Technical Specification Group Terminals Meeting #26, Athens, Greece, 8 - 10 December 2004

Source:	T1
Title:	CRs to TS 34.121 v.5.5.0 for approval
Agenda item:	5.1.3
Document for:	Approval

This document contains the CRs to TS 34.121 v.5.5.0. These CRs have been agreed by T1 and are put forward to TSG T for approval.

Doc-2nd-	CR	R	Phase	Subject		Versio	Versio
Level		e			at	n-	n-
		v				Curre nt	New
T1-041507	431	-	Rel-5	Introduction of Test Tolerances to Event	F	5.5.0	5.6.0
				triggered reporting of multiple			
				neighbours in AWGN propagation			
				condition (Rel-4 and later), test 8.6.1.2A			
T1-041523	432	-	Rel-5	Addition of UMTS-850 Band V to chapter 4.	F	5.5.0	5.6.0
T1-041524	433	-	Rel-5	Addition of UMTS-850 Band V to	F	5.5.0	5.6.0
				chapter 5			
T1-041567	434	-	Rel-5	Correction of the FDD/FDD Soft	F	5.5.0	5.6.0
				Handover test parameters			
T1-041577	435	-	Rel-5	Corrections to TC 8.7.3C UE transmitted	F	5.5.0	5.6.0
				power			
T1-041579	436	-	Rel-5	Addition of test tolerances to TC 8.3.4	F	5.5.0	5.6.0
T1-041648	437	-	Rel-5	New clause for reference conditions	F	5.5.0	5.6.0
T1-041650	438	-	Rel-5	Alignment of HSDPA OCNS with TS 25.101	F	5.5.0	5.6.0
T1-041653	439	-	Rel-5	Correction to Handover to GSM TC 8.3.4	F	5.5.0	5.6.0
T1-041661	440	-	Rel-5	Correction to test procedure in 7.12	F	5.5.0	5.6.0
T1-041662	441	-	Rel-5	Correction to 8.7.6.1 UE Rx-Tx time difference type 1	F	5.5.0	5.6.0
T1-041667	442	-	Rel-5	Corrections to RRM test cases 8.6.1.2	F	5.5.0	5.6.0
				Event riggered reportingÖ			
T1-041684	443	-	Rel-5	Update of references to GSM core	F	5.5.0	5.6.0
				specifications			
T1-041749	444	-	Rel-5	Corrections to HSDPA test 9.4 (HS-	F	5.5.0	5.6.0
				SCCH detection)			
T1-041790	445	-	Rel-5	Clarification of HS-PDSCH and HS-	F	5.5.0	5.6.0
				SCCH signal structure			
T1-041810	446	-	Rel-5	CR to 34.121 Rel 5: Editorial corrections	D	5.5.0	5.6.0
				to test 8.7.3			
T1-041813	447	-	Rel-5	Corrections to BTFD test case	F	5.5.0	5.6.0
T1-041818	448		Rel-5	Corrections to RRM test cases 8.3.2.1	F	5.5.0	5.6.0
				and 8.3.2.2 Correction to the test			
				procedure of FDD/FDD Hard Handover			

	test cases						
T1-041822	449	-	Rel-5	Corrections to TC 8.6.4.1		5.5.0	5.6.0
T1-041824	450	-	Rel-5	Correction to pathloss indicator		5.5.0	5.6.0
T1-041830	451	-	Rel-5	Corrections to RRM test case 8.5.1 UEF5.5.05.6.0Transmit TimingF5.5.05.6.0		5.6.0	
T1-041831	452	-	Rel-5	Corrections and additions to Release 5 RRM test case 8.6.2.2		5.5.0	5.6.0
T1-041832	453	-	Rel-5	Measurement Channel for BLER measurement in 8.3.1 FDD/FDD Soft	F	5.5.0	5.6.0
T1-041834	454	-	Rel-5	Correction to SFN-SFN observed time difference type 1 measurement test case	F	5.5.0	5.6.0
T1-041838	455	-	Rel-5	Corrections to HSDPA test 6.3A (max input power)	F	5.5.0	5.6.0
T1-041841	456	-	R99	CM configuration in FDD inter	F	5.5.0	5.6.0
T1-041843	457	-	Rel-5	Addition of the scheduling information	F	5.5.0	5.6.0
T1-041844	458	-	Rel-5	Correction to 8.3.1 UE FDD/FDD Soft Handover	F	5.5.0	5.6.0
T1-041845	459	-	Rel-5	Correction to 8.7.1.1 CPICH RSCP Intra frequency measurements accuracy	F	5.5.0	5.6.0
T1-041852	460	-	Rel-5	Corrections to HSDPA test 9.3 (CQI reporting)	F	5.5.0	5.6.0
T1-041858	461	-	Rel-5	Correction to measurement	F	5.5.0	5.6.0
T1-041859	462	-	Rel-5	Change of notes position in TS34.121	F	5.5.0	5.6.0
T1-041860	463	-	Rel-5	BLER testing for UEs with asymmetrical UL/DL data rates	F	5.5.0	5.6.0
T1-041861	464	-	Rel-5	Invalid MAC header for downlink	F	5.5.0	5.6.0
T1-041865	465	-	Rel-5	Addition of test tolerances and corrections for 8.6.2.1 Correct reporting of neighbours in AWGN propagation	F	5.5.0	5.6.0
T1-041866	466	-	Rel-5	Correction to Correct reporting of neighbours in fading progagation condition test case	F	5.5.0	5.6.0
T1-041867	467	-	Rel-5	Correction to Event triggered reporting of two detectable neighbours in AWGN propagation condition test cases	F	5.5.0	5.6.0
T1-041868	468	-	Rel-5	S-CCPCH configuration in 8.3.5 Cell Re-selection in CELL FACH.	F	5.5.0	5.6.0
T1-041869	469	-	Rel-5	Corrections to TC 8.2.3.1 and 8.2.3.2	F	5.5.0	5.6.0
T1-041870	470	-	Rel-5	Correction to MEASUREMENT     F     5.5.0     5.6       CONTROL Message for 8.6.2.1: Correct     reporting of neighbours in AWGN     5.5.0     5.6       propagation condition and 8.3.2.2:     FDD/FDD Hard Handover to inter-     5.5.0     5.6		5.6.0	
T1-041872	471	-	Rel-5	Corrections to HSDPA test 9.2 (Demod of HS-DSCH)	F	5.5.0	5.6.0
T1-041873	472	-	Rel-5	Addition of UMTS-850 Band V to chapter 6	F	5.5.0	5.6.0
T1-041877	473	-	Rel-5	Correction of time to receive system information in RRM test cases	F	5.5.0	5.6.0
T1-041878	474	-	Rel-5	CR to 34.121: Changing the BLER target for the DCCH in test 7.8	D	5.5.0	5.6.0
T1-041881	475	-	Rel-5	Corrections to Information elements for	F	5.5.0	5.6.0

				Monitored Cells in Annex I.			
T1-041882	476	-	Rel-5	Introduction of UMTS-850 MHz band V	F	5.5.0	5.6.0

CHANGE REQUEST							
æ	34.121 CR 432 # rev - #	Current version: <b>5.5.0</b> <sup>第</sup>					
For <u>HELP</u> on using this form, see bottom of this page or look at the pop-up text over the $\frac{1}{8}$ symbols.							
Proposed chang	e affects: UICC apps <mark>器</mark> ME <mark>X</mark> Radio Ac	cess Network Core Network					
Title:	Comparison         Comparison <thcomparison< th="">         Comparison         Comparis</thcomparison<>						
Source:	អ <mark>Nokia</mark>						
Work item code:	# TEI	<b>Date:</b> <mark>₭ 16/10/2004</mark>					
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 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: <b>#</b> R5 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) Pol-6 (Release 6)					

Reason for change: 🖁	Channel numbers and frequency arrangement information for Band V (UMTS 850) is missing in 34.121
Summary of change: 🔀	This CR will introduce necessary general parameters (Channel numbers, frequencies etc) to chapter 4 for UMTS-850 band.
	This CR also does some editorial changes to align 25.101 and 34.121.
Consequences if <b>#</b> not approved:	34.121 tests cannot be performed in Band V.
Classes offerstade 9	

Clauses affected:	あ 4.3, 4.4.3, 4.4.4		
	YN		
Other specs	X     Other core specifications     X		
affected:	X Test specifications		
	X O&M Specifications		
Other comments:	# This CR is to be trated as release independent.		

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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.

# 4.3 TXñRX frequency separation

a) UTRA/FDD is designed to operate with the following TX-RX frequency separation.

Operating Band	TX-RX frequency separation
	190 MHz
II	80 MHz
	95 MHz
V	<u>45 MHz</u>
VI	45 MHz <del>.</del>

- b) UTRA/FDD can support both fixed and variable transmit to receive frequency separation.
- c) The use of other transmit to receive frequency separations in existing or other frequency bands shall not be precluded.

# 4.4 Channel arrangement

### 4.4.1 Channel spacing

The nominal channel spacing is 5 MHz, but this can be adjusted to optimise performance in a particular deployment scenario.

### 4.4.2 Channel raster

The channel raster is 200 kHz, which for all bands except Band II and Band VI which means that the centre frequency must be an integer multiple of 200 kHz. In Band II, 12 additional centre frequencies are specified according to the table in 4.1a and the centre frequencies for these channels are shifted 100 kHz relative to the normal raster. In Band VI, additional centre frequencies are specified according to Table 4.1b and the centre frequencies for these channels are shifted 100 kHz relative to the additional centre frequencies are specified according to table 4.1b and the centre frequencies for these channels are shifted 100 kHz relative to the normal raster. In addition a number of additional centre frequencies are specified according to table 4.1a, which means that the centre frequencies for these channels are shifted 100 kHz relative to the general raster.

# 4.4.3 Channel number

The carrier frequency is designated by the UTRA Absolute Radio Frequency Channel Number (UARFCN). The values of the UARFCN are as follows.

	<u>UPLINK (UL)</u>	DOWNLINK (DL)					
<u>UE t</u>	ransmit, Node B receive	UE receive, Node B transmit					
UARFCN	Carrier frequency [MHz]	<b>UARFCN</b>	Carrier frequency [MHz]				
	<u>(F<sub>UL)</sub>) (Note 1)</u>		<u>(F<sub>DL)</sub>) (Note 2)</u>				
$N_u = 5 * F_{UL}$	<u>0.0 MHz ≤  F<sub>UL</sub> ≤ 3276.6 MHz</u>	N <sub>d</sub> = 5 * F <sub>DL</sub>	<u>0.0 MHz ≤  F<sub>DL</sub> ≤ 3276.6 MHz</u>				
Note 1: Full is the uplink frequency in MHz							
Note 2: F <sub>DL</sub> i	Note 2: F <sub>DL</sub> is the downlink frequency in MHz						

### Table 4.1: UARFCN definition (general)

### Table 4.1a: UARFCN definition (additional channels)

-				
	U	<u>PLINK (UL)</u>	DO	WNLINK (DL)
Band	UE transr	<u>mit, Node B receive</u>	UE recei	<u>ve, Node B transmit</u>
Dallu	UARFCN	Carrier frequency [MHz]	UARFCN	Carrier frequency [MHz]
		<u>(F<sub>UL)</sub>)</u>		<u>(F<sub>DL)</sub>)</u>
<u> </u>				-
	$N_u = 5 * (F_{UL} \tilde{n})$	1852.5, 1857.5, 1862.5,	$N_d = 5 * (F_{DL} \tilde{n})$	1932.5, 1937.5, 1942.5,
	<u>1850.1 MHz)</u>	<u>1867.5, 1872.5, 1877.5,</u>	<u>1850.1 MHz)</u>	<u>1947.5, 1952.5, 1957.5,</u>
ш		<u>1882.5, 1887.5, 1892.5,</u>		<u>1962.5, 1967.5, 1972.5,</u>
		<u>1897.5, 1902.5, 1907.5</u>		<u>1977.5, 1982.5, 1987.5</u>
<u>   </u>	<u>_</u>	<u>_</u>	<u>_</u>	<u>_</u>
<u>V</u>	<u>N<sub>u</sub> = 5 * (F<sub>UL</sub> ñ</u>	<u>826.5, 827.5, 831.5,</u>	<u>N<sub>d</sub> = 5 * (F<sub>DL</sub> ñ</u>	<u>871.5, 872.5, 876.5,</u>
	670.1 MHz)	832.5, 837.5, 842.5	670.1 MHz)	<u>877.5, 882.5, 887.5</u>
VI	$N_u = 5 * (F_{UL} \tilde{n})$	832.5, 837.5	$N_{d} = 5 * (F_{DL} \tilde{n})$	<u>877.5, 882.5</u>
	670.1 MHz)		670.1 MHz)	

<b>Uplink</b>	N <sub>u</sub> .= <u>5</u> *₋F <sub>uplink</sub>	<del>0,0 MHz ≤ F<sub>uplink</sub> ≤ 3 276,6 MHz</del>
		where F <sub>uplink</sub> is the uplink frequency in MHz
Downlink	NdNd = 5 *₋F <sub>downlink</sub>	<del>0,0 MHz ≤ F<sub>downlink</sub> ≤ 3 276,6 MHz</del>
		where F <sub>downlink</sub> is the downlink frequency in MHz

### Table 4.1a: UARFCN definition (Band II additional channels)

	UARFCN	Carrier frequency [MHz]
Uplink	Nd_= <u>5 * (F<sub>uplink</sub> ñ 1850.1 MHz)</u>	F <sub>uplink</sub> = 1852.5, 1857.5, 1862.5, 1867.5,
		<del>1872.5, 1877.5,</del>
		<del>1882.5, 1887.5, 1892.5, 1897.5, 1902.5, 1907.5</del>
<b>Downlink</b>	N <sub>u</sub> <u>=</u> <del>5 * (F<sub>downlink</sub> ñ 1850.1 MHz)</del>	F <sub>downlink</sub> = 1932.5, 1937.5, 1942.5, 1947.5,
		<del>1952.5, 1957.5,</del>
		<del>1962.5, 1967.5, 1972.5, 1977.5, 1982.5, 1987.5</del>

### Table 4.1b: UARFCN definition (Band VI additional channels)

	UARECN	Carrier frequency [MHz]
Uplink	<mark>N<sub>u</sub> = <u>5</u> * (F<sub>uplink</sub> ñ 670.1 MHz)</mark>	F <sub>uplink</sub> <del>= 832.5, 837.5</del>
Downlink	<del>Nd = <u>5</u> * (F<sub>downlink</sub> ñ 670.1 MHz)</del>	F <sub>downlink</sub> = 877.5, 882.5

### 4.4.4 UARFCN

The following UARFCN range shall be be supported for each paired band.

Operating Band	Uplink	Downlink
	UE transmit, Node B	UE receive, Node B
	receive	transmit
I	9 612 to 9 888	10 562 to 10 838
II	9 262 to 9 538	9 662 to 9 938
	and	and
	12, 37, 62, 87,	412, 437, 462, 487,
	112, 137, 162, 187,	512, 537, 562, 587,
	212, 237, 262, 287	612, 637, 662, 687
III	8562 to 8913	9037 to 9388
V	4132 to 4233	4357 to 4458
	and	and
	<u>782, 787, 807,</u>	<u>1007, 1012, 1032,</u>
	<u>812, 837, 862</u>	<u>1037, 1062, 1087</u>
VI	4162 to 4188 and 812,	4387 to 4413 and 1037,
	837	1062

### Table 4.2: UTRA Absolute Radio Frequency Channel Number

CHANGE REQUEST								
æ	34.121 CR 433 # rev - <sup>#</sup>	Current version: <b>5.5.0</b>						
For <b>HELP</b> on using this form, see bottom of this page or look at the pop-up text over the <b>x</b> symbols.								
Proposed chang	e affects: UICC apps <mark>೫</mark> ME X Radio A	Access Network Core Network						
Title:	R Addition of UMTS-850 Band V to chapter 5							
Source:	f Nokia							
Work item code	۴ TEI	Date: <mark>೫ 16/10/2004</mark>						
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 an earlier releas</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: #R5Use one of the following releases: 2(GSM Phase 2)2(GSM Phase 2)8(Release 1996)R97(Release 1997)R98(Release 1998)R99(Release 1999)Rel-4(Release 4)Rel-5(Release 5)R9-6(Release 6)						

Reason for change:	Band V (UMTS 850) is missing in 34.121 chapter 5.
Summary of change:	this CR will introduce UMTS-850 band to chapter 5 (Transmitter characteristics).
Consequences if not approved:	<b>34.121 chapter 5 tests cannot be performed in Band V.</b>
Clauses affected:	€ 5.2, 5.9 and 5.11

		Y	Ν		
Other specs	ж	•	X	Other core specifications	
affected:			X X	Test specifications O&M Specifications	
Other comments:	¥	т	his	CR is to be treated as release ind	ependent

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3)

# 5.2 Maximum Output Power

### 5.2.1 Definition and applicability

The nominal maximum output power and its tolerance are defined according to the Power Class of the UE.

The maximum output power is a measure of the maximum power the UE can transmit (i.e. the actual power as would be measured assuming no measurement error) in a bandwidth of at least  $(1 + \alpha)$  times the chip rate of the radio access mode. The period of measurement shall be at least one timeslot.

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

### 5.2.2 Minimum Requirements

The UE maximum output power shall be within the nominal value and tolerance specified in table 5.2.1 even for the multi-code transmission mode.

Operating	Power Class 1		ower Class 1 Power Class 2		Power Class 3		Power Class 4	
Band	Power (dBm)	Tol (dB)	Power (dBm)	Tol (dB)	Power (dBm)	Tol (dB)	Power (dBm)	Tol (dB)
Band I	+33	+1/-3	+27	+1/-3	+24	+1/-3	+21	+2/-2
Band II	-	-	-	-	+24	+1/-3	+21	+2/-2
Band III	-	-	-	-	+24	+1/-3	+21	+2/-2
Band V	<u>_</u>	-		_	<u>+24</u>	<u>+1/-3</u>	<u>+21</u>	+2/-2
Band VI	-	-	_	_	+24	+1/-3	+21	+2/-2

Table 5.2.1: Nominal Maximum Output Power

The normative reference for this requirement is TS 25.101 [23] clause 6.2.1.

### 5.2.3 Test purpose

To verify that the error of the UE maximum output power does not exceed the range prescribed by the nominal maximum output power and tolerance in table 5.2.1.

An excess maximum output power has the possibility to interfere to other channels or other systems. A small maximum output power decreases the coverage area.

### 5.2.4 Method of test

### 5.2.4.1 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: low range, mid range, high 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.
- 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.

### 5.2.4.2 Procedure

1) Set and send continuously Up power control commands to the UE.

2) Measure the mean power of the UE in a bandwidth of at least  $(1 + \alpha)$  times the chip rate of the radio access mode. The mean power shall be averaged over at least one timeslot.

### 5.2.5 Test requirements

The maximum output power, derived in step 2), shall not exceed the range prescribed by the nominal maximum output power and tolerance in table 5.2.2.

Operating	Power	Class 1 Power Class 2		Class 2	Power Class 3		Power Class 4	
Band	Power	Tol	Power	Tol	Power	Tol	Power	Tol
	(dBm)	(dB)	(dBm)	(dB)	(dBm)	(dB)	(dBm)	(dB)
Band I	+33	+1,7/-3,7	+27	+1,7/-3,7	+24	+1,7/-3,7	+21	+2,7/-2,7
Band II	-	-	-	-	+24	+1,7/-3,7	+21	+2,7/-2,7
Band III	-	-	-	-	+24	+1,7/-3,7	+21	+2,7/-2,7
Band V	_	_	<u>_</u>	-	+24	+1,7/-3,7	+21	+2,7/-2,7
Band VI	-	-	-	-	+24	+1,7/-3,7	+21	+2,7/-2,7

Table 5.2.2: Nominal Maximum Output Power

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.

NEXT MODIFIED SECTION

# 5.9 Spectrum emission mask

### 5.9.1 Definition and applicability

The spectrum emission mask of the UE applies to frequencies, which are between 2,5 MHz and 12,5 MHz away from the UE centre carrier frequency. The out of channel emission is specified relative to the RRC filtered mean power of the UE carrier.

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

# 5.9.2 Minimum Requirements

The power of any UE emission shall not exceed the levels specified in table 5.9.1.

∆f in MHz (note 1)	Minimum requirement Band I, II, III, <u>V, </u> VI	Additional requirements Band II <u>and Band</u>	Measurement bandwidth			
		<u>v</u>				
2,5 to 3.5	$\left\{-35-15\cdot\left(\frac{\Delta f}{MHz}-2.5\right)\right\}dBc$	-15 dBm	30 kHz (note 2)			
3,5 to 7,5	$\left\{-35-1\cdot\left(\frac{\Delta f}{MHz}-3.5\right)\right\}dBc$	-13 dBm	1 MHz (note 3)			
7,5 to 8,5	$\left\{-39-10\cdot\left(\frac{\Delta f}{MHz}-7.5\right)\right\}dBc$	-13 dBm	1 MHz (note 3)			
8,5 to 12,5	-49 dBc	-13 dBm	1 MHz (note 3)			
NOTE 1: ∆f is the separation between the carrier frequency and the centre of the measuring filter. NOTE 2: The first and last measurement position with a 30 kHz filter is at ∆f equals to 2,515 MHz and 3,485 MHz.						
NOTE 3: The first and last measurement position with a 1 MHz filter is at ∆f equals to 4 MHz and 12 MHz. As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. To improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth can be different from the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.						

### Table 5.9.1: Spectrum Emission Mask Requirement

The normative reference for this requirement is TS 25.101 [23] clause 6.6.2.1.1.

### 5.9.3 Test purpose

To verify that the power of UE emission does not exceed the prescribed limits shown in table 5.9.1.

Excess emission increases the interference to other channels or to other systems.

### 5.9.4 Method of test

### 5.9.4.1 Initial conditions

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

Frequencies to be tested: low range, mid range, high 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.
- 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.

### 5.9.4.2 Procedure

1) Set and send continuously Up power control commands to the UE until the UE output power shall be maximum level.

- 2) Measure the power of the transmitted signal with a measurement filter of bandwidths according to table 5.9.2. Measurements with an offset from the carrier centre frequency between 2,515 MHz and 3,485 MHz shall use a 30 kHz measurement filter. Measurements with an offset from the carrier centre frequency between 4 MHz and 12 MHz shall use 1 MHz measurement bandwidth and the result may be calculated by integrating multiple 50 kHz or narrower filter measurements. The characteristic of the filter shall be approximately Gaussian (typical spectrum analyzer filter). The centre frequency of the filter shall be stepped in contiguous steps according to table 5.9.2. The measured power shall be recorded for each step.
- 3) Measure the RRC filtered mean power centered on the assigned channel frequency.
- 4) Calculate the ratio of the power 2) with respect to 3) in dBc.

### 5.9.5 Test requirements

The result of clause 5.9.4.2 step 4) shall fulfil the requirements of table 5.9.2.

∆f in MHz (note 1)	Minimum requirement Band I, II, III, <u>V,</u> VI	Additional requirements Band II and	Measurement bandwidth			
		Band V				
2,5 to 3,5	$\left\{-33.5 - 15 \cdot \left(\frac{\Delta f}{MHz} - 2.5\right)\right\} dB$	-15 dBm	30 kHz (note 2)			
3,5 to 7,5	$\left\{-33.5 - 1 \cdot \left(\frac{\Delta f}{MHz} - 3.5\right)\right\} dB$	-13 dBm	1 MHz (note 3)			
7,5 to 8,5	$\left\{-37.5 - 10 \cdot \left(\frac{\Delta f}{MHz} - 7.5\right)\right\} dB$	-13 dBm	1 MHz (note 3)			
8,5 to 12,5	–47,5 dBc	-13 dBm	1 MHz (note 3)			
<ul> <li>NOTE 1: ∆f is the separation between the carrier frequency and the centre of the measuring filter.</li> <li>NOTE 2: The first and last measurement position with a 30 kHz filter is at ∆f equals to 2,515 MHz and 3,485 MHz.</li> <li>NOTE 3: The first and last measurement position with a 1 MHz filter is at ∆f equals to 4 MHz and 12 MHz. As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. To improve measurement bandwidth, when the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent poise bandwidth</li> </ul>						
integrated over the me of the measurement ba	asurement bandwidth in order to obta andwidth.	ain the equivalent	t noise bandwidth			
The lower limit shall be ñ48,5 dBr	n/3,84 MHz or which ever is higher.					

### Table 5.9.2: Spectrum Emission Mask Requirement

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.

NEXT MODIFIED SECTION

# 5.11 Spurious Emissions

# 5.11.1 Definition and applicability

Spurious emissions are emissions which are caused by unwanted transmitter effects such as harmonics emission, parasitic emission, intermodulation products and frequency conversion products, but exclude out of band emissions.

The frequency boundary and the detailed transitions of the limits between the requirement for out band emissions and spectrum emissions are based on ITU-R Recommendations SM.329.

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

## 5.11.2 Minimum Requirements

These requirements are only applicable for frequencies, which are greater than 12.5 MHz away from the UE centre carrier frequency.

Frequency Bandwidth	Measurement Bandwidth	Minimum requirement
9 kHz ≤ f < 150 kHz	1 kHz	–36 dBm
150 kHz ≤ f < 30 MHz	10 kHz	–36 dBm
30 MHz ≤ f < 1 000 MHz	100 kHz	–36 dBm
1 GHz ≤ f < 12,75 GHz	1 MHz	–30 dBm

### Table 5.11.1a: General spurious emissions requirements

Operating Band	Frequency Bandwidth	Measurement Bandwidth	Minimum requirement
	925 MHz ≤ f ≤ 935 MHz	100 kHz	-67 dBm (see note)
	935 MHz < f ≤ 960 MHz	100 kHz	-79 dBm (see note)
	1805 MHz ≤ f ≤ 1880 MHz	100 kHz	-71 dBm (see note)
	1893.5 MHz <f<1919.6 mhz<="" td=""><td>300 kHz</td><td>-41 dBm</td></f<1919.6>	300 kHz	-41 dBm
	-	-	-
III	925 MHz ≤ f ≤935 MHz	100 kHz	-67 dBm (see note)
	935 MHz < f ≤ 960 MHz	100 kHz	-79 dBm (see note)
	2110 MHz $\leq$ f $\leq$ 2170 MHz	3.84 MHz	-60 dBm
<u>V</u>	<u>869 MHz ≤ f ≤ 894 MHz</u>	<u>3.84 MHz</u>	<u>-60 dBm</u>
	<u>1930 MHz ≤ f ≤ 1990 MHz</u>	<u>3.84 MHz</u>	<u>-60 dBm</u>
	<u>2110 MHz ≤ f ≤ 2155 MHz</u>	<u>3.84 MHz</u>	<u>-60 dBm</u>
VI	875 MHz 🗆 f 🗆 885 MHz	3.84 MHz	-60 dBm
	1893.5 MHz ≤ f≤ 1919.6 MHz	300 kHz	-41 dBm
	2110 MHz 🛛 f 🗆 2170 MHz	3.84 MHz	-60 dBm
NOTE: The meas exception	surements are made on frequencies ns, up to five measurements with a le	which are integer mult evel up to the applicable	iples of 200 kHz. As e requirements

### Table 5.11.1b: Additional spurious emissions requirements

The normative reference for this requirement is TS 25.101 [23] clause 6.6.3.1.

### 5.11.3 Test purpose

To verify that the UE spurious emissions do not exceed described value shown in table 5.11.1a and table 5.11.1b.

Excess spurious emissions increase the interference to other systems.

### 5.11.4 Method of test

### 5.11.4.1 Initial conditions

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

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

- 1) Connect the SS to the UE antenna connector as shown in figure A.8.
- 2) A call is set up according to the Generic call setup procedure.
- 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.

### 5.11.4.2 Procedure

- 1) Set and send continuously Up power control commands to the UE until the UE output power shall be maximum level.
- 2) Sweep the spectrum analyzer (or equivalent equipment) over a frequency range and measure the average power of spurious emission.

### 5.11.5 Test requirements

The measured average power of spurious emission, derived in step 2), shall not exceed the described value in tables 5.11.2a and 5.11.2b.

These requirements are only applicable for frequencies, which are greater than 12,5 MHz away from the UE centre carrier frequency.

Frequency Bandwidth	Measurement Bandwidth	Minimum requirement
9 kHz ≤ f < 150 kHz	1 kHz	–36 dBm
150 kHz ≤ f < 30 MHz	10 kHz	–36 dBm
30 MHz ≤ f < 1 000 MHz	100 kHz	–36 dBm
1 GHz ≤ f < 12,75 GHz	1 MHz	–30 dBm

#### Table 5.11.2a: General spurious emissions test requirements

Operating Band	Frequency Bandwidth	Measurement Bandwidth	Minimum requirement	
I	925 MHz ≤ f ≤ 935 MHz	100 kHz	-67 dBm (see note)	
	935 MHz < f ≤ 960 MHz	100 kHz	-79 dBm (see note)	
	1805 MHz $\leq$ f $\leq$ 1880 MHz	100 kHz	-71 dBm (see note)	
	1893.5 MHz <f<1919.6 mhz<="" td=""><td>300 kHz</td><td>-41 dBm</td></f<1919.6>	300 kHz	-41 dBm	
	-	-	-	
	925 MHz ≤ f ≤935 MHz	100 kHz	-67 dBm (see note)	
	935 MHz < f ≤ 960 MHz	100 kHz	-79 dBm (see note)	
	2110 MHz $\leq$ f $\leq$ 2170 MHz	3.84 MHz	-60 dBm	
<u>V</u>	<u>869 MHz ≤ f ≤ 894 MHz</u>	<u>3.84 MHz</u>	<u>-60 dBm</u>	
	<u>1930 MHz ≤ f ≤ 1990 MHz</u>	<u>3.84 MHz</u>	<u>-60 dBm</u>	
	<u>2110 MHz ≤ f ≤ 2155 MHz</u>	<u>3.84 MHz</u>	<u>-60 dBm</u>	
VI	875 MHz $\leq$ f $\leq$ 885 MHz	3.84 MHz	-60 dBm	
	1893.5 MHz ≤ f≤ 1919.6 MHz	300 kHz	-41 dBm	
	$2110 \text{ MHz} \le f \le 2170 \text{ MHz}$	3.84 MHz	-60 dBm	
NOTE: The measurements are made on frequencies which are integer multiples of 200 kHz. As				
exceptions, up to five measurements with a level up to the applicable requirements				
defined in table 5.11.1a are permitted for each UARFCN used in the measurement				

Table 5.11.2b: Additional spurious emissions test requirements

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 Meeting #25 St Paulís Bay, Malta, November 1<sup>st</sup> - 5<sup>th</sup>, 2004

# Tdoc **#**T1-041577

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For <mark>HELP</mark> on	using this form	, see bottom of	this page or	look at the	e pop-up text	over the <mark></mark> \$ syi	mbols.
Proposed change	e affects: UI	CC apps <mark>#</mark>	MEX	Radio Ad	ccess Networ	k Core Ne	etwork
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Reason for change: # There have been faulty test case implementations due to unclear test requirements in TC 8.7.3C (UE Transmitted power). Therefore T1 requested							

	requirements in TC 8.7.3C (UE Transmitted power). Therefore T1 requested RAN4 to clarify the original core requirements and test purpose of TC 8.7.3C. RAN4 provided clarification in their LS to T1 (R4-040559). The purpose of this CR is to make current test requirement in-line with RAN4 original thinking which is that test requirements for UE transmitted power are given as a function of reported values.
Summary of change: <mark></mark> #	- An editorís note were added to Section 8.7.3C.2 to say that minimum requirements have to be revised after RAN4 has changed their specification.
	- Test requirements given in Table 8.7.3C.5 were modified according to R4- 040559. The note above the table was deleted as being incorrect and a new Note 1 were added below the table to highlight that even a good UE may report more than 11 values and a faulty UE may report any power value but then it does not fulfill the requirements given for mean power in table or then it will not pass some other test of TS 34.121 e.g. TC 5.2 (Maximum Output Power).
	- An editorís note were added to section 8.7.3C.5 to say that the given test requirements may have to be revised after RAN4 has changed their specification.
Consequences if Rona Rona Rona Rona Rona Rona Rona Rona	Test remains to be ambiguous. There is a risk that SS vendors have faulty test case implementations. This may cause that a good UE is not passing a test case.
Clauses affected: #	Section 8.7.3C
Other specs #	Y   N     X   Other core specifications

Affected:	XTest specificationsXO&M Specifications	
Other comments:	His CR is applicable for UE supporting	g Rel-99 or later.

### 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.

### 8.7.3C UE transmitted power

### 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.

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

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

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, no value shall be reported by the UE L1 for those slots.

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

*Editorís note: It is expected that RAN WG4 will clarify the minimum requirements in near future as explained in R4-040559 and hence this section needs to be revised in future versions of this specification.* 

### 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	Comment
DCH parameters		DL Reference Measurement	As specified in clause C.3.1
		Channel 12.2 kbps	
Power Control		On	
Target quality value on DTCH	BLER	0.01	

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

#### Table 8.7.3C.4.2: Cell Specific parameters for UE transmitted power

Parameter	Unit	Cell 1		
CPICH_Ec/lor	dB	-10		
PCCPCH_Ec/lor	dB	-12		
SCH_Ec/lor	dB	-12		
PICH_Ec/lor	dB	-15		
DPCH_Ec/lor	dB	Note1		
OCNS_Ec/lor	dB	Note 2		
$\dot{P}_{or}/I_{oc}$	dB	0		
I <sub>oc</sub>	dBm/3.84 MHz	-70		
CPICH Ec/lo	dB	-13		
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 <sub>or.</sub>				

### 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.
- 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 1000 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-10.

#### 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], with the following exceptions:

MEASUREMENT CONTROL message:

Information Element	Value/Remark
Message Type	
UE information elements	
-RRC transaction identifier	0
-Integrity check info	
-message authentication code	SS calculates the value of MAC-I for this message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I. SS provides the value of this
	IE, from its internal counter.
Measurement Information elements	
-Measurement Identity	5
-Measurement Command	SETUP
-CHOICE Measurement type	UE Internal measurement
-UE Internal measurement quantity	
-Measurement quantity	UE Transmitted power
	0
-UE Internal reporting quantity	
-UE Transmitted power	IRUE
-CHOICE mode	FDD
-UE Rx-Ix time difference	FALSE
-CHOICE report criteria	Periodical reporting criteria
-Amount of reporting	Infinity
-Reporting interval	250
-Measurement Reporting Mode	
-Measurement Report Transfer Mode	AM RLC
-Periodical Reporting / Event Trigger Reporting Mode	Periodical reporting
-AdditionalMeasurementList	Not Present
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 PIXIT 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	5
Measured Results	
- CHOICE Measurement	UE Internal measured results
- Choice mode	FDD
- UE Transmitted power	Checked that this IE is present
<ul> <li>UE Rx-Tx report entries</li> </ul>	Checked that this IE is absent
Measured results on RACH	Checked that this IE is absent
Additional measured results	Checked that this IE is absent
Event results	Checked that this IE is absent

### PHYSICAL CHANNEL RECONFIGURATION message:

Information Element	Value/Remark
Message Type	
UE Information Elements	
-RRC transaction identifier	0
-Integrity check info	
-message authentication code	SS calculates the value of MAC-I for this message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
-RRC message sequence number	SS provides the value of this IE, from its internal counter.
-Integrity protection mode info	Not Present
-Ciphering mode info	Not Present
-Activation time	Not Present
-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 Propert
-ORA identity	
RD Information elements	Not Procent
-Downlink counter synchronisation into	
-Frequency info	Not Present
Unlink 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

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.

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

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

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

	SS measured mean power (X) range [dBm]			
<u>UE reported value</u>	PUEMAX 24dBm	PUEMAX 21dBm		
UE TX POWER 104	<u>33-3.7 ≤ X &lt; 34+1.7</u>	<u>33-2.7 ≤ X &lt; 34+2.7</u>		
UE_TX_POWER_103	<u>32-3.7 ≤ X &lt; 33+1.7</u>	<u>32-2.7 ≤ X &lt; 33+2.7</u>		
<u>•</u>	<u>•</u>	<u>•</u>		
<u>•</u>	<u>•</u>	<u>•</u>		
<u>•</u>	<u>•</u>	<u>•</u>		
UE_TX_POWER_097	<u>26-3.7 ≤ X &lt; 27+1.7</u>	•		
UE_TX_POWER_096	<u>25-3.7 ≤ X &lt; 26+1.7</u>	<u>•</u>		
UE TX POWER 095	24-3.7 ≤ X < 25+1.7	<u>•</u>		
UE_TX_POWER_094	<u>23-4.2 ≤ X &lt; 24+2.2</u>	<u>23-2.7 ≤ X &lt; 24+2.7</u>		
UE TX POWER 093	<u>22-4.7 ≤ X &lt; 23+2.7</u>	<u>22-2.7 ≤ X &lt; 23+2.7</u>		
UE TX POWER 092	<u>21-5.2 ≤ X &lt; 22+3.2</u>	<u>21-2.7 ≤ X &lt; 22+2.7</u>		
UE TX POWER 091	20-5.7 ≤ X < 21+3.7	$20-3.2 \le X < 21+3.2$		
UE_TX_POWER_090	<u>19-5.7 ≤ X &lt; 20+3.7</u>	<u>19-3.7 ≤ X &lt; 20+3.7</u>		
UE_TX_POWER_089	<u>18-5.7 ≤ X &lt; 19+3.7</u>	<u>18-4.2 ≤ X &lt; 19+4.2</u>		
UE_TX_POWER_088	•	<u>17-4.7 ≤ X &lt; 18+4.7</u>		
UE_TX_POWER_087	<u>•</u>	<u>16-4.7 ≤ X &lt; 17+4.7</u>		
UE_TX_POWER_086	<u>•</u>	<u>15-4.7 ≤ X &lt; 15+4.7</u>		
<u>•</u>	<u>•</u>	<u>•</u>		
•	<u>•</u>	•		
<u>•</u>	<u>•</u>	<u>•</u>		
UE_TX_POWER_022	<u>-49-5.7 ≤ X &lt; -48+3.7</u>	<u>-49-4.7 ≤ X &lt; -48+4.7</u>		
UE_TX_POWER_021	<u>-50-5.7 ≤ X &lt; -49+3.7</u>	<u>-50-4.7 ≤ X &lt; -49+4.7</u>		

- NOTE 1:Although test requirements are given for all UE reported values, a good UE will likely report valuesbetween PUEMAX and PUEMAX 10 dB. However, even a good UE may report also wider range of<br/>values due to errors in TPC command reception and allowed range specified for UE transmit power<br/>setting accuracy when Maximum Allowed UL TX Power has been signaled. On the other hand, a faulty<br/>UE may report any power value but then it does not fulfill the Table 8.7.3C.5 requirements for mean<br/>power or then it will not pass some other tests e.g. TC 5.2 of this specification.
- NOTE <u>2</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.

*Editorís note: The table 8.7.3C.5 is made based on current understanding of RAN WG4 LS to T1 (R4-040559). The Table 8.7.3C.5 may need to be revised after RAN WG4 has clarified the core requirements and test case in TS 25.133.* 

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# 3GPP TSG-T WG1 Meeting #25 St Paulís Bay, Malta, November 1<sup>st</sup> - 5<sup>th</sup>, 2004

# Tdoc **#**T1-041579

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	be found in 3GPP TR 21,900. Rel-5 (Releas				ease 5)							
				Rel-0	6 <sup>`</sup> (Rele	ease 6)						

Reason for change: ¥	Maximum test system uncertainties, test tolerances and derivation of test requirements have not been defined for TC 8.3.4 (Inter-system Handover from UTRAN to GSM) in Annex F.
	Test tolerances have not been taken into account in section 8.3.4.
	TC 8.3.4 contains some minor editorial mistakes that should be corrected.
Summary of change: #	Maximum test system uncertainties have been added into Table F.1.5
	Test tolerances have been added into table F.2.4
	Derivation of test requirements have been added into table F.4.4
	A new table showing cell specific test parameters for GSM cell including the test tolerances has been created (Table 8.3.4.6). This table is now also refered in test procedure.
	Other minor corrections: Remove extra point from initial conditions; Correct the reference to compressed mode pattern applied to GSM carrier RSSI measurement in Table 8.3.4.3; Replace itranstionî with itransitionî in step 7 of procedure in section 8.3.4.2
Consequences if <b>#</b>	Test tolerances are not taken into account in test requirements so good UE may
not approved:	fail the test.
Clauses affected:	Section 9.3.4 Apply E.1.5 Apply E.2.4 Apply E.4.4 Apply I
Clauses allected.	Section 6.5.4, Annex F.1.5, Annex F.2.4, Annex F.4.4, Annex F
	YN
Other specs 🛛	X Other core specifications <b>X</b>

Affected:	XTest specificationsXO&M Specifications	
Other comments:	His CR is applicable for UE supporting	g Rel-99 or later.

### 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.

### 8.3.4 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 indicated in Table 8.3.4.1. The rate of correct handovers observed during repeated tests shall be at least 90% with a confidence level of 95 %.

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.

#### 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.

The UTRAN shall send a HANDOVER FROM UTRAN COMMAND with activation time "now". In the GSM Handover command contained in that message, the IE starting time shall not be included. The RRC HANDOVER FROM UTRAN COMMAND message shall be sent to the UE. The start of T3 is defined as the end of the last TTI, containing the HO command.

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 specified in table 8.3.4.3.

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

	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
l	- GSM carrier RSSI measurement		DL Compressed mode reference pattern 2 in Set 2	As specified in <del>TS 34.121 [1]</del> 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 measurement quantity		GSM Carrier RSSI	
	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	NOTE: See Annex I for cell information . The information is sent before the compressed mode patterns starts.
	N Identify abort		66	Taken from TS 25.133 [2] 8.1.2.5.2.1 table 8.7.
	T Reconfirm abort		5.5	Taken from TS 25.133 [2] 8.1.2.5.2.2 table 8.8.
	T1	S	20	
	T2	S	5	
	Т3	S	5	

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			
$\dot{P}_{or}/I_{oc}$	dB	0			
I <sub>oc</sub>	dBm/3. 84 MHz	-70			
CPICH Ec/lo dB -13					
Propagation					
Condition					
Note 1: The DPCH level is controlled by the power control loop					
Note 2 : The power of the OCNS channel that is added shall make					
the total power from the cell to be equal to $I_{\rm or.}$					

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

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

Parameter	Unit	Cell 2 (GSM)		
Faranielei	Unit	T1	T2, T3	
Absolute RF Channel Number		AR	FCN 1	
RXLEV	dBm	-85	-75	

#### 8.3.4.4.2 Procedure

- 1) The RF parameters for cell 1 are set up according to T1 in Table 8.3.4.4.
- 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 and compressed mode parameters are configured as in the table 8.3.4.3. The compressed mode shall remain inactive.
- 4) The RF parameters for cell 2 are set up according to T1 in Table 8.3.4.6 and the SS configures a traffic channel
- 5) The start of T1 is TTI aligned
- 6) The SS shall transmit a MEASUREMENT CONTROL message to cell 1
- 7) At the T1-T2 transition, the SS shall switch the power of cell 2 as in Table 8.3.4.6
- 8) The UE shall transmit a MEASUREMENT REPORT message triggered by event 3C
- 9) The SS shall transmit a HANDOVER FROM UTRAN COMMAND message with activation time "now" and indicating the traffic channel of the target GSM cell to the UE through DCCH of the serving UTRAN cell. The start of T3 is defined as the end of the last TTI, containing the HO command.
- 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 90 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) At the end of T3 the UE is switched off. Any timing information of cell 2 is deleted in the UE.
- 12)Repeat step 1-11 until the confidence level according to annex F.6.2 is achieved.

### 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:

### 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	
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IE. The first/
	leftmost bit of the bit string contains the
	most significant bit of the MAC-I.
-RRC message sequence number	SS provides the value of this IE, from its
	internal counter.
Measurement Information elements	
-Measurement Identity	2
-Measurement Command (10.3.7.46)	Setup
-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)	
-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
-Threshold own system	Not Present
-W	Not Present
-Threshold other system	-80 dBm
-Hysteresis	0 dB
-Time to trigger	0 ms
-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
Physical channel information elements	
-DPCH compressed mode status info (10.3.6.34)	Active (for all three patterns specified in
	table 8.3.4.3)

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

Information Element	Value/remark		
Message Type			
UE information elements			
-RRC transaction identifier	0		
-Integrity check info			
-message authentication code	SS calculates the value of MAC-I for this message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.		
-RRC message sequence number	SS provides the value of this IE, from its internal counter.		
-Activation time	"now"		
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 as BIT STRING(1512). The contents of the HANDOVER COMMAND see next table.		

#### HANDOVER COMMAND

Same as the HANDOVER COMMAND for M = 2 in clause 26.6.5.1 of 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

# Table 8.3.4.6: Cell Specific Parameters for Handover UTRAN to GSM cell case (cell 2), test requirements

Parameter	Unit	<u>Cell 2 (GSM)</u>		
Farameter	0	<u>T1</u>	<u>T2, T3</u>	
Absolute RF Channel		ARFCN 1		
<u>Number</u>				
RXLEV	<u>dBm</u>	<u>-85</u>	<u>-74</u>	

For the test to pass, the total number of successful tests shall be more than 90% of the cases with a confidence level of 95%.

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.

# 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	During T1 and T2:		
	$\frac{CPICH\_E_c}{I_{or}} \pm 0.1 \text{ dB}$ $I_{oc} \pm 1.0 \text{ dB}$		
	$\frac{\text{During T1:}}{I_{or}} (2) \pm 0.7 \text{ dB}$		
	$I_{or}$ (1, 3, 4, 5, 6) relative to $I_{or}$ (2) ±0.3 dB		
	$\frac{\text{During T2:}}{I_{or}} (1) \pm 0.7 \text{ dB}$		
	$I_{or}$ (2, 3, 4, 5, 6) relative to $I_{or}$ (1) ±0.3 dB		
	Assumptions: a) The contributing uncertainties for lor(n), channel power ratio, ar loc are derived according to ETR 273-1-2 [16], with a coverage factor of k=2.		
	b) Within each cell, the uncertainty for lo ratio are uncorrelated to each other.	r(n), and channel power	
	c) The relative uncertainties for lor(n) across different cells may have any amount of positive correlation from zero (uncorrelated) to one (fully correlated).		
	d) Across different cells, the channel power ratio uncertainties may have any amount of positive correlation from zero (uncorrelated) to one (fully correlated).		
	e) The uncertainty for loc and lor(n) may positive correlation from zero (uncorrelation)	r have any amount of ted) to one (fully correlated).	
	f) The absolute uncertainty of lor(2) at T uncertainty of lor(1, 3, 4, 5, 6), are uncon Similarly, the absolute uncertainty of lor( uncertainty of lor(2, 3, 4, 5, 6), are uncon	1 and the relative rrelated to each other. (1) at T2 and the relative rrelated to each other.	
	An explanation of correlation between uncertainties, and of the rationale behind the assumptions, is recorded in 3GPP TR 34 902 [24].		

Clause	Maximum Test System Uncertainty	Derivation of Test System
8.2.2.2 Scenario 2: Multi carrier case	Channel 1 during T1 and T2:	Uncertainty
	$\frac{CPICH\_E_c}{I_{or}} \pm 0.1 \text{ dB}$ $I_{oc} (1) \pm 1.0 \text{ dB}$	
	$\frac{\text{Channel 1 during T1:}}{I_{or}(1)} \pm 0.7 \text{ dB}$	
	$I_{or}$ (3, 4) relative to $I_{or}$ (1) ±0.3 dB	
	$\frac{\text{Channel 1 during T2:}}{I_{or} (1)} \pm 0.7 \text{ dB}$	
	$I_{or}$ (3, 4) relative to $I_{or}$ (1) ±0.3 dB	
	Channel 2 during T1 and T2:	
	$\frac{CPICH\_E_c}{I_{or}} = \pm 0.1 \text{ dB}$	
	<i>I<sub>oc</sub></i> (2) ±1.0 dB	
	$\frac{\text{Channel 2 during T1:}}{I_{or}}$	
	$I_{\it or}$ (5, 6) relative to $I_{\it or}$ (2) $\pm$ 0.3 dB	
	$\frac{\text{Channel 2 during T2:}}{I_{or}}$	
	$I_{\it or}$ (5, 6) relative to $I_{\it or}$ (2) ±0.3 dB	
	Assumptions: a) to e): Same as for the one-frequency	test 8.2.2.1.
	f) The absolute uncertainty of lor(1) and lor(3, 4), are uncorrelated to each other. uncertainty of lor(2) and the relative uncertainty uncorrelated to each other.	the relative uncertainty of Similarly, the absolute ertainty of lor(5, 6), are
	<li>g) The absolute uncertainties for lor(1) a amount of positive correlation from zero correlated).</li>	nd lor(2) may have any (uncorrelated) to one (fully
	<ul> <li>h) The absolute uncertainties for loc(1) a amount of positive correlation from zero correlated).</li> </ul>	and loc(2) may have any (uncorrelated) to one (fully
	An explanation of correlation between un rationale behind the assumptions, is receipted. [24].	ncertainties, and of the orded in 3GPP TR 34 902

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
8.2.3 UTRAN to GSM Cell Re-Selection		
8.2.3.1 Scenario 1: Both UTRA and GSM level changed	$\dot{P}_{or}/I_{oc}$ ±0.3 dB $I_{oc}/RXLEV$ ±0.3 dB $I_{oc}$ ±1.0 dB	0.1 dB uncertainty in CPICH_Ec ratio
	RXLEV ±1.0 dB	0.3 dB uncertainty in $\hat{P}_{or}/I_{oc}$
	$\frac{CPICH\_E_c}{I_{or}} = \pm 0.1 \text{ dB}$	based on power meter measurement after the combiner
		0.3 dB uncertainty in 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 changed	$\dot{P}_{or}/I_{oc}$ ±0.3 dB $I_{oc}/RXLEV$ ±0.3 dB $I_{oc}$ ±1.0 dB RXLEV ±1.0 dB <i>CPICH</i> E	Same as 8.2.3.1
	$\frac{I_{or}}{I_{or}} = \pm 0.1 \text{ dB}$	
8.2.4 FDD/TDD cell re-selection	$ \begin{array}{ccc} \dot{P}_{or}/I_{oc} & \pm 0.3 \text{ dB} \\ I_{oc} & \pm 1.0 \text{ dB} \\ I_{oc1}/I_{oc2} & \pm 0.3 \text{ dB} \\ \\ \hline \frac{CPICH\_E_c}{I_{or}} & \pm 0.1 \text{ dB} \end{array} $	Same as 8.2.2.2
8.3 UTRAN Connected Mode Mobility		
8.3.1 FDD/FDD Soft Handover	$\frac{\text{During T1 and T2/T3/T4/T5/T6:}}{\frac{CPICH\_E_c}{I_{or}}} \pm 0.1 \text{ dB}$ $I_{or} (1) \pm 0.7 \text{ dB}$ $I_{oc} \pm 1.0 \text{ dB}$ Relative delay of paths received from cell 2 with respect to cell 1: \pm 0.5 chips	
	Already covered above	
	$I_{or}$ (2) relative to $I_{or}$ (1) ±0.3 dB	

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty	
	Assumptions: a) The contributing uncertainties for lor(n), channel power ratio, and loc are derived according to ETR 273-1-2 [16], with a coverage factor of k=2.		
	b) Within each cell, the uncertainty for lor(n), and channel power ratio are uncorrelated to each other.		
	c) Across different cells, the channel power ratio uncertainties may have any amount of positive correlation from zero (uncorrelated) to one (fully correlated).		
	d) The uncertainty for loc and lor(n) may have any amount of positive correlation from zero (uncorrelated) to one (fully correlated).		
	e) The absolute uncertainty of lor(1) and the are uncorrelated to each other.	relative uncertainty of lor(2),	
	An explanation of correlation between uncert behind the assumptions, is recorded in 3GPF	ainties, and of the rationale PTR 34 902 [24].	
8.3.2 FDD/FDD Hard Handover			
8.3.2.1 Handover to intra-frequency cell	During 11 and 12 / 13:		
	$\frac{CPICH \_E_c}{E_c}$ +0.1 dB		
	I <sub>or</sub>		
	I (1) +0.7 dB		
	<i>I<sub>oc</sub></i> ±1.0 dB		
	<u>During T1:</u> Already covered above		
	During T2 / T3:		
	I (2) relative to $I$ (1) (0.2 dP		
	$I_{or}(2)$ relative to $I_{or}(1) \pm 0.3$ db		
	<ul> <li>Assumptions:</li> <li>a) The contributing uncertainties for lor(n), channel power ratio, and loc are derived according to ETR 273-1-2 [16], with a coverage factor of k=2.</li> <li>b) Within each cell, the uncertainty for lor(n), and channel power ratio are uncorrelated to each other.</li> <li>c) Across different cells, the channel power ratio uncertainties may have any amount of positive correlation from zero (uncorrelated) to one (fully correlated).</li> </ul>		
	d) The uncertainty for loc and lor(n) may have any amount of positive correlation from zero (uncorrelated) to one (fully correlated).		
	<ul> <li>e) The absolute uncertainty of lor(1) and the relative uncertainty of lor(2), are uncorrelated to each other.</li> <li>An explanation of correlation between uncertainties, and of the rationale behind the assumptions, is recorded in 3GPP TR 34 902 [24].</li> </ul>		
Clause	Maximum Test System Uncertainty	Derivation of Test System	
--	--	--	
8 3 2 2 Handover to inter-frequency cell	Channel 1 during T1 and T2 / T3	Uncertainty	
	CPICH E		
	$\frac{-2}{I_{or}} = \pm 0.1 \text{ dB}$		
	$I_{or}$ (1) ±0.7 dB		
	$I_{oc}$ (1) ±1.0 dB		
	Channel 2 during T1 and T2 / T3:		
	$I_{oc}(z) = 1.0 \text{ ub}$		
	Channel 2 during T1: Already covered above		
	Channel 2 during T2 / T3:		
	$\frac{CPICH \_E_c}{\pm 0.1 \text{ dB}}$		
	I <sub>or</sub>		
	$I_{or}$ (2) ±0.7 dB		
	Assumptions: a) The contributing uncertainties for lor(r loc are derived according to ETR 273-1- factor of k=2.	n), channel power ratio, and 2 [16], with a coverage	
	b) Within each cell, the uncertainty for lo ratio are uncorrelated to each other.	r(n), and channel power	
	<ul> <li>c) Across different cells, the channel pow have any amount of positive correlation one (fully correlated).</li> </ul>	ver ratio uncertainties may from zero (uncorrelated) to	
	d) The uncertainty for loc(n) and lor(n) n positive correlation from zero (uncorrela	hay have any amount of ted) to one (fully correlated).	
	<ul> <li>e) The absolute uncertainties for lor(1) a amount of positive correlation from zero correlated).</li> </ul>	nd lor(2) may have any (uncorrelated) to one (fully	
	<li>f) The absolute uncertainties for loc(1) a amount of positive correlation from zero correlated).</li>	nd loc(2) may have any (uncorrelated) to one (fully	
8.3.3 FDD/TDD Handover	An explanation of correlation between uncert behind the assumptions, is recorded in 3GPF TBD	ainties, and of the rationale P TR 34 902 [24].	

Clause	Maximum Test System Uncertainty	Derivation of Test System
8.3.4 Inter-system Handover from UTRAN FDD to GSM	$\frac{\hat{P}_{or}/I_{oc} \underline{\qquad \pm 0.3 \text{ dB}}}{I_{oc}/RXLEV \underline{\qquad \pm 0.3 \text{ dB}}}$ $\frac{I_{oc}}{I_{oc}} \underline{\qquad \pm 1.0 \text{ dB}}$ $\frac{I_{oc}}{RXLEV \underline{\qquad \pm 1.0 \text{ dB}}}$ $\frac{CPICH \_E_c}{I_{or}} \underline{\qquad \pm 0.1 \text{ dB}}$ $\frac{TBD}$	Oncertainty0.1 dB uncertainty in CPICH_Ec ratio0.3 dB uncertainty in $\hat{P}_{or}/I_{oc}$ - based on power meter 
8.3.5 Cell He-selection in CELL_FACH 8.3.5.1 One frequency present in the neighbour list	$\begin{array}{c} \hline \underline{\text{During T1 and T2:}} \\ \hline \underline{CPICH}_{I_{or}} E_{c} \\ \hline I_{or} & \pm 0.1 \text{ dB} \\ \hline I_{oc} & \pm 1.0 \text{ dB} \\ \hline \underline{\text{During T1:}} \\ I_{or} & (2) & \pm 0.7 \text{ dB} \\ \hline I_{or} & (1, 3, 4, 5, 6) \text{ relative to } I_{or} & (2) \pm 0.3 \text{ dB} \\ \hline \underline{\text{During T2:}} \\ I_{or} & (1) & \pm 0.7 \text{ dB} \\ \hline I_{or} & (2, 3, 4, 5, 6) \text{ relative to } I_{or} & (1) \pm 0.3 \text{ dB} \\ \hline \end{array}$	

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
	Assumptions: a) The contributing uncertainties for lor(r loc are derived according to ETR 273-1- factor of k=2.	n), channel power ratio, and 2 [16], with a coverage
	b) Within each cell, the uncertainty for lo ratio are uncorrelated to each other.	r(n), and channel power
	c) The relative uncertainties for lor(n) ac have any amount of positive correlation t one (fully correlated).	ross different cells may from zero (uncorrelated) to
	<ul> <li>d) Across different cells, the channel pow have any amount of positive correlation to one (fully correlated).</li> </ul>	ver ratio uncertainties may from zero (uncorrelated) to
	e) The uncertainty for loc and lor(n) may positive correlation from zero (uncorrelat	r have any amount of ted) to one (fully correlated).
	f) The absolute uncertainty of lor(2) at T uncertainty of lor(1, 3, 4, 5, 6), are uncor Similarly, the absolute uncertainty of lor( uncertainty of lor(2, 3, 4, 5, 6), are uncor	1 and the relative rrelated to each other. (1) at T2 and the relative rrelated to each other.
	An explanation of correlation between uncert behind the assumptions, is recorded in 3GPF	ainties, and of the rationale P TR 34 902 [24].

Clause	Maximum Test System Uncertainty	Derivation of Test System
8.3.5.2 Two frequencies present in the neighbour list	Channel 1 during T1 and T2:	Uncertainty
	$\frac{CPICH\_E_c}{L}$ ±0.1 dB	
	I or	
	$I_{oc}$ (1) ±1.0 dB	
	Channel 1 during T1:	
	$I_{or}(1) \pm 0.7 \text{ dB}$	
	$I_{\it or}$ (3, 4) relative to $I_{\it or}$ (1) ±0.3 dB	
	Channel 1 during T2:	
	$I_{or}(1) \pm 0.7  dB$	
	$I_{or}$ (3, 4) relative to $I_{or}$ (1) ±0.3 dB	
	Channel 2 during T1 and T2:	
	$\frac{CPICH \_E_c}{E_c}$ +0.1 dB	
	I <sub>or</sub>	
	<i>I<sub>oc</sub></i> (2) ±1.0 dB	
	Channel 2 during T1:	
	I <sub>or</sub> (2) ±0.7 dB	
	$I_{\it or}$ (5, 6) relative to $I_{\it or}$ (2) ±0.3 dB	
	Channel 2 during T2:	
	I <sub>or</sub> (2) ±0.7 dB	
	$I_{\it or}$ (5, 6) relative to $I_{\it or}$ (2) ±0.3 dB	
	Assumptions: a) to e): Same as for the one-frequency	test 8.3.5.1.
	f) The absolute uncertainty of lor(1) and lor(3, 4), are uncorrelated to each other. uncertainty of lor(2) and the relative uncouncorrelated to each other.	the relative uncertainty of Similarly, the absolute ertainty of lor(5, 6), are
	g) The absolute uncertainties for lor(1) a amount of positive correlation from zero correlated).	nd lor(2) may have any (uncorrelated) to one (fully
	h) The absolute uncertainties for loc(1) a amount of positive correlation from zero correlated).	and loc(2) may have any (uncorrelated) to one (fully
	An explanation of correlation between uncert behind the assumptions is recorded in 3GPP	ainties, and of the rationale TR 34 902 [24].

Clause	Maximum Test System Uncertainty	Derivation of Test System
		Uncertainty
8.3.5.3 Cell Re-selection to GSM	$\dot{P}_{or}/I_{oc}$ ±0.3 dB	0.1 dB uncertainty in
	$I_{\rm ex}/RXLEV$ ±0.3 dB	CPICH_Ec ratio
		$\dot{\mathbf{p}}$
		0.3 dB uncertainty in $P_{or}/I_{oc}$
	HXLEV ±1.0 dB	based on power meter
	CDICH E	measurement after the
	$\frac{CFICH \_ L_c}{\pm 0.1 \text{ dB}}$	compiner
	I <sub>or</sub>	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.
8.3.6 Cell Re-selection in CELL_PCH		
8.3.6.1 One frequency present in the	Same as 8.2.2.1	Same as 8.2.2.1
neighbour list	Samo as 8 2 2 2	Samo as 8.2.2.2
neighbour list	Same as 0.2.2.2	Same as 0.2.2.2
8.3.7 Cell Re-selection in URA PCH		
8.3.7.1 One frequency present in the	Same as 8.2.2.1	Same as 8.2.2.1
neighbour list		
8.3.7.2 Two frequencies present in the	Same as 8.2.2.2	Same as 8.2.2.2
Reignbour list		
8.4.1 BBC Re-establishment delay	Settings.	0.1 dB uncertainty in
	$\dot{\mathbf{A}}/I$ +0.3 dB	CPICH Ec ratio
		_
	$\Gamma_{oc}$ $\pm 1.0$ ub	0.3 dB uncertainty in $\dot{P}_{or}/I_{oc}$
	$\frac{CPICH \_ E_c}{=} \pm 0.1 \text{ dB}$	based on power meter
	I <sub>or</sub>	measurement after the
		combiner
		Overall error is the sum of the
		$\dot{\mathbf{A}}$ /I ratio error and the
		$r_{or}/r_{oc}$ ratio entri and the
		CPICH_EC/Ior ratio.
		The absolute error of the
		AWGN is specified as 1.0 dB

Clause	Maximum Test System Uncertainty	Derivation of Test System
8.4.2 Random Access	Settings. $\dot{P}_{or}/I_{oc}$ ±0.3 dB	0.1 dB uncertainty in AICH_Ec ratio
	<i>I<sub>oc</sub></i> ±1.0 dB	0.3 dB uncertainty in $\dot{P}_{ar}/I_{ac}$
	$\frac{AICH\_E_c}{I_{or}} = \pm 0.1 \text{ dB}$	based on power meter measurement after the combiner
		Overall error is the sum of the $\hat{P}_{or}/I_{oc}$ ratio error and the AICH_Ec/lor ratio.
		The absolute error of the AWGN is specified as 1.0 dB
	Measurements: Power difference. ± 1dB Maximum Power: same as 5.5.2	Power difference: Assume symmetric meas error ±1.0 dB comprising RSS of: - 0.7 dB downlink error plus -0.7 dB meas error.
		Maximum Power: 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
8.4.3 Transport format combination selection in UE	$\frac{DPCH\_E_c}{I_{or}} = \pm 0.1 \text{ dB}$	0.1 dB uncertainty in DPCH_Ec ratio
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 E	0.1 dB uncertainty in DPCH_Ec ratio
	$\frac{I = I = I_c}{I_{or}} = \pm 0.1 \text{ dB}$	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	During T1/T4 and T2/T3:	
AWGN propagation conditions (R99)	$\frac{CPICH\_E_c}{I_{or}} = \pm 0.1 \text{ dB}$	
	$I_{or}$ (1) ±0.7 dB	
	<i>I<sub>oc</sub></i> ±1.0 dB	
	During T1/T4 only: Already covered above	
	During T2/T3 only:	
	$I_{or}$ (2) relative to $I_{or}$ (1) ±0.3 dB	

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
8.6.1.1 A Event triggered reporting in	During T1/T3 and T2:	
AWGN propagation conditions (Rel-4 and	CPICH _ E	
later)	<u> </u>	
	$I_{or}(1) \pm 0.7 \text{ dB}$	
	$I_{oc}$ ±1.0 dB	
	During T1/T3 only:	
	Already covered above	
	During To ask	
	$\frac{During 12 \text{ only.}}{L(0) \text{ relative to } L(1) + 0.2 \text{ dB}}$	
	$I_{or}$ (2) relative to $I_{or}$ (1) ±0.3 dB	
8.6.1.1 and 8.6.1.1A	Assumptions: a) The contributing uncertainties for lor(n), cl	hannel power ratio, and loc are
	derived according to ETR 273-1-2 [16], with	a coverage factor of k=2.
	b) Within each cell, the uncertainty for lor(n),	, and channel power ratio are
	c) Across different cells, the channel power r	atio uncertainties may have any
	amount of positive correlation from zero (und	correlated) to one (fully
	correlated).	e any amount of positive
	correlation from zero (uncorrelated) to one (f	fully correlated).
	e) The absolute uncertainty of lor(1) and the	relative uncertainty of lor(2),
	are uncorrelated to each other.	tainties, and of the rationale
	behind the assumptions, is recorded in 3GPI	P TR 34 902 [24].
8.6.1.2 Event triggered reporting of	During T0 to T6:	
multiple neighbours in AWGN propagation condition (R99)	$\frac{CPICH \_E_c}{E_c}$ +0.1 dB	
propagation condition (100)		
	<i>I</i> (1) +0.7 dB	
	During T1/T2, T3 and T6:	
	$I_{or}$ (3) relative to $I_{or}$ (1) ±0.3 dB	
	During T3, T4/T5 and T6:	
	$I_{or}$ (2) relative to $I_{or}$ (1) ±0.3 dB	
	Assumptions:	
	a) The contributing uncertainties for lor(h), cl derived according to FTR 273-1-2 [4] with a	nannel power ratio, and loc are coverage factor of k=2
	b) Within each cell, the uncertainty for lor(n),	, and channel power ratio are
	uncorrelated to each other.	different celle may have any
	amount of positive correlation from zero (unc	correlated) to one (fully
	correlated).	
	any amount of positive correlation from zero	ratio uncertainties may have
	correlated).	(another lated) to one (fully
	e) The uncertainty for loc and lor(1) may hav	ve any amount of positive
	f) The absolute uncertainty of lor(1) and the	relative uncertainty of lor(2.3).
	are uncorrelated to each other.	, ····(-, -/)
8.6.1.24 Event triggered reporting of		
multiple neighbours in AWGN		
propagation condition (Rel-4 and later)		1
8.6.1.3 Event triggered reporting of two	TBD	
propagation condition		

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
8.6.1.4 Correct reporting of neighbours in fading propagation condition	TBD	
8.6.2 EDD inter frequency measurements		
8.6.2.1 Correct reporting of neighbours in AWGN propagation condition	ТВD	
8.6.2.2 Correct reporting of neighbours in Fading propagation condition	TBD	
8.6.3 TDD measurements		
8.6.3.1Correct reporting of TDD neighbours in AWGN propagation condition	TBD	
8.6.4 GSM Measurement	TBD	
8.7 Measurements Performance Requirements 8.7.1 CPICH RSCP		
8.7.1.1 Intra frequency measurements		Same as 8.2.2.1
accuracy	$I_{oc}$ ±0.3 dB $I_{oc}$ ±1.0 dB	
	$\frac{CIICII_{L_c}}{I_{or}} = \pm 0.1 \text{ dB}$	
8.7.1.2 Inter frequency measurement	À // +0.3 dB	Same as 8.2.2.2
accuracy	$I_{or}/I_{oc}$ ±0.0 dB	
	$I_{oc1}/I_{oc2}$ ±0.3 dB	
	$\frac{CPICH\_E_c}{I}$ ±0.1 dB	
	or	
8.7.2.0 Intra frequency measurements		Same as 8 2 2 1
accuracy	$P_{or}/I_{oc}$ ±0.3 dB	
	<i>I<sub>oc</sub></i> ±1.0 dB	
	$\frac{CPICH\_E_c}{I}$ ±0.1 dB	
9.7.2.2 Inter frequency measurement		Samo as 8.2.2.2
accuracy	$P_{or}/I_{oc}$ ±0.3 dB	Same as 6.2.2.2
	<i>I<sub>oc</sub></i> ±1.0 dB	
	$I_{oc1}/I_{oc2}$ ±0.3 dB	
	CPICH _ E <sub>c</sub>	
	$I_{ar} = \pm 0.1 \text{ dB}$	
8.7.3 UTRA Carrier RSSI		$\hat{\mathbf{h}}$
	$I_{or}/I_{oc}$ ±0.0 dB	0.3 dB uncertainty in $P_{or}/I_{oc}$
		based on power meter
	$I_{oc1}/I_{oc2}$ ±0.3 dB	combiner
		0.3 dB uncertainty in loc1/loc2
		measurement after the combiner
		The absolute error of the AWGN is specified as 1.0 dB
8.7.3A GSM Carrier RSSI	ТВО	
8.7.3C UE Transmitted power	Mean power measurement $\pm$ 0,7 dB	Downlink parameters are unimportant.
8.7.4 SFN-CFN observed time difference		

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
8.7.4.1 Intra frequency measurements accuracy	$\dot{P}_{or}/I_{oc}$ ±0.3 dB $I_{oc}$ ±1.0 dB Actual SFN-CFN observed time difference: ±0.5 chips	0.3 dB uncertainty in $\hat{P}_{or}/I_{oc}$ based on power meter measurement after the combiner The absolute error of the
8.7.4.2 Inter frequency measurements accuracy	$\dot{P}_{or}/I_{oc}$ ±0.3 dB $I_{oc}$ ±1.0 dB Actual SFN-CFN observed time difference: ±0.5 chips	AWGN is specified as 1.0 dB 0.3 dB uncertainty in $\hat{P}_{or}/I_{oc}$ based on power meter measurement after the combiner The absolute error of the
8.7.5.1 SFN-SFN observed time difference type 1	$\dot{P}_{or}/I_{oc}$ ±0.3 dB $I_{oc}$ ±1.0 dB Actual SFN-SFN observed time difference type 1: ±0.5 chips	0.3 dB uncertainty in $\dot{P}_{or}/I_{oc}$ based on power meter measurement after the combiner The absolute error of the AWGN is specified as 1.0 dB
8.7.6 UE Rx-Tx time difference	$\dot{P}_{or}/I_{oc}$ ±0.3 dB $I_{oc}$ ±1.0 dB Rx-Tx Timing Accuracy ±0.5 chip	0.3 dB uncertainty in $\hat{P}_{or}/I_{oc}$ based on power meter measurement after the combiner The absolute error of the AWGN is specified as 1.0 dB.
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	<u>During T1 and T2:</u> +0.60 dB for all Cell 1 and 2 Ec/lor ratios -0.50 dB for all Cell 3, 4 ,5, 6 Ec/lor ratios +0.03 dB for lor(3, 4, 5, 6) <u>During T1:</u>
	-0.27 dB for lor(1) +0.13 dB for lor(2) During T2:
	+0.13 dB for lor(1) -0.27 dB for lor(2)
8.2.2.2 Scenario 2: Multi carrier case	Channel 1 during T1 and T2: +0.70 dB for all Cell 1 Ec/lor ratios -0.80 dB for all Cell 3 and 4 Ec/lor ratios
	<u>Channel 1 during T1:</u> -0.01 dB for lor(1) -0.01 dB for lor(3, 4) No change for loc(1)
	<u>Channel 1 during T2:</u> +0.75 dB for lor(1) -0.05 dB for lor(3, 4) -1.80 dB for loc(1)
	Channel 2 during T1 and T2: +0.70 dB for all Cell 2 Ec/lor ratios -0.80 dB for all Cell 5 and 6 Ec/lor ratios
	<u>Channel 2 during T1:</u> +0.75 dB for lor(2) -0.05 dB for lor(5, 6) -1.80 dB for loc(2)
	Channel 2 during T2: -0.01 dB for lor(2) -0.01 dB for lor(5, 6) No change for loc(2)
8.2.3 UTKAN TO GSM Cell Re-Selection	
level changed	0.3 dB for $\hat{I}_{or}^{1}/I_{oc}$ 0.1 dB for CPICH_Ec/lor 0.3 dB for loc/RXLEV
8.2.3.2 Scenario 2: Only UTRA level changed	0.3 dB for $\dot{P}_{or}/I_{oc}$ 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 $\hat{P}_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor 0.3 dB for loc1/loc2
8.3 UTRAN Connected Mode Mobility	

Clause	Test Tolerance
8.3.1 FDD/FDD Soft Handover	During T1 and T2/T3/T4/T5/T6:
	+0.70 dB for all Cell 1 Ec/lor ratios
	Relative delay: {ñ147.5 Ö +147.5} chips
	During 11:
	Already covered above
	During T2/T3/T4/T5/T6
	$\pm 0.70$ dB for all Cell 2 Ec/lor ratios
8.3.2 FDD/FDD Hard Handover	
8.3.2.1 Handover to intra-frequency cell	During T1 and T2 / T3:
	+0.70 dB for all Cell 1 Ec/lor ratios
	During T1:
	Already covered above
	During T2 / T2:
	During 12 / 13.
8.3.2.2 Handover to inter-frequency cell	Channel 1 during T1 and T2 / T3
	+0.80 dB for all Cell 1 Ec/lor ratios
	Channel 2 during T1:
	Not applicable
	Channel 2 during 12 / 13:
0.0.0 EDD/TDD Handavar	+0.80 dB for all Cell 2 Ec/lor ratios
8.3.3 FDD/TDD Handover	TRDUring T2 and T2:
LITRAN FDD to GSM	+ 1 dB for BXLEV
8.3.5 Cell Re-selection in CELL FACH	
8.3.5.1 One frequency present in the	During T1 and T2:
neighbour list	+0.60 dB for all Cell 1 and 2 Ec/lor ratios
	-0.50 dB for all Cell 3, 4 ,5, 6 Ec/lor ratios
	+0.03 dB for lor(3, 4, 5, 6)
	$\frac{\text{During 11:}}{\text{O OZ dD for lor(1)}}$
	-0.27 up for for(1) +0.13 dB for for(2)
	During T2:
	+0.13 dB for lor(1)
	-0.27 dB for lor(2)

Clause	Test Tolerance
8.3.5.2 Two frequencies present in the	Channel 1 during T1 and T2:
neighbour list	+0.60 dB for all Cell 1 Ec/lor ratios
	-0.70 dB for all Cell 3 and 4 Ec/lor ratios
	Channel 1 during 11:
	+0.05 dB for lor(1)
	+0.05 dB for Ior(3, 4)
	No change for loc(1)
	Channel 1 during T2:
	$\pm 0.75 \text{ dB for lor(1)}$
	-0.05 dB for lor(3, 4)
	-1.60 dB for loc(1)
	Channel 2 during T1 and T2:
	+0.60 dB for all Cell 2 Ec/lor ratios
	-0.70 dB for all Cell 5 and 6 Ec/lor ratios
	Channel 2 during T1:
	+0.75 dB for lor(2)
	-0.05 dB for lor(5, 6)
	-1.60 dB for loc(2)
	Channel 2 during T2:
	$\pm 0.05 \text{ dB for lor(2)}$
	$\pm 0.05 \text{ dB for lor(2)}$
	No change for $loc(2)$
8.3.5.3 Cell Re-selection to GSM	
	0.3 dB for $F_{or}/I_{oc}$
	0.1 dB for CPICH_Ec/lor
	0.3 dB for loc/RXLEV
8.3.6 Cell Re-selection in CELL_PCH	
8.3.6.1 One frequency present in the	Same as 8.2.2.1
neighbour list	
8.3.6.2 Two frequencies present in the	Same as 8.2.2.2
neignbour list	
8.3.7 Cell Re-selection in URA_PCH	Sama an 8.0.0.1
neighbour list	Same as 0.2.2.1
8.3.7.2 Two frequencies present in the	Same as 8 2 2 2
neighbour list	
8 4 BBC Connection Control	
8.4.1 RRC Re-establishment delay	
,	
	$0 \text{ dB for } \mathbf{F}_{or}^{\prime} / \mathbf{I}_{oc}$
	0 dB for any_Ec/lor
	Zero TT is applied, as level settings are
	not critical with respect to the outcome of
	the test.
8 4 2 Bandom Access	Settings:
0.4.2 Mandolfi Access	
	0.3 dB for $P_{or}/I_{oc}$
	0.1 dB for AICH Ec/lor
	Measurements:
	Power difference: ± 1dB
	Maximum Power: -1dB / +0.7dB
8.4.3 Transport format combination	0 dB for DPCH_Ec/lor
selection in UE	
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	

Clause	Test Tolerance
8.6.1.1 Event triggered reporting in	During T1/T4 and T2/T3:
AWGN propagation conditions (R99)	+0.70 dB for all Cell 1 Ec/lor ratios
115 ()	
	During T1/T4 only:
	Already covered above
	Alleady covered above
	During 12/13 only:
	+0.70 dB for all Cell 2 Ec/lor ratios
8.6.1.1 A Event triggered reporting in	During T1/T3 and T2:
AWGN propagation conditions (Rel-4 and	+0.70 dB for all Cell 1 Ec/lor ratios
later)	
,	During T1/T3 only:
	Already covered above
	······································
	During T2 only:
	0.70 dB for all Call 2 Ea/lar ration
	+0.70 dB for all Cell 2 Ec/for fallos
8.6.1.2 Event triggered reporting of	During 10 to 16:
multiple neighbours in AWGN	+0.70 dB for all Cell 1 Ec/lor ratios
propagation condition (R99)	+0.70 dB for all Cell 2 Ec/lor ratios
	+0.70 dB for all Cell 3 Ec/lor ratiosTBD
8.6.1.2A Event triggered reporting of	TBD
multiple neighbours in AWGN	
propagation condition (Rel-4 and later)	
9.6.1.3 Event triggered reporting of two	TRD
detectable neighbourg in AMCN	לטו
propagation condition	
8.6.1.4 Correct reporting of neighbours in	TBD
fading propagation condition	
8.6.2 FDD inter frequency measurements	
8.6.2.1 Correct reporting of neighbours in	TBD
AWGN propagation condition	
8.6.2.2 Correct reporting of neighbours in	TBD
Eading propagation condition	
8.6.3 TDD measurements	700
8.6.3.1 Correct reporting of TDD	IBD
neighbours in AWGN propagation	
condition	
8.7 Measurements Performance	TBD
Requirements	
8.7.1 CPICH RSCP	
8 7 1 1 Intra frequency measurements	à /_
	0.3 dB for $I_{or}^{I}/I_{oc}$
accuracy	0.1 dB for CBICH Eq/lor
	1.0 dB for loo
8.7.1.2 Inter frequency measurement	0.3 dB for $\hat{P}$ /I
accuracy	r = r = r = r = r = r = r = r
	0.1 dB for CPICH_Ec/lor
	0.3 dB for loc1/loc2
	1.0 dB for loc
8.7.2 CPICH Ec/lo	
8721 Intra frequency measurements	$\mathbf{n} = \mathbf{n} \cdot \mathbf{n} / \mathbf{r}$
accuracy	0.3 dB for $P_{or}/I_{oc}$
accuracy	0.1 dB for CPICH_Ec/lor
9722 Inter frequency measurement	
	0.3 dB for $P_{ax}/I_{ax}$
accuracy	
8.7.3 UTRA Carrier RSSI	0.3 dB for $\hat{\boldsymbol{\mu}}/\boldsymbol{I}$
	or / oc
	1.0 dB for loc
8.7.3A GSM Carrier RSSI	TBD
8.7.3B Transport channel BLER	TBD
8.7.3C UF Transmitted power	0.7 dB for mean power measurement by
	test system

Clause	Test Tolerance
8.7.4 SFN-CFN observed time difference	0.3 dB for $\dot{P}_{or}/I_{oc}$
	1.0 dB for loc
	±0.5 chips for the actual SFN-CFN observed time difference
8.7.5.1 SFN-SFN observed time difference type 1	0.3 dB for $\dot{P}_{or}/I_{oc}$
	1.0 dB for loc
	±0.5 chips for the actual SFN-SFN observed time difference type 1
8.7.6 UE Rx-Tx time difference	0.3 dB for $\dot{P}_{or}/I_{oc}$
	1.0 dB for loc
	0.5 chip for HX-TX Timing Accuracy
8.7.7 Observed time difference to GSM cell	TBD
8.7.8 P-CCPCH RSCP	TBD

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	Because the relationships between the Test system uncertainties and the Test Tolerances are complex, it is not possible to give a simple derivation of the Test Requirement in this document. The analysis is recorded in 3GPP TR 34 902 [24].			
	During T1 and T2:	During T1 and T2:	During T1 and T2:	
	Cells 1 and 2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	+0.60 dB +0.60 dB +0.60 dB +0.60 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT	
	Cells 3, 4, 5, 6: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	-0.50 dB -0.50 dB -0.50 dB -0.50 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT	
	lor(3, 4, 5, 6) = -69.73 dBm	+0.03 dB for lor(3, 4, 5, 6)	lor(3, 4, 5, 6) + TT	
	During T1:	During T1:	During T1:	
	lor(1) = -62.73 dBm lor(2) = -59.73 dBm	-0.27 dB for lor(1) +0.13 dB for lor(2)	lor(1) + TT lor(2) + TT	
	During T2:	During T2:	During T2:	
	lor(1) = -59.73 dBm lor(2) = -62.73 dBm	+0.13 dB for lor(1) -0.27 dB for lor(2)	lor(1) + TT lor(2) + TT	
8.2.2.2 Scenario 2: Multi carrier case	Because the relationships between the Test system uncertainties and the Test Tolerances are complex, it is not possible to give a simple derivation of the Test Requirement in this document. The analysis is recorded in 3GPP TR 34 902 [24].			
	Channel 1 during T1 and T2:	<u>Channel 1 during</u> <u>T1 and T2:</u>	Channel 1 during T1 and T2:	
	Cell 1: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	+0.70 dB +0.70 dB +0.70 dB +0.70 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT	
	Cells 3 and 4: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	-0.80 dB -0.80 dB -0.80 dB -0.80 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT	
	<u>Channel 1 during T1:</u> lor(1) = -73.39 dBm lor(3, 4) = -77.39 dBm loc(1) = -70.00 dBm	<u>Channel 1 during</u> <u>T1:</u> -0.01 dB for lor(1) -0.01 dB for lor(3,4) 0.00 dB for loc(1)	<u>Channel 1 during T1:</u> lor(1) + TT lor(3, 4) + TT loc(1) + TT	

Table F.4.4. Derivation of Test Requirements (RRW tests)
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Test	Test Parameters in TS 25.133	Test Tolerance (TT)	Test Requirement in TS 34.121
	Channel 1 during T2:	Channel 1 during	Channel 1 during T2:
	lor(1) = -67.75 dBm lor(3, 4) = -74.75 dBm loc(1) = -70.00 dBm	12: +0.75 dB for lor(1) -0.05 dB for lor(3, 4) -1.80 dB for loc(1)	lor(1) + TT lor(3, 4) + TT loc(1) + TT
	Channel 2 during T1 and T2:	Channel 2 during T1 and T2:	Channel 2 during T1 and T2:
	Cell 2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	+0.70 dB +0.70 dB +0.70 dB +0.70 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	Cells 5 and 6: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	-0.80 dB -0.80 dB -0.80 dB -0.80 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	Channel 2 during T1:	Channel 2 during	Channel 2 during T1:
	lor(2) = -67.75 dBm lor(5, 6) = -74.75 dBm loc(2) = -70.00 dBm	+0.75 dB for lor(2) -0.05 dB for lor(5, 6) -1.80 dB for loc(2)	lor(2) + TT lor(5, 6) + TT loc(2) + TT
	Channel 2 during T2:	Channel 2 during	Channel 2 during T2:
	lor(2) = -73.39 dBm lor(5, 6) = -77.39 dBm loc(2) = -70.00 dBm	<u>12:</u> -0.01 dB for lor(2) -0.01 dB for lor(5,6) 0.00 dB for loc(2)	lor(2) + TT lor(5, 6) + TT loc(2) + TT
8.2.3 UTRAN to GSM			
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:
	$\frac{CPICH_{E_c}}{I} = -10 \text{ dB}$	0.1 dB for CPICH_E	Formulas:
	lor/loc = - 5 dB	0.3 dB for lor/loc	$\frac{CPICH\_E_c}{I_{or}} = \text{ratio} - TT$
		0.3 dB for loc/RXLEV	IOr/IOC = ratio - 11 (Ioc/Rxlev) <sub>test requirement</sub> = (Ioc/Rxlev) <sub>minimum requirement</sub> - TT
			lor/loc = -5.3 dB
			$\frac{CPICH\_E_c}{I_{or}} \text{ -10.1 dB:}$

Test	Test Parameters in TS 25 133	Test Tolerance (TT)	Test Requirement in TS 34.121
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 = -9 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: $\frac{CPICH\_E_c}{I_{or}} = \text{ratio} - \text{TT}$ $\text{lor/loc} = \text{ratio} - \text{TT}$ $(\text{loc/Rxlev})_{\text{test requirement}} = (\text{loc/Rxlev})_{\text{minimum requirement}} - \text{TT}$ $\text{lor/loc} = -9.3 \text{ dB}$ $\frac{CPICH\_E_c}{I_{or}} = -10.1 \text{ dB}:$
8.2.4 FDD/TDD cell re- selection	TBD		
8.3 UTRAN Connected Mode Mobility	TBD		
8.3.1 FDD/FDD Soft Handover	Because the relationships be are complex, it is not possible document. The analysis is ref During T1 and T2/T3/T4/T5/T6: Cell 1: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB PICH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB Relative delay of paths received from cell 2 with respect to cell 1 = $\{-148 \ O\ 148\}$ chips During T1: Already covered above During T2/T3/T4/T5/T6: Cell 2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	tween the Test system to give a simple derivation corded in 3GPP TR 34 to <u>During T1 and</u> <u>T2/T3/T4/T5/T6:</u> +0.70 dB +0.70 dB +0.70 dB +0.70 dB 0.5 chips <u>During T1:</u> Covered above <u>During T2/T3/T4/T5/T6:</u> +0.70 dB +0.70 dB +0.70 dB +0.70 dB +0.70 dB +0.70 dB	uncertainties and the Test Tolerances ation of the Test Requirement in this 902 [24]. During T1 and T2/T3/T4/T5/T6: Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT {-148+TT Ö 148-TT} chips During T1: Already covered above During T2/T3/T4/T5/T6: Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
8.3.2 FDD/FDD Hard Handover			

Test	Test Parameters in	Test Tolerance	Test Requirement in TS 34.121	
8 2 0 1 Handover to	Page the relationships he	twoon the Test system	upportaintion and the Test Teleranese	
6.5.2.1 Handover to	Because the relationships between the Test system uncertainties and the Test Tolerances			
Intra-frequency cen	document. The analysis is recorded in 3GPP TR 34 902 [24].			
	During T1 and T2 / T3:	During T1 / T2 / T3:	During T1 and T2 / T3:	
	Cell 1:			
	CPICH $Ec/lor = -10 dB$	+0 70 dB	Ec/lor ratio + TT	
	PCCPCH Ec/lor = $-12 \text{ dB}$	+0 70 dB	Fc/lor ratio + TT	
	SCH $Ec/lor = -12 dB$	+0.70 dB	$E_{c/lor ratio} + TT$	
	$PICH_Ec/lor = -15 dB$	+0.70 dB	Ec/lor ratio + TT	
	During T1:	During T1:	During T1:	
	Already covered above	Covered above	Already covered above	
	During T2 / T3:	During T2 / T3:	During T2 / T3:	
			Ec/lor ratio	
			$= C_{101} \text{ and } + 11$	
		+0.70 dB	= C/101  ratio + 11	
	$SCH_Ec/lor = -12 dB$	+0.70 dB	Ec/lor ratio + 11	
	$PICH_Ec/lor = -15 dB$	+0.70 dB	Ec/lor ratio + 11	
	Descuss the veletionships he	two on the Test sustains	uncertainties and the Test Televeness	
inter-frequency cell	are complex, it is not possible document. The analysis is re	e to give a simple derivation of the second se	ation of the Test Requirement in this 902 [24].	
	, , , , , , , , , , , , , , , , , , ,			
	Channel 1 during T1 and	Channel 1 during	Channel 1 during T1 and T2 / T3:	
	<u>T2 / T3:</u>	T1 and T2 / T3:		
	Cell 1:			
	CPICH_Ec/lor = -10 dB	+0.80 dB	Ec/lor ratio + TT	
	PCCPCH Ec/lor = -12 dB	+0.80 dB	Ec/lor ratio + TT	
	SCH Ec/lor = -12 dB	+0.80 dB	Ec/lor ratio + TT	
	PICH_Ec/lor = -15 dB	+0.80 dB	Ec/lor ratio + TT	
	Channel 2 during T1:	Channel 2 during	Channel 2 during T1:	
	Not applicable	Not applicable	Not applicable	
	Channel 2 during T2 / T3:	Channel 2 during T2 / T3:	Channel 2 during T2 / T3:	
	Cell 2:			
	CPICH_Ec/lor = -10 dB	+0.80 dB	Ec/lor ratio + TT	
	PCCPCH_Ec/lor = -12 dB	+0.80 dB	Ec/lor ratio + TT	
	SCH_Ec/lor = -12 dB	+0.80 dB	Ec/lor ratio + TT	
	PICH_Ec/lor = -15 dB	+0.80 dB	Ec/lor ratio + TT	
8.3.3 FDD/TDD Handover	TBD			
8.3.4 Inter-system	During T2 and T3	During T2 and T3	During T2 and T3	
Handover form LITRAN	$BXI EV_{=}75 dBm$	+ 1 dB for BXI FV	BXI EV + TT	
FDD to GSM				
	TBD		Only RXLEV during T2 and T3 is a	
			critical parameter. UE measurement	
			accuracy for GSM Carrier RSSI is ±4	
			dB in this test.	
			During T0 and T0 among and 0014	
			During 12 and 13 : measured GSM	
			Carrier HSSI ± uncertainty of HXLEV	
			setting shall be above n80 dBm	
			(Inreshold for GSM). => TT=+1 dB	
9 3 5 Coll Do polootion				

Test	Test Parameters in TS 25,133	Test Tolerance (TT)	Test Requirement in TS 34.121	
8.3.5.1 One frequency	Because the relationships between the Test system uncertainties and the Test Tolerances			
present in the	are complex, it is not possible	e to give a simple deriva	ation of the Test Requirement in this	
neighbour list	document. The analysis is rea	corded in 3GPP TR 34	902 [24].	
0	During T1 and T2:	During T1 and T2:	During T1 and T2:	
	Cells 1 and 2:			
	CPICH_Ec/lor = -10 dB	+0.60 dB	Ec/lor ratio + TT	
	PCCPCH_Ec/lor = -12 dB	+0.60 dB	Ec/lor ratio + TT	
	SCH_Ec/lor = -12 dB	+0.60 dB	Ec/lor ratio + TT	
	$PICH_Ec/lor = -15 dB$	+0.60 dB	Ec/lor ratio + TT	
	S-CCPCH_Ec/lor = -12 dB	+0.60 dB	Ec/lor ratio + 11	
	Cells 3, 4, 5, 6. CPICH Ec/lor = $-10 \text{ dB}$	-0.50 dB	Ec/lor ratio + TT	
	PCCPCH Ec/lor = -12 dB	-0.50 dB	$E_{c/lor ratio + TT}$	
	SCH Ec/lor = -12 dB	-0.50 dB	Ec/lor ratio + TT	
	$PICH_Ec/lor = -15 dB$	-0.50 dB	$E_{c/lor ratio} + TT$	
	S-CCPCH $Ec/lor = -12 dB$	-0.50 dB	Ec/lor ratio + TT	
	lor(3, 4, 5, 6) = -69.73 dBm	+0.03 dB for lor(3,	lor(3, 4, 5, 6) + TT	
	During T1:	During T1:	During T1:	
	<u> </u>	<u></u>	<u></u>	
	lor(1) = -62.73 dBm	-0.27 dB for lor(1)	lor(1) + TT	
	lor(2) = -59.73 dBm	+0.13 dB for lor(2)	lor(2) + TT	
	During T2:	During T2:	During T2:	
	lor(1) = -59.73 dBm	+0.13 dB for lor(1)	lor(1) + TT	
	lor(2) = -62.73  dBm	-0.27 dB for lor(2)	lor(2) + TT	
8.3.5.2 Two	Because the relationships be	tween the Test system	uncertainties and the Test Tolerances	
frequencies present in	are complex, it is not possible	e to give a simple deriva	ation of the Test Requirement in this	
the heighbour list	Channel 1 during T1 and	Corded in 3GPP TR 34	902 [24].	
		T1 and T2:	Channel I during I I and 12:	
	12.	<u>11 anu 12.</u>		
	Cell 1:			
	CPICH Ec/lor = -10 dB	+0.60 dB	Ec/lor ratio + TT	
	PCCPCH Ec/lor = -12 dB	+0.60 dB	Ec/lor ratio + TT	
	SCH Ec/lor = -12 dB	+0.60 dB	Ec/lor ratio + TT	
	PICH Ec/lor = -15 dB	+0.60 dB	Ec/lor ratio + TT	
	S-CCPCH_Ec/lor = -12 dB	+0.60 dB	Ec/lor ratio + TT	
	Cells 3 and 4:	0 T0 ID		
	$CPICH_EC/IOr = -10 dB$	-0.70 dB	Ec/lor ratio + 11	
	POUPUH EC/IOT = -12 dB		EC/IOF ratio + 11 Ec/Ior ratio + TT	
	$SCH_EC/IOF = -12 \text{ dB}$	-0.70 dB	Ec/lor ratio + 11	
	$PICH_EC/IOI = -15 \text{ ub}$	-0.70 dB	Ec/lor ratio + TT	
	0-00F0H_EC/10I = -12 dB	-0.70 00		
	Channel 1 during T1:	Channel 1 during	Channel 1 during T1:	
	lor(1)71 85 dBm	<u>11:</u> ±0.05 dB for lor(1)	lor(1) + TT	
	lor(3, 4) = -76.85 dBm	$\pm 0.05 \text{ dB for Ior(1)}$	lor(3, 4) + TT	
	loc(1) = -70.00  dBm	0.00  dB for loc(1)	loc(1) + TT	

Test	Test Parameters in TS 25.133	Test Tolerance (TT)	Test Requirement in TS 34.121
	<u>Channel 1 during T2:</u> lor(1) = -67.75 dBm lor(3, 4) = -74.75 dBm loc(1) = -70.00 dBm	<u>Channel 1 during</u> <u>T2:</u> +0.75 dB for lor(1) -0.05 dB for lor(3, 4) -1.60 dB for loc(1)	<u>Channel 1 during T2:</u> lor(1) + TT lor(3, 4) + TT loc(1) + TT
	Channel 2 during T1 and T2:	Channel 2 during T1 and T2:	Channel 2 during T1 and T2:
	Cell 2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB S-CCPCH_Ec/lor = -12 dB	+0.60 dB +0.60 dB +0.60 dB +0.60 dB +0.60 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	Cells 5 and 6: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB S-CCPCH_Ec/lor = -12 dB	-0.70 dB -0.70 dB -0.70 dB -0.70 dB -0.70 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	<u>Channel 2 during T1:</u> lor(2) = -67.75 dBm lor(5, 6) = -74.75 dBm loc(2) = -70.00 dBm	<u>Channel 2 during</u> <u>T1:</u> +0.75 dB for lor(2) -0.05 dB for lor(5, 6) -1.60 dB for loc(2)	<u>Channel 2 during T1:</u> lor(2) + TT lor(5, 6) + TT loc(2) + TT
	<u>Channel 2 during T2:</u> lor(2) = -71.85 dBm lor(5, 6) = -76.85 dBm loc(2) = -70.00 dBm	<u>Channel 2 during</u> <u>T2:</u> +0.05 dB for lor(2) +0.05 dB for lor(5,6) 0.00 dB for loc(2)	<u>Channel 2 during T2:</u> lor(2) + TT lor(5, 6) + TT loc(2) + TT
8.3.5.3 Cell Re- selection to GSM	$\frac{During T1:}{\frac{CPICH_E_c}{I_{or}}} = -10 \text{ dB}$ $lor/loc = 0 \text{ dB}$	0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$ 0.3 dB for lor/loc	$\frac{CPICH\_E_c}{I_{or}} = ratio + TT$
	loc/RXLEV = 20	0.3 dB for loc/RXLEV	(loc/Rxlev) <sub>test requirement</sub> = (loc/Rxlev) <sub>minimum requirement</sub> + TT
			lor/loc = 0.3 dB
			$\frac{CPICH\_E_c}{I_{or}} = -9.9 \text{ dB}:$
			loc/RXLEV = 20.3

Test	Test Parameters in TS 25.133	Test Tolerance (TT)	Test Requirement in TS 34.121
	$\frac{During T2:}{\frac{CPICH\_E_c}{I_{or}}} = -10 \text{ dB}$ $lor/loc = -5 \text{ dB}$ $loc/RXLEV = 5$	0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$ 0.3 dB for lor/loc 0.3 dB for loc/RXLEV	$\frac{CPICH\_E_c}{I_{or}} = \text{ratio} - \text{TT}$ $\text{lor/loc} = \text{ratio} - \text{TT}$ $(\text{loc/Rxlev})_{\text{test requirement}} = (\text{loc/Rxlev})_{\text{minimum requirement}} - \text{TT}$ $\text{lor/loc} = -5.3 \text{ dB}$ $\frac{CPICH\_E_c}{I_{or}} -10.1 \text{ dB}:$ $\text{loc/RXLEV} = 4.7$
8.3.6 Cell Re-selection in CELL_PCH			
8.3.6.1 One frequency present in the neighbour list	Same as 8.2.2.1 $\frac{CPICH\_E_c}{I_{or}} = -10 \text{ dB}$ $I_{oc} = -70 \text{ dBm}$ $Ior/Ioc = 10.27 \text{ dB}$ Note: Parameters are valid for cell 1 at time T2 and cell 2 at time T1	Same as 8.2.2.1 0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$ 0.3 dB for lor/loc	Same as 8.2.2.1 Formulas: $\frac{CPICH\_E_c}{I_{or}} = \text{ratio} + \text{TT}$ Ior/loc = ratio + TT loc unchanged lor/loc = 10.57 dB $\frac{CPICH\_E_c}{I_{or}} -9.9 \text{ dB}:$
8.3.6.2 Two frequencies present in the neighbour list	Same as 8.2.2.2 $\frac{CPICH\_E_c}{I_{or}} = -10 \text{ dB}$ $I_{oc} = -70 \text{ dBm}$ $Ior/Ioc = 2.2 \text{ dB}$ Note: Parameters are valid for cell 1 at time T2 and cell 2 at time T1	Same as 8.2.2.2 0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$ 0.3 dB for lor/loc	Same as 8.2.2.2 Formulas: $\frac{CPICH\_E_c}{I_{or}} = \text{ratio} + \text{TT}$ Ior/Ioc = ratio + TT Ioc unchanged Ioc ratio unchanged Ior/Ioc = 2.5 dB $\frac{CPICH\_E_c}{I_{or}} -9.9 \text{ dB}:$
in URA PCH 8.3.7.1 One frequency present in the	Same as 8.2.2.1	Same as 8.2.2.1	Same as 8.2.2.1

Test	Test Parameters in	Test Tolerance	Test Requirement in TS 34.121
neighbour list	15 25.133	(11)	
8.3.7.2 Two frequencies present in the neighbour list	Same as 8.2.2.2	Same as 8.2.2.2	Same as 8.2.2.2
8.4 RRC Connection			
8.4.1 RRC Re-	TBD		
8.4.1.1 Test 1	Cell 1, T1: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB DCH_Ec/lor = -17 dB lor/loc = 2.39 dB Cell 1, T2: lor/loc = -infinity Cell 2, T1: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB lor/loc = 4.39 dB Cell 2, T2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PCCPCH_Ec/lor = -12 dB PICH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB lor/loc = 0.02 dB	0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$ 0.3 dB for lor/loc	Level settings in either direction are not critical with respect to the outcome of the test.
8.4.1.2 Test 2 8.4.2 Random Access	Cell 1, T1: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB DCH_Ec/lor = -17 dB lor/loc = -3.35 dB Cell 1, T2: lor/loc = -infinity Cell 2, T1: lor/loc = -infinity Cell 2, T2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB lor/loc = 0.02 dB RACH power difference nominal 3dB $\pm$ 2dB UE setting uncertainty	0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$ 0.3 dB for lor/loc Measurement TT:Power difference ± 1dPMovimum	Level settings in either direction are not critical with respect to the outcome of the test.
8.4.3 Transport format combination selection in UE	DL Power control is ON so DPCH_Ec/lor depends on TPC commands sent by UE	Power-1dB / +0.7dB 0 dB for DPCH_Ec/lor	No test requirements for DPCH_Ec/lor

Test	Test Parameters in TS 25.133	Test Tolerance (TT)	Test Requirement in TS 34.121	
8.5 Timing and Signalling	TBD	(11)		
Characteristics				
8.5.1 UE Transmit Timing	IBD			
8.6 UE Measurements Procedures				
8.6.1 FDD intra				
frequency				
measurements	Passuas the relationships he	twoon the Test evotem	upportainting and the Test Teleropees	
reporting in AWGN	are complex, it is not possible to give a simple derivation of the Test Requirement in this document. The analysis is recorded in 3GPP TR 34 902 [24].			
(R99)	During T1 to T4:	During T1 to T4:	During T1 to T4:	
	Cell 1:	0 70 dP	Fo/lor rotio + TT	
	PCCPCH Ec/lor = -12 dB	+0.70 dB	Ec/lor ratio + TT	
	SCH Ec/lor = $-12 \text{ dB}$	+0.70 dB	Ec/lor ratio + TT	
	PICH_Ec/lor = -15 dB	+0.70 dB	Ec/lor ratio + TT	
	During T1/T4 only :	During T1/T4 only:	During T1/T4 only:	
	Already covered above	Covered above	Already covered above	
	During T2/T3 only:	During T2/T3 only:	During T2/T3 only:	
	Cell 2:			
	CPICH_Ec/lor = -10 dB	+0.70 dB	Ec/lor ratio + TT	
	PCCPCH_Ec/lor = -12 dB	+0.70 dB	Ec/lor ratio + TT	
	$PICH_Ec/lor = -15 dB$	+0.70 dB +0.70 dB	Ec/lor ratio + TT	
8.6.1.1 A Event triggered reporting in	Because the relationships be are complex, it is not possible	tween the Test system to give a simple deriva	uncertainties and the Test Tolerances ation of the Test Requirement in this	
AWGN propagation	document. The analysis is re-	corded in 3GPP TR 34	902 [24].	
later)	During 11/12/13:	During 11 / 12 / 13:	During 11 / 12 / 13:	
	Cell 1: CPICH Ec/lor = -10 dB	+0.70 dB	Fc/lor ratio + TT	
	PCCPCH_Ec/lor = -12 dB	+0.70 dB	Ec/lor ratio + TT	
	SCH_Ec/lor = -12 dB	+0.70 dB	Ec/lor ratio + TT	
	PICH_Ec/lor = -15 dB	+0.70 dB	Ec/lor ratio + TT	
	During T1/T3 only :	During T1/T3 only:	During T1/T3 only:	
	Already covered above	Covered above	Already covered above	
	During T2 only:	During T2 only:	During T2 only:	
	Cell 2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	+0.70 dB +0.70 dB +0.70 dB +0.70 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT	
8.6.1.2 Event triggered	Because the relationships be	tween the Test system	uncertainties and the Test Tolerances	
reporting of multiple	are complex, it is not possible	e to give a simple deriva	ation of the Test Requirement in this	
neighbours in AWGN	document. The analysis is recorded in 3GPP TR 34 902 [24].			

Test	Test Parameters in TS 25.133	Test Tolerance (TT)	Test Requirement in TS 34.121
propagation condition	During T0 to T6:	During T0 to T6:	During T0 to T6:
(R99)	Cell 1, Cell 2 and Cell 3: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	+0.70 dB +0.70 dB +0.70 dB +0.70 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
8.6.1.2A Event triggered reporting of multiple neighbours in AWGN propagation condition (Rel-4 and later)	TBD	TBD	TBD
8.6.1.3 Event triggered reporting of two detectable neighbours in AWGN propagation condition	TBD		
8.6.1.4 Correct reporting of neighbours in fading propagation condition	TBD		
8.6.2 FDD inter frequency measurements	TBD		
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 TDD	TBD		
8.6.3.1Correct reporting of TDD neighbours in AWGN propagation condition	TBD		
8.7 Measurements Performance Requirements	TBD		
8.7.1 CPICH RSCP			
8.7.1.1 Intra frequency measurements accuracy	see table 8.7.1.1.1.1 andtable 8.7.1.1.1.2	±1 dB for loc±0.3 dB for lor/loc±0.1dB forÖEc/lor	Any TT applied to the nominal setting shall fulfil:Test 1 (absolute and relative): lo shall not go below - 69dBm Test 2(absolute and relative): lo shall not go above -50 dBmTest 3 (absolute and relative): lo shall not go below -94 dBm lor/loc + TTTT on top of UE measurement accuracy:Absolute±1.0 dB for loc±0.3 dB for lor/loc ±0.1dB for CPICH_Ec/lor ∑ 1.4dBRelative±0.3 dB for lor/loc (cell1)±0.3 dB for lor/loc (cell2)±0.1dB for CPICH_Ec/lor (cell1)±0.1dB for CPICH_Ec/lor (cell1)±0.1dB for

Test	Test Parameters in TS 25.133	Test Tolerance (TT)	Test Requirement in TS 34.121
8.7.1.2 Inter frequency measurement accuracy	See table 8.7.1.2.1.1 andtable 8.7.1.2.1.2	±1 dB for loc±0.3 dB for loc1/loc2±0.3 dB for lor/loc±0.1dB for ÖEc/lor	Any TT applied to the nominal setting shall fulfil:Test 1: Io shall not go above -50 dBmTest 2: Io shall not go below -94 dBmIor/loc + TTTT on top of UE measurement accuracy:±0.3 dB for loc1/loc2±0.3 dB for lor/loc (cell1)±0.3 dB for lor/loc (cell2)±0.1dB for CPICH_Ec/lor (cell1)±0.1dB for CPICH_Ec/lor (cell2)∑ 1.1 dB
8.7.2 CPICH Ec/lo			

Test	Test Parameters in TS 25.133	Test Tolerance (TT)	Test Requirement in TS 34.121
8.7.2.1 Intra frequency measurements accuracy	table 8.7.2.1.1.1 and table 8.7.2.1.1.2	±1 dB for Ioc ±0.3 dB for Ior/Ioc	Any TT applied to the nominal setting shall fulfil:
		±0.1dB for ÖEc/lor	Test 1(absolute and relative): Io shall not go above -50 dBm
			Test 2 (absolute and relative): Io shall not go below -87dBm
			Test 3 (absolute and relative): Io shall not go below -94 dBm
			CPICH Ec/Io shall stay in the UE accuracy ranges
			Ior/Ioc + TT
			TT on top of UE measurement accuracy:
			Absolute
			$\pm 0.3 \text{ dB}$ for Ior/Ioc
			±0.1dB for CPICH_Ec/Ior
			$\sum 0.4$ dB
			Relative
			Ioc1=Ioc2
			$\pm 0.3$ dB for Ior/Ioc (cell1)
			±0.3 dB for Ior/Ioc (cell2)
			±0.1dB for CPICH_Ec/Ior (cell1)
			±0.1dB for CPICH_Ec/Ior (cell2)
			∑ 0.8dB

Test	Test Parameters in TS 25.133	Test Tolerance (TT)	Test Requirement in TS 34.121
8.7.2.2 Inter frequency measurement accuracy	table 8.7.2.2.2.1 and table 8.7.2.2.2.2	$\pm 1 \text{ dB for Ioc}$ $\pm 0.3 \text{ dB for}$ Ioc1/Ioc2 $\pm 0.3 \text{ dB for Ior/Ioc}$	Any TT applied to the nominal setting shall fulfil: Test 1: Io shall not go above -50 dBm
		±0.1dB for ÖEc/lor	Test 2: Io shall not go below -87 dBm
			Test 3: Io shall not go below -94 dBm
			Ior/Ioc + TT
			TT on top of UE measurement accuracy:
			Ioc1=Ioc2.
			$\pm 0.3$ dB for Ior/Ioc (cell1)
			$\pm 0.3$ dB for Ior/Ioc (cell2)
			±0.1dB for CPICH_Ec/Ior (cell1)
			±0.1dB for CPICH_Ec/Ior (cell2)
			$\sum 0.8 \text{ dB}$

Test	Test Parameters in	Test Tolerance	Test Requirement in TS 34.121
8.7.3 UTRA Carrier	Table 8.7.3.1.2	$\pm 1 \text{ dB for Ioc}$	Any TT applied to the nominal
RSSI			setting shall fulfil:
		±0.3 dB for Ioc1/Ioc2	Test 1 (absolute): Io shall not go
		$\pm 0.3 \text{ dB}$ for Œr/Ioc	
			Test 2 (absolute): Io shall not go below -69 dBm
			Test 3 (absolute and relative): Io shall not go below -94 dBm
			Ior/Ioc + TT
			TT on top of UE measurement accuracy:
			Absolute tests:
			Test 1:
			Max TT= Io <sub>max</sub> ñ Io <sub>nominal</sub>
			$Io_{nominal} = -51.15 \text{ dBm}$
			$Io_{max} = Ioc_{max} + Ior_{max} = (-53.5 \text{ dBm} + 1 \text{ dB}) + (-52.5 \text{ dBm} \tilde{n} 1.45 \text{ dB} + 0.3 \text{ dB}) = -50.0 \text{ dBm}$
			=> Max TT = 1.15 dB
			$Min TT = Io_{min} - Io$
			$Io_{min} = Ioc_{min} + Ior_{min} = (-53.5)$ dBm $\tilde{n}1$ dB) + (-54.5 dBm $\tilde{n}1.45$ dB $\tilde{n}0.3$ dB) = -52.3 dBm
			=> Min TT = -1.15 dB
			Test 2:
			Max TT= Io <sub>max</sub> ñ Io <sub>nominal</sub>
			$Io_{nominal} = -67.9 \text{ dBm}$
			$Io_{max} = Ioc_{max} + Ior_{max} = (-69.27 \text{ dBm} + 1\text{ dB}) + (-68.27 \text{ dBm} \tilde{n} 4.4 \text{ dB} + 0.3 \text{ dB}) = -66.8 \text{ dBm}$
			=> Max TT = 1.1 dB
			$Min TT = Io_{min} - Io$
			$\begin{split} Io_{min} &= Ioc_{min} + Ior_{min} = (-69.27 \text{ dBm} \ \Tilde{n} \ 1 \text{ dB}) + (-70.27 \text{ dBm} \ \Tilde{n} \ 4.4 \text{ dB} \ \Tilde{n} \ 0.3 \text{ dB}) = -69.0 \text{ dBm} \end{split}$
			=> Min TT = -1.1 dB
			Test 3 (Band I):
			Max TT= Io <sub>max</sub> ñ Io <sub>nominal</sub>
			$Io_{nominal} = -93 \text{ dBm}$
			$Io_{max} = Ioc_{max} + Ior_{max} + No = (-93.46 \text{ dBm} + 1\text{ dB}) + (-92.46 \text{ dBm} \tilde{n} 9.24 \text{ dB} + 0.3 \text{ dB}) + -99 \text{ dBm} = -91.2$
		3GPP	=> Max TT = 1.8 dB

Test	Test Parameters in TS 25 133	Test Tolerance (TT)	Test Requirement in TS 34.121
8.7.3A GSM Carrier RSSI	TBD		
8.7.3B Transport channel BLER	TBD		
8.7.3C UE Transmitted power	Accuracy upper limit Accuracy lower limit Depends on PUEMAX see table 8.7.3C.2.1	0.7 dB	Formula: Upper accuracy limit + TT Lower accuracy limit ň TT Add and subtract TT to all the values in table 8.7.3C.2.1.
8.7.4 SFN-CFN observed time	T able 8.7.4.1.2 and Table 8.7.4.2.2	±1.0 dB for loc	Intra and inter frequency case:
difference		±0.3 dB for lor/loc	Test 1: lo shall not go above -50 dBm
		±0.5 chips for the	Test 2: No restrictions on lo value
		observed time difference	Test 3: Io shall not go below -94 dBm (Band 1), or below ñ92 dBm (Band II) or below ñ91 dBm (Band III)
			O∰r/loc + TT
			TT on top of UE measurements accuracy: SFN-CFN observed time difference: 1.0 chips + TT
8.7.5.1 SFN-SFN	T able 8.7.5.1.2	±1.0 dB for loc	Test 1: lo shall not go above -50 dBm
difference type 1		±0.3 dB for lor/loc	Test 2: No restrictions on lo value
		±0.5 chips for the actual SFN-SFN observed time difference	Test 3: Io shall not go below -94 dBm (Band 1), or below ñ92 dBm (Band II) or below ñ91 dBm (Band III)
			0 <u>b</u> r/loc + TT
			TT on top of UE measurements accuracy: SFN-SFN observed time difference: 1.0 chips + TT

Test	Test Parameters in	Test Tolerance (TT)	Test Requirement in TS 34.121
8.7.6 UE Rx-Tx time difference	lo $\tilde{n}10.9 dB = loc$ , Test 1: lo = -94 dBm Test2 : lo = -72dBm Test3 : lo = -50dBm Timing Accuracy $\pm$ 1.5 chip	1 dB for loc 0.3 dB for lor/loc 0.5 chip for timing accuracy	Test 1: lo = -92.7 dBm, loc = -103.6 dBm Formula: loc*(1-TT <sub>loc</sub> + (lor/loc-TT <sub>lor/loc</sub> )) $\geq$ -94 Test 2: unchanged (no critical RF parameters) Test 3: lo = -51.3 dBm, loc = -62.2 dBm Formula: loc*(1+TT <sub>loc</sub> + (lor/loc+TT <sub>lor/loc</sub> )) $\leq$ -50 Timing accuracy ±2.0 chip Formulas: Upper limit +TT Lower limit ñTT
8.7.7 Observed time difference to GSM cell	TBD		
8.7.8 P-CCPCH RSCP	TBD		

## Tdoc **#** T1-041648

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Reason for change: 🔀	Currently it is difficult to find all different places in TS 34.108 and TS 34.121 where messages and system information applicable for specific test cases are specified. TS 34.123-1 contains a clause with information on reference conditions.			
Summary of change: 🔀	A clause is added describing where to find the reference conditions including information on how to find applicable messages and system information for test cases.			
Consequences if #	Difficult to find all messages and system information applicable for specific test			
not approved:	cases.			
••				
Clauses affected: #	new clause 4A added			
Other specs <b>Ж</b> affected:	YNXOther core specificationsXTest specificationsX0&M Specifications			
Other comments: 🖁	Appliable for terminals supporting R99 and later.			

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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.

3

# 4 Frequency bands and channel arrangement

### 4.1 General

The information presented in this clause is based on a chip rate of 3,84 Mcps.

NOTE: Other chip rates may be considered in future releases.

### 4.2 Frequency bands

a) UTRA/FDD is designed to operate in either of the following paired bands:

Operating Band	UL Frequencies UE transmit, Node B receive	DL frequencies UE receive, Node B transmit
I	1920 ñ 1980 MHz	2110 ñ2170 MHz
II	1850 ñ1910 MHz	1930 ñ1990 MHz
III	1710-1785 MHz	1805-1880 MHz
IV	1710-1770MHz	2110- 2170MHz
V	824 - 849MHz	869-894MHz
VI	830- 840 MHz	875-885 MHz

Note: See TS25.307 [26] for Band IV, V and VI. Band VI specifications are developed for use in Japan.

b) Deployment in other frequency bands is not precluded.

### 4.3 TXñRX frequency separation

a) UTRA/FDD is designed to operate with the following TX-RX frequency separation.

Operating Band	TX-RX frequency separation
	190 MHz
II	80 MHz
III	95 MHz
VI	45 MHz.

- b) UTRA/FDD can support both fixed and variable transmit to receive frequency separation.
- c) The use of other transmit to receive frequency separations in existing or other frequency bands shall not be precluded.

### 4.4 Channel arrangement

#### 4.4.1 Channel spacing

The nominal channel spacing is 5 MHz, but this can be adjusted to optimise performance in a particular deployment scenario.

#### 4.4.2 Channel raster

The channel raster is 200 kHz, which for all bands except Band II and Band VI means that the centre frequency must be an integer multiple of 200 kHz. In Band II, 12 additional centre frequencies are specified according to the table in 4.1a and the centre frequencies for these channels are shifted 100 kHz relative to the normal raster. In Band VI, additional centre frequencies are specified according to Table 4.1b and the centre frequencies for these channels are shifted 100 kHz relative to the normal raster.

4

## 4.4.3 Channel number

The carrier frequency is designated by the UTRA Absolute Radio Frequency Channel Number (UARFCN). The values of the UARFCN are as follows.

Table	4.1:	UARFCN	definition	

Uplink	N <sub>u</sub> = 5 * F <sub>uplink</sub>	0,0 MHz $\leq$ F <sub>uplink</sub> $\leq$ 3 276,6 MHz
		where F <sub>uplink</sub> is the uplink frequency in MHz
Downlink	NdN <sub>d</sub> = 5 * F <sub>downlink</sub>	0,0 MHz $\leq$ F <sub>downlink</sub> $\leq$ 3 276,6 MHz
		where F <sub>downlink</sub> is the downlink frequency in MHz

#### Table 4.1a: UARFCN definition (Band II additional channels)

	UARFCN	Carrier frequency [MHz]
Uplink	Nd = 5 * (F <sub>uplink</sub> ñ 1850.1 MHz)	F <sub>uplink</sub> = 1852.5, 1857.5, 1862.5, 1867.5,
		1872.5, 1877.5,
		1882.5, 1887.5, 1892.5, 1897.5, 1902.5, 1907.5
Downlink	N <sub>u</sub> = 5 * (F <sub>downlink</sub> ñ 1850.1 MHz)	F <sub>downlink</sub> = 1932.5, 1937.5, 1942.5, 1947.5,
		1952.5, 1957.5,
		1962.5, 1967.5, 1972.5, 1977.5, 1982.5, 1987.5

#### Table 4.1b: UARFCN definition (Band VI additional channels)

	UARFCN	Carrier frequency [MHz]
Uplink	$N_u = 5 * (F_{uplink} \tilde{n} 670.1 \text{ MHz})$	F <sub>uplink</sub> = 832.5, 837.5
Downlink	Nd = 5 * (F <sub>downlink</sub> ñ 670.1 MHz)	F <sub>downlink</sub> = 877.5, 882.5

### 4.4.4 UARFCN

The following UARFCN range shall be be supported for each paired band.

#### Table 4.2: UTRA Absolute Radio Frequency Channel Number

Operating Band	Uplink UE transmit, Node B receive	Downlink UE receive, Node B transmit
I	9 612 to 9 888	10 562 to 10 838
II	9 262 to 9 538	9 662 to 9 938
	and	and
	12, 37, 62, 87,	412, 437, 462, 487,
	112, 137, 162, 187,	512, 537, 562, 587,
	212, 237, 262, 287	612, 637, 662, 687
III	8562 to 8913	9037 to 9388
VI	4162 to 4188 and 812,	4387 to 4413 and 1037,
	837	1062

# 4A Reference Conditions

The reference environment used by all test cases in this document are specified in TS 34.108 [3]. Where a test requires an environment that is different, this will be specified in the test itself.

## 4A.1 Generic setup procedures

Test procedures for RF test are defined in TS 34.108 [3] clause 7.3. The initial conditions of this clause also refer to the generic setup procedures defined in TS 34.108 [3] clause 7.2.

# 4A.2 System information

The reference system information used for test cases specified in this document is defined in TS 34.108 [3] clauses 6.1.0a (Default Master Information Block and Scheduling Block messages) and 6.1.0b (Default System Information Block Messages). For the generic setup procedures defined in TS 34.108 [3] clause 7.3 some SIB elements override those specific SIB elements from TS 34.108 [3] clause 6.1.0b. Annex I in the present document overwrites specific elements in the Master Information Block and Scheduling Block messages compared to TS 34.108 [3] clause 6.1.0a and specific SIB elements compared to TS 34.108 [3] clauses 6.1.0b and 7.3. In the test description itself specific SIB elements can be overwritten again. This leads to the following places defining Master Information Block, Scheduling Block messages and System Information Block Messages:

1. TS 34.108 [3] clauses 6.1.0a and 6.1.0b

2. TS 34.108 [3] clause 7.3

3. TS 34.121 Annex I

4. TS 34.121 test case description

When the same Information Element is defined in several places then the place with the higher number according to the above list will override the other definition(s).

## 4A.3 Message contents

Default message contents for test cases specified in this document are defined in TS 34.108 [3] clause 9. Most default message contents are specified in TS 34.108 [3] clause 9.2.1, but some default message contents originally defined for signalling test cases are re-used for RF testing and specified in TS 34.108 [3] clause 9.1.1. TS 34.108 [3] clause 7.3 contains additional information regarding the default messages. Annex I in the present document overwrites specific message contents for some test cases. In the test description itself specific information elements can be overwritten again. This leads to the following places defining message contents:

1a. TS 34.108 [3] clause 9.1.1 (only if indicated by TS 34.108 [3] clause 7.3 or the test description in TS 34.121)

1b. TS 34.108 [3] clause 9.2.1 (as indicated by TS 34.108 [3] clause 7.3 or the test description in TS 34.121)

2. TS 34.108 [3] clause 7.3

3. TS 34.121 Annex I

4. TS 34.121 test case description

When the same Information Element is defined in several places then the place with the higher number according to the above list will override the other definition(s). Default message contents from TS 34.108 [3] clause 9 will be used either from clause 9.1.1 (1a in the list above) or from clause 9.2.1 (1b in the list above). Some messages are not defined in all places, but all messages have to be defined at least in the test description.

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Reason for change:	Align the OCNS for HSDPA with TS 25.101.
Summary of change:	Change the OCNS code allocation for HSDPA from codes 2-7 to 122-127 on
	SF=128, align the relative level settings and add Note 1 as specified in TS 25.101.
Consequences if	CONS codes will conflict with other downlink codes used in HSDPA testing and
not approved:	would not be aligned with TS 25.101. The relative level settings could be
	interpreted wrong.
Clauses affected:	Annex E 5 2 E 6 2

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Other specs	ж Х	Other core specifications 🛛 🔀		
affected:	X X	Test specifications D&M Specifications		
Other comments:	Comparison         Comparison <thcomparison< th="">         Comparison         Comparis</thcomparison<>			

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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.

# E.5.2 OCNS Definition

The selected channelization codes and relative power levels for OCNS transmission during for HSDPA performance assessment are defined in Table E.5.5. The selected codes are designed to have a single length-16 parent code.

Channelization Code at SF=128	Relative Level setting (dB)	DPCH Data
<u>12</u> 2	<mark>0-6</mark>	The DPCH data for each
<u>12</u> 3	- <mark>2</mark> 8	channelization code shall be
<u>12</u> 4	- <u>2</u> 8	uncorrelated with each other and
<u>12</u> 5	- <mark>4</mark> 10	with any wanted signal over the
<u>12</u> 6	- <u>1</u> 7	period of any measurement.
<u>12</u> 7	- <u>3</u> 9	

# Table E.5.5: OCNS definition for HSDPA receiver testing

 NOTE 1: The relative level setting specified in dB refers only to the relationship between the OCNS channels. The

 level of the OCNS channels relative to the Ior of the complete signal is a function of the power of the

 other channels in the signal with the intention that the power of the group of OCNS channels is used to

 make the total signal add up to 1.

# E.6 Downlink Physical Channels Code Allocation (This clause is informative)

# E.6.1 Downlink Physical Channels Code Allocation for non-HSDPA test cases

Table E.6.1.1 shows the downlink code allocation for non-HSDPA test cases. The numbers in the code columns indicate the code number with the respective spreading factor (SF). The Note column refers to specifications where the code allocation is defined. Only the system configuration according to TS 34.108 section 6.10b is used for RF testing. The codes used for the WCDMA interferer as defined in Table E.4.1 are not included in the table below because the WCDMA interferer is on another carrier. The S-CCPCH has been moved from code 1 to code 2 (SF=64) in order to resolve the code conflict with OCNS DPCH.

SE-256	SE-128	SE-64	Note		
	01 = 120	01 = 04	TS 25 213: TS 34 108: 6 1 4		
1: P-CCPCH	0: -		TS 25 213		
2: PICH		0: -	TS 34 108: 6 1 0b (SIB5)		
3: AICH	1:-		TS 34 108: 6 1 0b (SIB5)		
4: -			OCNS: TS34.121: Table F.3.6		
5: -	2: OCNS DPCH				
6: -	_	1:-			
7: -	3: -				
8: -	4.				
9: -	4:		S-COPCH for RF testing 15 34.108: 7.3 (SIB5)		
10: -	5.	2: 5-00PCH	5. TS 34 109: 6 1 2 (CTCH)		
11: -	5.		5. 13 34.108. 0.1.2 (0101)		
12: -	6.				
13: -	0.	3.			
14: -	7	0			
15: -	/.				
16:	8.				
17: -	0.	<u>4</u> · -			
18: -	9· -				
19: -	0.				
20: -	10				
21: -	10.	5: -			
22: -	11: OCNS DPCH		OCNS: TS 34.121: E.3.6		
23: -					
24-31: -	12-15: -	6-7: -			
32: -	16: -				
33: -		8: -			
34: -	17: OCNS DPCH		OCNS: TS 34.121: E.3.6		
35:-	10.01	0.10			
30-43: -	18-21	9-10: -			
44	22: -				
45		11: -			
40	23: OCNS DPCH		OCNS: TS 34.121: E.3.6		
48-59 -	24-29' -	12-14			
60' -					
61: -	30: -				
62: -		15: -			
63: -	31: OCNS DPCH		OCNS: 1S 34.121: E.3.6		
64-75: -	32-37: -	16-18: -			
76: -					
77: -	38: UCNS DPCH	10.	UUNS: 15 34.121: E.3.6		
78: -	201	19:-			
79: -	39: -				
80-91: -	40-45: -	20-22: -			

Table E.6.1.1: Downlink Physical Channels Code Allocation for RF testing (non-HSDPA)

Code with SF=256	Code with SF=128	Code with SF=64	Note
92: -	40		
93: -	46: -	00.	
94: -		23: -	OCNE: TE 24 121: E 2.6
95: -			OCINS: 13 34.121. E.3.0
96-107: -	48-53: -	24-26: -	
108: -	54: -		
109: -		27: -	
110: -	55: OCNS DPCH		OCNS: TS 34.121: E.3.6
111:-	F0.01.	00.00	
104	50-01	28-30	
124	62: OCNS DPCH		OCNS: TS 34.121: E.3.6
126: -		31: -	
127: -	63: -		
128-135: -	64-67: -	32-33: -	
136: -	69.		
137: -	00	34	
138: -	69' OCNS DPCH	04	OCNS: TS 34 121: F 3 6
139: -			
140-155: -	70-77: -	35-38: -	
156: -	78: OCNS DPCH		OCNS: TS 34.121: E.3.6
157: -		39: -	
150	79: -		
160-167 <sup>-</sup> -	80-83' -	40-41 -	
168: -	00 00.	10 111	
169: -	84: -	40.	
170: -		42	OCNS: TS 24 121: E 2.6
171: -	65. OCINS DECH		00N3. 13 34.121. E.3.0
172-187: -	86-93: -	43-46: -	
188: -	94: OCNS DPCH		OCNS: TS 34.121: E.3.6
189: -		47: -	
190: -	95: -		
191 102: DCH SBB			
192. DOI 1010	96: DCH 12.2		TS 34.108: 9.2.1 (DCH SRB and 12.2);
194: -		48: -	DCH 64: SF32-Code24,
195: -	97: -		DCH 144: SF16-Code12,
196-223: -	98-111: -	49-55: -	
224: -	112		
225: -	112	56' -	
226: -	113: OCNS DPCH		OCNS: TS 34.121: E.3.6
227: -			
228-235: -	114-117: -	57-58: -	
230: -	118: -		
238		59: -	
239: -	119: OCNS DPCH		OCNS: TS 34.121: E.3.6
240-59: -	120-123: -	60-61: -	
248: -	104		
249: -	124: -	60.	
250: -		02	OCNS: TS 34 121: E 3.6
251: -	120.001000100		0010.1004.121. E.0.0
252-255: -	126-127: -	63: -	

# E.6.2 Downlink Physical Channels Code Allocation for HSDPA test cases

Tables E.6.2.1 and E.6.2.2 show the downlink code allocation for HSDPA test cases. Table E.6.2.1 shows the complete downlink code tree for spreading factors 16, 32 and 64. Table E.6.2.2 shows details of the downlink code tree for SF=16

code=0 with spreading factors 64, 128 and 256. The numbers in the code columns indicate the code number with the respective spreading factor (SF). The Note column refers to specifications where the code allocation is defined.

Note 1: Performance requirements for test cases using 15 HS-PDSCH codes have not been defined by RAN4 yet. A specific code allocation for test cases using 15 HS-PDSCH codes needs to be aligned with assumptions taken in RAN4.

Note 2: The OCNS DPCH codes defined in Table E.5.5 use codes 2-7 (SF128) which collides with HS SCCH and S-CCPCH. For this reason the OCNS DPCH codes 122-127 (SF128) have been used in the tables below. This needs to be confirmed with RAN4.

Table E.6.2.1: HSDPA Downlink Physical Channels Code Allocation for RF testing

Code with	Code with SF=32	Code with	Note		
3F=04		37=10			
0:-	0: -		HS SCOUL and HS SCOUP on SE129		
		0: -			
2. 3-00F0F	1: -		US SCOPUT: 13 34,108, 0,1,00		
3			H3-300H3 allu H3-300H4 0H 3F128		
4	2: -				
5:-		1: HS-PDSCH	1st HS-PDSCH code		
0	3: -				
7					
0	4: -				
9		2: HS-PDSCH	2nd HS-PDSCH code		
10	- 5: -				
10.					
12	6: -				
13		3: HS-PDSCH	3rd HS-PDSCH code		
14	7: -				
16: -					
17: -	8: -				
18:-		4: HS-PDSCH	4th HS-PDSCH code		
10:-	9: -				
20: -					
21:-	10: -				
22:-		5: HS-PDSCH	5th HS-PDSCH code		
23: -	11:-				
24: -					
25: -	12: -				
26: -	10	6: HS-PDSCH	6th HS-PDSCH code		
27: -	13: -				
28: -	4.4.				
29: -	14		7th HS-PDSCH code		
30: -	15.	7: по-ризоп			
31: -	15				
32: -	16:				
33: -	10		9th HS DDSCH and		
34: -	17.	6. NG-FD30N	oli no-r Doon code		
35: -	17				
36: -	18				
37: -	10.	9 HS-PDSCH	9th HS-PDSCH code		
38: -	19 -	0.110120011			
39: -	10.				
40: -	20				
41: -		10: HS-PDSCH	10th HS-PDSCH code		
42: -	21				
43: -					
44: -	22: -				
45: -		11: -			
46: -	23: -				
47: -					
48: -	24: -	12: -	A-DPCH on code 192 (SF256) is the		

Code with SF=64	Code with SF=32	Code with SF=16	Note
49: -			associated dedicated channel and contains
50: -	25.		the SRB from call setup (TS 34.108: 9.2.1)
51: -	20		
52: -	26.		
53: -	20	13.	
54: -	27.	13	
55: -	21		
56: -	28.	14.	
57: -	20		
58: -	20.	14	
59: -	29		
60: -	30.		
61: -	50	15.	OCNS DPDCH on codes 122-127 (SF128)
62: -	31.	15	
63: -	51		

# Table E.6.2.2: HSDPA Downlink Physical Channels Code Allocation for SF=16 code=0

Code with SF=256	Code with SF=128	Code with SF=64	Note		
0: P-CPICH	0.		TS 25.213; 34.108: 6.1.4; 34.121: E.4.2		
1: P-CCPCH	0	0.	TS 25.213; 34.121: E.4.2		
2: PICH	1.	0	TS 34.108: 6.1.0b (SIB5)		
3: AICH	1		TS 34.108: 6.1.0b (SIB5)		
4: -			TS 34 108: 0.2.1 BB Setup message		
5: -	2. 113-30011	1.	10 04.100. a.z.1 htb Getup Message		
6: -	2. LC CCCU2	1	TS 34 108: 9.2.1 BB Setup message		
7: -	3. H3-300H2		10 04.100. 9.2.1 HD Gelup Message		
8: -	1.				
9: -	4		S-CCPCH: TS 3/ 108: 6 1 0b (SIB5)		
10: -	5.	2.0-001 011	0-001 011. 10 04.100. 0.1.0b (01b3)		
11: -	5				
12: -			TS 24 109: 0.2.1 PP Setup measure		
13: -	0.110-00010	3.	10 04.100. 9.2.1 Tib Getup message		
14: -	7. HS-SCCH4	0	TS 34 108: 9.2.1 BB Setup message		
15: -	7.110-00004		13 34.100. 9.2.1 nd Setup message		

# Tdoc **#**T1-041653

CHANGE REQUEST												
<b>H</b>		<mark>34.1</mark> 2	<mark>21</mark> CR	439	жrеv		¥	С	urrent vers	ion:	5.5.0	æ
For <u>HELP</u> on using this form, see bottom of this page or look at the pop-up text over the <b>#</b> symbols.												
			pice							к		
Title:	Ж	Corre	ction to H	landover to GS	SM TC 8	.3.4						
Source:	Ħ	NEC										
Work item code:	ж	TEI							Date: 🔀	21/	10/2004	
Category:	<b>H</b>	F Use <u>one</u> F A B C D Detailec be found	e of the fol (correctior (correspon (addition c (functiona (editorial r I explanati d in 3GPP	lowing categorie ) nds to a correction of feature), I modification of modification) ions of the above <u>TR 21.900</u> .	es: on in an e feature) e categor	earlier ries ca	<i>relea</i> : n	R se)	Release: <b>#</b> Use <u>one</u> of Ph2 R96 R97 R98 R99 Rel-4 Rel-5 Rel-6 Rel-7	Re (GSN (Rele (Rele (Rele (Rele (Rele (Rele	I-5 Illowing rele A Phase 2) pase 1996) pase 1997) pase 1998) pase 1999) pase 4) pase 5) pase 6) pase 7)	pases:

Reason for change: 🖁	Misleading editorís notes, incorrect Handover from UTRAN command and Handover Command (GSM) in TC 8.3.4.
Summary of change: 🔀	Remove the editorís notes and the TBD. Correction to the Handover from UTRAN command. Correction to the Handover Command (GSM). The CHANNEL MODE IE is changed from GSM AMR to GSM FR because GSM AMR is optional. Addition of GSM frequency information to Annex G.2.4. Editorial corrections.
Consequences if R not approved:	The editorís notes would be misleading. The incorrect Handover from UTRAN command and Handover Command (GSM) could make good UEs fail the test. UEs which do not support GSM AMR might fail the test. Information on GSM frequency missing.

Clauses affected:	器 8.3.4, Annex G.2.4				
	YN				
Other specs	X     Other core specifications     X				
affected:	X Test specifications				
	X O&M Specifications				
Other comments:	# Applicable for combined FDD and GSM 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.

# 8.3.4 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 indicated in Table 8.3.4.1. The rate of correct handovers observed during repeated tests shall be at least 90% with a confidence level of 95 %.

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.

#### 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.

The UTRAN shall send a HANDOVER FROM UTRAN COMMAND with activation time "now". In the GSM Handover command contained in that message, the IE starting time shall not be included. The RRC HANDOVER FROM UTRAN COMMAND message shall be sent to the UE. The start of T3 is defined as the end of the last TTI, containing the HO command.

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 specified 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 measurement		GSM Carrier RSSI	
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	NOTE: See Annex I for cell information . The information is sent before the compressed mode patterns starts.
N Identify abort		66	Taken from TS 25.133 [2] 8.1.2.5.2.1 table 8.7.
T Reconfirm abort		5.5	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

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		
$\hat{P}_{or}/I_{oc}$	dB	0		
I <sub>oc</sub> dBm/3. 84 MHz -70				
CPICH_Ec/lo dB -13				
Propagation AW/GN				
Condition				
Note 1: The DPCH level is controlled by the power control loop				
Note 2 : The power of the OCNS channel that is added shall make				
the total power from the cell to be equal to $I_{or}$				

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

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

Parameter	Unit	Cell 2 (GSM)	
Farallieler	Unit	T1	T2, T3
Absolute RF Channel Number		AR	FCN 1
RXLEV	dBm	-85	-75

#### 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 and compressed mode parameters are configured as in the table 8.3.4.3. The compressed mode shall remain inactive.
- 4) The RF parameters for cell 2 are set up according to T1 and the SS configures a traffic channel.
- 5) The start of T1 is TTI aligned.
- 6) The SS shall transmit a MEASUREMENT CONTROL message to on cell 1.
- 7) At the T1-T2 transition, the SS shall switch the power of cell 2.
- 8) The UE shall transmit a MEASUREMENT REPORT message triggered by event 3C.
- 9) The SS shall transmit a HANDOVER FROM UTRAN COMMAND message with activation time "now" and indicating the traffic channel of the target GSM cell to the UE through DCCH of the serving UTRAN cell. The start of T3 is defined as the end of the last TTI, containing the HANDOVER command.
- 10)<u>The 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 90 ms from the beginning of time period T3, then the number of successful tests is increased by one.</u>

- 11) At the end of T3 the UE is switched off. Any timing information of cell 2 is deleted in the UE.
- 12)Repeat step 1-11 until the confidence level according to annex F.6.2 is achieved.

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

### 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:

# MEASUREMENT CONTROL message (step 56):

Information Element/Group name	Value/Remark
Message Type (10.2.17)	
UE information elements	
-RRC transaction identifier	0
-Integrity check info	
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IE. The first/
	leftmost bit of the bit string contains the
	most significant bit of the MAC-I.
-RRC message sequence number	SS provides the value of this IE, from its
	internal counter.
Measurement Information elements	
-Measurement Identity	2
-Measurement Command (10.3.7.46)	Setup
-Measurement Reporting Node (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)	
-Measurement quantity for UTRAN quality estimate	
(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)	
-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
-Threshold own system	Not Present
-W	Not Present
-Threshold other system	-80 dBm
-Hysteresis	0 dB
-Time to trigger	0 ms
-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
Physical channel information elements	
-DPCH compressed mode status info (10.3.6.34)	Active (for all three patterns specified in
	table 8.3.4.3)

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HANDOVER FROM UTRAN COMMAND message (step 89):

Information Element	Value/remark
Message Type (10.2.15)	
UE information elements	
-RRC transaction identifier	0
-Integrity check info	
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IE. The first/
	leftmost bit of the bit string contains the
	most significant bit of the MAC-I.
-RRC message sequence number	SS provides the value of this IE, from its
	internal counter.
-Activation time	<mark>-now-</mark>
RB information elements	
-RAB information list	1
-RAB Info	Not present
- RAB identity	<u>0000 0001B</u>
	The first/ leftmost bit of the bit string
	contains the most significant bit of the RAB
	<u>identity.</u>
<u>- CN domain identity</u>	<u>CS domain</u>
<ul> <li>NAS Synchronization Indicator</li> </ul>	Not present
- Re-establishment timer	<u>Use T315</u>
Other information elements	
-CHOICE System type	GSM
-Frequency Band	Set to "GSM/ PCS 1900" if GSM/ PCS
	<u>1900 is used in this test. Otherwise set to</u>
	<u>"GSM/DCS 1800 Band"</u> GSM/DCS 1800-
	Band
- <u>CHOICE</u> GSM message	Single GSM message
Single GSM message	HBDJ
- <u>Single G</u> SM message- <del>List</del>	GSM HANDOVER COMMAND formatted
	and coded according to GSM specifications
	as BIT STRING (1512). The first/leftmost/
	most significant bit of the bit string contains
	laple.

### 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

Information Element (GSM)	Value/remark	Version
Protocol Discriminator	RR Management.	
Skip Indicator	0000	
Message Type	00101011	
Cell Description		
- Network Colour Code	1	
- Base station Colour Code	<u>5</u>	
- BCCH Carrier Number	<u>1</u>	
Channel Description 2		
<ul> <li>Channel Type and TDMA offset</li> </ul>	TCH/F + ACCHs	
<u>- Timeslot Number</u>	Chosen arbitrarily by the test house, but not Zero.	
<ul> <li>Training Sequence Code</li> </ul>	Chosen arbitrarily by the test house.	
<u>- Hopping</u>	Single RF channel.	
- ARFCN	1	
Handover Reference		
- Handover Reference Value	Chosen arbitrarily by the test house.	
Power Command and ACCESS Type		
<u>- ATC</u>	<u>0</u>	
<u>- EPC_mode</u>	<u>0</u>	<u>REL-5</u>
<u>- FPC</u>	<u>0</u>	<u>R99 and</u>
		REL-4 only
<u> </u>	<u>0</u>	<u>REL-5</u>
<u>- Power level</u>	Chosen arbitrarily by the test house.	
Synchronization Indication	Not present.	
Channel Mode	speech full rate or half rate version 1	
All other information elements	Not present.	I

### 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% of the cases with a confidence level of 95 %.

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.

# Annex G (normative): Environmental conditions

# G.1 General

This normative annex specifies the environmental requirements of the UE. Within these limits the requirements of the present documents shall be fulfilled.

# G.2 Environmental requirements

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

# G.2.1 Temperature

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

#### Table G.2.1.1

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

Outside this temperature range the UE, if powered on, shall not make ineffective use of the radio frequency spectrum. In no case shall the UE exceed the transmitted levels as defined in TS 25.101 [1] for extreme operation.

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

# G.2.2 Voltage

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

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

Table G	i.2.2.1
---------	---------

Power source	Lower extreme voltage	Higher extreme voltage	Normal conditions voltage
AC mains	0.9 * nominal	1.1 * nominal	nominal
Regulated lead acid battery	0.9 * nominal	1.3 * nominal	1.1 * nominal
Non regulated batteries: - LeclanchÈ / lithium - Mercury/nickel & cadmium	0.85 * nominal 0.90 * nominal	Nominal Nominal	Nominal Nominal

Outside this voltage range the UE if powered on, shall not make ineffective use of the radio frequency spectrum. In no case shall the UE exceed the transmitted levels as defined in TS 25.101 [1] for extreme operation. In particular, the UE shall inhibit all RF transmissions when the power supply voltage is below the manufacturer declared shutdown voltage.

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

# G.2.3 Vibration

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

### Table G.2.3.1

Frequency	ASD (Acceleration Spectral Density) random vibration
5 Hz to 20 Hz	0.96 m <sup>2</sup> /s <sup>3</sup>
20 Hz to 500 Hz	0.96 m <sup>2</sup> /s <sup>3</sup> at 20 Hz, thereafter ñ3 dB / Octave

Outside the specified frequency range the UE, if powered on, shall not make ineffective use of the radio frequency spectrum. In no case shall the UE exceed the transmitted levels as defined in TS 25.101 [1] for extreme operation.

# G.2.4 Specified frequency range

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

Some tests in the present document are performed also in low, mid and high range of the operating frequency band of the UE. The UARFCN's to be used for low, mid and high range are defined in TS 34.108 [3] clause 5.1.1.

For GSM frequency bands see TS 51.010-1 [25].

Note: Currently all GSM related test cases use ARFCN 1 and 2 (see cell 9 and 10 in TS 34.108 [3]) which are in the GSM 900 band.

	CR-Form-v7
æ	<b>34.121</b> CR <sup>440</sup> <b># rev</b> - <sup>#</sup> Current version: <b>5.5.0</b> <sup>#</sup>
For <u>HELP</u> on	using this form, see bottom of this page or look at the pop-up text over the <mark></mark> symbols.
Proposed change	<i>affects:</i> UICC apps <b>#</b> ME <b>X</b> Radio Access Network Core Network
Title:	Correction to test procedure in 7.12
Source:	ß Anritsu
Work item code:	Date: 🔀 1/11/2004
Category: ₿	F       Release: # Rel-4         Use one of the following categories:       Use one of the following releases:         F (correction)       2       (GSM Phase 2)         A (corresponds to a correction in an earlier release)       R96       (Release 1996)         B (addition of feature),       R97       (Release 1997)         C (functional modification of feature)       R98       (Release 1998)         D (editorial modification)       R99       (Release 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)       Rel-6       (Release 6)
Reason for chang	<ul> <li>e: 1) In the test procedure, it is not very clearly stated how to calculate Pfa.</li> <li>2) The preamble cycles are not able to configure simply and efficiently.</li> </ul>
Summary of chan	<ul> <li>ge: # 1) UEs check non received AI with retransmission of preamble, but SS can not confirm the last preamble with the corresponding retransmited preamble. So, the statemet is added to the test procedure 5) as ìPfa will not be calculated with the first preamble of every cycleî.</li> <li>2) The preamble cycles are specified in reasonable numbers.</li> </ul>
Consequences if not approved:	<ul> <li>Pfa may be calculated with RACH procedure related to SS paging response, and the test purpose of AI detection performance may be misinterpreted.</li> <li>2) Any test equipment could not simply configure the preamble cycles.</li> </ul>
Clauses affected:	<b>第</b> 7.12
Other specs affected:	Y       N         %       X         Other core specifications       %         X       Test specifications         X       O&M Specifications
Other comments:	X   This CR applies for Rel-4 and later releases.
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- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <u>ftp://ftp.3gpp.org/specs/</u> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

# 7.12 Detection of Acquisition Indicator (AI)

# 7.12.1 Definition and applicability

The receiver characteristics of Acquisition Indicator (AI) are determined by the probability of false alarm Pfa and probability of correct detection Pd. Pfa is defined as a conditional probability of detection of AI signature given that a AI signature was not transmitted. Pd is defined as a conditional probability of correct detection of AI signature given that the AI signature is transmitted.

The requirements and this test apply to all types of UTRA for the FDD UE for Release 4 and later releases.

# 7.12.2 Minimum requirements

For the parameters specified in table 7.12.1 the Pfa and 1-Pd shall not exceed the specified values in table 7.12.2. Power of downlink channels other than AICH is as defined in Table E.3.3 of Annex E.

Parameter	Unit	Test 1
Phase reference	-	P-CPICH
I <sub>oc</sub>	dBm/3.84 MHz	-60
Number of other transmitted AI signatures on AICH	-	0
$\dot{P}_{or}/I_{oc}$	dB	-1
AICH_Ec/lor	dB	-22.0
AICH Power Offset	dB	-12.0
Propagation condition	-	Static

Table 7.12.1: Parameters for AI detection

Note that AICH\_Ec/Ior can not be set. Its value is calculated from other parameters and it is given for information only. (AICH\_Ec/Ior = AICH Power Offset + CPICH\_Ec/Ior)

# Table 7.12.2: Test requirements for AI detection

lest Number	Pta	1-Pd
1	0.01	0.01

The reference for this requirement is TS 25.101 [1] clause 8.13.1.

# 7.12.3 Test purpose

To verify that average probability of false detection of AI (Pfa) and average probability of missed AI (1-Pd) do not exceed specified values.

# 7.12.4 Method of test

7.12.4.1 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 AWGN noise source to the UE antenna connector as shown in figure A.9.
- 2) Set the test parameters for test 1 as specified in tables 7.12.1 and 7.12.4. Power of downlink channels other than AICH are as defined in Table E.3.3 of Annex E.

Parameter	Unit	Set 1	Set 2
Maximum number of preamble ramping cycles(Mmax)		<del>3</del> 2	2
Maximum number of preambles in one preamble cycle (preamble retrans max)		32	12
Back-off time (Tb01)	ms #TTI	N/A 10	N/A 10
Power ramp step when no acquisition indicator is received (power offset p0)	dB	1	3

# Table 7.12.3 UE parameters for AI test

# Table 7.12.4 SS parameters for AI test

Parameter	Unit	Value
Primary CPICH DL TX power	dBm	-8
UL interference	dBm	-92
SIR in open loop power	dB	-10
control (Constant value)		

See reference TS25.331 [8] clause 8.5.7 Open loop power control to calculate Pinitial. See also reference TS25.214 [5] subclause 6 step 6.3.

### 7.12.4.2 Procedure

- 1) The UE is switched on.
- 2) The SS and the UE shall perform location registration procedure as specified in TS34.108 [3] clause 7.2.2. UE parameters are set as defined in table 7.12.3 Set 1.
- 3) SS activates continuous paging and sends the Paging type 1 message with used paging identity being a UTRAN identity and including the UE's assigned U-RNTI
- 4) UE starts transmitting RACH preambles at level P=Pinitial.
- 5) SS does not send AI. If UE sends a new preamble a success for calculating Pfa is recorded. This step is repeated until UE stops sending preambles. <u>SS does not calculate Pfa for the first preamble of every preamble cycles.</u>
- 6) UE stops sending preambles. If number of sent preambles in the preamble cycle < preamble\_retrans\_max a failure for calculating Pfa is recorded and test continues from step 3. If number of preamble cycles  $M \neq Mmax$ , a new preamble cycle is initiated and test continues from step 4. If number of preamble cycles M = Mmax then test continues from step 3.
- 7) Repeat steps 5-6 according to Annex F.6.2 table 6.2.8.
- 8) UE parameters are set as defined in table 7.12.3 Set 2.
- 9) SS activates continuous paging and sends the Paging type 1 message with used paging identity being a UTRAN identity and including the UE's assigned U-RNTI.
- 10) UE starts transmitting RACH preambles.
- 11) SS responds with AI signature containing NACK in AICH.
- 12) If UE stops sending preambles success for calculating Pd is recorded. If UE does not stop sending preambles, a failure for calculating Pd is recorded.
- 13) Repeat steps 11-12 according to Annex F.6.2 table 6.2.8.

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1) Fill out the above form	n. The	symbols	s above m	arked 🕱 con	tain pop-up h	elp infor	rmatio	n about the fie	eld that th	ney are close	est to.

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# 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 UE Rx-Tx time difference type 1 measurement accuracy

		Acourcov	Conditions			
Parameter	Unit	[chip]	lo [dBm/3.84MHz]			
			Band I	Band II	Band III	
UE RX-TX time difference	chip	± 1.5	-9450	-9250	-9150	

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

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

Dere	motor	l Init	Test 1	Test 2	Test 3
Parameter		Unit	Cell 1	Cell 1	Cell 1
UTRA RF Cha	annel number		Channel 1	Channel 1	Channel 1
CPICH_Ec/lo	r	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	DPCH Ec/lor		-15	-15	-15
OCNS Ec/lor		dB	-1.11	-1.11	-1.11
Ober/loc		dB	10.5	10.5	10.5
		dPm/2.04 MUz	lo ñ10.9 dB = loc,	lo ñ10.9 dB = loc,	lo ñ10.9 dB = loc,
100			Note 1	Note 1	Note 1
	Band I		-94		
lo Band II Band III		dBm/3.84 MHz	-92	-72	-50
			-91		
Propagation condition		-	AWGN	AWGN	AWGN
NOTE 1: loc geometry fact	: level shall be a or @፹/loc.	djusted according th	ne total signal power s	pectral density <i>lo</i> at re	ceiver input and the

#### 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) 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.
- 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) 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.
- 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], with the following exceptions:

MEASUREMENT CONTROL message for Intra frequency measurement (Step 2):

Information Element	Value/Remark
Message Type	
UE information elements	
-RRC transaction identifier	0
-Integrity check info	
-message authentication code -RRC message sequence number	SS calculates the value of MAC-I for this message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I. SS provides the value of this
Maggurament Information elements	IE, from its internal counter.
Measurement Identity	5
-Measurement Command	SETUD
- Additional measurements list	Not Present
-Measurement Reporting Mode	AMBIC
-Measurement Report Transfer Mode	Periodical reporting
-Periodical Reporting / Event Trigger Reporting Mode	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

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

# 8.7.6.1.5 Test requirements

# Table 8.7.6.1.3 UE Rx-Tx time difference type 1 measurement accuracy

			Conditions			
Parameter	Unit	Accuracy [chip]	p] lo [dBm/3.84MHz]		]	
			Band I	Band II	Band III	
UE RX-TX time difference	chip	± 2.0	-9450	-9250	-9150	

Dere	matar	l Init	Test 1	Test 2	Test 3	
Faranieter		Unit	Cell 1	Cell 1	Cell 1	
UTRA RF Cha	annel number		Channel 1	Channel 1	Channel 1	
CPICH Ec/lo	r	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	
Ober/loc		dB	10.5	10.5	10.5	
	Band I		-103.6			
loc	Band II	dBm/ 3.84 MHz	-101.6	-82.9	-62.2	
	Band III		-100.6			
	Band I		-92.7			
lo	Band II	dBm/3.84 MHz	-90.7	-72	-51.3	
	Band III		-89.7			
Propagation condition		-	AWGN	AWGN	AWGN	
NOTE 1: loc	level shall be a	adjusted according the	e total signal power s	pectral density lo at re	eceiver input and the	
geometry fact	or @F/loc.		- '	•	-	

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

The reported values for UE Rx-Tx time difference accuracy shall meet the requirements in table 8.7.6.1.5.

# Table 8.7.6.1.5: UE Tx-Rx time difference type 1 measurement accuracy requirements for the reported values

	Test 1	Test 2	Test 3
Lowest reported value	RX-TX TIME (X ñ 2)	RX-TX TIME (X ñ 2)	RX-TX TIME (X ñ 2)
Highest reported value	$RX-TX_TIME_(X + 2)$	$RX-TX_TIME_(X + 2)$	$RX-TX_TIME_(X + 2)$
RX-TX_TIME_(X) is the rep	orting value corresponding to	UE Rx-Tx time difference me	easured by system
simulator			

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-vi
æ	34.121 CR 444 ⊮rev <sup>-</sup> <sup>⊮</sup>	Current version: <b>5.5.0</b>
For <u>HELP</u> o	on using this form, see bottom of this page or look at th	e pop-up text over the <mark></mark> symbols.
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Title:	Corrections to HSDPA test 9.4 (HS-SCCH detect	ion)
Source:	# Agilent Technologies	
Work item code	e: <mark>æ</mark> TEI	Date: <mark># 28/10/2004</mark>
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 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: <b>#</b> Rel-5Use oneof the following releases:2(GSM Phase 2)e)R96(Release 1996)R97(Release 1997)R98(Release 1998)R99(Release 1999)Rel-4(Release 4)Rel-5(Release 5)Rel-6(Release 6)

Reason for change:	Clarification of the text
Summary of change	a) Various clarifications t the text to bring it in line with the other HSDPA tests
Consequences if not approved:	H The test conditions will not be correct and the test may fail a good UE.
Clauses affected:	<b>第</b> 9.4
Other specs Affected:	Y     N       X     Other core specifications       X     Test specifications       X     O&M Specifications
Other comments:	¥

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

# 9.4 HS-SCCH Detection Performance

# 9.4.1 Definition and applicability

The detection performance of the HS-SCCH is determined by the probability of event  $E_m$ , which is declared when the UE is signalled on HS-SCCH-1, but DTX is observed in the corresponding HS-DPCCH ACK/NACK field. The probability of event  $E_m$  is denoted  $P(E_m)$ .

The requirements and this test apply to all types of UTRA for FDD UE that support HSDPA.

# 9.4.2 Minimum requirements

For the parameters specified in Table 9.4.2, for each value of HS-SCCH-1  $E_c/I_{or}$  specified in Table 9.4.3 the measured  $P(E_m)$  shall be less than or equal to the corresponding specified value of  $P(E_m)$ .

Parameter	Unit	Test 1	Test 2	Test 3		
I <sub>oc</sub>	dBm/3.84 MHz	-60				
Phase reference	-		P-CPICH			
P-CPICH $E_c / I_{or}$ (*)	dB	-10				
HS-SCCH UE Identity		HS-SCCH-1: 1010101010101010				
$(x_{ue,1}, x_{ue,2}, \ddot{O}, x_{ue,16})$		(UE under test addressed solely via HS- SCCH-1)				
		HS-SCCH-2: 0001001010101010				
		HS-SCCH-3: 0001101010101010				
		HS-SCC	H-4: 000111111	0101010		
HS-DSCH TF of UE1		TF co	orresponding to	CQI1		
HS-SCCH-1 TTI Transmission	-	ìÖ XOOXOOXÖ î, where ìXî indicates TT				
Pattern		which HS-SCCH-1 signals the UE, and ìOî				
		ind	icates no signal	ling		

# Table 9.4.2: Test parameters for HS-SCCH detection

# Table 9.4.3: Test requirement for HS-SCCH detection

Test	Propagation	Reference value			
Number	Conditions	HS-SCCH-1 $E_c/I_{or}$ (dB)	$\check{P}_{or} / I_{oc}$ (dB)	$P(E_m)$	
1	PA3	-9	0	0.05	
2	PA3	-9.9	5	0.01	
3	VA30	-10	0	0.01	

The reference for this requirement is TS 25.101 [1] clause 9.4.1.

# 9.4.2.1 Test purpose

To verify that  $P(E_m)$  does not exceed a specified the limit in table 9.4.3.

# 9.4.2.2 Method of test

# 9.4.2.2.1 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 noise source to the UE antenna connector as shown in figure A.16.
- 2. Set the test parameters for test 1-3 as specified in table 9.4.4 and 9.4.5. Setup fading simulators as fading condition, which are described in table D.2.2.1A. Power-The configuration of the downlink channels is defined in table E.5.4.

# 9.4.2.2.2 Procedure

- 1. The UE is switched on.
- 2. An RRC connection is set-up according to the generic HSDPA set-up procedure specified in TS 34.108 [3].
- 3. Count the number of NACK, ACK and <u>stat</u>DTX on the UL HS-DPCCH during the test interval and decide pass or fail according to Annex F.6.1 and table F.6.1.8. NACK and ACK are counted as a pass and <u>stat</u>DTX is counted as a failure.

# 9.4.2.3 Test Requirements

The parameters and requirements are specified in tables 9.4.2 and 9.4.3. The probability of event  $E_m$  denoted as  $P(E_m)$  (test procedure step 3) shall not exceed at the specified value in table 9.4.3.

No test tolerance is applied to the test parameters.

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.

		CHANC	GE REQ	UES	Г		C	R-Form-V7.1
æ	34.121	CR 446	<mark>ж</mark> rev	<b>–</b> *	Current ver	rsion:	5.5.0	æ
For <u>HELP</u> or	For <b>HELP</b> on using this form, see bottom of this page or look at the pop-up text over the $\frac{1}{8}$ symbols.							
Proposed chang	ge affects:	JICC apps <mark>೫</mark>	ME <mark>X</mark>	Radio	Access Netwo	ork	Core Ne	twork
Title:	策 CR to 34.	121 Rel 5: Editor	ial correction	s to test	8.7.3			
Source:	H QUALCO	MM Inc.						
Work item code:	: <mark>೫ TEI</mark>				Date: 8	€ <mark>01</mark> /	/11/2004	
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Reason for change: 🖁	Some of the fields in the MEASUREMENT CONTROL message for Inter- frequency measurement are not aligned. The formula in section 8.7.3.2.2 has one of the $i \hat{i}$ symbols in the wrong place.				
Summary of change: 🔀	Correctly aligned the fields in the MEASUREMENT CONTROL message for Inter frequency measurement. Changed the position of one of the $i \hat{i}$ symbol in section 8.7.3.2.2.				
Consequences if <b>K</b> not approved:	Test case will not be accurate				
Clauses affected:	8731 8732				
Other specs #	Y     N       X     Other core specifications       X     Test specifications       X     O&M Specifications				
Other comments: 🛛 🕱	This CR is applicable for UEis supporting Rel-99 or later.				

### 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.

# 8.7.3 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

		Accuracy [dB]		Conditions			
Parameter	Unit	Unit Normal Extreme		lo [dBm/3.84 MHz]			
		condition	condition	Band I	Band II	Band III	
UTRA Carrier	dBm	± 4	± 7	-9470	-9270	-9170	
RSSI	dBm	± 6	± 9	-7050	-7050	-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 except for TGRRC and TGCFN. TGPRC and TGCFN shall set to "Infinity" and "(Current CFN + (256 ñ 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	Test 1		Test 2		Test 3	
		Unit	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			Onanner		Onanner		Onanner	
CPICH_Ec	/lor	dB	-1	0	-1	0	-1	0
PCCPCH_	Ec/lor	dB	-1	2	-1	2	-1	2
SCH_Ec/Ic	r	dB	-1	2	-1	2	-1	2
PICH_Ec/le	or	dB	-1	5	-1	5	-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
	Band I	dBm/ 3.84		-52.22	-70.27	-70.27	-94.46	-94.46
loc	Band II		-52.22				-92.46	-92.46
	Band III						-91.46	-91.46
O∰r/loc		dB	-1.75	-1.75	-4.7	-4.7	-9.54	-9.54
CPICH Ec/	Io, Note 1	dBm	-14.0	-14.0	-16.0	-16.0	-20.0	-20.0
	Band I	dPm/2.94			-69	-69	-94	-94
lo, Note 1	Band II		-50	-50			-92	-92
	Band III						-91	-91
Propagatio	Propagation condition - AWGN AWGN AV		GN					
NOTE 1: CPICH Ec/lo and lo levels have been calculated from other parameters for information purposes. They					ses. They			
	are not settable parameters themselves.					-		
Tests shall	ests shall be done sequentially. Test 1 shall be done first. After test 1 has been executed test parameters for tests					ers for tests		

#### Table 8.7.3.1.2: UTRA Carrier RSSI Inter frequency test parameters

2 and 3 shall be set within 5 seconds so that UE does not loose the Cell 2 in between the tests.

#### 8.7.3.1.4.2 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 for Test 1 are set up according to table 8.7.3.1.2.
- 2) SS shall transmit PHYSICAL CHANNEL RECONFIGURATION message.
- 3) UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message.
- 4) SS shall transmit MEASUREMENT CONTROL message.
- 5) UE shall transmit periodically MEASUREMENT REPORT messages.
- 6) 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.
- 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, step 6) 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 6) above is 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], with the following exceptions:

PHYSICAL CHANNEL RECONFIGURATION message for Inter frequency measurement (step 2):

Information Element	Value/Remark
	Value/Keinark
Message Type	
UE Information Elements	
-RRC transaction identifier	0
-Integrity check info	
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IE. The first/
	leftmost bit of the bit string contains the most
	significant bit of the MAC-I.
-RRC message sequence number	SS provides the value of this IE, from its
-Integrity protection mode info	internal counter.
-Ciphering mode info	Not Present
-Activation time	Not Present
-New U-RNTI	Not Present
-New C-RNTI	Not Present
-RRC State Indicator	Not Present
-UTRAN DRX cycle length coefficient	CELL DCH
	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
- 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	Activate
-TGCFN	(Current CFN + (256 ñ TTI/10msec))mod 256
-Transmission gap pattern sequence	
configuration parameters	
-TGMP	FDD measurement
-TGPRC	Infinity
-TGSN	4
-TGL1	7
-TGL2	Not Present
-TGD	0
-TGPL1	3
-TGPL2	Not Present
-RPP	Mode 0
-ITP	Mode 0
-CHOICE UL/DL mode	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
-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 resent
-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	Set to value Default DPCH Offset Value ( as
	currently stored in SS) mod 38400
-Secondary CPICH info	Not Present
-DL channelisation code	
-Secondary scrambling code	Not Present
-Spreading factor	128
-Code number	96
-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 for Inter frequency measurement (step 4):

Information Element	Value/Remark
Message Type	
UE information elements	
-RRC transaction identifier	0
-Integrity check info	
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IE. The first/
	leftmost bit of the bit string contains the most
	significant bit of the MAC-I.
-RRC message sequence number	SS provides the value of this IE, from its
Management lafe weather allow and	Internal counter.
Measurement Information elements	0
-Measurement Command	2 Satur
Measurement Departing Mode	Setup
Measurement Report Transfer Mode	Acknowledged mode PLC
Poriodical Poporting / Event Trigger Poporting	Poriodical reporting
Mode	r enoucai reporting
-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
-New inter-frequency cells	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
<ul> <li>Measurement quantity for frequency quality</li> </ul>	CPICH RSCP
estimate	
-Inter-frequency reporting quantity	
-UTRA Carrier RSSI	TRUE
-Frequency quality estimate	TRUE
-Non frequency related cell reporting quantities	
-Cell synchronisation information reporting	
indicator	IRUE
-Cell Identity reporting indicator	TOUE
-CHOICE mode	
-CPICH EC/NU reporting indicator	
-CPICH RSCP reporting indicator	
-Fainoss reporting indicator	
-Reporting cell status	Report cells within monitored set on non-used
	frequency
-Maximum number of reported cells	Report cells within monitored set on non-used
-Measurement validity	frequency
-Inter-frequency set update	2
-CHOICE report criteria	Not Present
-Amount of reporting	Not Present
-Reporting interval	Periodical reporting criteria
	Infinity
	500 ms
Physical channel information elements	
-DPCH compressed mode status info	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 (ñ99 dBm, -97 dBm, -96 dBm for Frequency Band I, II and III respectively) shall be added into the required accuracy defined in subclause 8.7.3.1.2 as shown in table 8.7.3.1.3.

#### Table 8.7.3.1.3: UTRA Carrier RSSI absolute accuracy

		Accuracy [dB]					
Parameter	Unit	No	ormal condit	ion	Extreme condition		
		Test 1	Test 2 Test 3	Test 1	Test 2	Test 3	
UTRA Carrier RSSI	dBm	± 7.15	± 5.1	-5Ö 5.8	± 10.15	± 8.1	-8Ö 8.8

The normative reference for this requirement is TS 25.133 [2] clause A.9.1.3.2.

Parameter			Test 1		Tes	st 2	Test 3	
		Unit						
			Cell I		Cell I	Cell 2	Cell I	
	Jnannei		Channel 1	Channel 2	Channel 1	Channel 2	Channel 1	Channel 2
	/1	ID				<u>^</u>		
CPICH_EC,	lor	dB	-1	0	-1	0	-10	
PCCPCH	=c/lor	dB	-1	2	-12		-1	2
SCH_Ec/lo	r	dB	-1	2	-12		-1	2
PICH_Ec/lo	or	dB	-1	5	-1	5	-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
	Band I	dPm/2.94					-93.46	-93.46
loc	Band II	UDIII/ 3.64 M니코	-53.5	-53.5	-69.27	-69.27	-91.46	-91.46
	Band III						-90.46	-90.46
Ober/loc		dB	-1.45	-1.45	-4.4	-4.4	-9.24	-9.24
CPICH Ec/lo, Note 1		dBm	-13.8	-13.8	-15.7	-15.7	-19.7	-19.7
	Band I	dPm/2.94					-93	-93
lo, Note 1	Band II	UDIII/3.04 M⊔⊸	-51.15	-51.15	-67.9	-67.9	-91	-91
	Band III						-90	-90
Propagation condition - AWGN AWGN				AW	'GN			
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 8.7.3.1.4: UTRA Carrier RSSI Inter frequency test parameters

The reported values for the UTRA Carrier RSSI absolute measurement shall meet the requirements in table 8.7.3.1.5.

#### Table 8.7.3.1.5: UTRA Carrier RSSI absolute accuracy requirements for the reported values

	Test 1	Test 2	Test 3
Normal Conditions	;		
Lowest reported	UTRA_carrier_RSSI_LEV_	UTRA_carrier_RSSI_LEV_	UTRA_carrier_RSSI_LEV_
value (Cell 2)	42	27	02
Highest reported	UTRA_carrier_RSSI_LEV_	UTRA_carrier_RSSI_LEV_	UTRA_carrier_RSSI_LEV_
value (Cell 2)	57	38	13
Extreme Condition	S		
Lowest reported	UTRA_carrier_RSSI_LEV_	UTRA_carrier_RSSI_LEV_	UTRA_carrier_RSSI_LEV_
value (Cell 2)	39	24	00
Highest reported	UTRA_carrier_RSSI_LEV_	UTRA_carrier_RSSI_LEV_	UTRA_carrier_RSSI_LEV_
value (Cell 2)	60	41	16

#### 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

		Accura	cy [dB]	Conditions			
Parameter	Unit	Normal	Extreme	lo [dBm/3.84 MHz]			
		condition	condition	Band I	Band II	Band III	
UTRA Carrier RSSI	dBm	± 7	± 11	-9470	-9270	-9170	

The normative reference for this requirement is TS 25.133 [2] clause 9.1.3.2.

### 3GPP TSG-T WG1 Meeting #25 St Paulís Bay, Malta, November 1<sup>st</sup> - 5<sup>th</sup>, 2004

### *Tdoc* **#***T1-041813*

	CHANGE REQUEST	CR-Form-v7
æ	34.121 CR 447 # rev - #	Current version: <b>5.5.0</b>
For <u>HELP</u> or	n using this form, see bottom of this page or look at the	pop-up text over the <mark>%</mark> symbols.
Proposed chang	e affects: UICC apps <mark>% MEX</mark> Radio Act	cess Network Core Network
Title:	Corrections to BTFD test case	
Source:	₩ Nokia	
Work item code:	X TEI	Date: # 2004-11-03
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 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:         Image: Rel and the set of the following releases:           2         (GSM Phase 2)           R96         (Release 1996)           R97         (Release 1997)           R98         (Release 1998)           R99         (Release 1999)           Rel-4         (Release 4)           Rel-5         (Release 5)           Rel-6         (Release 6)

Reason for change: #	The minimum set of TFCs is not signalled to UE but UE has to configure it by using the rules defined in TS 25.331. Based on TS 25.331 section 8.6.5.2 the minimum set of TFCs consists of the following (valid for BTFD test case):
	1> for each TM logical channel that is not part of a set of "synchronous" TM logical channels (see the definition below):
	2> a TFC with non-empty TFs for the corresponding transport channel, and empty TFs for all other transport channels, where
	3> for non-segmented mode TM-RLC logical channels the non-empty TFs include, for the smallest SDU size that can be received in a single TTI from higher layer:
	4> a TF with non-zero number of transport blocks with "Configured RLC Size" equal to the corresponding SDU size. If more than one TFC fulfils this criteria, only the TFC with the lowest number of bits in the TFC is included in the minimum set of TFCs.
	Hence the mimimum set of TFC consist of (TF0,TF0), (TF1, TF0) and (TF0, TF1) in BTFD test case. Therefore the minimum set of TFCs for BTFD test case as stated currently in TS 34.121 Annex C.4.1 is wrong.
Summary of change:	Annec C.4.1. A minimum set of TFCs has been corrected to contain only (TF0,TF0), (TF1,TF0) and (TF0,TF1).
Consequences if <b>#</b> not approved:	TS 34.121 is not in-line with TS 25.331.

Clauses affected: # Annex C.4.1

		Y	Ν	
Other specs	ж		Χ	Other core specifications <b>#</b>
Affected:			X X	Test specifications O&M Specifications
Other comments:	Ħ	Т	his	CR is applicable for UEis supporting Rel-99 or later.

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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.

# C.4 Reference measurement channel for BTFD performance requirements

# C.4.1 UL reference measurement channel for BTFD performance requirements

The parameters for UL reference measurement channel for BTFD are specified in table C.4.1.1, table C.4.1.2, table C.4.1.3 and table C.4.1.4.

Parameter	Level	Unit
Information bit rate	12.8k, 10.8k, 8.55k, 8.0k,	kbps
	7.3k, 6.5k, 5.75k, 5.35k,	
	2.55k	
DPCCH	15	kbps
DPCCH Slot Format #i	0	-
DPCCH/DPDCH power ratio	-5.46 (12.8k - 7.3k)	dB
	-2.69 (6.5k ñ 2.55k)	
TFCI	On	-
Puncturing Limit	100	%

#### Table C.4.1.2: UL reference measurement channel, transport channel parameters for SRB

Higher	RAB/Signalling RB	SRB
Layer		Doolu
RLC	Logical channel type	DCCH
	RLC mode	UM/AM
	Payload sizes, bit	88/80
	Max data rate, bps	2200/2000
	PDU header, bit	8/16
	TrD PDU header, bit	N/A
MAC	MAC header, bit	4
	MAC multiplexing	Yes
Layer 1	TrCH type	DCH
	Transport Channel Identity	10
	TB sizes, bit	100
	TFS TF0, bits	0*100
	TF1, bits	1*100
	TTI, ms	40
	Coding type	Convolution Coding
	Coding Rate	1/3
	CRC, bit	12
	Max number of bits/TTI after	360
	channel coding	
	Uplink: Max number of bits/radio	90
	frame before rate matching	
	RM attribute	256

Higher Laver	RAB/Signalling RB	12.8k /10.8k/8.55k/8.0k/7.3k/6.5k/5.75k/5.35k/2.55k		
RLC	Logical channel	DTCH		
	type			
	RLC mode	ТМ		
	Payload sizes, bit	256, 216, 171, 160, 146, 130, 115, 107, 51, 12		
	Max data rate, bps	12200		
	PDU header, bit	N/A		
	TrD PDU header,	0		
	bit			
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH		
	Transport Channel	1		
	Identity			
	TB sizes, bit	256, 216, 171, 160, 146, 130, 115, 107, 51,12		
	TFS TF0 bit	0x256		
	TF1 bit	1x256		
	TF2 bit	1x216		
	TF3 bit	1x171		
	TF4 bit	1x160		
	TF5 bit	1x146		
	TF6 bit	1x130		
	TF7 bit	1x115		
	TF8 bit	1x107		
	TF9 bit	1x51		
	TF10	1x12		
	bit			
	TTI, ms	20		
	Coding type	CC		
	Coding Rate	1/3		
	CRC, bit	0		
	RM attribute	attribute 256		

# Table C.4.1.3: UL reference measurement channel using RLC-TM for DTCH, transport channel parameters

#### Table C.4.1.4: UL reference measurement channel, TFCS

TFCS size	22
TFCS	(DTCH, DCCH)=
	(TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF6, TF0), (TF7, TF0),
	(TF8, TF0), (TF9, TF0), (TF10, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4,
	TF1), (TF5, TF1), (TF6, TF1), (TF7, TF1), (TF8, TF1), (TF9, TF1), (TF10, TF1)

NOTE: The TFCs (TF0, TF0), (TF1, TF0) and (TF0, TF1)except for (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1), (TF6, TF1), (TF7, TF1), (TF8, TF1), (TF9, TF1) and (TF10, TF1) are belonging to minimum set of TFCs.

#### 1

3GPP TSG-T1 Me St Paulís Bay, Ma	eting #25 alta, 1 <sup>st</sup> - 5 <sup>th</sup> November 2004	Tdoc 😠 T1-041818						
CHANGE REQUEST								
<b>(#)</b>	34.121 CR 448 <b>**</b> rev	- X Current version: <b>5.5.0</b> X						
For <b>HELP</b> on using this form, see bottom of this page or look at the pop-up text over the $\frac{1}{8}$ symbols.								
Proposed change affects: UICC apps MEX Radio Access Network Core Network								
Title: ೫	Correction to the test procedure of FDI	D/FDD Hard Handover test cases						
Source: ೫	NEC, Rohde & Schwarz							
Work item code: 🕱	TEI	Date: <mark>第 02/11/2004</mark>						
Category: ₩	Category:       F       Release:       Rel-5         Use one of the following categories:       Use one of the following releases:       2       (GSM Phase 2)         A (corresponds to a correction in an earlier release)       R96       (Release 1996)         B (addition of feature),       R97       (Release 1997)         C (functional modification of feature)       R98       (Release 1998)         D (editorial modification)       R99       (Release 1999)         Detailed explanations of the above categories can be found in 3GPP TR 21.900.       Rel-4       (Release 5)							
Reason for change:	<ul> <li>RAN4 clarified the minimum require 34.121 needs to be updated to alig specification TS 25.133.</li> <li>The PSC is not correctly specified</li> </ul>	ements in TS 25.133 according R4-040561. TS in the test procedure and requirements to core for cell 2.						
Summary of change	e: # Correction of the HHO test cases:							
	<ul> <li>8.3.2.1.4.1: Redefined the start of phandover command to be sent earlevent (i.e. T2 is allowed to be short 8.3.2.1.4.2: Modified test procedure new definition of T2 and T3.</li> <li>8.3.2.1.4.2: Changed Triggering co from ìActive set cells and monitore R99 version of TS 25.331 section 1 using a triggering condition other thevent 1b.</li> </ul>	period T3. Modfied Table 8.3.2.1.1 to allow the ier after the UE has reported the necessary er than 5 seconds). The and test requirements to take into account the indition 1 in Measurement Control message d set cellsî to i Active set cellsî. According to 0.3.7.39 the UE behaviour is unspecified when an "Active set cells" for the intra-frequency						
	8.3.2.1.4.2: Changed Triggering co from iActive set cells and monitore to R99 version of TS 25.331 section when using a triggering condition "// monitored set cells" for the intra-free resolves the unspecified behaviour purpose/result of test and remains specifications (25.133 and 25.331).	ndition 2 in Measurement Control message d set cellsî to ìMonitored set cellsî. According n 10.3.7.39 the UE behaviour is unspecified Active set cells" or "Active set cells and quency event 1a. The proposed solution of the UE while it doesnít change the in line with all versions of the core						

	8.3.2.1.4.2: Changed the PSC to 150 in the PHYSICAL CHANNEL RECONFIGURATION message (step 7).
	8.3.2.2.4.1: Redefined the start of period T3. Modfied Table 8.3.2.2.1 to allow the handover command to be sent earlier after the UE has reported the necessary event (i.e. T2 is allowed to be shorter than 10 seconds).
	8.3.2.2.4.2: Modified test procedure and test requirements to take into account the new definition of T2 and T3.
	8.3.2.2.4.2: Changed the PSC to 250 in the PHYSICAL CHANNEL RECONFIGURATION message (step 7) and in the MEASUREMENT REPORT message for Inter frequency test cases.
	Editorial corrections.
()	
Consequences if <b>Ж</b> not approved:	The test cases remain unclear. The test case implementation will not fully comply with TS 25.133 requirements. The test case implementation will be unnecessarily difficult and take longer than necessary to execute.
	A good UE might fail because unspecified R99 UE behaviour is used in the intra- frequency test case.
	NOTE: there is no impact on the UE since only the test method is changed.
	The test might fail because the PSC allocation does not match the SIB11 information as specified in TS 34.108.

Clauses affected:	<b>8.3.2.1.4.1, 8.3.2.1.4.2, 8.3.2.2.4.1, 8.3.2.2.4.2</b>				
Other specs affected:	Y       N         X       Other core specifications       X         X       Test specifications       X         X       O&M Specifications       X				
Other comments:	X         This CR is applicable for UE's supporting Rel-99 or later.				

#### 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 FDD/FDD Hard Handover

#### 8.3.2.1 FDD/FDD Hard Handover to intra-frequency cell

#### 8.3.2.1.1 Definition and applicability

The hard handover delay of the UE is defined as the time from the end of the last TTI containing an RRC message implying hard handover to the transmission of the new uplink DPCCH.

The requirements and this test apply to the FDD UE.

#### 8.3.2.1.2 Minimum requirement

The interruption time shall be less than 110 ms in CELL\_DCH state in the single carrier case. The rate of correct handovers observed during repeated tests shall be at least 90% with a confidence level of 95 %.

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:

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

If intra-frequency hard handover is commanded or inter-frequency hard handover is commanded when the UE does not need compressed mode to perform inter-frequency measurements, the interruption time shall be less than T<sub>interrupt1</sub>

#### $T_{interrupt1} = T_{IU} + 40 + 20 * KC + 150 * OC + 10 * F_{max} ms$

where

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

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

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

 $F_{max}$  denotes the maximum number of radio frames within the transmission time intervals of all transport channels that are multiplexed into the same CCTrCH.

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

In the interruption requirement T<sub>interrupt1</sub> 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.

The normative reference for this requirement is TS 25.133 [2] clauses 5.2.2 and A.5.2.1.

#### 8.3.2.1.3 Test purpose

To verify that the UE meets the minimum requirement.

#### 8.3.2.1.4 Method of test

#### 8.3.2.1.4.1 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 parameters are given in tables 8.3.2.1.1 to 8.3.2.1.3 below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A and 1B shall be used, and that CPICH Ec/Io and SFN-CFN observed timed difference shall be reported together with Event 1A. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a PHYSICAL CHANNEL RECONFIGURATION with activation time "now" with one active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE <u>during period T2</u>, after the UE has reported event 1A. 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]. The start of T3 is defined as the end of the last TTI containing the Physical Channel reconfiguration message.-

N312 shall have the smallest possible value i.e. only one insync is required.

Parameter		Unit	Value	Comment
DCH parameters			DL and UL Reference	As specified in clause C.3.1 and C.2.1
			Measurement Channel 12.2 kbps	
Power Control			On	
Target quality	value on	BLER	0.01	
DTCH				
Initial	Active cell		Cell 1	
conditions	Neighbourin		Cell 2	
	g cell			
Final	Final Active cell		Cell 2	
condition				
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	
T1		S	5	
T2		S	<u>≤</u> 5	
T3		S	5	

#### Table 8.3.2.1.1: General test parameters for Handover to intra-frequency cell

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	Note1	Note1	Note3	N/A	N/A	Note1	
OCNS_Ec/lor	dB	Note2	Note2	Note2	-0.941	-0.941	Note2	
$\dot{P}_{or}/I_{oc}$	dB	0 6.97			-Infinity 5.97			
$Q_{F(Note 4)}$	dBm	-70.00 -63.03 -Infinity -64.03				.03		
I <sub>oc</sub>	dBm/ 3.84 MHz	-70						
CPICH Ec/lo	dB	-13 -Infinity -14						
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 lor								

Table 8.3.2.1.2: Cell specific test parameters for Handover to intra-frequency cell

Note 3: The DPCH may not be power controlled by the power control loop.

The nominal Or values, although not explicitly defined in 25.133 are added here since they are implied and Note 4: need to be identified so that the test equipment can be configured.

#### 8.3.2.1.4.2 Procedure

- 1) The RF parameters are set up according to T1 in table 8.3.2.1.3.
- 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) SS shall transmit a MEASUREMENT CONTROL message on cell 1.
- 5) 5 seconds after step 4 has completed, the SS shall switch the power settings from T1 to T2 in table 8.3.2.1.3.
- 6) UE shall transmit a MEASUREMENT REPORT message triggered by event 1A
- 7) SS shall transmit a PHYSICAL CHANNEL RECONFIGURATION message with activation time set to "now". SS shall transmit the whole message such that it will be available at the UE no later than a period equals to the RRC procedure delay (= 80 ms) prior to the beginning of T3. The start of T3 is defined as the end of the last TTI containing the physical channel reconfiguration message.
- 8) After 5 seconds from the beginning of time period T2,  $t_{\rm T}$  he SS shall switch the power settings from T2 to T3 in table 8.3.2.1.3.
- 9) UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the UL DCCH of <del>cell 2.</del> If the UE transmits the UL DPCCH to cell 2 less than 190<del>10</del> ms from the beginning of time period T3 then the number of successful tests is increased by one. The UE shall transmit a PHYSICAL CHANNEL **RECONFIGURATION COMPLETE** message on the UL DCCH of cell 2.
- 10) After 5 seconds from the beginning of time period T3, the UE is switched off. Any timing information of cell 2 is deleted in the UE.
- 11)Repeat step 1-10 until the confidence level according to annex F.6.2 is achieved

#### 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:

#### 6

MEASUREMENT CONTROL message (step 4):

Information Element/Group name	Value/Remark
Message Type (10.2.17)	
LIF information elements	
-BBC transaction identifier	0
-Integrity check info	5
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IF. The first/
	leftmost bit of the bit string contains the
	most significant bit of the MAC-I
-BBC message sequence number	SS provides the value of this IF from its
- The message sequence humber	internal counter
Measurement Information elements	
	1
-Measurement Command (10.3.7.46)	Modify
Measurement Departing Mode (10.3.7.40)	Wearry
Measurement Deport Transfer Mede	
Poriodical Paparting / Event Trigger Paparting Meda	AM ALO
Additional massurements list (10.2.7.1)	Net Dresent
-CHOICE Measurement (10.0.7.26)	Intra-frequency measurement
-Intra-frequency measurement (10.3.7.30)	Nat Dragant
-Intra-frequency measurement objects list (10.3.7.33)	Not Present
-intra-frequency measurement quantity (10.3.7.38)	
-CHUICE mode	
-Measurement quantity	CPICH_EC/N0
-Intra-frequency reporting quantity (10.3.7.41)	
-Reporting quantities for active set cells (10.3.7.5)	
-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	FALSE
-Reporting quantities for monitored set cells (10.3.7.5)	
-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	FALSE
-Reporting quantities for detected set cells (10.3.7.5)	Not Present
-Reporting cell status (10.3.7.61)	Not Present
-Measurement validity (10.3.7.51)	Not Present
-CHOICE report criteria	Intra-frequency measurement reporting
	criteria
-Intra-trequency measurement reporting criteria (10.3.7.39)	
-Parameters required for each event	
-intra-frequency event identity	
- Ingering condition 2	Active set cells and mivionitored set cells
-Reporting Range Constant	J UD Net Dresent
-Cells forbidden to affect Reporting Range	Not Present
-nysteresis Threshold used frequency	Not Propert
- mesholu used nequency Departing departication threshold	
-neporting deactivation threshold	U Not Procent
Time to trigger	
Amount of roporting	
-Amount of reporting	$0 = \frac{1}{2} \left( \frac{1}{2} \right)$
-neporting interval Poporting coll status (10.2.7.61)	Depart colle within active act and/or
-neporting cell status (10.3.7.01)	monitored set cells on used frequency
	Report cells within active set and/or
	monitored set cells on used froquency
Maximum number of reported cells	
-Intra-frequency event identity	Event 1B
-Triggering condition 1	Active set cells and monitored set cells

Information Element/Group name	Value/Remark				
-Reporting Range Constant	3 dB				
-Cells forbidden to affect Reporting Range	Not Present				
-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 (10.3.7.61)					
Report cells within active set and/or monitored set cells	Report cells within active set and/or				
on used frequency-CHOICE reported cell	monitored set cells on used frequency				
-Maximum number of reported cells	2				
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.					
ote 2: Reporting interval = 0 ms means no periodical reporting					

### PHYSICAL CHANNEL RECONFIGURATION message (step 7):

Message Type         0           UE Information Elements         0           -Integrity check info         0           -message authentication code         SS calculates the value of MAC-I for this message and writes to this IE. The first/ information contains the most significant bit of the bit string contains the most significant bit string cont string string contains the bit string cont string s
UE Information Elements       0         HRC transaction identifier       0         Integrity check info       SS calculates the value of MAC-I for this message and writes to this IE. The first/ ieffmost bit of the bit string contains the most significant bit of the MAC-I.         -RRC message sequence number       SS provides the value of this IE. The first/ ieffmost bit of the MAC-I.         -Integrity protection mode info       SS provides the value of this IE. The first/ ieffmost bit of the MAC-I.         -Chingm mode info       Not Present         -Collecting mode info       Not Present         -Activation time       "now"         -New U-RNTI       Not Present         -New U-RNTI       Not Present         -URA MDRX cycle length coefficient       Othor Present         CN Information Elements       Not Present         -UTRAN mobility information elements       Not Present         -URAN downlink counter synchronisation info       Not Present         PhyCH information elements       Same uplink UARFCN as used for cell 2         -UARFCM vapink(Nu)       Same uplink UARFCN as used for cell 2         -UARFCM downlink(Idd)       Same uplink UARFCN as used for cell 2         Uplink DPCH info (10.3.6.36)       -GdB         -POC Preamble       1 frame         - SRB delay       7 frames         - Power
-RRC transaction identifier       0         -Integrity check info       SS calculates the value of MAC-I for this message and writes to this IE. The first/ ieffmost bit of the bit sting contains the most significant bit of the MAC-I.         -RRC message sequence number       SS provides the value of MAC-I form its internal counter.         -Integrity protection mode info       Not Present         -Activation time       "now '         -New C-RNTI       Not Present         -New C-RNTI       Not Present         -RRC state Indicator       CELL_DCH         -UTRAN DRS cycle length coefficient       Not Present         CN Information info       Not Present         -Downlink counter synchronisation info       Not Present         -URA Nobility Information elements       -CHOICE mode         -CHOICE mode       FDD         -UARFCN uplink (Nu)       Same uplink UARFCN as used for cell 2         -UMARICM Avainink (Nd)       Same uplink UARFCN as used for cell 2         Uplink bPCH information elements       -GOV/Present         -UARFCN uplink(Nu)       Same uplink UARFCN as used for cell 2         Uplink bPCH information elements       -GOV/Present         -UARFCN breament       -GOV/Present         -DOVEL mode       -GDD         -DOVEL mode       -GDD         -DOVEL mode
Integrity check info         So calculates the value of MAC-I for this message and writes to this IE. The first/ iermost bit of the bit string contains the most significant bit of the MAC-I.           -RRC message sequence number         SS provides the value of this IE. The first/ iermost bit of the MAC-I.           -Integrity protection mode info         Not Present           -Cliphering mode info         Not Present           -Activation time         "now"           -New U-RNTI         Not Present           -New U-RNTI         Not Present           -URA identity         Not Present           -CHOICE mode         -FDD           -UARCH uplink (Nu)         Same uplink UARFCN as used for cell 2           -UARICN uplink (Nu)         Same downlink UARFCN as used for cell 2           -UARICN uplink (Nu)         Same downlink UARFCN as used for cell 2           -UARICN uplink (Nu)         Same downlink UARFCN as used for cell 2           -UPINK DPCH information elements         -FDD           -UPINK DPCH information for (10.3.6.91)         -GHOICE chanuel requirament           -UPINK DPCH in
-message authentication code         SS calculates the value of MAC-1 for this message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-1.           -RRC message sequence number         SS provides the value of MAC-1.           -Integrity protection mode info         Not Present           -Activation time         "now"           -New C-RNT         Not Present           -New C-RNT         Not Present           -RRC State Indicator         CELL_DCH           -UTRAN DRX cycle length coefficient         Not Present           -URA identity         Not Present           -URA identity         Not Present           -URA identity         Not Present           -URA identity         Not Present           -Downlink counter synchronisation info         Not Present           PhyCH information elements         -           -CHOICE mode         FDD           -UARFCN downlink (Nd)         Same downlink UARFCN as used for cell 2           -UPIK Natio resources         -           -PhyCH infor (10.3.6.38)         -           -Uplink Pacifie resources         -           -Power offset         -           -DeOCH power control info (10.3.6.91)         -           -OHOICE mode         FDD <t< td=""></t<>
-RRC message sequence number     message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I. SS provides the value of this IE, from its internal counter.       -Integrity protection mode info     Not Present       -Ciphering mode info     Not Present       -Activation time     Not Present       -New U-RNTI     Not Present       -New U-RNTI     Not Present       -RC State Indicator     CELL_DCH       -UTRAN DRX cycle length coefficient     Not Present       -UTRAN mobility information elements     -CI Information elements       -URA identity     Not Present       -URA identity     Not Present       -Downlink counter synchronisation info     Not Present       PhyCH information elements     -CHOICE mode       -UAR-CK ouplink(NN)     Same uplink UARFCN as used for cell 2       -UAR-ICM obmilink(Nd)     Same uplink UARFCN as used for cell 2       -Uplink DPCH info (10.3.6.36)     -GHOICE mode       -Uplink DPCH power offset     -6dB       -DPC Preamble     1 frame       -RS B delay     7 frames       -POW resent(0)     1 dB       -POW recontrol ling (10.3.6.23)     PDD
Integrity protection mode info       Sprovides the value of this IE, from its internal counter.         Integrity protection mode info       Not Present         -Activation time       'now"         -New U-RNTI       Not Present         -New C-RNTI       Not Present         -UTRAN DRX cycle length coefficient       Not Present         -OH Information elements       -OCH         -UTRAN DRAW cycle length coefficient       Not Present         -Adivation time       Not Present         -A identity       Not Present         RB information elements       -OCH         -UTRAN mobility information elements       Not Present         -UARAFCN uplink(Nu)       Same uplink UARFCN as used for cell 2         -UARFCN downlink(K)       Same uplink UARFCN as used for cell 2         -Uplink radio resources       -GAB         -Uplink radio resources       -GAB         -DevCH ower control info (10.3.6.81)       -OHOICE mode         -DPCCH ower control info (10.3.6.91)       -CHOICE mode         -Dev CP prever control info (10.3.6.91)       -GAB         -DPCCH power control info (10.3.6.91)       -GAB         -DPCCH power control info (10.3.6.91)       -GAB         -DPC Hower control info (10.3.6.91)       -GAB         -DPC Hower control info (10.3.
-RRC message sequence number     most significant bit of the MAC-1.       -Integrity protection mode info     SS provides the value of this IE, from its internal counter.       -Integrity protection mode info     Not Present       -Activation time     'now"       -New U-RNTI     Not Present       -New U-RNTI     Not Present       -New C-RNTI     Not Present       -RC State Indicator     CELL_DCH       -UTRAN DRX cycle length coefficient     Not Present       -CN Information info     Not Present       -CN Information elements     -       -CN Information elements     -       -Downlink counter synchronisation info     Not Present       PhyCPL information elements     -       -UAR-CR uplink(Nu)     Same downlink UARFCN as used for cell 2       -UAR-CR downlink(Nd)     Same downlink UARFCN as used for cell 2       Uplink DPCH information flo     Not Present       -UARFCN downlink(Nd)     Same downlink UARFCN as used for cell 2       Uplink DPCH info (10.3.6.91)     -       -CHOICE mode     -       -DPCCH power control info (10.3.6.91)     -       -UPICK DPCH info (10.3.8.88)     -       -Uplink DPCH info (10.3.8.88)     -       -DPCCH power offset     -       - PC Preamble     1       - RD seleday     7 <td< td=""></td<>
-RRC message sequence number     SS provides the value of this IE, from its internal counter.       -Integrity protection mode info     Not Present       -Ciphering mode info     Not Present       -Activation time     'now'       -New C-RNTI     Not Present       -RRC State Indicator     CELOCH       -UTRAN DRX cycle length coefficient     Not Present       CN Information Elements     -UrA identity       -URAN Counter synchronisation info     Not Present       PhyCH information elements     -       -CHOICE mode     FDD       -UARFCN uplink(Nu)     Same downlink UARFCN as used for cell 2       Uplink radio resources     -       -Warmum allowed UL TX power     33 dBm       -Uplink DPCH info (10.3.6.88)     -       -Dever Control Algorithm     -       -Dever Control Algorithm     -       -TPC existence     -       -DHOCH more control info (10.3.6.91)     -       -Uplink PCH info (10.3.6.88)     -       -Dever Control Algorithm     -       -Dever Control Algorithm     -       -TPC step size     1dB       -Dowell for 0 DPDCH     Not Present       -Dowell for 0 DPDCH     Not Present       -Dever Control Algorithm     -       -TPC step size     -       -OHOICE mode
Integrity protection mode info     Internal counter.       -Integrity protection mode info     Not Present       -Activation time     Not Present       -Activation time     'now'       -New U-RNTI     Not Present       -RC State Indicator     CELL_DCH       -UTRAN DRX cycle length coefficient     Not Present       CM Information Elements     Not Present       -UTRAN mobility information elements     Not Present       -Ownlink counter synchronisation info     Not Present       PhyCH information elements     -       -Ownlink counter synchronisation info     Not Present       PhyCH information elements     -       -Ownlink (Nd)     Same uplink UARFCN as used for cell 2       Uplink PCH power control info (10.3.6.36)     -       -UARFCN downlink (Nd)     Same uplink UARFCN as used for cell 2       Uplink DPCH info (10.3.6.88)     -       -Uplink DPCH power control info (10.3.6.91)     -       -CHOICE mode     -       -DPCCH power offset     -       -BC Preamble     1 frame       -TPC step size     1dB       -OHOICE mode     -       -DPCCH power of FBI bit     Not Present(1)       -Strambling code number     0 (0 to 16777215)       -Number of DPDCH     Not Present(2)       -Strambling code number <td< td=""></td<>
Integrity protection mode info         Not Present           -Ciphering mode info         Not Present           -Activation time         "now"           -New C-RNTI         Not Present           -RRC State Indicator         CELL_DCH           -UTRAN DRX cycle length coefficient         Not Present           -CN Information Elements         CLI Information elements           -Ownlink counter synchronisation info         Not Present           -Downlink counter synchronisation info         Not Present           -Diversition info         Not Present           -Diversition info         Not Present           -Downlink counter synchronisation info         Not Present           -Downlink counter synchronisation info         Not Present           -Diversition formation elements         -           -Outropic mode         FDD           -CHOICE mode         FDD           -UARFCN downlink(Nu)         Same uplink UARFCN as used for cell 2           -Uplink radio resources         -           -Maximum allowed UL TX power         33 dBm           -CHOICE mode         -FDD           -DPCCH power offset         -6dB           -DPCCH power offset         -6dB           -PC Preamble         1 frames           -Strambli
-Cipfering mode info       Not Present         -Activation time       "now"         New U-RNTI       Not Present         -RRC State Indicator       CELL_DCH         -UTRAN DRX cycle length coefficient       Not Present         -CN Information Elements       Not Present         -CN Information elements       Not Present         -Ownlink counter synchronisation info       Not Present         PhyCH Information elements       -         -Downlink counter synchronisation info       Not Present         PhyCH Information elements       -         -CHOICE mode       FDD         -UARFCN uplink(Nu)       Same downlink UARFCN as used for cell 2         Uplink radio resources       -         -Maximum allowed UL TX power       33 dBm         -CHOICE mode       FDD         -DPCCH power control info (10.3.6.91)       -         -CHOICE mode       -6dB         - PC Preamble       1 frame         - PC Preamble       1 frame         - PC Freamble       1 frame         - PC Step size       1dB         -CHOICE mode       FDD         -CHOICE mode       FDD         -DPCCH power control info (10.3.6.91)       -         -CHOICE mode       F
Activation time       "now"         New U-RNTI       Not Present         New C-RNTI       Not Present         -RRC State Indicator       CELL_DCH         -UTRAN DEfenents       CELL_DCH         -CN Information elements       Not Present         -URA Indentity information elements       Not Present         -URA indentity       Not Present         PbyCH information elements       Not Present         -Downlink counter synchronisation info       Not Present         PhyCE information elements       Frequency info (10.3.6.36)         -OHOICE mode       FDD         -UARFCN uplink/(Nu)       Same uplink UARFCN as used for cell 2         -UARFCN downlink(Nd)       Same downlink UARFCN as used for cell 2         -UARFCN downlink(Nd)       Same downlink UARFCN as used for cell 2         -Uplink and resources
Ivew U-RNTI         Not Present           New C-RNTI         Not Present           -RC State Indicator         CELL_DCH           -UTRAN DRX cycle length coefficient         Not Present           CN Information Elements         Not Present           -URA identity         Not Present           TURAN mobility information elements         Not Present           -Downlink counter synchronisation info         Not Present           Prequency info (10.3.6.36)         FDD           -CHOICE mode         FDD           -UARFCN uplink(Nu)         Same uplink UARFCN as used for cell 2           -UARFCN downlink(Nd)         Same downlink UARFCN as used for cell 2           Uplink radio resources         Hoftmanilow dull. TX power           -CHOICE channel requirement         Uplink DPCH info           -Uplink DPCH power control info (10.3.6.91)         FDD           -DPCCH power offset         -6dB           - PC Preamble         1 frame           - POW Control Algorithm         Algorithm1           - TFC step size         1 dB           - CHOICE mode         FDD           - Scrambling code number         0 (ot 16777215)           - Number of DPDCH         Not Present(1)           - Scrambling code number         1
I-New C-RNTI         Not Present           -RRC State Indicator         CELL_DCH           -UTRAN DRX cycle length coefficient         Not Present           CN Information Elements
-RRC State Indicator       CELL_DCH         -UTRAN DRX cycle length coefficient       Not Present         CN Information Info       Not Present         UTRAN mobility information elements
-UTRAN DRX cycle length coefficient       Not Present         -CN Information lements       Not Present         -CN Information lements       Not Present         -URA identity       Not Present         RB information elements       Not Present         -Downlink counter synchronisation info       Not Present         PhyCH information elements       -         -OHOICE mode       FDD         -UARFCN uplink(Nu)       Same uplink UARFCN as used for cell 2         -UARFCN downlink(Nd)       Same downlink UARFCN as used for cell 2         Uplink radio resources       33 dBm         -CHOICE mode       FDD         -Uplink DPCH info (10.3.6.88)       Uplink DPCH info         -Uplink DPCH ower 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         -TFC exp size       1 dB         -CHOICE mode       FDD         -Srambling code number       0 (0 to 16777215)         -Number of DPDCH       Not Present(1)         -Sreambling code number       0 (0 to 16777215)         -Number of FBI bit
CN Information Elements       Not Present         -CN Information elements       Not Present         -URA identity       Not Present         RB information elements       -         -Frequency info (10.36.36)       -         -OURAFCN uplink(Nu)       Same uplink UARFCN as used for cell 2         -URAFCN downlink(Nd)       Same downlink UARFCN as used for cell 2         Uplink radio resources       33 dBm         -CHOICE channel requirement       Uplink DPCH info         -Uplink DPCH prever control info (10.3.6.91)       -         -CHOICE mode       -6dB         -PC Preamble       1 frame         -PCCH power control algorithm       Algorithm1         -TPC step size       1dB         -OHOICE mode       FDD         -Scrambling code type       Long         -Scrambling code type       Long         -Scrambling code type       Long         -TFCI existence       TRUE         -Number of FBI bit       Not Present         -Downlink PDSCH information       Instalies         -Downlink DPCH information for all RL (10.3.6.23)       Not Present(1)         -FD       Scrambling code type       Long         -Downlink DPCH information       Not Present(0)         -Punc
-CN Information info       Not Present         UTRAM mobility information elements       Not Present         -URA identity       Not Present         RB information elements       PhyCH information elements         -Frequency info (10.3.6.36)       FDD         -CHOICE mode       FDD         -UARFCN uplink(Nu)       Same uplink UARFCN as used for cell 2         Uplink radio resources       33 dBm         -CHOICE channel requirement       Uplink DPCH info         -Uplink DPCH power offset       -6dB         - PC Preamble       1 frame         - SRB delay       7 frames         - PC Preamble       1 dB         - CHOICE mode       FDD         - PC Preamble       1 dB         - CHOICE mode       FDD         - Srambling code number       0 (o to 16777215)         - Number of DPDCH       Not Present(1)         - Spreading factor       64         - TFCI existence       TRUE         - Number of FBI bit       Not Present         - Downlink radio resources       FDD
UTRAN mobility information elements         -URA identity       Not Present         RB information elements       Not Present         -Downlink counter synchronisation info       Not Present         PhyCH information elements       Frequency info (10.3.6.36)         -OHOICE mode       FDD         -UARFCN uplink(Nu)       Same uplink UARFCN as used for cell 2         UARFCN downlink(Nd)       Same downlink UARFCN as used for cell 2         Uplink radio resources       33 dBm         -CHOICE channel requirement       Uplink DPCH info (10.3.6.88)         -Uplink DPCH power control info (10.3.6.91)       FDD         -DPCCH power offset       -6dB         - PC Preamble       1 frames         - PC Preamble       1 frames         - PC Preamble       1 frames         - PC Preambling code type       Long         - Scrambling code type       Long         - Scrambling code number       0 (0 to 16777215)         -Number of DPDCH       Not Present(1)         - Power of FBI bit       1         - TFCI existence       TRUE         - Number of FBI bit       Not Present         - Downlink PDSCH information       Initialise         - Downlink DPCH information for all RL (10.3.6.18)       Initialise </td
-UHA Identity       Not Present         RB information elements       -Downlink counter synchronisation info       Not Present         PhyCH information elements       -Frequency info (10.3.6.36)       -CHOICE mode         -UARFCN uplink(Nu)       Same uplink UARFCN as used for cell 2         UARFCN downlink(Nd)       Same downlink UARFCN as used for cell 2         Uplink radio resources       33 dBm         -CHOICE mode       Uplink DPCH info (10.3.6.88)         -Uplink DPCH info (10.3.6.88)       Uplink DPCH info         -Uplink DPCH ower control info (10.3.6.91)       -6dB         -DPCCH power offset       -6dB         - PC Preamble       1 frame         - PRC sp size       1dB         - PCHCE mode       FDD         -SRB delay       7 frames         - Power Control Algorithm       Algorithm1         - TPC step size       1dB         -CHOICE mode       FDD         -Scrambling code number       0 (0 to 16777215)         -Number of DPDCH       Not Present(1)         -Spreading factor       64         -TFCI existence       TRUE         -Number of FBI bit       Not Present         -Downlink PDSCH information       Initialise         -Downlink PDCH information       I
Hist information elements       Not Present         -Downlink counter synchronisation info       Not Present         PhyCH information elements       Frequency info (10.3.6.36)         -CHOICE mode       FDD         -UARFCN uplink(Nu)       Same uplink UARFCN as used for cell 2         -UARFCN downlink(Nd)       Same downlink UARFCN as used for cell 2         Uplink radio resources       33 dBm         -CHOICE channel requirement       Uplink DPCH info (10.3.6.89)         -Uplink DPCH power control info (10.3.6.91)       -CHOICE mode         -DPCCH power offset       -6dB         -DPCCH power offset       -6dB         -PC Preamble       1 frame         -PR stabling code type       Long         -Scrambling code type       Long         -Scrambling code number       0 (0 to 16777215)         -Number of DPDCH       Not Present(1)         -Spreading factor       64         -TFCI existence       TRUE         -Number of EB bit       Not Present(0)         -Powentink PDSCH information       Not Present(0)         -Pownlink registers       FDD         -Downlink DPCH information       Initialise         -Downlink PDSCH information       Initialise         -Downlink DPCH information       O (s
Downlink counter synchronisation into         Not Present           PhyCH information elements
PhyCH information elements         -Frequency info (10.3.6.36)         -CHOICE mode         -UARFCN uplink(Nu)         UARFCN downlink(Nd)         Same uplink UARFCN as used for cell 2         Maximum allowed UL TX power         -CHOICE channel requirement         -Uplink DPCH info (10.3.6.88)         -Uplink DPCH power control info (10.3.6.91)         -CHOICE mode         -DPCCH power offset         -BR delay         -PC Preamble         -Strambling code type         -CHOICE mode         -PC regamble         -PC Preamble         -PC Step size         -PC offset         -PC Scrambling code number         -Number of DPDCH         -Number of DPDCH         -Number of FBI bit         -Number of FBI bit         -Pownink PDSCH information         -Downlink PDCH info common for all radio links (10.3.6.24)         -Downlink DPCH info common for all RL (10.3.6.18)         -Tirring indicator         -FDD         -Downlink DPCH power control information (10.3.6.23)
-Frequency into (10.3.6.36)       FDD         -CHOICE mode       FDD         -UARFCN uplink(Nu)       Same uplink UARFCN as used for cell 2         -UARFCN downlink(Nd)       Same downlink UARFCN as used for cell 2         Uplink radio resources       33 dBm         -CHOICE channel requirement       Uplink DPCH info         -Uplink DPCH power control info (10.3.6.91)       -         -CHOICE mode       FDD         -DPCCH power control info (10.3.6.91)       -         -CHOICE mode       FDD         -DPCCH power control info (10.3.6.91)       -         -CHOICE mode       FDD         -DPCCH power control info (10.3.6.91)       -         -CHOICE mode       -         -PC Preamble       1 frame         -SRB delay       7 frames         -Power Control Algorithm       Algorithm1         -TFC step size       1 dB         -CHOICE mode       FDD         -Scrambling code number       0 (0 to 16777215)         -Number of DPDCH       Not Present(1)         -Spreading factor       64         -TFCI existence       TRUE         -Number of FBI bit       Not Present         -Downlink radio resources       FDD         -Downlink DPCH info commo
-CHOICE mode       FDD         -UARFECN uplink(Nu)       Same uplink UARFCN as used for cell 2         -UARFCN downlink(Nd)       Same downlink UARFCN as used for cell 2         Uplink radio resources       33 dBm         -CHOICE channel requirement       Uplink DPCH info (10.3.6.88)         -Uplink DPCH power control info (10.3.6.91)       FDD         -CHOICE mode       FDD         -DPCCH power offset       -6dB         - PC Preamble       1 frames         - SRB delay       7 frames         - Power Control Algorithm       Algorithm1         - TPC step size       1dB         -CHOICE mode       FDD         -SRB delay       7 frames         - Srambling code type       Long         -Scrambling code type       Long         -Scrambling code type       Long         -TFCI existence       TRUE         -Number of DPDCH       Not Present(0)         -Puncturing Limit       1         Downlink PDSCH information       FDD         -Downlink PDCH information       Initialise         -Downlink DPCH power control information (10.3.6.23)       Not Present         -Downlink DPCH power control information (10.3.6.23)       O (single)         -DEV mode       FDD
-UARECN uplink (Nu)       Same uplink UARECN as used for cell 2         -UARECN downlink (Nd)       Same downlink UARECN as used for cell 2         Uplink radio resources       33 dBm         -CHOICE channel requirement       Uplink DPCH info         -Uplink DPCH power control info (10.3.6.91)       -CHOICE mode         -DPCCH power offset       -6dB         -PC Preamble       1 frame         -SRB delay       7 frames         -Power Control Algorithm       Algorithm1         -TPC step size       1dB         -CHOICE mode       FDD         -SRB delay       7 frames         -Power Control Algorithm       Algorithm1         -TPC step size       1dB         -CHOICE mode       FDD         -Scrambling code type       Long         -Scrambling code type       Long         -Stranbling code type       Intue         -TFCI existence       TRUE         -Number of DPDCH       Not Present(0)         -Puncturing Limit       1         Downlink radio resources       FDD         -CHOICE mode       FDD         -Downlink PDSCH information       Intitialise         -Downlink PDCH info common for all radio links (10.3.6.24)       Not Present
-UARECN downlink (Nd)       Same downlink UARECN as used for cell 2         Uplink radio resources       33 dBm         -Maximum allowed UL TX power       33 dBm         -Uplink DPCH info (10.3.6.88)       Uplink DPCH info         -Uplink DPCH power control info (10.3.6.91)       FDD         -CHOICE mode       -6dB         -PC Preamble       1 frame         -SRB delay       7 frames         -Power Control Algorithm       Algorithm1         -TPC step size       1dB         -CHOICE mode       FDD         -CHOICE mode       FDD         -Scrambling code type       Long         -Scrambling code number       0 (0 to 16777215)         -Number of DPDCH       Not Present(1)         -Spreading factor       64         -TFCI existence       TRUE         -Number of FBI bit       Not Present(0)         -Puncturing Limit       1         Downlink radio resources       FDD         -CHOICE mode       FDD         -Downlink PDSCH information       Not Present         -Downlink DPCH power control information (10.3.6.24)       Not Present         -Downlink DPCH power control information (10.3.6.23)       O (single)         -Thing indicator       Initialise
Uplink radio resources       33 dBm         -Maximum allowed UL TX power       33 dBm         -CHOICE channel requirement       Uplink DPCH info         -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       64         -TFCI existence       TRUE         -Number of FBI bit       Not Present(0)         -Puncturing Limit       1         Downlink radio resources       FDD         -CHOICE mode       FDD         -Downlink PDSCH information       Not Present         -Downlink DPCH info common for all radio links (10.3.6.24)       Not Present         -Downlink DPCH info common for all RL (10.3.6.18)       Initialise         -Timing indicator       Initialise         -CFN-targetSFN frame offset       Not Present
-Maximum anowed or La power       S3 dbin         -CHOICE channel requirement       Uplink DPCH info         -Uplink DPCH power control info (10.3.6.91)       -CHOICE mode         -DPCCH power offset       -6dB         -PC Preamble       1 frame         -SRB delay       7 frames         -Power Control Algorithm       Algorithm1         -TPC step size       1dB         -CHOICE mode       FDD         -Scambling code type       Long         -Scrambling code number       0 (0 to 16777215)         -Number of DPDCH       Not Present(1)         -Spreading factor       64         -TFCI existence       TRUE         -Number of FBI bit       Not Present(0)         -Puncturing Limit       1         Downlink radio resources       FDD         -CHOICE mode       FDD         -Downlink nformation common for all radio links (10.3.6.24)       Not Present         -Downlink DPCH info common for all RL (10.3.6.18)       Initialise         -Timing indicator       Initialise         -CFN-targetSFN frame offset       Not Present         -Downlink DPCH power control information (10.3.6.23)       O (single)         -DFC mode       FDD         -CHOICE mode       FDD
-Uplink DPCH information       Oplink DPCH Information         -Uplink DPCH power control info (10.3.6.91)       -CHOICE mode         -DPCCH power offset       -6dB         -PC Preamble       1 frame         -SRB delay       7 frames         -Power Control Algorithm       Algorithm1         -TPC step size       1dB         -CHOICE mode       FDD         -Strambling code type       Long         -Scrambling code number       0 (0 to 16777215)         -Number of PDPCH       Not Present(1)         -Spreading factor       64         -TFCI existence       TRUE         -Number of FBI bit       Not Present(0)         -Puncturing Limit       1         Downlink radio resources       FDD         -CHOICE mode       FDD         -Downlink roff or ender       FDD         -Downlink radio resources       FDD         -CHOICE mode       FDD         -Downlink DPCH information       Not Present         -Downlink DPCH information for all radio links (10.3.6.24)       Initialise         -Downlink DPCH information for all RL (10.3.6.18)       Initialise         -Timing indicator       Initialise         -CFN-targetSFN frame offset       Not Present
-Uplink DPCH power control info (10.3.6.91)         -CHOICE mode         -DPCCH power offset         -DPCCH power offset         -SRB delay         Power Control Algorithm         -TPC step size         -CHOICE mode         -CHOICE mode         -Power Control Algorithm         -TPC step size         -CHOICE mode         -Scrambling code type         -Scrambling code number         -Number of DPDCH         -Spreading factor         -TFC existence         -Number of FBI bit         -Pouncturing Limit         1         Downlink radio resources         -CHOICE mode         -CHOICE mode         -Downlink DPCH information         -Downlink DPCH information for all radio links (10.3.6.24)         -Downlink DPCH power control information (10.3.6.23)         -FINAR DPCH power control information (10.3.6.23)         -Downlink DPCH power control information (10.3.6.23)         -Downlink DPCH power control information (10.3.6.23)         -Downlink DPCH power control information (10.3.6.23)         -DPC mode         -CHOICE mode         -Downlink DPCH power control information (10.3.6.23)         -DPC mode       FDD
-CHOICE mode       FDD         -DPCCH power offset       -6dB         - PC Preamble       1 frame         - SRB delay       7 frames         - Power Control Algorithm       Algorithm1         - TPC step size       1 dB         -CHOICE mode       FDD         -Scrambling code type       Long         -Scrambling code number       0 (0 to 16777215)         -Number of DPDCH       Not Present(1)         -Spreading factor       64         -TFCI existence       TRUE         -Number of FBI bit       Not Present(0)         -Purturing Limit       1         Downlink radio resources       FDD         -CHOICE mode       FDD         -Downlink DPCH information       FDD         -Downlink DPCH information common for all RL (10.3.6.24)       Not Present         -Downlink DPCH power control information (10.3.6.23)       Initialise         -FN-targetSFN frame offset       Not Present         -Downlink DPCH power control information (10.3.6.23)       O (single)         -DPC mode       FDD       O
-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       64         -TFCI existence       TRUE         -Number of FBI bit       Not Present(0)         -Puncturing Limit       1         Downlink radio resources       FDD         -CHOICE mode       FDD         -Downlink information common for all radio links (10.3.6.24)       Not Present         -Downlink DPCH info common for all RL (10.3.6.18)       Initialise         -Timing indicator       Initialise         -CFN-targetSFN frame offset       Not Present         -Downlink DPCH power control information (10.3.6.23)       O (single)         -DFC mode       FDD         -CHOICE mode       FDD         -Downlink DPCH power control information (10.3.6.23)       O (single)         -DFC mode       FDD         -CHOICE mode       FDD         -CHOICE mod
- Dr Or Preamble1 frame- PC Preamble1 frame- SRB delay7 frames- Power Control AlgorithmAlgorithm1- TPC step size1dB- CHOICE modeFDD- Scrambling code typeLong- Scrambling code number0 (0 to 16777215)- Number of DPDCHNot Present(1)- Spreading factor64- TFCI existenceTRUE- Number of FBI bitNot Present(0)- Puncturing Limit1Downlink radio resourcesFDD- CHOICE modeFDD- Downlink DPCH informationNot Present- Downlink DPCH informationInitialise- CFN-targetSFN frame offsetNot Present- Downlink DPCH power control information (10.3.6.23)O (single)- DPC modeFDD- CHOICE modeFDD- Downlink DPCH power control information (10.3.6.23)O (single)- DPC modeFDD- CHOICE modeFDD- Downlink DPCH power control information (10.3.6.23)O (single)- DPC modeFDD- CHOICE modeFDD- CHOICE modeFDD- Down offset PPilot-DPDCHO- Down offset PPilot-DPDCHO- Down offset PPilot-DPDCHO- Down offset PPilot-DPDCHO- Down offset PPilot-DPDCHO
- 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       64         - TFCI existence       TRUE         - Number of FBI bit       Not Present(0)         - Puncturing Limit       1         Downlink radio resources       FDD         -CHOICE mode       FDD         -Downlink DPCH information       Not Present         -Downlink DPCH info common for all radio links (10.3.6.24)       Not Present         -Downlink DPCH power control information (10.3.6.23)       Initialise         -DPC mode       FDD         -CHOICE mode       O (single)         -CEN-targetSFN frame offset       O (single)         -DPC mode       FDD         -DPC mode       FDD         -CHOICE mode       FDD         -DPC mode       FDD         -CHOICE mode       FDD         -DPC mode       FDD         -CHOICE mode       FDD         -DPOwer offset P <sub>PHot-DPDCH</sub>
Power Control AlgorithmAlgorithm 1- TPC step size1dB- CHOICE modeFDD- Scrambling code typeLong- Scrambling code number0 (0 to 16777215)- Number of DPDCHNot Present(1)- Spreading factor64- TFCI existenceTRUE- Number of FBI bitNot Present(0)- Puncturing Limit1Downlink radio resourcesFDD- CHOICE modeFDD- Downlink information common for all radio links (10.3.6.24)- Downlink DPCH infor common for all RL (10.3.6.18)Initialise- Timing indicatorInitialise- CFN-targetSFN frame offsetNot Present- Downlink DPCH power control information (10.3.6.23)0 (single)- DPC modeFDD- CHOICE modeFDD- Ownlink DPCH power control information (10.3.6.23)0 (single)- Down link DPCH power control information (10.3.6.23)0 (single)- Down link DPCH power control information (10.3.6.24)0
TPC step size1dB-CHOICE modeFDD-Scrambling code typeLong-Scrambling code number0 (0 to 16777215)-Number of DPDCHNot Present(1)-Spreading factor64-TFCI existenceTRUE-Number of FBI bitNot Present(0)-Puncturing Limit1Downlink radio resourcesFDD-CHOICE modeFDD-Downlink Information common for all radio links (10.3.6.24)-Downlink DPCH info common for all RL (10.3.6.18)-Timing indicatorInitialise-CFN-targetSFN frame offsetNot Present-Downlink DPCH power control information (10.3.6.23)0 (single)-DPC modeFDD-CHOICE modeFDD-Downlink DPCH popech0
-CHOICE mode       FDD         -Scrambling code type       Long         -Scrambling code number       0 (0 to 16777215)         -Number of DPDCH       Not Present(1)         -Spreading factor       64         -TFCI existence       TRUE         -Number of FBI bit       Not Present(0)         -Puncturing Limit       1         Downlink radio resources       FDD         -CHOICE mode       FDD         -Downlink information common for all radio links (10.3.6.24)       Not Present         -Downlink DPCH information       Not Present         -Timing indicator       Initialise         -CFN-targetSFN frame offset       Not Present         -Downlink DPCH power control information (10.3.6.23)       0 (single)         -DPC mode       FDD         -CHOICE mode       FDD         -CFN-targetSFN frame offset       Not Present         -Downlink DPCH power control information (10.3.6.23)       0 (single)         -CHOICE mode       FDD         -CHOICE mode       FDD         -Dever offset P <sub>Pilot-DPDCH</sub> 0         -Power offset P <sub>Pilot-DPDCH</sub> 0
-Scrambling code type     Long       -Scrambling code number     0 (0 to 16777215)       -Number of DPDCH     Not Present(1)       -Spreading factor     64       -TFCI existence     TRUE       -Number of FBI bit     Not Present(0)       -Puncturing Limit     1       Downlink radio resources     FDD       -CHOICE mode     FDD       -Downlink information common for all radio links (10.3.6.24)     Not Present       -Downlink DPCH info common for all RL (10.3.6.18)     Initialise       -Timing indicator     Initialise       -CFN-targetSFN frame offset     Not Present       -Downlink DPCH power control information (10.3.6.23)     0 (single)       -DPC mode     FDD       -CHOICE mode     FDD       -Downlink DPCH power control information (10.3.6.23)     O (single)       -DPC mode     FDD       -CHOICE mode     FDD       -Dever offset PPilot-DPDCH     0
-Scrambling code number       0 (0 to 16777215)         -Number of DPDCH       Not Present(1)         -Spreading factor       64         -TFCI existence       TRUE         -Number of FBI bit       Not Present(0)         -Puncturing Limit       1         Downlink radio resources       FDD         -CHOICE mode       FDD         -Downlink information common for all radio links (10.3.6.24)       Not Present         -Downlink DPCH info common for all RL (10.3.6.18)       Initialise         -Timing indicator       Initialise         -CFN-targetSFN frame offset       Not Present         -Downlink DPCH power control information (10.3.6.23)       0 (single)         -DPC mode       FDD         -CHOICE mode       FDD         -Dever offset Pplot-DPDCH       0
-Number of DPDCH       Not Present(1)         -Spreading factor       64         -TFCI existence       TRUE         -Number of FBI bit       Not Present(0)         -Puncturing Limit       1         Downlink radio resources       FDD         -CHOICE mode       FDD         -Downlink information common for all radio links (10.3.6.24)       Not Present         -Downlink DPCH info common for all RL (10.3.6.18)       Initialise         -Timing indicator       Initialise         -CFN-targetSFN frame offset       Not Present         -Downlink DPCH power control information (10.3.6.23)       0 (single)         -DPC mode       FDD         -CHOICE mode       FDD         -CHOICE mode       0         -DPC mode       FDD         -CHOICE mode       FDD         -Power offset P <sub>Pilot-DPDCH</sub> 0
-Spreading factor       64         -TFCI existence       TRUE         -Number of FBI bit       Not Present(0)         -Puncturing Limit       1         Downlink radio resources       FDD         -CHOICE mode       FDD         -Downlink PDSCH information       Not Present         -Downlink pDSCH information common for all radio links (10.3.6.24)       Not Present         -Downlink DPCH info common for all RL (10.3.6.18)       Initialise         -Timing indicator       Initialise         -CFN-targetSFN frame offset       Not Present         -Downlink DPCH power control information (10.3.6.23)       0 (single)         -DPC mode       FDD         -CHOICE mode       FDD         -Power offset P <sub>PHot-DPDCH</sub> 0
-TFCI existence       TRUE         -Number of FBI bit       Not Present(0)         -Puncturing Limit       1         Downlink radio resources       FDD         -CHOICE mode       FDD         -Downlink PDSCH information       Not Present         -Downlink information common for all radio links (10.3.6.24)       Not Present         -Downlink DPCH info common for all RL (10.3.6.18)       Initialise         -Timing indicator       Initialise         -CFN-targetSFN frame offset       Not Present         -Downlink DPCH power control information (10.3.6.23)       0 (single)         -CHOICE mode       FDD         -CHOICE mode       FDD         -CHOICE mode       FDD         -Power offset P <sub>Pilot-DPDCH</sub> 0
-Number of FBI bit       Not Present(0)         -Puncturing Limit       1         Downlink radio resources       FDD         -CHOICE mode       FDD         -Downlink PDSCH information       Not Present         -Downlink information common for all radio links (10.3.6.24)       Not Present         -Downlink DPCH info common for all RL (10.3.6.18)       Initialise         -Timing indicator       Initialise         -CFN-targetSFN frame offset       Not Present         -Downlink DPCH power control information (10.3.6.23)       0 (single)         -CHOICE mode       FDD         -CHOICE mode       FDD         -Power offset P <sub>Pliot-DPDCH</sub> 0
-Puncturing Limit       1         Downlink radio resources       FDD         -CHOICE mode       FDD         -Downlink PDSCH information       Not Present         -Downlink information common for all radio links (10.3.6.24)       Initialise         -Downlink DPCH info common for all RL (10.3.6.18)       Initialise         -Timing indicator       Initialise         -CFN-targetSFN frame offset       Not Present         -Downlink DPCH power control information (10.3.6.23)       0 (single)         -CHOICE mode       FDD         -Power offset P <sub>Pilot-DPDCH</sub> 0         Plants metricities information information       Not Present
Downlink radio resources       FDD         -CHOICE mode       FDD         -Downlink PDSCH information       Not Present         -Downlink information common for all radio links (10.3.6.24)       Initialise         -Downlink DPCH info common for all RL (10.3.6.18)       Initialise         -Timing indicator       Initialise         -CFN-targetSFN frame offset       Not Present         -Downlink DPCH power control information (10.3.6.23)       0 (single)         -CHOICE mode       FDD         -Power offset P <sub>Pilot-DPDCH</sub> 0
-CHOICE mode       FDD         -Downlink PDSCH information       Not Present         -Downlink information common for all radio links (10.3.6.24)       Initialise         -Downlink DPCH info common for all RL (10.3.6.18)       Initialise         -Timing indicator       Initialise         -CFN-targetSFN frame offset       Not Present         -Downlink DPCH power control information (10.3.6.23)       0 (single)         -CHOICE mode       FDD         -Power offset P <sub>Pilot-DPDCH</sub> 0
-Downlink PDSCH information       Not Present         -Downlink information common for all radio links (10.3.6.24)       Initialise         -Downlink DPCH info common for all RL (10.3.6.18)       Initialise         -Timing indicator       Initialise         -CFN-targetSFN frame offset       Not Present         -Downlink DPCH power control information (10.3.6.23)       0 (single)         -CHOICE mode       FDD         -Power offset P <sub>Pilot-DPDCH</sub> 0
-Downlink information common for all radio links (10.3.6.24) -Downlink DPCH info common for all RL (10.3.6.18) -Timing indicator -CFN-targetSFN frame offset -Downlink DPCH power control information (10.3.6.23) -DPC mode -CHOICE mode -CHOICE mode -Power offset P <sub>Pilot-DPDCH</sub> Dust mate metricing information
-Downlink DPCH info common for all RL (10.3.6.18)       Initialise         -Timing indicator       Initialise         -CFN-targetSFN frame offset       Not Present         -Downlink DPCH power control information (10.3.6.23)       0 (single)         -DPC mode       0         -CHOICE mode       FDD         -Power offset P <sub>Pilot-DPDCH</sub> 0
-Timing indicator     Initialise       -CFN-targetSFN frame offset     Not Present       -Downlink DPCH power control information (10.3.6.23)     0 (single)       -DPC mode     0 (single)       -CHOICE mode     FDD       -Power offset P <sub>Pilot-DPDCH</sub> 0
-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> 0
-Downlink DPCH power control information (10.3.6.23) -DPC mode 0 (single) -CHOICE mode FDD -Power offset P <sub>Pilot-DPDCH</sub> 0
-DPC mode 0 (single) -CHOICE mode FDD -Power offset P <sub>Pilot-DPDCH</sub> 0
-CHOICE mode FDD -Power offset P <sub>Pilot-DPDCH</sub> 0 -Power offset being statistical information
-rower onset Ppliot.DPDCH U
LIL rate material a intermetica
-DL rate matching restriction information Not Present 100
-opreauing lacion 120
-CHOICE SE
-Number of bits for Pilot bits/SE=128 256)

Information Element	Value/Remark
-DPCH compressed mode info (10.3.6.33)	Not Present
-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	<u>150</u> 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
-Primary CPICH usage for channel estimation	Primary CPICH may be used
-DPCH frame offset	0 chips
-Secondary CPICH info	Not Present
-DL channelisation code	
-Secondary scrambling code	Not Present
-Spreading factor	128
-Code number	96
-Scrambling code change	No change
-TPC combination index	0
- SSDT Cell Identity	Not Present
<ul> <li>Closed loop timing adjustment mode</li> </ul>	Not Present
<ul> <li>SCCPCH information for FACH (10.3.6.70)</li> </ul>	Not Present

MEASUREMENT REPORT message for Intra frequency test cases

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Measurement identity	1
Measured Results	
<ul> <li>Intra-frequency measured results list</li> </ul>	
- Cell measured results	
- Cell Identity	Not present
<ul> <li>SFN-SFN observed time difference</li> <li>Cell synchronisation information</li> </ul>	Checked that this IE is present
- Tm	Checked that this IE is present
- OFF	Checked that this IE is present
- CHOICE mode	FDD
- Primary CPICH info	Checked that this IE is present
- Primary scrambling code	
- CPICH EC/NO	Checked that this IE is present
	Checked that this IE is present
- Cell measured results	
- Cell Identity - Cell synchronisation information	Not present
- Tm	Checked that this IE is present
- OFF	Checked that this IE is present
- CHOICE mode	FDD
- Primary CPICH info	Checked that this IE is present
- Primary scrambling code	150
- CPICH Ec/N0	Checked that this IE is present
- CPICH RSCP	Checked that this IE is present
- Pathloss	Checked that this IE is present
Measured results on RACH	Checked that this IE is absent
Additional measured results	Checked that this IE is absent
Event results	Checked that this IE is present

#### 8.3.2.1.5 Test requirements

For the test to pass, the total number of successful tests shall be more than 90% of the cases with a confidence level of 95 %.

Parameter	Unit	Cell 1			Cell 2			
		T1	T2	T3	T1	T2	T3	
CPICH_Ec/lor	dB		-9.3			-9.3		
PCCPCH_Ec/lor	dB		-11.3			-11.3		
SCH_Ec/lor	dB		-11.3			-11.3		
PICH_Ec/lor	dB		-14.3			-14.3		
DPCH_Ec/lor	dB	Note1	Note1	Note3	N/A	N/A	Note1	
OCNS_Ec/lor	dB	Note2	Note2	Note2	-1.13	-1.13	Note2	
$\hat{P}_{or}/I_{oc (Note 4)}$	dB	0	0 7.0			6.0		
Œ,	dBm	-70.0	-70.0 -63.0 -Infi			-64.0		
I <sub>oc</sub>	dBm/ 3.84 MHz	-70						
CPICH_Ec/lo (Note 4)	dB	-12.3 -Infinity -13.3						
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 <sub>or</sub> .								

Table 8.3.2.1.3: Test requirements for Handover to intra-frequency cell

The DPCH may not be power controlled by the power control loop. Note 3:

These parameters are not directly settable, but are derived by calculation from the settable parameters. Note 4:

#### 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 interruption time shall be less than 140 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 95%.

The hard handover 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 5.2.2.2 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 Tinterrupt2

 $T_{interrupt2} = T_{IU} + 40 + 50 * KC + 150 * OC + 10 * F_{max} ms$ 

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.

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.

#### 8.3.2.2.4 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 tables 8.3.2.2.1 to 8.3.2.2.3 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 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 "now" with one active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE <u>during period T2</u>, after the UE has reported event 2C. 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]. The start of T3 is defined as the end of the last TTI containing the Physical Channel reconfiguration message.

N312 shall have the smallest possible value i.e. only one insync is required.

Parameter		Unit	Value	Comment
DCH parameters			DL and UL Reference Measurement Channel 12.2 kbps	As specified in clause C.3.1 and C.2.1
Power Cont	rol		On	
Target quali DTCH	ty value on	BLER	0.01	
Compressed	d 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 conditions	Active cell		Cell 2	
Threshold n frequency	on used	dB	-18	Absolute Ec/I0 threshold for event 2C
Hysteresis		dB	0	
W non-used	frequency		1	Applicable for event 2C
Time to Trigger		ms	0	
Filter coeffic	ient		0	
T1		S	5	
T2		S	<u>≤</u> 10	
T3		S	5	

Table 8.3.2.2.1: General test	parameters for Handover to inter-frequency	cell
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Parameter	Unit	Cell 1		Cell 2					
		T1	T2	Т3	T1	T2	Т3		
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_Ec/lor	dB	Note2	Note2	Note2	-0.941	-0.941	Note2		
$\hat{P}_{or}/I_{oc}$	dB		0		-Infinity	-1.8	-1.8		
$Q_{r(Note 4)}$	dBm	-70.0		-Infinity	-71.8	-71.8			
Inc	dBm/	-70							
00	3.84								
	MHz								
CPICH_Ec/lo	dB		-13		-Infinity	-1	4		
Propagation		AWGN							
Condition									
Note 1: The DPC	H level is	controlled by th	he power control	loop					
Note 2: The powe	er of the C	CNS channel	that is added sha	all make the tot	al power from th	ne cell to be equ	al to I <sub>or.</sub>		
		• In a second a second	يحاد والانتخابة والمسل		-				

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

Note 3: The DPCH may not be power controlled by the power control loop.

Note 4: The nominal Or values, although not explicitly defined in 25.133 are added here since they are implied and need to be identified so that the test equipment can be configured.

#### 8.3.2.2.4.2 Procedure

- 1) The RF parameters are set up according to T1 in table 8.3.2.2.3.
- 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 messages on cell 1.
- 5) 5 seconds after step 4 has completed, the SS shall switch the power settings from T1 to T2 in table 8.3.2.2.3.
- 6) UE shall transmit a MEASUREMENT REPORT message triggered by event 2C
- 7) SS shall transmit a PHYSICAL CHANNEL RECONFIGURATION message with activation time "now". SS-shall transmit the whole message such that will be is available at the UE no later than a period equals to the RRC-procedure delay (= 80 ms) prior to the beginning of T3. The start of T3 is defined as the end of the last TTI containing the physical channel reconfiguration message.
- 8) After 10 seconds from the beginning of time period T2, tThe SS shall switch the power settings from T2 to T3 in table 8.3.2.2.3.
- 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 <u>220140</u> ms from the beginning of time period T3 then the number of successful tests is increased by one. <u>The UE shall transmit a PHYSICAL CHANNEL</u> <u>RECONFIGURATION COMPLETE message on the UL DCCH of cell 2.</u>
- 10) After 5 seconds from the beginning of time period T3, the UE is switched off. Any timing information of cell 2 is deleted in the UE.
- 11)Repeat step 1-10 until the confidence level according to annex F.6.2 is achieved

#### 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], with the following exceptions:

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	
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IE. The first/
	leftmost bit of the bit string contains the
	most significant bit of the MAC-I.
-RRC message sequence number	SS provides the value of this IE. from its
	internal counter.
Measurement Information elements	
-Measurement Identity	2
-Measurement Command (10.3.7.46)	Setup
-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 nequency measurement
-Inter-frequency measurement objects list (10.3.7.13)	
- CHOICE Inter-frequency cell removal	Not Present
- New Inter frequency cells	
- Inter frequency cell id	0
- Frequency info	
- CHOICE mode	FDD
- UARECN uplink(Nu)	Not Present
- UABECN downlink(Nd)	Same frequency as "Channel2" in Table
	83222
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to Primary scrambling code of Cell2
- Primary CPICH Tx Power	Set to Primary CPICH Tx Power of Cell2
	described in Table 8.3.2.2.2
- Tx Diversity Indicator	FALSE
- Cell for measurement	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)	
-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	FALSE
-Reporting cell status (10.3.7.61)	Not Present
-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

Information Element/Group name	Value/Remark
-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	
<ul> <li>Parameters required for each non-used frequency</li> </ul>	1
-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

### PHYSICAL CHANNEL RECONFIGURATION message (step 7):

Information Element	Value/Remark
Message Type	
UE Information Elements	
-RRC transaction identifier	0
-Integrity check info	
-message authentication code	SS calculates the value of MAC-I for this
5	message and writes to this IE. The first/
	leftmost bit of the bit string contains the
	most significant bit of the MAC-I
-BBC message sequence number	SS provides the value of this IF from its
	internal counter
-Integrity protection mode info	Not Present
-Ciphering mode info	Not Present
	"now"
	Not Present
	Not Procent
-New O-Initia BBC State Indicator	
LITRAN DBX evels longth coofficient	Net Present
-OTRAN DRA Cycle length coefficient	Not Fresent
CN Information info	Not Drocont
-UN Information info	Not Present
	Not Drocont
-URA Identity	Not Present
RB information elements	Net Dresent
-Downlink counter synchronisation into	Not Present
>RB with PDCP information list	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 UARFCN as used for cell 2
-UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 2
Uplink radio resources	
-Maximum allowed UL TX power	
	Uplink DPCH info
-Uplink DPCH power control into (10.3.6.91)	
	FDD
-DPCCH power offset	-00B
- PC Preamble	
	7 frames
- Power Control Algorithm	Algorithm1
- TPC step size	
	FDD
-Scrambling code type	
-Scrambling code number	0 (0 to 16777215)
-Number of DPDCH	Not Present(1)
-Spreading factor	64
- IFCI existence	IRUE
-Number of FBI bit	Not Present(0)
-Puncturing Limit	1
Downlink radio resources	500
-CHOICE mode	FDD
-Downlink PDSCH information	Not Present
-Downlink information common for all radio links (10.3.6.24)	
-Downlink DPCH into common for all RL (10.3.6.18)	
- I Iming Indicator	Initialise
-CEN-targetSEN frame offset	Not Present
-Downlink DPCH power control information (10.3.6.23)	
	U (single)
-POWER OTTSET PPilot-DPDCH	U Net Dresent
-DL rate matching restriction information	Not Present
-Spreading factor	
-Fixed or Flexible Position	Fixed
-CHOICE SF	128

Information Element	Value/Remark
-Number of bits for Pilot bits(SF=128,256)	8
-CHOICE mode	FDD
-DPCH compressed mode info (10.3.6.33)	
- Transmission gap pattern sequence	1
- TGPSI	1
- TGPS Status Flag	deactivate
- TGCFN	Not Present
<ul> <li>Transmission gap pattern sequence configuration</li> </ul>	Not Present
parameters	
-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	<u>250</u> 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
-Primary CPICH usage for channel estimation	Primary CPICH may be used
-DPCH frame offset	0 chips
-Secondary CPICH info	Not Present
-DL channelisation code	
-Secondary scrambling code	Not Present
-Spreading factor	128
-Code number	96
-Scrambling code change	No change
-TPC combination index	0
- SSDT Cell Identity	Not Present
- Closed loop timing adjustment mode	Not Present
- SCCPCH information for FACH (10.3.6.70)	Not Present

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

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Measurement identity	1
Measured Results	
<ul> <li>Inter-frequency measured results</li> </ul>	
- Frequency Info	Checked that this IE is present
<ul> <li>Inter-freqcell measured results list</li> </ul>	
- Cell measured results	
- Cell Identity	Not present
<ul> <li>Cell synchronisation information</li> </ul>	
- Tm	Checked that this IE is present
- OFF	Checked that this IE is present
- CHOICE mode	
- Primary CPICH info	Checked that this IE is present
- Primary scrambling code	<u>250</u> 150
	Checked that this IE is present
- UPIUH KOUP	Checked that this IE is present
- Machiness	Checked that this IE is present
Additional macaured results	Checked that this IE is absent
Auditional measured results	Checked that this IE is absent
	Oneckeu mai imis in is present

#### 8.3.2.2.5 Test requirements

For the test to pass, the total number of successful tests shall be more than 90% of the cases with a confidence level of 95 %.

Parameter	Unit		Cell 1			Cell 2	
		T1	T2	Т3	T1	T2	T3
UTRA RF Channel			Channel 1		Channel 2		
Number							
CPICH_Ec/lor	dB		-9.2		-9.2		
PCCPCH_Ec/lor	dB		-11.2		-11.2		
SCH_Ec/lor	dB		-11.2			-11.2	
PICH Ec/lor	dB		-14.2			-14.2	
DPCH Ec/lor	dB	Note1	Note1	Note3	N/A	N/A	Note1
OCNS_Ec/lor	dB	Note2	Note2	Note2	-1.16	-1.16	Note2
$\hat{P}_{or}/I_{oc (Note 4)}$	dB		0		-Infinity	-1.8	-1.8
Œ,	dBm	-70.0		-Infinity	-71.8	-71.8	
Inc	dBm/	-70					
00	3.84						
	MHz						
CPICH_Ec/lo	dB		-12.2		-Infinity	-10	3.2
(Note 4)							
Propagation				AV	VGN		
Condition							
Note 1: The DPC	H level is	controlled by the	he power control	loop			
Note 2: The powe	er of the C	CNS channel	that is added sha	all make the tot	al power from th	e cell to be equ	al to I <sub>or.</sub>

Table 8.3.2.2.3:	Test requirements	for Handover to	inter-frequency cell
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Note 3: The DPCH may not be power controlled by the power control loop. Note 4: These parameters are not directly settable, but are derived by calculation from the settable parameters.

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 Meeting #25 St Paulís Bay, Malta, November 1<sup>st</sup> - 5<sup>th</sup>, 2004

### *Tdoc* **#***T1-041822*

	CHANGE RE	QUEST	CR-Form-v7
<b>#</b>	<mark>34.121</mark> CR <sup>449</sup> <b>#</b> rev	Current version: 5.5.0	æ
For <u>HELP</u> or	n using this form, see bottom of this page o	or look at the pop-up text over the 🔀 sym	bols.
Proposed chang	e affects: UICC apps <mark>%</mark> ME	X Radio Access Network Core Net	work
Title:	Corrections to TC 8.6.4.1		
Source:	<mark>೫ Nokia</mark>		
Work item code:	ж ТЕI	Date: 🔀 2004-11-03	
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 an e</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</li> <li>be found in 3GPP <u>TR 21.900</u>.</li> </ul>	Release: # REL-5Use one of the following relea2(GSM Phase 2)earlier release)R96(Release 1996)R97(Release 1997)R98(Release 1998)R99(Release 1999)ries canRel-4(Release 4)Rel-5(Release 5)R94(Release 6)	ases:

Reason for change: # Maximum test system uncertainties, test tolerances and derivation of test requirements have not been defined for TC 8.6.4.1 (Correct Reporting of GSM neighbours in AWGN propagation conditions) in Annex F. Test tolerances have not been taken into account in section 8.6.4.1. Test requirements for measurement reporting delay do not include a delay uncertainty resulted when inserting the measurement report to the TTI of the uplink DCCH. This delay uncertainty is twice the the TTI of the uplink DCCH. Monitored cell list size is missing a reference to Annex I. TC 8.6.4.1 contains some minor mistakes that should be corrected. Summary of change: X Maximum test system uncertainties have been added into Table F.1.5 Test tolerances have been added into table F.2.4 Derivation of test requirements have been added into table F.4.4 New tables showing cell specific test parameters for GSM cell including the test tolerances have been created (Tables 8.6.4.7 and 8.6.4.8). These tables are now also refered in test procedures. Measurement delay values have been increased by 80 ms (2xTTI of the uplink DCCH) in sections 8.6.4.1.4.2 and 8.6.4.1.4.4 Monitored cell list size refer now to Annex I in Tables 8.6.4.1 and 8.6.4.4 Other minor corrections: add one space and reference to TS 25.133 in table 8.6.4.1; replace *i*all three*î* with *i*two*î* in MEASUREMENT CONTROL message; Replace ì7 secondsî with ì2 secondsî in step 7 in test procedure in section

	8.6.4.1.4.4
Consequences if	# Test case is incomplete
not approved.	
Clauses affected:	# Section 8.6.4.1, Annex F.1.5, Annex F.2.4, Annex F.4.4
Other specs Affected:	Y       N         #       X         Other core specifications       #         X       Test specifications         X       O&M Specifications
Other comments:	His CR is applicable for UEis supporting Rel-99 or later.

#### 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.

### 8.6.4 GSM measurements

#### 8.6.4.1 Correct reporting of GSM neighbours in AWGN propagation condition

#### 8.6.4.1.1 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 in this section apply only to UE supporting FDD and GSM for Release 99, Release 4, Release 5 and later releases.

#### 8.6.4.1.2 Minimum requirements

Measurements on GSM cells can be requested with BSIC verified or BSIC non-verified.

1) In CELL\_DCH state when a transmission gap pattern sequence is provided by the UTRAN the UE shall continuously measure GSM cells and search for new GSM cells given in the monitored set.

2) If the UE does not need compressed mode to perform GSM measurements:

- the UE shall measure all GSM cells present in the monitored set
- the relevant requirements for GSM dedicated mode when a TCH channel is assigned in TS 45.008 shall apply.

The normative reference for these requirements is TS 25.133 [2] clauses 8.1.2.5 and A.8.4.1.

#### 8.6.4.1.3 Test purpose

To verify that the UE meets the minimum requirements.

#### 8.6.4.1.4 Method of test

#### 8.6.4.1.4.1 Test 1 initial conditions

Test 1 with BSIC verification required case:

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 8.6.4.1, 8.6.4.2 and 8.6.4.3 below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 3B and 3C shall be used. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively.

Table 8.6.4.1: General test parameters for Correct reporting of GSM neighbours in AWGN
propagation condition, Test 1

Parameter	Unit	Value	Comment
DCH parameters		DL Reference Measurement Channel	As specified in TS 25.101 section A.3.1
		12.2 kbps	
Power Control		On	
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 table A.22 TS 25.101 section A.5
- GSM Initial BSIC			
identification		Pattern 2	As specified in section 8.1.2.5.2.1 TS 25.133_table 8.7.
Active cell		Cell 1	
Inter-RAT measurement quantity		GSM Carrier RSSI	
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	See Annex I for cell information. Measurement control information is sent before the compressed mode patterns starts.
N Identify abort		66	Taken from table 8.7 in TS 25.133.
T1	S	5	
T2	S	7	
T3	S	5	

# Table 8.6.4.2: Cell specific test parameters for Correct reporting of GSM neighbours in AWGN propagation condition (cell 1)

Parameter	Unit	Cell 1		
		T1, T2, T3		
UTRA RF Channel		Channel 1		
Number				
CPICH_Ec/lor	dB	-10		
PCCPCH_Ec/lor	dB	-12		
SCH_Ec/lor	dB	-12		
PICH_Ec/lor	dB	-15		
DPCH Ec/lor	dB	Note 1		
OCNS_Ec/lor	dB	Note 2		
$\hat{P}_{or}/I_{oc}$	dB	0		
Inc	dBm/ 3.84	-85		
6	MHz			
CPICH_Ec/lo	dB	-13		
Propagation		AWGN		
Condition				
Note 1: The DPCH level is controlled by the power control loop.				
Note 2: The power of the OCNS channel that is added shall make the total power				
from the cell to be equal to I <sub>or</sub> .				

# Table 8.6.4.3: Cell specific test parameters for Correct reporting of GSM neighbours in AWGN propagation condition (cell 2)

Paramotor	Unit	Cell 2		
Falailletei		T1	T2	Т3
Absolute RF Channel Number		A	RFCN <sup>-</sup>	1
RXLEV	dBm	-Infinity	-75	-85

#### 8.6.4.1.4.2 Test 1 Procedure

- 1) The RF parameters are set up according to T1 in Table 8.6.4.2 and 8.6.4.7.
- 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 in Table 8.6.4.2 and 8.6.4.7.
- 6) UE shall transmit a MEASUREMENT REPORT message triggered by event 3C. The measurement reporting delay from the beginning of T2 shall be less than 6.3224s. 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 7 seconds from the beginning of T2, the SS shall switch the power settings from T2 to T3 in Table 8.6.4.2 and 8.6.4.7.
- 8) UE shall transmit a MEASUREMENT REPORT message triggered by event 3B. The measurement reporting delay from the beginning of T3 shall be less than <u>1040</u>960 ms. If the reporting delay for this event is within the required limit, the number of succesfull tests is increased by one.
- 9) After 5 seconds from the beginning of T3, the UE is switched off.
- 10) Repeat steps 1-9 according to Annex F.6.2 Table F.6.2.8.

#### 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:

MEASUREMENT CONTROL message:

Information Element/Group name	Value/Remark
Message Type (10.2.17)	
DE Information elements	
-RRC transaction identifier	0
	CC coloulates the value of MAC I for this
-message authentication code	SS calculates the value of MAC-I for this
	leftmost bit of the bit string contains the
	most significant bit of the MAC-I
	SS provides the value of this IF from its
-Into message sequence number	internal counter
Measurement Information elements	
-Measurement Identity	2
-Measurement Command (10.3.7.46)	Setup
-Measurement Reporting Mode (10.3.7.49)	Comp
-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	U Boguirod
Inter PAT reporting quantity (10.2.7.22)	nequiled
Perorting coll status (10.3.7.61)	Not Procent
-CHOICE report criteria	Inter-BAT measurement reporting criteria
-Inter-BAT measurement reporting criteria (10.3.7.30)	inter fixti meddulement reporting entend
-Parameters required for each event	2
-Inter-BAT event identity (10.3.7.24	Event 3B
-Threshold own system	Not Present
-W	Not Present
-Threshold other system	-80 dBm
-Hysteresis	0 dB
-Time to trigger	0 ms
-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
-Inter-RAT event identity (10.3.7.24)	Event 3C
- I hreshold own system	Not Present
	Not Present
- Inreshold other system	
Time to trigger	
- Time to trigger - Reporting cell status (10.3.7.61)	
-CHOICE reported cell	Benort cells within active set or within
	virtual active set or of the other RAT
-Maximum number of reported cells	2
Physical channel information elements	
-DPCH compressed mode status info (10.3.6.34)	Active (for all twothree patterns specified in
	table 8.6.4.1)

#### 8.6.4.1.4.3 Test 2 initial conditions

Test 2 without BSIC verification required case:

1

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 8.6.4.4, 8.6.4.5 and 8.6.4.6 below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 3B and 3C shall be used. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively.

# Table 8.6.4.4: General test parameters for Correct reporting of GSM neighbours in AWGN propagation condition, Test 2

Parameter	Unit	Value	Comment
DCH parameters		DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1
Power Control		On	
Target quality value on DTCH	BLER	0.01	
Compressed mode patterns - GSM carrier RSSI			Only applicable for UE requiring compressed mode patterns
measurement		DL Compressed mode reference pattern 2 in Set 2	As specified in table A.22 TS 25.101 section A.5
Active cell		Cell 1	
Inter-RAT measurement quantity		GSM Carrier RSSI	
BSIC verification required		not 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	See Annex I for cell information. Measurement control information is sent before the compressed mode patterns starts.
T1	S	5	
T2	S	2	
ТЗ	S	5	

### Table 8.6.4.5: Cell specific test parameters for Correct reporting of GSM neighbours in AWGN propagation condition (cell 1)

Parameter	Unit	nit Cell 1		
		T1, T2, T3		
UTRA RF Channel		Channel 1		
Number				
CPICH_Ec/lor	dB	-10		
PCCPCH_Ec/lor	dB	-12		
SCH_Ec/lor	dB	-12		
PICH Ec/lor	dB	-15		
DPCH_Ec/lor	dB	Note 1		
OCNS Ec/lor	dB	Note 2		
$\dot{P}_{or}/I_{oc}$	dB	0		
I <sub>oc</sub>	dBm/ 3.84	-85		
	MHz			
CPICH_Ec/lo	dB	-13		
Propagation		AWGN		
Condition				
Note 1: The DPCH level is controlled by the power control loop.				
Note 2: The power of the OCNS channel that is added shall make the total power				
from the cell to be equal to I <sub>or</sub> .				

# Table 8.6.4.6: Cell specific test parameters for Correct reporting of GSM neighbours in AWGN propagation condition (cell 2)

Paramotor	Unit	Cell 2		
Falailletei		T1	T2	Т3
Absolute RF Channel Number		A	RFCN <sup>-</sup>	1
RXLEV	dBm	-Infinity	-75	-85

#### 8.6.4.1.4.4 Test 2 Procedure

- 1) The RF parameters are set up according to T1 in Table 8.6.4.5 and 8.6.4.8.
- 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 in Table 8.6.4.5 and 8.6.4.8.
- 6) UE shall transmit a MEASUREMENT REPORT message triggered by event 3C. The measurement reporting delay from the beginning of T2 shall be less than <u>1040960</u> 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 <u>2</u>7 seconds from the beginning of T2, the SS shall switch the power settings from T2 to T3 in Table 8.6.4.5 and 8.6.4.8.
- 8) UE shall transmit a MEASUREMENT REPORT message triggered by event 3B. The measurement reporting delay from the beginning of T3 shall be less than <u>1040</u>960 ms. If the reporting delay for this event is within the required limit, the number of succesfull tests is increased by one.
- 9) After 5 seconds from the beginning of T3, the UE is switched off.
- 10) Repeat steps 1-9 according to Annex F.6.2 Table F.6.2.8.

#### 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:

MEASUREMENT CONTROL message:

Message Type (10.2.17)         0           IPE information elements         0           -Integrity check info         0           -message authentication code         SS calculates the value of MAC-1 for this message and writes to this IE, from its importance to inform the training ontains the most significant bit of the bits string contains the most significant bit of the bits of the bits internal counter.           -RRC message sequence number         SS provides the value of this IE, from its internal counter.           Measurement Identity         2           Measurement Command (10.3.7.46)         Setup           -Measurement Report Transfer Mode         AM RLC           -Periodical Reporting Mode (10.3.7.20)         Inter-RAT measurement (0.3.7.27)           -Inter-RAT measurement quantity (10.3.7.29)         Inter-RAT measurement (0.3.7.20)           -Measurement quantity for UTRAN quality estimate         0           -Filter coefficient         0           -Measurement quantity (10.3.7.29)         Not Present           -Inter-RAT measurement quantity (10.3.7.20)         Not Present           -Filter coefficient         0           -BSIC verification required         Not Present           -Inter-RAT measurement reporting criteria (10.3.7.30)         Parameters required for each event           -Inter-RAT measurement reporting criteria (10.3.7.40)         Not Present	Information Element/Group name	Value/Remark
UE information elements       0         -RRC transaction identifier       0         -message authentication code       SS calculates the value of MAC-I for this message and writes to this IE. The first/ leftmost bit of the bit string contrains the most significant bit of the MAC-I.         -RRC message sequence number       SS provides the value of this IE, from its intermal counter.         Measurement Information elements       -         Measurement Reporting Mode (10.3.7.46)       Setup         -Measurement Reporting Mode (10.3.7.49)       AM RLC         -Periodical Reporting Provent Trigger Reporting Mode       Event trigger         -Additional measurement [10.3.7.27)       Inter-RAT measurement (10.3.7.27)         -Inter-RAT measurement (10.3.7.27)       Inter-RAT measurement (10.3.7.29)         -Measurement quantity for UTRAN quality estimate (10.3.7.29)       Not Present         -Measurement quantity for UTRAN quality estimate (10.3.7.20)       O         -Inter-RAT measurement quantity (10.3.7.29)       Not Present         -Measurement quantity (10.3.7.29)       Not Present         -Measurement quantity (10.3.7.21)       Not Present         -Measurement quantity (10.3.7.21)       Not Present         -Inter-RAT measurement exporting orderia (10.3.7.30)       Parameters required for each event         -Inter-RAT measurement reporting criteria (10.3.7.30)       Parameters required for	Message Type (10.2.17)	
-RRC transaction identifier     0       -Integrity check info     SS calculates the value of MAC-1 for this mess age and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-1.       -RRC message sequence number     SS provides the value of MAC-1 for this most significant bit of the MAC-1.       -RRC message sequence number     SS provides the value of MAC-1 for this internal counter.       Measurement Identity     2       -Measurement Command (10.3.7.46)     Setup       -Measurement Report Transfer Mode     AM RLC       -Periodical Reporting / Event Trigger Reporting Mode     AM RLC       -Additional measurement objects list (10.3.7.29)     Inter-RAT measurement objects list (10.3.7.29)       -Inter-RAT measurement objects list (10.3.7.29)     Not Present       -Inter-RAT measurement objects list (10.3.7.29)     Not Present       -Measurement quantity (10.3.7.29)     O       -Measurement quantity (10.3.7.29)     Not Present       -Inter-RAT measurement objects list (10.3.7.30)     O       -Reporting cell status (10.3.7.61)     O       -Perior cellicient     O       -Inter-RAT measurement reporting criteria (10.3.7.30)     Not Present       -Inter-RAT measurement reporting criteria (10.3.7.30)     Not Present       -Inter-RAT event identity (10.3.7.24)     Not Present       -Inter-RAT event identity (10.3.7.24)     Not Present       -	UE information elements	
-Integrity check info         S calculates the value of MAC-I for this message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.           -RRC message sequence number         SS calculates the value of MAC-I for this message and writes to this IE. The first/ leftmost bit of the MAC-I.           -RRC message sequence number         SS provides the value of this IE, from its internal counter.           -Measurement Identity         2           -Measurement Reporting Mode (10.3.7.49)         AM RLC           -Measurement Reporting Mode (10.3.7.49)         AM RLC           -Additional measurement Reporting Mode (10.3.7.20)         AM RLC           -Additional measurement quantity (10.3.7.23)         Inter-RAT measurement quantity for UTRAN quality estimate (10.3.7.30)           -Inter-RAT measurement quantity for UTRAN quality estimate (10.3.7.30)         O           -Measurement quantity for UTRAN quality estimate (10.3.7.30)         O           -Measurement quantity (10.3.7.24)         Not Present           -Inter-RAT measurement reporting oriteria (10.3.7.30)         O           -Prefordical Properting oriteria (10.3.7.30)         Not Present           -Inter-RAT measurement reporting oriteria (10.3.7.30)         O           -Prefordical Properting caller (10.3.7.40)         Not Present           -Inter-RAT measurement reporting oriteria (10.3.7.30)         O           -Prestoi	-RRC transaction identifier	0
-message authentication code         SS calculates the value of MAC-1 for this message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the bit string contains the most significant bit of the MAC-1.           -RRC message sequence number         SS provides the value of this IE, from its internal counter.           Measurement Command (10.3.7.46)         Setup           -Measurement Report Transfer Mode -Periodical Reporting / Event Trigger Reporting Mode -Periodical Reporting / Event Trigger Reporting Mode -Additional measurements list (10.3.7.27)         AM RLC Event trigger           -Inter-RAT measurement quantity -Inter-RAT measurement quantity (10.3.7.38)         Not Present           -Filer coefficient -CHOICE mode -Measurement quantity -Inter-RAT measurement quantity -Filer coefficient -CHOICE system -Measurement quantity -Threshold other system -Threshold other	-Integrity check info	
-RRC message sequence number     Seprovides the bit string contains the most significant bit of the MAC-I.       -RRC message sequence number     Seprovides the value of this IE, from its internal counter.       Measurement Identity     2       -Measurement Reporting Mode (10.3.7.49)     AM RLC       -Periodical Reporting / Event Trigger Reporting Mode     AM RLC       -Periodical Report Ir ansfer Mode     AM RLC       -Periodical Reporting / Event Trigger Reporting Mode     AM RLC       -Additional measurement sist (10.3.7.4)     Inter-RAT measurement (10.3.7.2)       -Inter-RAT measurement objects list (10.3.7.23)     Inter-RAT measurement quantity (10.3.7.29)       -Measurement quantity (10.3.7.29)     Not Present       -Inter-RAT measurement quantity (10.3.7.29)     O       -Measurement quantity     CPICH Ec/NO       -CHOICE system     GSM Carrier RSSI       -Inter-RAT reporting quantity (10.3.7.20)     Not Present       -Inter-RAT reporting quantity (10.3.7.2)     Not Present       -Inter-RAT reporting quantity (10.3.7.2)     Not Present       -Inter-RAT reporting quantity (10.3.7.2)     Not Present       -Inter-RAT measurement reporting criteria (10.3.7.6)     O       -Parameters required for each event     Inter-RAT measurement reporting criteria (10.3.7.6)       -Preporting cell status (10.3.7.61)     O       -Treshold own system     -W       -W <td>-message authentication code</td> <td>SS calculates the value of MAC-I for this</td>	-message authentication code	SS calculates the value of MAC-I for this
Ieffmost bit of the bit string contains the most significant bit of the MAC-1.         -RRC message sequence number       SS provides the value of this IE, from its internal counter.         Measurement Identity       2         Measurement Command (10.3.7.46)       Setup         Measurement Report Transfer Mode       AM RLC         -Periodical Reporting / Event Trigger Reporting Mode       AM RLC         -Periodical Reporting / Event Trigger Reporting Mode       AM RLC         -Inter-RAT measurement sits (10.3.7.1)       Inter-RAT measurement         -Inter-RAT measurement quantity (10.3.7.23)       Inter-RAT measurement         -Inter-RAT measurement quantity (10.3.7.38)       O         -Filter coefficient       0         -Her-RAT measurement quantity (10.3.7.32)       Filter coefficient         -Her-RAT measurement quantity (10.3.7.32)       O         -Her-RAT measurement reporting criteria (10.3.7.30)       Not Present         -Parameters required for each event       D         -Inter-RAT measurement reporting criteria (10.3.7.30)       Not Present         -Preshold other system       -80 dBm         -Weasurement goel status (10.3.7.61)       O         -CHOICE reported cell       O ms         -Threshold other system       -80 dBm         -Maximum number of reported cells       D ms		message and writes to this IE. The first/
-RRC message sequence number         most significant bit of the MAC-1.           -RRC message sequence number         SS provides the value of this IE, from its internal counter.           Measurement Identity         2           Measurement Reporting Mode (10.3.7.46)         Setup           Measurement Reporting Mode (10.3.7.49)         AM RLC           -Periodical Reporting / Event Trigger Reporting Mode         AM RLC           -Additional measurement bits (10.3.7.1)         Inter-RAT measurement operits list (10.3.7.23)           -Inter-RAT measurement quantity for UTRAN quality estimate (10.3.7.30)         Inter-RAT measurement quantity for UTRAN quality estimate (10.3.7.30)           -Filter coefficient         0         CFIOL Ec/N0           -CHOICE mode         0         CFIOL Ec/N0           -Measurement quantity         GSM Carrier RSSI         0           -Inter-RAT reporting quantity (10.3.7.32)         Not Present         Not Present           -Inter-RAT reporting quantity (10.3.7.24)         Not Present         Not Present           -Inter-RAT reporting criteria (10.3.7.30)         Parameters required for each event         Not Present           -Inter-RAT reporting quantity (10.3.7.24)         Not Present         Not Present           -Threshold own system         -80 dBm         0 dB         0 ms           -Reporting cell status (10.3.7.61) <td></td> <td>leftmost bit of the bit string contains the</td>		leftmost bit of the bit string contains the
RRC message sequence number       SS provides the value of this E, from its internal counter.         Measurement Identity       Internal counter.         Measurement Command (10.3.7.46)       Setup         -Measurement Report Transfer Mode       AM RLC         -Periodical Reporting / Event Trigger Reporting Mode       AM RLC         -Additional measurements list (10.3.7.1)       Not Present         -CHOICE Measurement type       Inter-RAT measurement objects list (10.3.7.23)         -Inter-RAT measurement quantity for UTRAN quality estimate       0         (10.3.7.38)       O         -Measurement quantity       GSM Carrier RSSI         -Measurement quantity       0         -Hiter-RAT measurement quantity       0         -Hiter-RAT measurement quantity       0         -Hiter-RAT measurement reporting criteria       0         -Inter-RAT measurement reporting criteria       0         -Inter-RAT measurement reporting criteria       0         -Inter-RAT event identity (10.3.7.30)       Parameters required for each event         -Inter-RAT event identity (10.3.7.21)       Inter-RAT measurement reporting criteria         -Inter-RAT event identity (10.3.7.21)       O         -Threshold other system       -80 dBm         -Maximum number of reported cells       -80 dBm		most significant bit of the MAC-I.
Internal counter.           Measurement Information elements	-RRC message sequence number	SS provides the value of this IE, from its
Measurement identity         2           -Measurement Identity         2           -Measurement Reporting Mode (10.3.7.49)         Setup           -Measurement Reporting Mode (10.3.7.49)         AM RLC           -Periodical Reporting / Event Trigger Reporting Mode         AM RLC           -Periodical Reporting / Event Trigger Reporting Mode         AM RLC           -Periodical Reporting / Event Trigger Reporting Mode         AM RLC           -Periodical Reporting / Event Trigger Reporting Mode         AM RLC           -Periodical Reporting / Event Trigger Reporting Mode         AM RLC           -Periodical Reporting / Event Trigger Reporting Mode         AM RLC           -Periodical Reporting / Event Trigger Reporting Mode         AM RLC           -Inter-RAT measurement (0.3.7.27)         Inter-RAT measurement (0.3.7.29)           -Massurement quantity         OTTARN quality estimate         0           -Filter coefficient         0         GSM Garrier RSSI           -Filter coefficient         0         Not Required           -Inter-RAT resourigenquity (10.3.7.30)         Parameters required for each event         Inter-RAT measurement reporting criteria (10.3.7.30)           -Parameters required for each event         2         Event 3B           -Threshold own system         -80 dBm         0 dB           -Threshol		internal counter.
-Measurement Command (10.3.7.46)       2         -Measurement Reporting Mode (10.3.7.49)       Setup         -Measurement Reporting Mode (10.3.7.49)       AM RLC         -Periodical Reporting / Event Trigger Reporting Mode       AM RLC         -Additional measurement by Event Trigger Reporting Mode       Inter-RAT measurement objects list (10.3.7.23)         -Inter-RAT measurement objects list (10.3.7.23)       Inter-RAT measurement objects list (10.3.7.23)         -Inter-RAT measurement quantity for UTRAN quality estimate (10.3.7.30)       0         -CHOICE mode       FDD         -Measurement quantity       0         -CHOICE mode       FDD         -Measurement quantity       0         -Filter coefficient       0         -BSIC verification required       Not Present         -Inter-RAT reporting quantity (10.3.7.32)       Not Present         -Reporting cell status (10.3.7.61)       0         -CHOICE report criteria       Not Present         -Inter-RAT event identity (10.3.7.24)       Not Present         -Inter-RAT event identity (10.3.7.61)       0         -CHOICE report cells       -Bod Cereport cells         -Threshold other system       -Bod Cereport cells         -Mw       -Threshold other system       -Bod Cereport cells         -Inter-RAT event i	Measurement Information elements	
-Measurement Report ing Mode (10.3.7.49)     Setup       -Measurement Report ing / Event Trigger Reporting Mode     -AM RLC       -Periodical Reporting / Event Trigger Reporting Mode     -AM RLC       -Additional measurement sits (10.3.7.1)     Inter-RAT measurement (10.3.7.20)       -Inter-RAT measurement (10.3.7.20)     Inter-RAT measurement (10.3.7.23)       -Inter-RAT measurement quantity for UTRAN quality estimate     0       (10.3.7.38)     -Filter coefficient       -CHOICE mode     0       -Measurement quantity     GSM Carrier RSSI       0     CPICH Ec/N0       GSM Carrier RSSI     0       -Her-RAT reporting quantity (10.3.7.32)     Not Present       -Hereofficient     0       -CHOICE report criteria     0       -Reporting cell status (10.3.7.31)     Not Present       -Inter-RAT measurement reporting criteria (10.3.7.30)     Not Present       -Parameters required for each event     1       -Inter-RAT measurement reporting criteria (10.3.7.30)     2       -Parameters required for each event     2       -Inter-RAT measurement reporting criteria (10.3.7.30)     Not Present       -Presold own system     Not Present       -W     -Threshold other system     80 dBm       -Maximum number of reported cells     2       -IntrerAT eveent identity (10.3.7.21)     -CHOICE reported cel	-Measurement Identity	2 Catur
-Measurement Report Transfer Mode       AM RLC         -Periodical Reporting / Event Trigger Reporting Mode       AM RLC         -Additional measurement list (10.3.7.2)       Inter-RAT measurement objects list (10.3.7.23)         -Inter-RAT measurement quantity for UTRAN quality estimate       Inter-RAT measurement objects list (10.3.7.29)         -Measurement quantity for UTRAN quality estimate       0         (10.3.7.38)       -Filter coefficient         -CHOICE mode       -FDD         -Measurement quantity       -FILE         -CHOICE mode       -GSM         -Measurement quantity       -FILE         -CHOICE mode       -GSM         -Measurement quantity       -GSM Carrier RSSI         -FILE       0         -Measurement quantity       -GSM Carrier RSSI         -Horter-RAT reporting quantity (10.3.7.32)       Not Present         -Nerewification required       Not Present         -Inter-RAT measurement reporting criteria (10.3.7.30)       Not Present         -Parameters required for each event       -Inter-RAT measurement reporting criteria         -Inter-RAT measurement reporting criteria (10.3.7.24)       Not Present         -Threshold other system       -80 dBm         -Maximum number of reported cells       -Inter-RAT event identity (10.3.7.24)         -Thre	-Measurement Command (10.3.7.40)	Setup
-Periodical Reporting / Event Trigger Reporting Mode       -Additional measurements list (10.3.7.1)         -CHOICE Measurement type       Inter-RAT measurement (10.3.7.23)         -Inter-RAT measurement quantity (10.3.7.23)       Inter-RAT measurement quantity (10.3.7.23)         -Inter-RAT measurement quantity for UTRAN quality estimate       0         (10.3.7.38)       0         -Filter coefficient       0         -OHOICE mode       FDD         -Measurement quantity       CPICH Ec/N0         -Hiter-RAT reporting quantity       GSM         -Filter coefficient       0         -Measurement quantity       GSM         -Hiter-RAT reporting quantity (10.3.7.32)       Not Present         -Reporting cell status (10.3.7.61)       Not Present         -Inter-RAT measurement reporting criteria (10.3.7.30)       Not Present         -Parameters required for each event       -80 dBm         -Inter-RAT measurement reporting criteria (10.3.7.30)       -80 dBm         -Parameters required for each event       -80 dBm         -Inter-RAT measurement reporting criteria (10.3.7.4)       Not Present         -Threshold own system       -80 dBm         -W       Oms       -80 dBm         -Maximum number of reported cells       2         -Inter-RAT event identity (10.3.7.61)<	Moasurement Report Transfer Mode	
- Frienducal Reporting / Lefin Ingger       Not Present         -Additional measurement type       Inter-RAT measurement type         -Inter-RAT measurement quantity for UTRAN quality estimate       Inter-RAT measurement quantity for UTRAN quality estimate         (10.3.7.38)       -Filter coefficient       0         -CHOICE mode       -Filter coefficient       0         -CHOICE mode       -Filter coefficient       0         -CHOICE mode       -Generative       0         -Measurement quantity       GSM Carrier RSSI       0         -Ther-RAT measurement reporting criteria       0       Not Present         -Inter-RAT reporting quantity (10.3.7.32)       Reporting cell status (10.3.7.61)       Not Present         -CHOICE report criteria       0       Not Present       2         -Inter-RAT event identity (10.3.7.24)       Not Present       -80 dBm         -Inter-RAT event identity (10.3.7.61)       -80 dBm       0 ms         -Threshold other system       -80 dBm       0 ms         -Maximum number of reported cells       2       Event 3C         -Inter-RAT event identity (10.3.7.61)       -0HOICE reported cell       Not Present         -Maximum number of reported cells       0 ms       -80 dBm         -Inter-RAT event identity (10.3.7.61)       -80 dBm	Pariodical Poparting / Evont Triager Poparting Mode	AM ALC
CHOICE Measurement type       Inter-RAT measurement (10.3.7.27)         -Inter-RAT measurement objects ist (10.3.7.23)       Inter-RAT measurement objects ist (10.3.7.23)         -Inter-RAT measurement objects ist (10.3.7.29)       Not Present         -Measurement quantity for UTRAN quality estimate       0         (10.3.7.38)       0         Filter coefficient       0         -CHOICE mode       0         -Measurement quantity       CPICH Ec/N0         -Measurement quantity       CPICH Ec/N0         -Reporting cell status (10.3.7.61)       0         -Inter-RAT reporting quantity (10.3.7.29)       Not Present         -Reporting cell status (10.3.7.61)       0         -Inter-RAT measurement reporting criteria (10.3.7.30)       Not Present         -Parameters required for each event       2         -Inter-RAT event identity (10.3.7.24)       Not Present         -Inter-RAT event identity (10.3.7.61)       -CHOICE reported cell         -Threshold other system       -80 dBm         -Maximum number of reported cells       2         -Inter-RAT event identity (10.3.7.61)       -CHOICE reported cell         -Threshold other system       -80 dBm         -Maximum number of reported cells       2         -Threshold other system       -80 dBm <tr< td=""><td>Additional measurements list (10.3.7.1)</td><td>Not Present</td></tr<>	Additional measurements list (10.3.7.1)	Not Present
Choice interaction of the system       Inter-RAT measurement (10.3.7.23)         -Inter-RAT measurement (10.3.7.23)       Not Present         -Inter-RAT measurement quantity (10.3.7.29)       Not Present         -Measurement quantity for UTRAN quality estimate       0         -CHOICE system       0         -Measurement quantity       CPICH Ec/N0         -CHOICE system       0         -Measurement quantity       GSM Carrier RSSI         0       0         -Reporting cell status (10.3.7.32)       Not Present         -Inter-RAT reporting quantity (10.3.7.32)       Not Present         -Reporting cell status (10.3.7.61)       0         -CHOICE report criteria       Inter-RAT measurement reporting criteria (10.3.7.30)         -Parameters required for each event       Inter-RAT measurement reporting criteria         -Inter-RAT event identity (10.3.7.24)       Not Present         -Threshold other system       -80 dBm         -Hystersis       0         -Threshold own system       -Not Present         -Maximum number of reported cells       2         -Threshold other system       -80 dBm         -Mystersis       0         -Threshold other system       -80 dBm         -Maximum number of reported cells       2	CHOICE Measurement type	Inter BAT measurement
Inter-RAT measurement objects list (10.3.7.29)       Not Present         Inter-RAT measurement quantity (10.3.7.29)       0         Measurement quantity for UTRAN quality estimate       0         (10.3.7.38)       0         Filter coefficient       0         -CHOICE mode       0         -Measurement quantity       CPICH Ec/N0         CHOICE system       GSM         -Measurement quantity       0         -Filter coefficient       0         -Measurement quantity       0         -Filter coefficient       0         -Measurement quantity       0         -HoreAT reporting quantity (10.3.7.32)       Not Required         -Inter-RAT reporting quantity (10.3.7.31)       Not Present         -Inter-RAT measurement reporting criteria (10.3.7.30)       Not Present         -Parameters required for each event       2         -Inter-RAT event identity (10.3.7.24)       Not Present         -Threshold onther system       -80 dBm         -W       -Threshold onther system       -80 dBm         -Maximum number of reported cells       Event 3C         -Inter-RAT event identity (10.3.7.24)       Threshold oner system         -Threshold own system       -80 dBm         -W       O dB	-Inter-BAT measurement (10.3.7.27)	Inter-IAT measurement
Inter-RAT measurement quantity (10.3.7.29)       Inter-RAT measurement quantity (10.3.7.29)         -Measurement quantity for UTRAN quality estimate       0         (10.3.7.38)       0         -OHOICE mode       FDD         -Measurement quantity       CPICH Ec/N0         -CHOICE system       0         -Measurement quantity       GSM Carrier RSSI         -Filter coefficient       0         -Beporting cell status (10.3.7.30)       Not Required         -Inter-RAT measurement reporting criteria (10.3.7.30)       Not Present         -Parameters required for each event       1         -Inter-RAT measurement reporting criteria (10.3.7.30)       2         -Parameters required for each event       2         -Inter-RAT event identity (10.3.7.24)       Not Present         -Threshold other system       -80 dBm         -W       OdB         -Time to trigger       0 ms         -Reporting cell status (10.3.7.61)       -CHOICE reported cells         -Maximum number of reported cells       2         -Inter-RAT event identity (10.3.7.24)       Feport cells within active set or within virtual active set or of the other RAT         -Maximum number of reported cells       0         -Inter-RAT event identity (10.3.7.61)       -80 dBm         -Maxim	-Inter-BAT measurement objects list (10.3.7.23)	Not Present
-Measurement quantity for UTRAN quality estimate         (10.3.7.38)         Filter coefficient         -CHOICE mode         -Measurement quantity         -CHOICE system         -Measurement quantity         -CHOICE system         -Measurement quantity         -Filter coefficient         -BSIC verification required         -Inter-RAT reporting quantity (10.3.7.32)         -Reporting cell status (10.3.7.61)         -CHOICE report criteria         -Inter-RAT measurement reporting criteria (10.3.7.30)         -Parameters required for each event         -Inter-RAT event identity (10.3.7.24)         -Threshold own system         -W         -Threshold other system         -W         -Threshold other system         -Reporting cell status (10.3.7.61)         -CHOICE reported cell         -Inter-RAT event identity (10.3.7.24)         -Threshold other system         -Maximum number of reported cells         -Inter-RAT event identity (10.3.7.61)         -CHOICE reported cell         -Inter-RAT event identity (10.3.7.61)         -CHOICE reported cells         -Inter-RAT event identity (10.3.7.61)         -CHOICE reported cell         -Inter-RAT event	-Inter-BAT measurement quantity (10.3.7.29)	
(10.3.7.38)Filter coefficient0-CHOICE modeFDD-Measurement quantityCPICH Ec/N0-CHOICE systemGSM-Measurement quantityO-Filter coefficientO-BSIC verification requiredNot Required-Inter-RAT reporting cull status (10.3.7.61)Not Present-CHOICE report criteriaInter-RAT measurement reporting criteria (10.3.7.30)-Parameters required for each event2-Inter-RAT event identity (10.3.7.24)Not Present-Threshold other system-80 dBm-WO ms-Reporting cell status (10.3.7.61)O dB-Time to triggerO ms-Reporting cell status (10.3.7.61)Report cells within active set or within virtual active set or of the other RAT 2-Maximum number of reported cellsParameters-Inter-RAT event identity (10.3.7.24)Report cells within active set or within virtual active set or of the other RAT 2-Maximum number of reported cells2-Inter-RAT event identity (10.3.7.24)Report cells within active set or within virtual active set or of the other RAT 2-Maximum number of reported cells0-Time to trigger0-Time to trigger0-Threshold other system-80 dBm 0-Hysteresis0-Time to trigger0-Threshold other system-80 dBm 0-Hysteresis0-Threshold other system-80 dBm 0-Hysteresis0-Threshold other system-80 dBm 0 </td <td>-Measurement quantity for UTRAN quality estimate</td> <td></td>	-Measurement quantity for UTRAN quality estimate	
-Filter coefficient       0         -CHOICE mode       FDD         -Measurement quantity       GSM         -CHOICE system       GSM         -Measurement quantity       GSM Carrier RSSI         -Filter coefficient       0         -BSIC verification required       Not Required         -Inter-RAT reporting quantity (10.3.7.32)       Not Present         -HolCE report criteria       Inter-RAT event identity (10.3.7.30)         -Parameters required for each event       2         -Inter-RAT event identity (10.3.7.24)       Event 3B         -Threshold other system       -80 dBm         -Wysteresis       0 dB         -Threshold other system       -80 dBm         -Hysteresis       0 dB         -Threshold other system       -80 dBm         -Hysteresis       0 dB         -Threshold other system       -80 dBm         -Hysteresis       0 dB         -Inter-RAT event identity (10.3.7.24)       Event 3C         -Threshold other system       -80 dBm         -Maximum number of reported cells       2         -Inter-RAT event identity (10.3.7.61)       CHOICE report cells         -Threshold other system       -80 dBm         -Hysteresis       0 dB <t< td=""><td>(10.3.7.38)</td><td></td></t<>	(10.3.7.38)	
-CHOICE mode       FDD         -Measurement quantity       CPICH Ec/N0         -Measurement quantity       GSM         -Measurement quantity       GSM Carrier RSSI         -Inter-RAT reporting quantity (10.3.7.32)       Not Required         -Reporting cell status (10.3.7.61)       Not Present         -Inter-RAT measurement reporting criteria (10.3.7.30)       Not Present         -Parameters required for each event       2         -Inter-RAT measurement reporting criteria (10.3.7.30)       Not Present         -Parameters required for each event       2         -Inter-RAT event identity (10.3.7.24)       Event 3B         -Threshold own system       Not Present         -W       O dB         -Threshold other system       -80 dBm         -Hysteresis       0 dB         -Time to trigger       0 ms         -Reporting cell status (10.3.7.61)       Present         -CHOICE reported cell       V         -Threshold own system       0 dB         -Threshold own system       0 dB         -Threshold own system       -80 dBm         -Maximum number of reported cells       2         -Threshold other system       -80 dBm         -Hysteresis       0 dB         -Time to trigger<	-Filter coefficient	0
-Measurement quantityCPICH Ec/N0-CHOICE systemGSM-Measurement quantityGSM Carrier RSSI-Filter coefficient0-BSIC verification requiredNot Required-Inter-RAT reporting quantity (10.3.7.32)Not Present-Reporting cell status (10.3.7.61)Inter-RAT measurement reporting criteria (10.3.7.30)-Parameters required for each event2-Inter-RAT event identity (10.3.7.24)Event 3B-Threshold own system-80 dBm-WNot Present-Threshold other system-80 dBm-Hysteresis0 dB-Time to trigger0 ms-Reporting cell status (10.3.7.61)Report cells within active set or within virtual active set or of the other RAT-Maximum number of reported cells2-Inter-RAT event identity (10.3.7.24)Event 3C-Threshold own system0 dB-Threshold own system0 dB-Threshold own system-80 dBm-Maximum number of reported cells2-Inter-RAT event identity (10.3.7.24)Event 3C-Threshold own system-80 dBm-Maximum number of reported cells0 ms-Time to trigger-80 dBm-Time to trigger-80 dBm-Time to trigger-80 dBm-Time to trigger0 ms-Reporting cell status (10.3.7.61)-6HOICE reported cell-Time to trigger-80 dBm-Time to trigger0 ms-Reporting cell status (10.3.7.61)-6HOICE reported cell-Time to trigger-80 dBm <td>-CHOICE mode</td> <td>FDD</td>	-CHOICE mode	FDD
-CHOICE systemGSM-Measurement quantityGSM-Filter coefficient0-BSIC verification requiredNot Required-Inter-RAT reporting quantity (10.3.7.32)Not Required-Reporting cell status (10.3.7.61)Not Present-CHOICE report criteriaInter-RAT measurement reporting criteria (10.3.7.30)-Parameters required for each event2-Inter-RAT event identity (10.3.7.24)Event 3B-Threshold own systemNot Present-WThreshold other system-W-Threshold other system-Hysteresis0 dB-Time to trigger0 ms-Reporting cell status (10.3.7.61)Report cells within active set or within virtual active set or of the other RAT-Maximum number of reported cells2-Inter-RAT event identity (10.3.7.24)Not Present-Threshold other system-80 dBm-Maximum number of reported cellsNot Present-WThreshold other system-WNot Present-Time to trigger0 dB-Time to trigger0 ms-Reporting cell status (10.3.7.61)-CHOICE reported cell-Time to trigger0 dB-Time to trigger0 dB-Time to trigger0 dB-Time to trigger0 ms-Reporting cell status (10.3.7.61)-CHOICE reported cells-	-Measurement quantity	CPICH Ec/N0
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-Filter coefficient       0         -BSIC verification required       Not Required         -Inter-RAT reporting quantity (10.3.7.32)       Not Present         -Reporting cell status (10.3.7.61)       Inter-RAT measurement reporting criteria (10.3.7.30)         -Parameters required for each event       2         -Inter-RAT measurement reporting criteria (10.3.7.30)       2         -Parameters required for each event       2         -Inter-RAT event identity (10.3.7.24)       Event 3B         -Threshold own system       Not Present         -W       Not Present         -Threshold other system       -80 dBm         -Time to trigger       0 ms         -Reporting cell status (10.3.7.61)       CHOICE reported cell         -CHOICE reported cell       Report cells within active set or within virtual active set or of the other RAT         -Maximum number of reported cells       2         -Inter-RAT event identity (10.3.7.24)       Event 3C         -Threshold own system       -80 dBm         -W       Not Present         -Maximum number of reported cells       0 ms         -Time to trigger       -80 dBm         -Threshold other system       -80 dBm         -Hysteresis       0 dB         -Time to trigger       -80 dBm </td <td>-Measurement quantity</td> <td>GSM Carrier RSSI</td>	-Measurement quantity	GSM Carrier RSSI
-BSIC verification required       Not Required         -Inter-RAT reporting quantity (10.3.7.32)       Not Present         -Reporting cell status (10.3.7.61)       Inter-RAT measurement reporting criteria (10.3.7.30)         -Parameters required for each event       2         -Inter-RAT event identity (10.3.7.24)       Event 3B         -Threshold own system       Not Present         -W       Not Present         -Threshold other system       -80 dBm         -Hysteresis       0 dB         -Time to trigger       0 ms         -Reporting cell status (10.3.7.24)       Report cells within active set or within virtual active set or of the other RAT         -Maximum number of reported cells       Event 3C         -Inter-RAT event identity (10.3.7.24)       Event 3C         -Threshold own system       0 dB         -Threshold own system       0 dB         -Threshold own system       0 dB         -Inter-RAT event identity (10.3.7.24)       Event 3C         -Inter-RAT event identity (10.3.7.24)       Event 3C         -Inter-RAT event identity (10.3.7.24)       Not Present         -Maximum number of reported cells       -80 dBm         -Threshold own system       -80 dBm         -Threshold own system       -80 dBm         -Threshold own sy	-Filter coefficient	0
-Inter-RAT reporting quantity (10.3.7.32)         -Reporting cell status (10.3.7.61)         -CHOICE report criteria         -Inter-RAT measurement reporting criteria (10.3.7.30)         -Parameters required for each event         -Inter-RAT event identity (10.3.7.24)         -Threshold own system         -W         -Threshold other system         -Hysteresis         -Time to trigger         -Reporting cell status (10.3.7.61)         -CHOICE reported cell         -Time to trigger         -Reporting cell status (10.3.7.61)         -CHOICE reported cell         -Threshold own system         -Hysteresis         -Time to trigger         -Reporting cell status (10.3.7.61)         -CHOICE reported cells         -Inter-RAT event identity (10.3.7.24)         -Threshold own system         -Maximum number of reported cells         -Inter-RAT event identity (10.3.7.61)         -CHOICE reported cell         -Threshold other system         -Hysteresis         -Threshold other system         -Beporting cell status (10.3.7.61)         -CHOICE reported cell         -Threshold other system         -Beporting cell status (10.3.7.61)         -CHOICE reported	-BSIC verification required	Not Required
-Reporting cell status (10.3.7.61)       Not Present         -CHOICE report criteria       Inter-RAT measurement reporting criteria (10.3.7.30)         -Parameters required for each event       2         -Inter-RAT event identity (10.3.7.24)       Event 3B         -Threshold own system       Not Present         -W       Not Present         -Threshold own system       -80 dBm         -Hysteresis       0 dB         -Time to trigger       0 ms         -Reporting cell status (10.3.7.61)       -CHOICE reported cell         -Maximum number of reported cells       2         -Inter-RAT event identity (10.3.7.24)       Report cells within active set or within virtual active set or of the other RAT         -Maximum number of reported cells       2         -Inter-RAT event identity (10.3.7.24)       Not Present         -Threshold own system       -80 dBm         -W       Not Present         -Threshold own system       -80 dBm         -W       -Threshold own system         -W       -Threshold own system         -W       -Threshold other system         -Inter-RAT event identity (10.3.7.61)       -80 dBm         -CHOICE reported cell       0 dB         -Time to trigger       0 dB         -Time to trigger<	-Inter-RAT reporting quantity (10.3.7.32)	
-CHOICE report criteria       Inter-RAT measurement reporting criteria         -Inter-RAT measurement reporting criteria (10.3.7.30)       Parameters required for each event         -Inter-RAT event identity (10.3.7.24)       Event 3B         -Threshold own system       Not Present         -W       -Threshold other system         -Hysteresis       0 dB         -Time to trigger       0 ms         -Reporting cell status (10.3.7.61)       -CHOICE reported cell         -Maximum number of reported cells       Report cells within active set or within virtual active set or of the other RAT         -Maximum number of reported cells       Not Present         -W       -Threshold other system         -W       -Threshold other system         -Maximum number of reported cells       Event 3C         -Inter-RAT event identity (10.3.7.24)       Not Present         -Threshold other system       -80 dBm         -W       Not Present         -W       Not Present         -Threshold other system       -80 dBm         -Hysteresis       0 dB         -Time to trigger       -80 dBm         -Hysteresis       0 dB         -Time to trigger       -80 dBm         -Reporting cell status (10.3.7.61)       -CHOICE reported cell <tr< td=""><td>-Reporting cell status (10.3.7.61)</td><td>Not Present</td></tr<>	-Reporting cell status (10.3.7.61)	Not Present
-Inter-HAT measurement reporting criteria (10.3.7.30)       2         -Parameters required for each event       2         -Inter-RAT event identity (10.3.7.24)       Event 3B         -Threshold own system       Not Present         -W       -Threshold other system       -80 dBm         -Hysteresis       0 dB         -Time to trigger       0 ms         -Reporting cell status (10.3.7.61)       -CHOICE reported cell         -Maximum number of reported cells       Report cells within active set or within virtual active set or of the other RAT         -Maximum number of reported cells       Event 3C         -Inter-RAT event identity (10.3.7.24)       Event 3C         -Threshold own system       Not Present         -W       Not Present         -Threshold own system       Not Present         -W       -Threshold own system         -W       Not Present         -Threshold other system       -80 dBm         -Hysteresis       0 dB         -Time to trigger       -80 dBm         -Hysteresis       0 dB         -Time to trigger       -80 dBm         -Reporting cell status (10.3.7.61)       -CHOICE reported cell         -CHOICE reported cell       0 dB         -Maximum number of reported cells	-CHOICE report criteria	Inter-RAT measurement reporting criteria
-Parameters required for each event       2         -Inter-RAT event identity (10.3.7.24)       Event 3B         -Threshold own system       Not Present         -W       -S0 dBm         -Hysteresis       0 dB         -Time to trigger       0 ms         -Reporting cell status (10.3.7.61)       -CHOICE reported cell         -Maximum number of reported cells       2         -Inter-RAT event identity (10.3.7.24)       Report cells within active set or within virtual active set or of the other RAT         -Maximum number of reported cells       2         -Inter-RAT event identity (10.3.7.24)       Event 3C         -Threshold other system       Not Present         -W       Not Present         -W       Not Present         -Inter-RAT event identity (10.3.7.24)       Event 3C         -Threshold own system       Not Present         -W       Not Present         -W       Not Present         -Threshold other system       -80 dBm         -Hysteresis       0 dB         -Time to trigger       0 ms         -Reporting cell status (10.3.7.61)       -60 dB         -CHOICE reported cell       Report cells within active set or within virtual active set or of the other RAT         -Maximum number of reported cells	-Inter-RAT measurement reporting criteria (10.3.7.30)	
-Inter-HA1 event identity (10.3.7.24)       Event 3B         -Threshold own system       Not Present         -W       -S0 dBm         -Threshold other system       -80 dBm         -Hysteresis       0 dB         -Time to trigger       0 ms         -Reporting cell status (10.3.7.61)       -CHOICE reported cell         -Maximum number of reported cells       Report cells within active set or within virtual active set or of the other RAT         -Inter-RAT event identity (10.3.7.24)       Event 3C         -Threshold other system       -80 dBm         -W       Not Present         -Threshold other system       -80 dBm         -W       Not Present         -Threshold other system       -80 dBm         -W       Not Present         -Threshold other system       -80 dBm         -Hysteresis       0 dB         -Time to trigger       0 ms         -Reporting cell status (10.3.7.61)       -80 dBm         -CHOICE reported cell       Report cells within active set or within virtual active set or of the other RAT         2       Physical channel information elements       2         Physical channel information elements       2         Physical channel information elements       2	-Parameters required for each event	2 Front 8D
- Threshold own system       Not Present         -W       -80 dBm         -Threshold other system       -80 dBm         -Hysteresis       0 dB         -Time to trigger       0 ms         -Reporting cell status (10.3.7.61)       -CHOICE reported cell         -Maximum number of reported cells       Report cells within active set or within virtual active set or of the other RAT         -Inter-RAT event identity (10.3.7.24)       Event 3C         -Threshold other system       Not Present         -W       Not Present         -W       Not Present         -Threshold other system       -80 dBm         -W       Not Present         -Threshold other system       -80 dBm         -W       Not Present         -Threshold other system       -80 dBm         -Hysteresis       0 dB         -Time to trigger       0 ms         -Time to trigger       0 ms         -Reporting cell status (10.3.7.61)       -CHOICE reported cell         -Maximum number of reported cells       Report cells within active set or within virtual active set or of the other RAT         2       Physical channel information elements       2         -DPCH compressed mode status info (10.3.6.34)       Active (for the pattern specified in table)	-Inter-RAT event identity (10.3.7.24)	Event 3B
-W       -W         -Threshold other system       -80 dBm         -Hysteresis       0 dB         -Time to trigger       0 ms         -Reporting cell status (10.3.7.61)       -CHOICE reported cell         -Maximum number of reported cells       2         -Inter-RAT event identity (10.3.7.24)       Event 3C         -Threshold own system       Not Present         -W       Not Present         -W       -Threshold other system         -W       -Threshold other system         -Hysteresis       0 dB         -Time to trigger       0 ms         -Reporting cell status (10.3.7.61)       -CHOICE reported cell         -Maximum number of reported cells       2         Physical channel information elements       2         Physical channel information elements       2         Physical channel information elements       4 ctive (for the pattern specified in table)	- I nresnola own system	Not Present
-Intestiold other system       -od dBin         -Hysteresis       0 dB         -Time to trigger       0 ms         -Reporting cell status (10.3.7.61)       -CHOICE reported cell         -Maximum number of reported cells       2         -Inter-RAT event identity (10.3.7.24)       Event 3C         -Threshold other system       -80 dBm         -W       -Threshold other system         -W       -Threshold other system         -Hysteresis       0 dB         -Time to trigger       0 dB         -Reporting cell status (10.3.7.61)       0 dB         -CHOICE reported cell       0 ms         -Againum number of reported cells       2         -Time to trigger       0 ms         -Reporting cell status (10.3.7.61)       -CHOICE reported cell         -Maximum number of reported cells       2         -Maximum number of reported cells       2         Physical channel information elements       2         -Maximum number of reported cells       2	-w Threshold other system	Not Fresent
-Time to trigger       0 ms         -Reporting cell status (10.3.7.61)       0 ms         -CHOICE reported cell       Report cells within active set or within virtual active set or of the other RAT         -Maximum number of reported cells       2         -Inter-RAT event identity (10.3.7.24)       Event 3C         -Threshold own system       Not Present         -W       -Threshold other system         -Threshold other system       -80 dBm         -Hysteresis       0 dB         -Time to trigger       0 ms         -Reporting cell status (10.3.7.61)       0 ms         -CHOICE reported cell       Report cells within active set or within virtual active set or of the other RAT         2       Physical channel information elements         -DPCH compressed mode status info (10.3.6.34)       Active (for the pattern specified in table		
-Reporting cell status (10.3.7.61)       -CHOICE reported cell         -CHOICE reported cell       Report cells within active set or within virtual active set or of the other RAT         -Maximum number of reported cells       Event 3C         -Inter-RAT event identity (10.3.7.24)       Event 3C         -Threshold own system       Not Present         -W       -S0 dBm         -Threshold other system       -80 dBm         -Hysteresis       0 dB         -Time to trigger       0 ms         -Reporting cell status (10.3.7.61)       -CHOICE reported cell         -CHOICE reported cell       Report cells within active set or within virtual active set or of the other RAT         2       Physical channel information elements         -DPCH compressed mode status info (10.3.6.34)       Active (for the pattern specified in table)	-Time to triager	0 ms
-CHOICE reported cell       Report cells within active set or within virtual active set or of the other RAT         -Maximum number of reported cells       2         -Inter-RAT event identity (10.3.7.24)       Event 3C         -Threshold own system       Not Present         -W       -80 dBm         -Threshold other system       -80 dBm         -Hysteresis       0 dB         -Time to trigger       0 ms         -Reporting cell status (10.3.7.61)       -CHOICE reported cell         -CHOICE reported cell       Report cells within active set or within virtual active set or of the other RAT         2       Physical channel information elements         -DPCH compressed mode status info (10.3.6.34)       Active (for the pattern specified in table)	-Beporting cell status (10.3.7.61)	
-Maximum number of reported cells       virtual active set or of the other RAT         -Inter-RAT event identity (10.3.7.24)       Event 3C         -Threshold own system       Not Present         -W       -80 dBm         -Hysteresis       0 dB         -Time to trigger       0 ms         -Reporting cell status (10.3.7.61)       -CHOICE reported cells         -Maximum number of reported cells       Report cells within active set or within virtual active set or of the other RAT         2       Physical channel information elements         -DPCH compressed mode status info (10.3.6.34)       Active (for the pattern specified in table)	-CHOICE reported cell	Report cells within active set or within
-Maximum number of reported cells       2         -Inter-RAT event identity (10.3.7.24)       Event 3C         -Threshold own system       Not Present         -W       -S0 dBm         -Hysteresis       0 dB         -Time to trigger       0 ms         -Reporting cell status (10.3.7.61)       -CHOICE reported cell         -Maximum number of reported cells       Report cells within active set or within virtual active set or of the other RAT         -Maximum number of reported cells       2         Physical channel information elements       Active (for the pattern specified in table)		virtual active set or of the other RAT
-Inter-RAT event identity (10.3.7.24)       Event 3C         -Threshold own system       Not Present         -W       Not Present         -Threshold other system       -80 dBm         -Hysteresis       0 dB         -Time to trigger       0 ms         -Reporting cell status (10.3.7.61)       -CHOICE reported cell         -Maximum number of reported cells       Report cells within active set or within virtual active set or of the other RAT         -Maximum number of reported cells       2         Physical channel information elements       2	-Maximum number of reported cells	2
-Threshold own system       Not Present         -W       Not Present         -Threshold other system       -80 dBm         -Hysteresis       0 dB         -Time to trigger       0 ms         -Reporting cell status (10.3.7.61)       -CHOICE reported cell         -Maximum number of reported cells       Report cells within active set or within virtual active set or of the other RAT         -Maximum number of reported cells       2         Physical channel information elements       Active /for the pattern specified in table	-Inter-RAT event identity (10.3.7.24)	Event 3C
-W       Not Present         -Threshold other system       -80 dBm         -Hysteresis       0 dB         -Time to trigger       0 ms         -Reporting cell status (10.3.7.61)       -CHOICE reported cell         -CHOICE reported cell       Report cells within active set or within virtual active set or of the other RAT         -Maximum number of reported cells       2         Physical channel information elements       2         -DPCH compressed mode status info (10.3.6.34)       Active (for the pattern specified in table)	-Threshold own system	Not Present
-Threshold other system -Benching cell status (10.3.7.61) -CHOICE reported cell -Maximum number of reported cells -Maximum number of reported cells -DPCH compressed mode status info (10.3.6.34) -CHOICE reported cells -Maximum number of reported	-W	Not Present
-Hysteresis       0 dB         -Time to trigger       0 ms         -Reporting cell status (10.3.7.61)       -CHOICE reported cell         -CHOICE reported cell       Report cells within active set or within virtual active set or of the other RAT         -Maximum number of reported cells       2         Physical channel information elements       2         -DPCH compressed mode status info (10.3.6.34)       Active (for the pattern specified in table)	-Threshold other system	-80 dBm
-Time to trigger -Reporting cell status (10.3.7.61) -CHOICE reported cell -Maximum number of reported cells -Maximum number of reported cells -Maximum number of reported cells -DPCH compressed mode status info (10.3.6.34) -DPCH compressed mode status info (10.3.6.34)	-Hysteresis	0 dB
-Reporting cell status (10.3.7.61) -CHOICE reported cell Report cells within active set or within -Maximum number of reported cells 2 Physical channel information elements -DPCH compressed mode status info (10.3.6.34)	-Time to trigger	0 ms
-CHOICE reported cell Report cells within active set or within virtual active set or of the other RAT 2 Physical channel information elements DPCH compressed mode status info (10.3.6.34)	-Reporting cell status (10.3.7.61)	
-Maximum number of reported cells 2 Physical channel information elements -DPCH compressed mode status info (10.3.6.34)	-CHOICE reported cell	Report cells within active set or within
-Maximum number of reported cells 2 Physical channel information elements -DPCH compressed mode status info (10.3.6.34)		virtual active set or of the other RAT
-DPCH compressed mode status info (10.3.6.34)	-Maximum number of reported cells	2
L-UPUH COMORESSED MODE STATUS INTO (11) 3.6.3/0 LACTIVE / tor the pattern executed in table	Physical channel information elements	
	רטייט compressed mode status into (10.3.6.34)	Active (for the pattern specified in table

#### MEASUREMENT REPORT message for inter ñ RAT test cases

These messages are common for all inter-RAT test cases and are described in Annex I.

#### 8.6.4.1.5 Test requirements

#### 8.6.4.1.5.1 TEST 1 With BSIC verification required

### Table 8.6.4.7: Cell specific test parameters for Correct reporting of GSM neighbours in AWGN propagation condition (cell 2), test requirements

Deremeter	Unit	Cell 2		
Farameter	Unit	<u>T1</u>	<u>T2</u>	<u>T3</u>
Absolute RF Channel				
Number		<u> </u>	RECN	L
RXLEV	<u>dBm</u>	-Infinity	-74	<u>-86</u>

For the test to pass, the total number of successful tests shall be at least 90% of the cases, with a confidence level of 95%. 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.

#### 8.6.4.1.5.2 TEST 2 Without BSIC verification required

### Table 8.6.4.8: Cell specific test parameters for Correct reporting of GSM neighbours in AWGN propagation condition (cell 2), test requirements

Paramotor	Unit	Cell 2		
Farameter		<u>T1</u>	<u>T2</u>	<u>T3</u>
Absolute RF Channel Number		ARFCN 1		L
RXLEV	<u>dBm</u>	-Infinity	<u>-74</u>	<u>-86</u>

For the test to pass, the total number of successful tests shall be at least 90% of the cases, with a confidence level of 95%. 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.

### 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	During T1 and T2:		
	$\frac{CPICH\_E_c}{I_{or}} \pm 0.1 \text{ dB}$ $I_{oc} \pm 1.0 \text{ dB}$		
	$\frac{\text{During T1:}}{I_{or}} (2) \pm 0.7 \text{ dB}$		
	$I_{or}$ (1, 3, 4, 5, 6) relative to $I_{or}$ (2) ±0.3 dB		
	$\frac{\text{During T2:}}{I_{or}} (1) \pm 0.7 \text{ dB}$		
	$I_{or}$ (2, 3, 4, 5, 6) relative to $I_{or}$ (1) ±0.3 dB		
	Assumptions: a) The contributing uncertainties for lor(n), channel power loc are derived according to ETR 273-1-2 [16], with a cove factor of k=2. b) Within each cell, the uncertainty for lor(n), and channel ratio are uncorrelated to each other.		
	c) The relative uncertainties for lor(n) ac have any amount of positive correlation one (fully correlated).	ross different cells may from zero (uncorrelated) to	
	d) Across different cells, the channel pow have any amount of positive correlation one (fully correlated).	wer ratio uncertainties may from zero (uncorrelated) to	
	e) The uncertainty for loc and lor(n) may positive correlation from zero (uncorrelation)	r have any amount of ted) to one (fully correlated).	
	f) The absolute uncertainty of lor(2) at T uncertainty of lor(1, 3, 4, 5, 6), are uncon Similarly, the absolute uncertainty of lor( uncertainty of lor(2, 3, 4, 5, 6), are uncon	1 and the relative rrelated to each other. (1) at T2 and the relative rrelated to each other.	
	An explanation of correlation between up rationale behind the assumptions, is rec [24].	ncertainties, and of the orded in 3GPP TR 34 902	
Clause	Maximum Test System Uncertainty	Derivation of Test System	
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8.2.2.2 Scenario 2: Multi carrier case	Channel 1 during T1 and T2:	Uncertainty	
	$\frac{CPICH\_E_c}{I_{or}} \pm 0.1 \text{ dB}$ $I_{oc} (1) \pm 1.0 \text{ dB}$		
	$\frac{\text{Channel 1 during T1:}}{I_{or}(1)} \pm 0.7 \text{ dB}$		
	$I_{or}$ (3, 4) relative to $I_{or}$ (1) ±0.3 dB		
	$\frac{\text{Channel 1 during T2:}}{I_{or} (1) \pm 0.7 \text{ dB}}$		
	$I_{or}$ (3, 4) relative to $I_{or}$ (1) ±0.3 dB		
	Channel 2 during T1 and T2:		
	$\frac{CPICH\_E_c}{I_{or}} = \pm 0.1 \text{ dB}$		
	<i>I<sub>oc</sub></i> (2) ±1.0 dB		
	$\frac{\text{Channel 2 during T1:}}{I_{or}}$		
	$I_{\it or}$ (5, 6) relative to $I_{\it or}$ (2) $\pm$ 0.3 dB		
	$\frac{\text{Channel 2 during T2:}}{I_{or}}$		
	$I_{\it or}$ (5, 6) relative to $I_{\it or}$ (2) ±0.3 dB		
	Assumptions: a) to e): Same as for the one-frequency	test 8.2.2.1.	
	f) The absolute uncertainty of lor(1) and lor(3, 4), are uncorrelated to each other. uncertainty of lor(2) and the relative unc uncorrelated to each other.	the relative uncertainty of Similarly, the absolute ertainty of lor(5, 6), are	
	<li>g) The absolute uncertainties for lor(1) a amount of positive correlation from zero correlated).</li>	nd lor(2) may have any (uncorrelated) to one (fully	
	<ul> <li>h) The absolute uncertainties for loc(1) a amount of positive correlation from zero correlated).</li> </ul>	and loc(2) may have any (uncorrelated) to one (fully	
	An explanation of correlation between un rationale behind the assumptions, is received. [24].	ncertainties, and of the orded in 3GPP TR 34 902	

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
8.2.3 UTRAN to GSM Cell Re-Selection		
8.2.3.1 Scenario 1: Both UTRA and GSM level changed	$\dot{P}_{or}/I_{oc}$ ±0.3 dB $I_{oc}/RXLEV$ ±0.3 dB $I_{oc}$ ±1.0 dB	0.1 dB uncertainty in CPICH_Ec ratio
	RXLEV ±1.0 dB	0.3 dB uncertainty in $\hat{P}_{or}/I_{oc}$
	$\frac{CPICH\_E_c}{I_{or}} = \pm 0.1 \text{ dB}$	based on power meter measurement after the combiner
		0.3 dB uncertainty in 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 changed	$\dot{P}_{or}/I_{oc}$ ±0.3 dB $I_{oc}/RXLEV$ ±0.3 dB $I_{oc}$ ±1.0 dB RXLEV ±1.0 dB <i>CPICH</i> E	Same as 8.2.3.1
	$\frac{I_{or}}{I_{or}} = \pm 0.1 \text{ dB}$	
8.2.4 FDD/TDD cell re-selection	$ \begin{array}{ccc} \dot{P}_{or}/I_{oc} & \pm 0.3 \text{ dB} \\ I_{oc} & \pm 1.0 \text{ dB} \\ I_{oc1}/I_{oc2} & \pm 0.3 \text{ dB} \\ \\ \hline \frac{CPICH\_E_c}{I_{or}} & \pm 0.1 \text{ dB} \end{array} $	Same as 8.2.2.2
8.3 UTRAN Connected Mode Mobility		
8.3.1 FDD/FDD Soft Handover	$\frac{\text{During T1 and T2/T3/T4/T5/T6:}}{\frac{CPICH\_E_c}{I_{or}}} \pm 0.1 \text{ dB}$ $I_{or} (1) \pm 0.7 \text{ dB}$ $I_{oc} \pm 1.0 \text{ dB}$ Relative delay of paths received from cell 2 with respect to cell 1: \pm 0.5 chips	
	Already covered above	
	$I_{or}$ (2) relative to $I_{or}$ (1) ±0.3 dB	

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
	Assumptions: a) The contributing uncertainties for lor(n), ch derived according to ETR 273-1-2 [16], with a	nannel power ratio, and loc are a coverage factor of k=2.
	b) Within each cell, the uncertainty for lor(n), uncorrelated to each other.	and channel power ratio are
	c) Across different cells, the channel power ra amount of positive correlation from zero (unc correlated).	atio uncertainties may have any orrelated) to one (fully
	d) The uncertainty for loc and lor(n) may hav correlation from zero (uncorrelated) to one (fi	e any amount of positive ully correlated).
	e) The absolute uncertainty of lor(1) and the are uncorrelated to each other.	relative uncertainty of lor(2),
	An explanation of correlation between uncert behind the assumptions, is recorded in 3GPF	ainties, and of the rationale PTR 34 902 [24].
8.3.2 FDD/FDD Hard Handover		
8.3.2.1 Handover to intra-frequency cell	During 11 and 12 / 13:	
	$\frac{CPICH \_E_c}{E_c}$ +0.1 dB	
	I <sub>or</sub>	
	I (1) +0.7 dB	
	<i>I<sub>oc</sub></i> ±1.0 dB	
	<u>During T1:</u> Already covered above	
	During T2 / T3:	
	I (2) relative to $I$ (1) (0.2 dP	
	$I_{or}(2)$ relative to $I_{or}(1) \pm 0.3$ dB	
	a) The contributing uncertainties for lor(r loc are derived according to ETR 273-1- factor of k=2.	n), channel power ratio, and 2 [16], with a coverage
	b) Within each cell, the uncertainty for lo ratio are uncorrelated to each other.	r(n), and channel power
	c) Across different cells, the channel pow have any amount of positive correlation one (fully correlated).	ver ratio uncertainties may from zero (uncorrelated) to
	d) The uncertainty for loc and lor(n) may positive correlation from zero (uncorrelat	r have any amount of ted) to one (fully correlated).
	e) The absolute uncertainty of lor(1) and lor(2), are uncorrelated to each other.	the relative uncertainty of
	An explanation of correlation between uncert behind the assumptions, is recorded in 3GPF	ainties, and of the rationale P TR 34 902 [24].

Clause	Maximum Test System Uncertainty	Derivation of Test System
8.3.2.2 Handover to inter-frequency cell	Channel 1 during T1 and T2 / T3:	Oncertainty
	CPICH E	
	$\frac{1}{L} = \frac{1}{L} = \frac{1}$	
	I or	
	$I_{or}$ (1) ±0.7 dB	
	$I_{oc}$ (1) ±1.0 dB	
	Channel 2 during T1 and T2 / T3:	
	$I_{oc}$ (2) ±1.0 dB	
	Channel 2 during T1:	
	Alleady covered above	
	<u>Channel 2 during T2 / T3:</u>	
	$CPICH \_E_c$	
	<u> </u>	
	$I_{or}(2) \pm 0.7 \text{ dB}$	
	Assumptions:	
	a) The contributing uncertainties for lor(r loc are derived according to ETR 273-1- factor of k=2.	n), channel power ratio, and 2 [16], with a coverage
	b) Within each cell, the uncertainty for lo ratio are uncorrelated to each other.	r(n), and channel power
	<ul> <li>c) Across different cells, the channel pow have any amount of positive correlation one (fully correlated).</li> </ul>	ver ratio uncertainties may from zero (uncorrelated) to
	d) The uncertainty for loc(n) and lor(n) n positive correlation from zero (uncorrela	nay have any amount of ted) to one (fully correlated).
	<ul> <li>e) The absolute uncertainties for lor(1) a amount of positive correlation from zero correlated).</li> </ul>	nd lor(2) may have any (uncorrelated) to one (fully
	<li>f) The absolute uncertainties for loc(1) a amount of positive correlation from zero correlated).</li>	nd loc(2) may have any (uncorrelated) to one (fully
	An explanation of correlation between uncert behind the assumptions, is recorded in 3GPF	ainties, and of the rationale P TR 34 902 [24].
8.3.3 FDD/TDD Handover	TBD	
8.3.4 Inter-system Handover from	IRD	
8.3.5 Cell Re-selection in CELL_FACH		

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
8.3.5.1 One frequency present in the neighbour list	During T1 and T2:	
	$\frac{CPICH\_E_c}{I_{or}} = \pm 0.1 \text{ dB}$	
	<i>I<sub>oc</sub></i> ±1.0 dB	
	$\frac{\text{During T1:}}{I_{or}} (2) \pm 0.7 \text{ dB}$	
	$I_{\it or}$ (1, 3, 4, 5, 6) relative to $I_{\it or}$ (2) ±0.3 dB	
	$\frac{\text{During T2:}}{I_{or}} (1) \pm 0.7 \text{ dB}$	
	$I_{\it or}$ (2, 3, 4, 5, 6) relative to $I_{\it or}$ (1) ±0.3 dB	
	Assumptions: a) The contributing uncertainties for lor(r loc are derived according to ETR 273-1- factor of k=2.	n), channel power ratio, and 2 [16], with a coverage
	<ul> <li>b) Within each cell, the uncertainty for lo ratio are uncorrelated to each other.</li> </ul>	r(n), and channel power
	<ul> <li>c) The relative uncertainties for lor(n) ac have any amount of positive correlation one (fully correlated).</li> </ul>	ross different cells may from zero (uncorrelated) to
	d) Across different cells, the channel pow have any amount of positive correlation one (fully correlated).	ver ratio uncertainties may from zero (uncorrelated) to
	<ul> <li>e) The uncertainty for loc and lor(n) may positive correlation from zero (uncorrelation)</li> </ul>	have any amount of ted) to one (fully correlated).
	f) The absolute uncertainty of lor(2) at T uncertainty of lor(1, 3, 4, 5, 6), are uncor Similarly, the absolute uncertainty of lor( uncertainty of lor(2, 3, 4, 5, 6), are uncor	1 and the relative related to each other. 1) at T2 and the relative related to each other.
	An explanation of correlation between uncert behind the assumptions, is recorded in 3GPF	ainties, and of the rationale ? TR 34 902 [24].

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
8.3.5.2 Two frequencies present in the neighbour list	$\frac{Channel 1 during T1 and T2:}{\frac{CPICH \_ E_c}{I_{or}}} \pm 0.1 dB$	Choolidanky
	<i>I<sub>oc</sub></i> (1) ±1.0 dB	
	$\frac{\text{Channel 1 during T1:}}{I_{or}}$ (1) ±0.7 dB	
	$I_{or}$ (3, 4) relative to $I_{or}$ (1) ±0.3 dB	
	$\frac{\text{Channel 1 during T2:}}{I_{or} (1) \pm 0.7 \text{ dB}}$	
	$I_{or}$ (3, 4) relative to $I_{or}$ (1) ±0.3 dB	
	Channel 2 during T1 and T2:	
	$\frac{CPICH\_E_c}{I_{or}} = \pm 0.1 \text{ dB}$	
	<i>I<sub>oc</sub></i> (2) ±1.0 dB	
	$\frac{\text{Channel 2 during T1:}}{I_{or}}$ (2) $\pm 0.7 \text{ dB}$	
	$I_{\it or}$ (5, 6) relative to $I_{\it or}$ (2) ±0.3 dB	
	Channel 2 during T2:	
	$I_{or}$ (2) ±0.7 dB	
	$I_{\it or}$ (5, 6) relative to $I_{\it or}$ (2) ±0.3 dB	
	Assumptions: a) to e): Same as for the one-frequency	test 8.3.5.1.
	f) The absolute uncertainty of lor(1) and lor(3, 4), are uncorrelated to each other. uncertainty of lor(2) and the relative uncouncorrelated to each other.	the relative uncertainty of Similarly, the absolute ertainty of lor(5, 6), are
	g) The absolute uncertainties for lor(1) a amount of positive correlation from zero correlated).	nd lor(2) may have any (uncorrelated) to one (fully
	h) The absolute uncertainties for loc(1) a amount of positive correlation from zero correlated).	and loc(2) may have any (uncorrelated) to one (fully
	An explanation of correlation between uncert behind the assumptions is recorded in 3GPP	ainties, and of the rationale TR 34 902 [24].

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
8.3.5.3 Cell Re-selection to GSM	$\hat{P}_{or}/I_{oc}$ ±0.3 dB $I_{oc}/RXLEV$ ±0.3 dB	0.1 dB uncertainty in CPICH_Ec ratio
	<i>I<sub>oc</sub></i> ±1.0 dB	0.3 dB uncertainty in ${I\!$
	$\frac{CPICH\_E_c}{\pm 0.1 \text{ dB}}$	based on power meter measurement after the combiner
	I <sub>or</sub>	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.
8.3.6 Cell Re-selection in CELL_PCH		
8.3.6.1 One frequency present in the neighbour list	Same as 8.2.2.1	Same as 8.2.2.1
8.3.6.2 Two frequencies present in the neighbour list	Same as 8.2.2.2	Same as 8.2.2.2
8.3.7 Cell Re-selection in URA_PCH		
8.3.7.1 One frequency present in the neighbour list	Same as 8.2.2.1	Same as 8.2.2.1
8.3.7.2 Two frequencies present in the neighbour list	Same as 8.2.2.2	Same as 8.2.2.2
8.4 RRC Connection Control		
8.4.1 RRC Re-establishment delay	Settings. $\dot{P}_{ar}/I_{ac}$ ±0.3 dB	0.1 dB uncertainty in CPICH_Ec ratio
	$I_{oc}$ ±1.0 dB	0.3 dB uncertainty in $\check{I}_{or}^{}/I_{oc}^{}$
	$\frac{UTCH_{L_c}}{I_{or}} = \pm 0.1 \text{ dB}$	based on power meter measurement after the combiner
		Overall error is the sum of the $\hat{P}_{or}/I_{oc}$ ratio error and the CPICH_Ec/lor ratio.
		The absolute error of the AWGN is specified as 1.0 dB

Clause	Maximum Test System Uncertainty	Derivation of Test System
8.4.2 Random Access	Settings. $\dot{P}_{or}/I_{oc}$ ±0.3 dB	0.1 dB uncertainty in AICH_Ec ratio
	<i>I<sub>oc</sub></i> ±1.0 dB	0.3 dB uncertainty in $\dot{P}_{ar}/I_{ac}$
	$\frac{AICH\_E_c}{I_{or}} = \pm 0.1 \text{ dB}$	based on power meter measurement after the combiner
		Overall error is the sum of the $\hat{P}_{or}/I_{oc}$ ratio error and the AICH_Ec/lor ratio.
		The absolute error of the AWGN is specified as 1.0 dB
	Measurements: Power difference. ± 1dB Maximum Power: same as 5.5.2	Power difference: Assume symmetric meas error ±1.0 dB comprising RSS of: - 0.7 dB downlink error plus -0.7 dB meas error.
		Maximum Power: 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
8.4.3 Transport format combination selection in UE	$\frac{DPCH\_E_c}{I_{or}} = \pm 0.1 \text{ dB}$	0.1 dB uncertainty in DPCH_Ec ratio
8.5 Timing and Signalling Characteristics		
8.5.1 UE Transmit Timing	$I_{or}$ ±1.0 dB $I_{or1}/I_{or2}$ ±0.3 dB	0.1 dB uncertainty in 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	During T1/T4 and T0/T2:	
AWGN propagation conditions (R99)	$\frac{\frac{During 11/14 \text{ and } 12/13:}{CPICH\_E_c}}{I_{or}} \pm 0.1 \text{ dB}$	
	$I_{or}$ (1) ±0.7 dB	
	<i>I<sub>oc</sub></i> ±1.0 dB	
	During T1/T4 only: Already covered above	
	During T2/T3 only:	
	$I_{or}$ (2) relative to $I_{or}$ (1) ±0.3 dB	

Clause	Maximum Test System Uncertainty	Derivation of Test System
8.6.1.1 A Event triggered reporting in AWGN propagation conditions (Rel-4 and later)	$\frac{\frac{\text{During T1/T3 and T2:}}{CPICH\_E_c}}{I_{or}} \pm 0.1 \text{ dB}$	
	<i>I</i> <sub>or</sub> (1) ±0.7 dB	
	$I_{oc}$ ±1.0 dB	
	During T1/T3 only: Already covered above	
	During T2 only: I (2) relative to $I$ (1) +0.3 dB	
8.6.1.1 and 8.6.1.1A	Assumptions: a) The contributing uncertainties for lor(n), cl derived according to ETR 273-1-2 [16], with b) Within each cell, the uncertainty for lor(n), uncorrelated to each other. c) Across different cells, the channel power r amount of positive correlation from zero (unc	hannel power ratio, and loc are a coverage factor of k=2. , and channel power ratio are ratio uncertainties may have any
	<ul> <li>amount of positive correlation from zero (uncorrelated).</li> <li>d) The uncertainty for loc and lor(n) may have correlation from zero (uncorrelated) to one (fe) The absolute uncertainty of lor(1) and the are uncorrelated to each other.</li> <li>An explanation of correlation between uncertainty the assumptions, is recorded in 3GPI</li> </ul>	e any amount of positive ully correlated). relative uncertainty of lor(2), tainties, and of the rationale
8.6.1.2 Event triggered reporting of multiple neighbours in AWGN propagation condition (R99)	$\frac{\text{During T0 to T6:}}{I_{or}} \pm 0.1 \text{ dB}$ $I_{or} (1) \pm 0.7 \text{ dB}$ $I_{oc} \pm 1.0 \text{ dB}$ $\frac{\text{During T1/T2, T3 \text{ and T6:}}}{I_{or} (3) \text{ relative to } I_{or} (1) \pm 0.3 \text{ dB}}$ $\frac{\text{During T3, T4/T5 \text{ and T6:}}}{I_{or} (2) \text{ relative to } I_{or} (1) \pm 0.3 \text{ dB}}$	
	<ul> <li>a) The contributing uncertainties for lor(n), cl derived according to ETR 273-1-2 [4], with a b) Within each cell, the uncertainty for lor(n), uncorrelated to each other.</li> <li>c) The relative uncertainties for lor(n) across amount of positive correlation from zero (unc correlated).</li> <li>d) Across different cells, the channel power rany amount of positive correlation from zero correlated).</li> <li>e) The uncertainty for loc and lor(1) may have correlation from zero (uncorrelated) to one (f f) The absolute uncertainty of lor(1) and the are uncorrelated to each other.</li> </ul>	hannel power ratio, and loc are coverage factor of k=2. and channel power ratio are different cells may have any correlated) to one (fully ratio uncertainties may have (uncorrelated) to one (fully we any amount of positive fully correlated). relative uncertainty of lor(2, 3),
8.6.1.2A Event triggered reporting of multiple neighbours in AWGN propagation condition (Rel-4 and later)	TBD	
8.6.1.3 Event triggered reporting of two detectable neighbours in AWGN propagation condition	TBD	

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
8.6.1.4 Correct reporting of neighbours in fading propagation condition	ТВD	
8.6.2 FDD inter frequency measurements		
8.6.2.1 Correct reporting of neighbours in	TBD	
AWGN propagation condition		
8.6.2.2 Correct reporting of neighbours in	TBD	
Fading propagation condition		
8.6.3 TDD measurements		
8.6.3.1Correct reporting of TDD	TBD	
neighbours in AvvGN propagation		
8.6.4 GSM Measurement	TRD	
8.6.4.1 Correct reporting of GSM	À / L LO 2 dP	0.1 dB uncertainty in
neighbours in AWGN propagation	$\underline{F_{or}/I_{oc}}$	CPICH Ec ratio
condition	$I_{oc}/RXLEV$ <u>±0.3 dB</u>	
		0.3 dB uncertainty in $\hat{P}$ /I
	RXLEV ±1.0 dB	based on power meter
	CDICH E	combiner
	$\frac{CPICH \_E_c}{1 \text{ dB}}$	
	$I_{\rm m}$	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
0.7 Maggurgements Derfermance		RXLEV is specified as 1.0 dB.
8.7 Measurements Performance		
8.7.1 CPICH RSCP		
8.7.1.1 Intra frequency measurements	À /I +0.3 dB	Same as 8.2.2.1
accuracy		
	I <sub>oc</sub> ±1.0 dB	
	$CPICH \_E_c$	
	$\pm 0.1 \text{ dB}$	
8.7.1.2 Inter frequency measurement	$\hat{P}_{or}/I_{oc}$ ±0.3 dB	Same as 8.2.2.2
accuracy	<i>I<sub>oc</sub></i> ±1.0 dB	
	$I_{oc1}/I_{oc2}$ ±0.3 dB	
	$CPICH \_E_{c}$	
	$\pm 0.1 \text{ dB}$	
	1 or	
8.7.2 CPICH EC/IO		Sama as 8.9.9.1
accuracy	$P_{or}/I_{oc}$ ±0.3 dB	Same as 8.2.2.1
	<i>I<sub>oc</sub></i> ±1.0 dB	
	CPICH F	
	$\frac{1}{L} = \frac{1}{L} = \frac{1}$	
	I <sub>or</sub>	
8.7.2.2 Inter frequency measurement	$\dot{P}_{or}/I_{oc}$ ±0.3 dB	Same as 8.2.2.2
accuracy	<i>I<sub>oc</sub></i> ±1.0 dB	
	$\frac{1}{1}$ , $\frac{1}{1}$ , $\frac{1}{2}$ , $\frac{1}{2}$ , $\frac{1}{2}$	
	$CPICH \_E_c$	
	I or	

Clause	Maximum Test System Uncertainty	Derivation of Test System
8.7.3 UTRA Carrier RSSI	$\dot{P}_{or}/I_{oc}$ ±0.3 dB $I_{oc}$ ±1.0 dB $I_{oc1}/I_{oc2}$ ±0.3 dB	0.3 dB uncertainty in $\hat{P}_{or}/I_{oc}$ based on power meter 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
8.7.3A GSM Carrier RSSI	ТВD	
8.7.3C UE Transmitted power	Mean power measurement ±0,7 dB	Downlink parameters are unimportant.
8.7.4 SFN-CFN observed time difference		
8.7.4.1 Intra frequency measurements accuracy	$\dot{P}_{or}/I_{oc}$ ±0.3 dB $I_{oc}$ ±1.0 dB Actual SFN-CFN observed time difference: ±0.5 chips	0.3 dB uncertainty in $\dot{P}_{or}/I_{oc}$ based on power meter measurement after the combiner The absolute error of the AWGN is specified as 1.0 dB
8.7.4.2 Inter frequency measurements accuracy	$\dot{P}_{or}/I_{oc}$ ±0.3 dB $I_{oc}$ ±1.0 dB Actual SFN-CFN observed time difference: ±0.5 chips	0.3 dB uncertainty in $\hat{P}_{or}/I_{oc}$ based on power meter measurement after the combiner The absolute error of the AWGN is specified as 1.0 dB
8.7.5.1 SFN-SFN observed time difference type 1	$\dot{P}_{or}/I_{oc}$ ±0.3 dB $I_{oc}$ ±1.0 dB Actual SFN-SFN observed time difference type 1: ±0.5 chips	0.3 dB uncertainty in $\dot{P}_{or}/I_{oc}$ based on power meter measurement after the combiner The absolute error of the AWGN is specified as 1.0 dB
8.7.6 UE Rx-Tx time difference	$\dot{P}_{or}/I_{oc}$ ±0.3 dB $I_{oc}$ ±1.0 dB Rx-Tx Timing Accuracy ±0.5 chip	0.3 dB uncertainty in $\hat{P}_{or}/I_{oc}$ based on power meter measurement after the combiner The absolute error of the AWGN is specified as 1.0 dB.
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# 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	During T1 and T2: +0.60 dB for all Cell 1 and 2 Ec/lor ratios -0.50 dB for all Cell 3, 4 ,5, 6 Ec/lor ratios +0.03 dB for lor(3, 4, 5, 6)
	During T1: -0.27 dB for lor(1) +0.13 dB for lor(2)
	During T2: +0.13 dB for lor(1) -0.27 dB for lor(2)
8.2.2.2 Scenario 2: Multi carrier case	Channel 1 during 11 and 12: +0.70 dB for all Cell 1 Ec/lor ratios -0.80 dB for all Cell 3 and 4 Ec/lor ratios
	<u>Channel 1 during T1:</u> -0.01 dB for lor(1) -0.01 dB for lor(3, 4) No change for loc(1)
	<u>Channel 1 during T2:</u> +0.75 dB for lor(1) -0.05 dB for lor(3, 4) -1.80 dB for loc(1)
	Channel 2 during T1 and T2: +0.70 dB for all Cell 2 Ec/Ior ratios -0.80 dB for all Cell 5 and 6 Ec/Ior ratios
	<u>Channel 2 during T1:</u> +0.75 dB for lor(2) -0.05 dB for lor(5, 6) -1.80 dB for loc(2)
8.2.2 LITRAN to CSM Coll Po Soloction	Channel 2 during T2: -0.01 dB for lor(2) -0.01 dB for lor(5, 6) No change for loc(2)
8.2.3.1 Scenario 1: Both UTRA and GSM	
level changed	U.3 dB for $P_{or}/I_{oc}$ 0.1 dB for CPICH_Ec/lor 0.3 dB for loc/RXLEV
8.2.3.2 Scenario 2: Only UTRA level changed	0.3 dB for $\hat{P}_{or}/I_{oc}$ 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 $\hat{\mathbf{A}} / I$
	0.1 dB for CPICH_Ec/lor 0.3 dB for loc1/loc2
8.3 UTRAN Connected Mode Mobility	

Clause	Test Tolerance
8.3.1 FDD/FDD Soft Handover	During T1 and T2/T3/T4/T5/T6:
	+0.70 dB for all Cell 1 Ec/lor ratios
	Relative delay: {ñ147.5 Ö +147.5} chips
	During T1:
	Already covered above
	During 12/13/14/15/16:
0.0.0 EDD/EDD Hard Handavar	+0.70 dB for all Cell 2 Ec/lor ratios
8.3.2 FDD/FDD Hard Handover	During T1 and T0 / T0:
8.3.2.1 Handover to intra-frequency cell	During 11 and 12/13.
	During T1
	Already covered above
	/
	During T2 / T3:
	+0.70 dB for all Cell 2 Ec/lor ratios
8.3.2.2 Handover to inter-frequency cell	Channel 1 during T1 and T2 / T3:
	+0.80 dB for all Cell 1 Ec/lor ratios
	Channel 2 during T1:
	Not applicable
	Channel O during TO / TO
	<u>Onannel 2 during 12 / 13.</u>
8 3 3 EDD/TDD Handover	
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	During T1 and T2:
neighbour list	+0.60 dB for all Cell 1 and 2 Ec/lor ratios
	-0.50 dB for all Cell 3, 4 ,5, 6 Ec/lor ratios
	+0.03 dB for lor(3, 4, 5, 6)
	During T1:
	-0.27 dB for lor(1)
	+0.13 ab tor lor(2)
	During T2:
	+0 13 dB for lor(1)
	-0.27 dB for lor(2)

Clause	Test Tolerance
8 3 5 2 Two frequencies present in the	Channel 1 during T1 and T2:
neighbour list	$\pm 0.60 \text{ dB for all Cell 1 Ec/lor ratios}$
	-0.70 dB for all Cell 3 and 4 Ec/lor ratios
	Channel 1 during T1:
	+0.05 dB for lor(1)
	+0.05 dB for lor(3, 4)
	No change for loc(1)
	Channel 1 during T2:
	$\pm 0.75 \text{ dB for Ior(1)}$
	-0.05 dB for lor(3, 4)
	-1.60 dB for loc(1)
	Channel 2 during 11 and 12:
	+0.60 dB for all Cell 2 Ec/lor ratios
	Channel 2 during T1:
	+0.75 dB for lor(2)
	-0.05 dB for lor(5, 6)
	-1.60 dB for loc(2)
	Channel 2 during T2:
	+0.05 dB for lor(2)
	+0.05 dB for lor(5, 6)
	No change for loc(2)
8.3.5.3 Cell Re-selection to GSM	0.3 dB for $\hat{P}_{ax}/I_{ax}$
	0.1 dB for CPICH Ec/lor
	0.3 dB for loc/RXLEV
8.3.6 Cell Re-selection in CELL PCH	
8.3.6.1 One frequency present in the	Same as 8.2.2.1
neighbour list	
8.3.6.2 Two frequencies present in the	Same as 8.2.2.2
8.3.7 Cell Be-selection in LIBA_PCH	
8.3.7.1 One frequency present in the	Same as 8.2.2.1
neighbour list	
8.3.7.2 Two frequencies present in the	Same as 8.2.2.2
neighbour list	
8.4 RRC Connection Control	
8.4.1 RRC Re-establishment delay	à /-
	0 dB for $P_{or}/I_{oc}$
	0 dB for any_Ec/lor
	Zero TT is applied, as level settings are
	not critical with respect to the outcome of
	the test.
8.4.2 Random Access	Settings:
	$0.3 \text{ dB for } \hat{k} / I$
	$\int dP for A  Q  = \sum_{n=1}^{\infty} P(n)$
	U.I UD IUI AIUT_EC/IOI Measurements:
	Power difference: + 1dB
	Maximum Power: -1dB / +0.7dB
8.4.3 Transport format combination	0 dB for DPCH_Ec/lor
selection in UE	
8.5 Timing and Signalling Characteristics	700
8.5.1 UE Transmit Liming	IRD
8.6.1 FDD intra frequency measurements	

Clause	Test Tolerance
8.6.1.1 Event triggered reporting in	During T1/T4 and T2/T3:
AWGN propagation conditions (B99)	+0.70 dB for all Cell 1 Ec/lor ratios
(nob)	
	During T1/T4 and u
	During 11/14 only:
	Already covered above
	During T2/T3 only:
	+0.70 dB for all Cell 2 Ec/lor ratios
8.6.1.1 A Event triggered reporting in	During T1/T3 and T2:
AWGN propagation conditions (Bel-4 and	0.70 dB for all Cell 1 Ec/lor ratios
Ave and propagation conditions (ner-4 and	
later)	
	During 11/13 only:
	Already covered above
	During T2 only:
	+0.70 dB for all Cell 2 Ec/lor ratios
8.6.1.2 Event triggered reporting of	During T0 to T6:
propagation condition (R99)	+0.70 dB for all Cell 2 Ec/lor ratios
	+0.70 dB for all Cell 3 Ec/lor ratiosTBD
8.6.1.2A Event triggered reporting of	TBD
multiple neighbours in AWGN	
propagation condition (Rel-4 and later)	
9.6.1.2 Event triggered reporting of two	
detectable naighbours in AMCN	
detectable neighbours in AWGN	
propagation condition	
8.6.1.4 Correct reporting of neighbours in	TBD
fading propagation condition	
8.6.2 FDD inter frequency measurements	
8.6.2.1 Correct reporting of neighbours in	TBD
AWGN propagation condition	
9.6.2.2 Correct reporting of poighbours in	
Solution and the sendition	לטו
Fading propagation condition	
8.6.3 IDD measurements	
8.6.3.1Correct reporting of TDD	TBD
neighbours in AWGN propagation	
condition	
8 7 Measurements Performance	TBD
Bequirements	
8.0.4 GSM measurements	
8.6.4.1 Correct reporting of GSM	During 12:
neighbours in AWGN propagation	+ 1 dB for RXLEV
condition	
	During T3:
	-1 dB for RXLEV
8.7.1 CPICH RSCP	
8.7.1.1 Intra frequency measurements	$\dot{\mathbf{n}}$
accuracy	0.3 dB for $P_{or}/I_{oc}$
accuracy	0.1 dB for CPICH Ec/lor
	1.0 dB for loc
8.7.1.2 Inter frequency measurement	0.3 dB for $\hat{\mu}$ /I
accuracy	or / oc
	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 2 1 Intra frequency measurements	à /.
accuracy	0.3 dB for $I_{or}^{A}/I_{oc}$
	0.1 dB for CPICH_Ec/lor
9700 Inter frequency measurement	
8.7.2.2 Inter frequency measurement	0.3 dB for $\hat{\mu}/I$
accuracy	
8.7.3 UTRA Carrier RSSI	0.3 dB for $\hat{\boldsymbol{\mu}}/I$
	$r / r_{oc}$
	1.0 dB for loc
8.7.3A GSM Carrier RSSI	TBD
8.7.3B Transport channel BLER	TBD

Clause	Test Tolerance
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 $\hat{P}_{or}/I_{oc}$
	1.0 dB for loc
	observed time difference
8.7.5.1 SFN-SFN observed time difference type 1	0.3 dB for $\dot{P}_{or}/I_{oc}$
	1.0 dB for loc
	±0.5 chips for the actual SFN-SFN observed time difference type 1
8.7.6 UE Rx-Tx time difference	0.3 dB for $\dot{P}_{or}/I_{oc}$
	1.0 dB for loc
8.7.7 Observed time difference to GSM	
cell	
8.7.8 P-CCPCH RSCP	TBD

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	Because the relationships between the Test system uncertainties and the Test Tolerances are complex, it is not possible to give a simple derivation of the Test Requirement in this document. The analysis is recorded in 3GPP TR 34 902 [24].			
	During T1 and T2:	During T1 and T2:	During T1 and T2:	
	Cells 1 and 2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	+0.60 dB +0.60 dB +0.60 dB +0.60 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT	
	Cells 3, 4, 5, 6: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	-0.50 dB -0.50 dB -0.50 dB -0.50 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT	
	lor(3, 4, 5, 6) = -69.73 dBm	+0.03 dB for lor(3, 4, 5, 6)	lor(3, 4, 5, 6) + TT	
	During T1:	During T1:	During T1:	
	lor(1) = -62.73 dBm lor(2) = -59.73 dBm	-0.27 dB for lor(1) +0.13 dB for lor(2)	lor(1) + TT lor(2) + TT	
	During T2:	During T2:	During T2:	
	lor(1) = -59.73 dBm lor(2) = -62.73 dBm	+0.13 dB for lor(1) -0.27 dB for lor(2)	lor(1) + TT lor(2) + TT	
8.2.2.2 Scenario 2: Multi carrier case	Because the relationships between the Test system uncertainties and the Test Tolerances are complex, it is not possible to give a simple derivation of the Test Requirement in this document. The analysis is recorded in 3GPP TR 34 902 [24].			
	Channel 1 during T1 and T2:	<u>Channel 1 during</u> <u>T1 and T2:</u>	Channel 1 during T1 and T2:	
	Cell 1: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	+0.70 dB +0.70 dB +0.70 dB +0.70 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT	
	Cells 3 and 4: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	-0.80 dB -0.80 dB -0.80 dB -0.80 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT	
	<u>Channel 1 during T1:</u> lor(1) = -73.39 dBm lor(3, 4) = -77.39 dBm loc(1) = -70.00 dBm	<u>Channel 1 during</u> <u>T1:</u> -0.01 dB for lor(1) -0.01 dB for lor(3,4) 0.00 dB for loc(1)	<u>Channel 1 during T1:</u> lor(1) + TT lor(3, 4) + TT loc(1) + TT	

Test	Test Parameters in TS 25.133	Test Tolerance (TT)	Test Requirement in TS 34.121
	Channel 1 during T2:	Channel 1 during	Channel 1 during T2:
	lor(1) = -67.75 dBm lor(3, 4) = -74.75 dBm loc(1) = -70.00 dBm	12: +0.75 dB for lor(1) -0.05 dB for lor(3, 4) -1.80 dB for loc(1)	lor(1) + TT lor(3, 4) + TT loc(1) + TT
	Channel 2 during T1 and T2:	Channel 2 during T1 and T2:	Channel 2 during T1 and T2:
	Cell 2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	+0.70 dB +0.70 dB +0.70 dB +0.70 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	Cells 5 and 6: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	-0.80 dB -0.80 dB -0.80 dB -0.80 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	Channel 2 during T1:	Channel 2 during	Channel 2 during T1:
	lor(2) = -67.75 dBm lor(5, 6) = -74.75 dBm loc(2) = -70.00 dBm	+0.75 dB for lor(2) -0.05 dB for lor(5, 6) -1.80 dB for loc(2)	lor(2) + TT lor(5, 6) + TT loc(2) + TT
	Channel 2 during T2:	Channel 2 during	Channel 2 during T2:
	lor(2) = -73.39 dBm lor(5, 6) = -77.39 dBm loc(2) = -70.00 dBm	<u>12:</u> -0.01 dB for lor(2) -0.01 dB for lor(5,6) 0.00 dB for loc(2)	lor(2) + TT lor(5, 6) + TT loc(2) + TT
8.2.3 UTRAN to GSM			
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:
	$\frac{CPICH_{E_c}}{I} = -10 \text{ dB}$	0.1 dB for CPICH_E	Formulas:
	lor/loc = - 5 dB	0.3 dB for lor/loc	$\frac{CPICH\_E_c}{I_{or}} = \text{ratio} - TT$
		0.3 dB for loc/RXLEV	IOr/IOC = ratio - 11 (Ioc/Rxlev) <sub>test requirement</sub> = (Ioc/Rxlev) <sub>minimum requirement</sub> - TT
			lor/loc = -5.3 dB
			$\frac{CPICH\_E_c}{I_{or}} \text{ -10.1 dB:}$

Test	Test Parameters in	Test Tolerance	Test Requirement in TS 34.121
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 = -9 dB	0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$ 0.3 dB for lor/loc 0.3 dB for loc/RXLEV	Formulas: $\frac{CPICH\_E_c}{I_{or}} = \text{ratio} - \text{TT}$ $\text{lor/loc} = \text{ratio} - \text{TT}$ $(\text{loc/Rxlev})_{\text{test requirement}} = (\text{loc/Rxlev})_{\text{minimum requirement}} - \text{TT}$ $\text{lor/loc} = -9.3 \text{ dB}$ $\frac{CPICH\_E_c}{I_{or}} = -10.1 \text{ dB}:$
8.2.4 FDD/TDD cell re- selection	TBD		
8.3 UTRAN Connected Mode Mobility	TBD		
8.3.1 FDD/FDD Soft Handover	Because the relationships be are complex, it is not possible document. The analysis is re- <u>During T1 and</u> T2/T3/T4/T5/T6: Cell 1: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -12 dB Relative delay of paths received from cell 2 with respect to cell 1 = $\{-148 \ O$ 148 $\}$ chips <u>During T1</u> : Already covered above <u>During T2/T3/T4/T5/T6</u> : Cell 2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	be to give a simple derivation of the lest system is to give a simple derivation of the d	uncertainties and the Test Tolerances tion of the Test Requirement in this 902 [24]. During T1 and T2/T3/T4/T5/T6: Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT {-148+TT Ö 148-TT} chips During T1: Already covered above During T2/T3/T4/T5/T6: Ec/lor ratio + TT Ec/lor ratio + TT
8.3.2 FDD/FDD Hard Handover			

Test	Test Parameters in TS 25,133	Test Tolerance (TT)	Test Requirement in TS 34.121
8.3.2.1 Handover to	Because the relationships between the Test system uncertainties and the Test Tolerances		
intra-frequency cell	are complex, it is not possible to give a simple derivation of the Test Requirement in this document. The analysis is recorded in 3GPP TR 34 902 [24].		
	During T1 and T2 / T3:	During T1 / T2 / T3:	During T1 and T2 / T3:
	Cell 1: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	+0.70 dB +0.70 dB +0.70 dB +0.70 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	During T1:	During T1:	During T1:
	Already covered above	Covered above	Already covered above
	During T2 / T3:	During T2 / T3:	During T2 / T3:
	Cell 2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	+0.70 dB +0.70 dB +0.70 dB +0.70 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
8.3.2.2 Handover to inter-frequency cell	Because the relationships between the Test system uncertainties and the Test Tolerance are complex, it is not possible to give a simple derivation of the Test Requirement in this document. The analysis is recorded in 3GPP TR 34 902 [24].		
	Channel 1 during T1 and T2 / T3:	<u>Channel 1 during</u> <u>T1 and T2 / T3:</u>	Channel 1 during T1 and T2 / T3:
	Cell 1: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	+0.80 dB +0.80 dB +0.80 dB +0.80 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	Channel 2 during T1:	Channel 2 during	Channel 2 during T1:
	Not applicable	Not applicable	Not applicable
	Channel 2 during T2 / T3:	<u>Channel 2 during</u> <u>T2 / T3:</u>	Channel 2 during T2 / T3:
	Cell 2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	+0.80 dB +0.80 dB +0.80 dB +0.80 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
8.3.3 FDD/TDD Handover	TBD		
8.3.4 Inter-system Handover form UTRAN FDD to GSM	TBD		
8.3.5 Cell Re-selection in CELL_FACH			
8.3.5.1 One frequency	Because the relationships be	tween the Test system	uncertainties and the Test Tolerances
neighbour list	document. The analysis is recorded in 3GPP TR 34 902 [24].		

Test	Test Parameters in TS 25,133	Test Tolerance (TT)	Test Requirement in TS 34.121
	During T1 and T2:	During T1 and T2:	During T1 and T2:
	Cells 1 and 2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB S-CCPCH_Ec/lor = -12 dB	+0.60 dB +0.60 dB +0.60 dB +0.60 dB +0.60 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	Cells 3, 4, 5, 6: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB S-CCPCH_Ec/lor = -12 dB	-0.50 dB -0.50 dB -0.50 dB -0.50 dB -0.50 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	lor(3, 4, 5, 6) = -69.73 dBm	+0.03 dB for lor(3, 4, 5, 6)	lor(3, 4, 5, 6) + TT
	During T1:	During T1:	During T1:
	lor(1) = -62.73 dBm lor(2) = -59.73 dBm	-0.27 dB for lor(1) +0.13 dB for lor(2)	lor(1) + TT lor(2) + TT
	During T2:	During T2:	During T2:
	lor(1) = -59.73 dBm lor(2) = -62.73 dBm	+0.13 dB for lor(1) -0.27 dB for lor(2)	lor(1) + TT lor(2) + TT
8.3.5.2 Two frequencies present in	Because the relationships be are complex, it is not possible document. The analysis is read	tween the Test system to give a simple derive	uncertainties and the Test Tolerances ation of the Test Requirement in this
the heighbour hat	Channel 1 during T1 and	Channel 1 during	Channel 1 during T1 and T2:
	<u>T2:</u>	<u>T1 and T2:</u>	
	Cell 1: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB S-CCPCH_Ec/lor = -12 dB	+0.60 dB +0.60 dB +0.60 dB +0.60 dB +0.60 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	Cells 3 and 4: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB S-CCPCH_Ec/lor = -12 dB	-0.70 dB -0.70 dB -0.70 dB -0.70 dB -0.70 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	<u>Channel 1 during T1:</u> lor(1) = -71.85 dBm lor(3, 4) = -76.85 dBm loc(1) = -70.00 dBm	<u>Channel 1 during</u> <u>T1:</u> +0.05 dB for lor(1) +0.05 dB for lor(3,4) 0.00 dB for loc(1)	<u>Channel 1 during T1:</u> lor(1) + TT lor(3, 4) + TT loc(1) + TT
	<u>Channel 1 during T2:</u> lor(1) = -67.75 dBm lor(3, 4) = -74.75 dBm loc(1) = -70.00 dBm	<u>Channel 1 during</u> <u>T2:</u> +0.75 dB for lor(1) -0.05 dB for lor(3, 4) -1.60 dB for loc(1)	<u>Channel 1 during T2:</u> lor(1) + TT lor(3, 4) + TT loc(1) + TT

Test	Test Parameters in TS 25,133	Test Tolerance (TT)	Test Requirement in TS 34.121
	Channel 2 during T1 and T2:	Channel 2 during T1 and T2:	Channel 2 during T1 and T2:
	Cell 2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB S-CCPCH_Ec/lor = -12 dB	+0.60 dB +0.60 dB +0.60 dB +0.60 dB +0.60 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	Cells 5 and 6: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB S-CCPCH_Ec/lor = -12 dB	-0.70 dB -0.70 dB -0.70 dB -0.70 dB -0.70 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	Channel 2 during T1:	<u>Channel 2 during</u> T1:	Channel 2 during T1:
	lor(2) = -67.75 dBm lor(5, 6) = -74.75 dBm loc(2) = -70.00 dBm	+0.75 dB for lor(2) -0.05 dB for lor(5, 6) -1.60 dB for loc(2)	lor(2) + TT lor(5, 6) + TT loc(2) + TT
	Channel 2 during T2:	<u>Channel 2 during</u> T2:	Channel 2 during T2:
	lor(2) = -71.85 dBm lor(5, 6) = -76.85 dBm loc(2) = -70.00 dBm	+0.05 dB for lor(2) +0.05 dB for lor(5,6) 0.00 dB for loc(2)	lor(2) + TT lor(5, 6) + TT loc(2) + TT
8.3.5.3 Cell Re- selection to GSM	During T1:		
	$\frac{CