2	Not Present
-DeltaSIRafter2	Not Present
-N Identify abort	Not Present
-T Reconfirm abort	Not Present
-TX Diversity Mode	Not Present
-SSDT information	Not Present
-Default DPCH Offset Value	Not Present
-Downlink information per radio link list	
-Downlink information for each radio link	
-Choice mode	FDD
-Primary CPICH info	
-Primary scrambling code	100
-PDSCH with SHO DCH Info	Not Present
-PDSCH code mapping	Not Present

-Downlink DPCH info for each RL	
-CHOICE mode	FDD
-Primary CPICH usage for channel estimation	Primary CPICH may be used
-DPCH frame offset	0
-Secondary CPICH info	Not Present
-DL channelisation code	
-Secondary scrambling code	Not Present
-Spreading factor	64
-Code number	63
-Scrambling code change	No code change
-TPC combination index	0
-SSDT Cell Identity	Not Present
-Closed loop timing adjustment mode	Not Present
-SCCPCH Information for FACH	Not Present

## MEASUREMENT CONTROL message (inter frequency):

Information Element/Group name	Value/Remark
Message Type (10.2.17)	, and a second
UE information elements	
-RRC transaction identifier	0
-Integrity check info	Not Present
Measurement Information elements	
-Measurement Identity	1
-Measurement Command (10.3.7.46)	Modify
-Measurement Reporting Mode (10.3.7.49)	
-Measurement Report Transfer Mode	AM RLC
-Periodical Reporting / Event Trigger Reporting Mode	Event trigger
-Additional measurements list (10.3.7.1)	Not Present
-CHOICE Measurement type	Inter-frequency measurement
-Inter-frequency measurement (10.3.7.16)	
-Inter-frequency measurement objects list (10.3.7.13)	Not Present
-Inter-frequency measurement quantity (10.3.7.18)	
-Intra-frequency reporting criteria	
-Intra-frequency measurement quantity (10.3.7.38)	0
-Filter coefficient (10.3.7.9)	
-CHOICE III000	
Inter frequency reporting criteria	
-Filter coefficient (10.3.7.9)	0
-CHOICE mode	
-Measurement quantity for frequency quality estimate	CPICH Ec/N0
-Inter-frequency reporting quantity (10.3.7.21)	
-UTRA Carrier RSSI	FALSE
-Frequency quality estimate	FALSE
-Non frequency related cell reporting quantities (10.3.7.5)	
-SFN-SFN observed time difference reporting indicator	No report
-Cell synchronisation information reporting indicator	TRUE (Note 1)
-Cell Identity reporting indicator	TRUE
-CHOICE mode	FDD
-CPICH Ec/N0 reporting indicator	TRUE
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	TRUE
-Reporting cell status (10.3.7.61)	
-CHOICE reported cell	Report all active set cells + cells within
	monitored set on used frequency
-Maximum number of reported cells	Z Net Dresent
-Measurement validity (10.3.7.51)	Not Present
	critoria
-Inter-frequency measurement reporting criteria (10.3.7.19)	Cintena
-Parameters required for each event	1
-Inter-frequency event identity	Event 2C
-Threshold used frequency	Not present
-W used frequency	Not present
-Hysteresis	0 dB
-Time to trigger	0 ms
-Reporting cell status	
-CHOICE reported cell	Report all active set cells + cells within
	monitored set on used frequency
-Maximum number of reported cells	3
-Parameters required for each non-used frequency	
-Threshold non used frequency	-18 dB
-W non-used frequency	1
Physical channel information elements	
-DPCH compressed mode status info (10.3.6.34)	Not Present
NOTE 1: The SFN-CFN observed time difference is calculated	from the OFF and Tm parameters contained
in the IE "Cell synchronisation information ", TS 25.33	1, clause 10.3.7.6. According to TS 25.331,
8.6.7.7, this IE is included in MEASUREMENT REPO	RI IT IE "Cell synchronisation information
reporting indicator" in IE "Cell reporting quantities" TS	25.331, clause 10.3.7.5 is set to TRUE in

MEASUREMENT CONTROL message (intra frequency):

Information Element/Group name	Value/Remark
Message Type (10.2.17)	Value/Remark
UE information elements	
-RRC transaction identifier	0
-Integrity check info	Not Present
Measurement Information elements	
-Measurement Identity	1
-Measurement Command (10.3.7.46)	Modify
-Measurement Reporting Mode (10.3.7.49)	
-Measurement Report Transfer Mode	AM RLC
-Periodical Reporting / Event Trigger Reporting Mode	Event trigger
-Additional measurements list (10.3.7.1)	Not Present
-CHOICE Measurement type	Intra-frequency measurement
-Intra-frequency measurement (10.3.7.36)	
-Intra-frequency measurement objects list (10.3.7.33)	Not Present
-Intra-frequency measurement quantity (10.3.7.38)	
-Filter coefficient (10.3.7.9)	0
-CHOICE mode	FDD
-Measurement quantity	CPICH_Ec/N0
-Intra-frequency reporting quantity (10.3.7.41)	
-Reporting quantities for active set cells (10.3.7.5)	
-SFN-SFN observed time difference reporting indicator	No report
-Cell synchronisation information reporting indicator	TRUE (Note 1)
-Cell Identity reporting indicator	TRUE
-CHOICE mode	FDD
-CPICH Ec/N0 reporting indicator	IRUE
-CPICH RSCP reporting indicator	
-Pathloss reporting indicator	IRUE
-Reporting quantities for monitored set cells (10.3.7.5)	No report
-SFN-SFN observed time difference reporting indicator	TRUE (Note 1)
-Cell synchronisation information reporting indicator	
-CPICH Ec/NO reporting indicator	TRUE
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	TRUE
-Reporting quantities for detected set cells (10.3.7.5)	Not Present
-Reporting quantities for detected bet cone (10.0.1.0)	
-CHOICE reported cell	Report all active set cells + cells within
	monitored set on used frequency
-Maximum number of reported cells	3
-Measurement validity (10.3.7.51)	Not Present
-CHOICE report criteria	Intra-frequency measurement reporting
	criteria
-Intra-frequency measurement reporting criteria (10.3.7.39)	
-Parameters required for each event	1
-Intra-frequency event identity	Event 1A
-Triggering condition 2	Active set cells and monitored set cells
-Reporting Range Constant	4 dB
-Cells forbidden to affect Reporting Range	Not Present
-CHOICE mode	FDD
-Primary CPICH info (10.3.6.60)	
-VV	1.0
-Hysteresis	U GB
- miesnola used irequency	
-Reporting deactivation threshold	U Not Procent
-Time to trigger	0 me
-Amount of reporting	Infinity
-Reporting interval	0 ms (Note 2)
-Reporting cell status	Not Present
Physical channel information elements	
-DPCH compressed mode status info (10.3.6.34)	Not Present

	Information Element/Group name	Value/Remark
Note 1:	The SFN-CFN observed time difference is calculated	from the OFF and Tm parameters contained
	in the IE "Cell synchronisation information ", TS 25.33	1, clause 10.3.7.6. According to TS 25.331,
	8.6.7.7, this IE is included in MEASUREMENT REPO	RT if IE "Cell synchronisation information
	reporting indicator" in IE "Cell reporting quantities" TS	25.331, clause 10.3.7.5 is set to TRUE in
	MEASUREMENT CONTROL.	
Note 2:	Reporting interval = 0 ms means no periodical reporting	ng

MEASUREMENT REPORT message for Inter frequency test cases

MEASUREMENT REPORT message for Intra frequency test cases

These messages are common for all inter and intra frequency test cases and are described in Annex I.

## 8.6.2.1.5 Test requirements

For the test to pass, the total number of successful tests shall be at least 90%, with a confidence level of [FFS]% of the cases. The number of successful tests shall be on an event level, i.e. the SS shall check how many events are reported successfully out of the total number of events checked.

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.

## 8.6.3 TDD measurements

8.6.3.1 Correct reporting of TDD neighbours in AWGN propagation condition

Void

- 8.6.4 GSM measurements
- 8.6.4.1 Correct reporting of GSM neighbours in AWGN propagation condition

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		be found in	3GPP	<u>R 21.900</u> .					- F	kel-5	(Rele	ease 5)		
									F	kel-6	(Rele	ease 6)		

Reason for change: ೫	Downlink compressed mode requirements have been modified. Derivation of test requirements in Annex F.4 has to be updated accordingly.
Summary of change: #	Test 7.9 of table F.4.3 is modified
Consequences if % not approved:	"Minimum requirements in TS25.101" and "Test requirements in TS34.121" columns in table F.4.3 (Test case 7.9) are not aligned with changed minimum requirements and test requirements.

Clauses affected:	ቼ F.4	
Other specs affected:	YN%XXOther core specificationsXTest specificationsXO&M Specifications	
Other comments:	# This CR is related to T1-020481 (T1R020211).	

### How to create CRs using this form:

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

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

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request 296

Test	Minimum Requirement in TS 25.101	Test Tolerance (TT)	Test Requirement in TS 34.121
7.2 Demodulation of DPCH in static conditions	$\frac{DPCH\_E_c}{I_{or}} -5.5 \text{ to } -16.6 \text{ dB}$ $I_{oc} = -60 \text{ dBm}$ $\hat{I}_{or}/I_{oc} = -1 \text{ dB}$	0.1 dB for $\frac{DPCH\_E_c}{I_{or}}$ 0.3 dB for $\hat{I}_{or}/I_{oc}$	Formulas: $\frac{DPCH\_E_c}{I_{or}} = \text{ratio} + \text{TT}$ $\hat{I}_{or}/I_{oc} = \text{ratio} + \text{TT}$ $I_{oc} \text{ unchanged}$ $\hat{I}_{or}/I_{oc} = -0.7 \text{ dB}$ $\frac{DPCH\_E_c}{I_{or}} -5.4 \text{ to } -16.5 \text{ dB}$
7.3 Demodulation of DPCH in multi-path fading propagation conditions Tests 1-4	$\frac{DPCH\_E_c}{I_{or}} -2.2 \text{ to } -15.0$ $I_{oc} = -60 \text{ dBm}$ $\hat{I}_{or}/I_{oc} = 9 \text{ dB to } -3 \text{ dB}$	0.1 dB for $\frac{DPCH\_E_c}{I_{or}}$ 0.6 dB for $\hat{I}_{or}/I_{oc}$	Formulas: $\frac{DPCH\_E_c}{I_{or}} = \text{ratio} + \text{TT}$ $\hat{I}_{or}/I_{oc} + \text{ratio} + \text{TT}$ $I_{oc} \text{ unchanged}$ $\hat{I}_{or}/I_{oc} = 9.6 \text{ to } -2.4 \text{ dB}$ $\frac{DPCH\_E_c}{I_{or}} -2.1 \text{ to } -14.9 \text{ dB}$
7.3 Demodulation of DPCH in multi-path fading propagation conditions Tests 5-8	$\frac{DPCH_E_c}{I_{or}} -3.2 \text{ to } -7.7 \text{ dB}$ $I_{oc} = -60 \text{ dBm}$ $\hat{I}_{or}/I_{oc} = 6 \text{ dB to } -3 \text{ dB}$	0.1 dB for $\frac{DPCH_E_c}{I_{or}}$ 0.6 dB for $\hat{I}_{or}/I_{oc}$	Formulas: $\frac{DPCH_{-}E_{c}}{I_{or}} = \text{ratio} + \text{TT}$ $\hat{I}_{or}/I_{oc} = \text{ratio} + \text{TT}$ $I_{oc} \text{ unchanged}$ $\hat{I}_{or}/I_{oc} = 6.6 \text{ to } -2.4 \text{ dB}$ $\frac{DPCH_{-}E_{c}}{I_{or}} -3.1 \text{ to } -7.6 \text{ dB}$
7.3 Demodulation of DPCH in multi-path fading propagation conditions Tests 9-12	$\frac{DPCH_E_c}{I_{or}} -4.4 \text{ to } -11.8 \text{ dB}$ $I_{oc} = -60 \text{ dBm}$ $\hat{I}_{or}/I_{oc} = 6 \text{ dB to } -3 \text{ dB}$	0.1 dB for $\frac{DPCH_E_c}{I_{or}}$ 0.6 dB for $\hat{I}_{or}/I_{oc}$	Formulas: $\frac{DPCH\_E_c}{I_{or}} = \text{ratio} + \text{TT}$ $\hat{I}_{or}/I_{oc} = \text{ratio} + \text{TT}$ $I_{oc} \text{ unchanged}$ $\hat{I}_{or}/I_{oc} = 6.6 \text{ to } -2.4 \text{ dB}$ $\frac{DPCH\_E_c}{I_{or}} -4.3 \text{ to } -11.7 \text{ dB}:$

Table F.4.3: Derivation of Test Requirements (Performance tests)

Taat	Minimum Dequinement in TC	Teet	Test Demuinement in TC 24 424
lest	25.101	Tolerance (TT)	Test Requirement in TS 34.121
7.3 Demodulation of DPCH in multi-path	$\frac{DPCH_{E_c}}{E_c}$ -2.2 to -15.0 dB	0.1 dB for	Formulas:
fading propagation	I <sub>or</sub>	$DPCH\_E_c$	$\frac{DTCH_{L_c}}{I} = ratio + TT$
conditions Tests 13-16	<i>I<sub>oc</sub></i> = -60 dBm	I <sub>or</sub>	$\hat{I}_{or}/I_{oc}$ = ratio + TT
	$\hat{I}_{or}/I_{oc}$ = 9 dB	0.6 dB for $\hat{I}_{or}/I_{oc}$	I <sub>oc</sub> unchanged
			$\hat{I}_{or}/I_{oc} = 9.6$
			$\frac{DPCH\_E_c}{I_{or}}$ -2.1 to -14.9 dB:
7.3 Demodulation of	$\underline{DPCH}_{-}\underline{E_{c}}$ -1.4 to -8.8 dB	0.1 dB	Formulas:
fading propagation	I <sub>or</sub>	$DPCH_E_c$	$\frac{DPCH_{-}E_{c}}{I} = \text{ratio} + \text{TT}$
conditions Tests 17-20	<i>I</i> <sub>oc</sub> = -60 dBm	I <sub>or</sub>	$\hat{I}_{or}/I_{oc}$ = ratio + TT
	$\hat{I}_{or}/I_{oc}$ = 6 to -3 dB	0.6 dB for $\hat{I}_{or}/I_{oc}$	I <sub>oc</sub> unchanged
			$\hat{I}_{or}/I_{oc}$ = 6.6 to –2.4 dB
			$\underline{DPCH}_{-}E_{c}$ -1.3 to -8.7 dB:
			I <sub>or</sub>
7.4 Demodulation of DPCH in moving	$\frac{DPCH_{-}E_{c}}{I_{or}}$ -10.9 to -14.5	0.1 dB for	Formulas: $\underline{DPCH}_{-}\underline{E_{c}}$ = ratio + TT
propagation conditions	I <sub>oc</sub> = - 60 dBm	$\frac{DPCH\_E_c}{I_{or}}$	$I_{or}$ $\hat{I}_{or}/I_{oc}$ = ratio + TT
	$\hat{I}$ / $I$ = -1 dB	0.6 dB for	<i>I</i> <sub>as</sub> unchanged
	- or f = oc	$I_{or}/I_{oc}$	
			$\hat{I}_{or}/I_{oc} = -0.4 \text{ dB}$
			$\frac{DPCH\_E_c}{I_{or}}$ -10.8 to -14.4 dB:
7.5 Demodulation of DPCH birth-death	$\frac{DPCH_{-}E_{c}}{I}$ -8.7 to -12.6 dB	0.1 dB for	Formulas: $DPCH = E_{i} - rotio + TT$
propagation conditions	I <sub>or</sub>	$DPCH_E_c$	$\frac{1}{I_{or}} = 100 + 11$
	$I_{oc} = -60 \text{ dBm}$	I <sub>or</sub>	$\hat{I}_{or}/I_{oc}$ = ratio + TT
	$\hat{I}_{or}/I_{oc}$ = -1 dB	0.6 dB for $\hat{I}_{or}/I_{oc}$	I <sub>oc</sub> unchanged
			$\hat{I}_{or}/I_{oc}$ = -0.4 dB
			$\frac{DPCH\_E_c}{I_{or}}$ -18.6 to -12.5 dB:

Tost	Minimum Poquiromont in TS	Tost	Test Pequirement in TS 34 121
Test	25.101	Tolerance (TT)	Test Requirement in 15 34.121
7.6.1 Demodulation of	$DPCH_{-}E_{c}$ -16.8 dB	0.1 dB	Formulas:
DPCH in transmit		for	$\underline{DPCH}_{\underline{E_c}}$ = ratio + TT
diversity propagation	01	$\underline{DPCH\_E_c}$	I <sub>or</sub>
conditions	$I_{oc} = -60 \text{ dBm}$	I <sub>or</sub>	$\hat{I}_{or}/I_{oc}$ = ratio + TT
	$\hat{I}_{or}/I_{oc}$ = 9 dB	0.8 dB for $\hat{I}_{or}/I_{oc}$	I <sub>oc</sub> unchanged
			$\hat{I}_{or}/I_{oc}$ = 9.8 dB
			$\frac{DPCH\_E_c}{L}$ -16.7 dB:
			I <sub>or</sub>
7.6.2 Demodulation of	DPCH E 19 to 19 2 dB	0.1 dB	Formulas:
DCH in closed loop Transmit diversity	$\frac{D1 CH_{2}L_{c}}{I_{or}}$ -18 to -18.3 dB	for DPCH_E	$\frac{DPCH_{-}E_{c}}{I} = \text{ratio} + \text{TT}$
mode	<i>I<sub>oc</sub></i> = - 60 dBm	I <sub>or</sub>	$\hat{I}_{or}/I_{oc}$ = ratio + TT
	$\hat{I}_{or}/I_{oc}$ = 9 dB	0.8 dB for $\hat{I}_{or}/I_{oc}$	I <sub>oc</sub> unchanged
			$\hat{I}_{or}/I_{oc}$ = 9.8 dB
			$\frac{DPCH_{-}E_{c}}{L}$ -17.9 to -18.2 dB:
			I <sub>or</sub>
7.6.3, Demodulation of	$DPCH = E_{e} = 7.5$ to $-9.2$ dB	0.1 dB	Formulas:
DCH in site selection	$\frac{I_{ar}}{I_{ar}}$	for	$\underline{DPCH}_{\underline{E_c}}$ = ratio + TT
diversity Transmission		$\underline{DPCH\_E_c}$	I <sub>or</sub>
power control mode	$I_{oc} = -60 \text{ dBm}$	I <sub>or</sub>	$\hat{I}_{or}/I_{oc}$ = ratio + TT
	$\hat{I}_{or}/I_{oc} = 0$ to -3 dB	0.8 dB for $\hat{I}_{or}/I_{oc}$	I <sub>oc</sub> unchanged
			$\hat{I}_{or}/I_{oc} = 0.8 \text{ to } -2.2 \text{ dB}$
			$\frac{DPCH\_E_c}{I_{or}}$ -7.4 to -9.1 dB:
7.7.1 Demodulation in	$DPCH_E_{c} = 5.5 \text{ to} = 15.2 \text{ dB}$	0.1 dB	Formulas:
inter-cell soft Handover	$\frac{I_{or}}{I_{or}} = 0.0 \text{ to } -10.2 \text{ db}$	for $DPCH_E_c$	$\frac{DPCH_{-}E_{c}}{I} = \text{ratio} + \text{TT}$
	<i>I<sub>oc</sub></i> = - 60 dBm	I <sub>or</sub>	$\hat{I}_{or}/I_{oc}$ = ratio + TT
	$\hat{I}_{or}/I_{oc} = \text{lor2/loc} = 6 \text{ to } 0 \text{ dB}$	0.8 dB for $\hat{I}_{or}/I_{oc}$	I <sub>oc</sub> unchanged
			$\hat{I}_{or}/I_{oc}$ = 6.8 to 0.8 dB
			$\frac{DPCH\_E_c}{I_{or}}$ -5.4 to -15.4 dB:
7.7.2 Combining of			To be completed
TPC commands Test 1			To be completed
TPC commands Test 2			

Test	Minimum Requirement in TS 25.101	Test Tolerance (TT)	Test Requirement in TS 34.121
7.8.1 Power control in downlink constant BLER target	$\frac{DPCH\_E_c}{I_{or}} -9 \text{ to -16 dB}$ $I_{oc} = -60 \text{ dBm}$	$0.1 \text{ dB}$ for $\underline{DPCH\_E_c}$ $I_{or}$	Formulas: $\frac{DPCH\_E_c}{I_{or}} = \text{ratio} + \text{TT}$ $\hat{I} / I = \text{ratio} + \text{TT}$
	$\hat{I}_{or}/I_{oc} = 9 \text{ to -1 dB}$	0.6 dB for $\hat{I}_{or}/I_{oc}$	$I_{or}/I_{oc}$ unchanged
			$\hat{I}_{or}/I_{oc} = 9.6 \text{ to } -0.4 \text{ dB}$
			$\frac{I_{or}}{I_{or}} = -\frac{1}{2} = $
7.8.2, Power control in downlink initial convergence	$\frac{DPCH\_E_c}{I_{or}}$ -8.1 to –18.9 dB	0.1 dB for $\underline{DPCH}_E_c$	Formulas: $\frac{DPCH_{-}E_{c}}{I_{or}} = \text{ratio} + \text{TT}$
	I <sub>oc</sub> = - 60 dBm	I <sub>or</sub>	$\hat{I}_{or}/I_{oc}$ = ratio + TT
	$\hat{I}_{or}/I_{oc}$ = -1 dB	0.6 dB for $\hat{I}_{or}/I_{oc}$	I <sub>oc</sub> unchanged
			$\hat{I}_{or}/I_{oc}$ = -0.4 dB
			$\frac{DPCH_{-}E_{c}}{I_{or}}$ -8.0 to -18.8 dB:
7.8.3, Power control in downlink: wind up effects	$\frac{DPCH\_E_c}{I_{or}} \text{ -13.3 dB}$	0.1 dB for $\underline{DPCH}_E_c$	Formulas: $\frac{DPCH_{-}E_{c}}{I_{or}} = \text{ratio} + \text{TT}$
	<i>I<sub>oc</sub></i> = - 60 dBm	I <sub>or</sub>	$\hat{I}_{or}/I_{oc}$ = ratio + TT
	$\hat{I}_{or}/I_{oc} = 5 \text{ dB}$	0.6 dB for $\hat{I}_{or}/I_{oc}$	I <sub>oc</sub> unchanged
			$\hat{I}_{or}/I_{oc}$ = 5.6 dB
			$\frac{DPCH\_E_c}{I_{or}}$ -13.2 dB:
7.9 Downlink compressed mode	$\frac{DPCH\_E_c}{I_{or}}$	0.1 dB for $DPCH_E_c$	Formulas: $\frac{DPCH\_E_c}{I_{rr}} = \text{ratio} + \text{TT}$
	<u>Test 3 -15.2 dB</u>	I <sub>or</sub>	$\hat{I}_{or}/I_{oc}$ = ratio + TT
	$I_{oc} = -60 \text{ dBm}$ $\hat{I}_{or} / I_{oc} = 9 \text{ dB}$	0.6 dB for $\hat{I}_{or}/I_{oc}$	I <sub>oc</sub> unchanged
			$\hat{I}_{or}/I_{oc}$ = 9.6 dB
			$DPCH_E_c$
			I I I I I I I I I I I I I I I I I I I
			Test 3 -15.1 dB <del>:</del>

Test	Minimum Requirement in TS 25.101	Test Tolerance (TT)	Test Requirement in TS 34.121
7.10 Blind transport format detection Tests 1, 2, 3	$\frac{DPCH_{-}E_{c}}{I_{or}} - 17.7 \text{ to } -18.4 \text{ dB}$ $I_{oc} = -60 \text{ dBm}$ $\hat{I}_{oc} = -60 \text{ dBm}$	$\frac{(11)}{0.1 \text{ dB}}$ for $\frac{DPCH\_E_c}{I_{or}}$ 0.3 dB for	Formulas: $\frac{DPCH\_E_c}{I_{or}} = \text{ratio} + \text{TT}$ $\hat{I}_{or}/I_{oc} = \text{ratio} + \text{TT}$
	$I_{or}/I_{oc} = -1 \text{ dB}$	$\hat{I}_{or}/I_{oc}$	$I_{oc}$ unchanged $\hat{I}_{or}/I_{oc} = -0.7 \text{ dB}$ $\frac{DPCH_{-}E_{c}}{I_{or}} -17.6 \text{ to } -18.3 \text{ dB}:$
7.10 Blind transport format detection Tests 4, 5, 6	$\frac{DPCH\_E_c}{I_{or}} -13.0 \text{ to } -13.8 \text{ dB}$ $I_{oc} = -60 \text{ dBm}$	0.1 dB for $\frac{DPCH\_E_c}{I_{or}}$	Formulas: $\frac{DPCH\_E_c}{I_{or}} = \text{ratio} + \text{TT}$ $\hat{I}_{or}/I_{oc} = \text{ratio} + \text{TT}$
	$\hat{I}_{or}/I_{oc} = -3 \text{ dB}$	0.6 dB for $\hat{I}_{or}/I_{oc}$	$I_{oc}$ unchanged
			$I_{or}/I_{oc} = -2.4 \text{ dB}$ $\frac{DPCH_{-}E_{c}}{I_{or}}$ -12.9 to -13.7 dB: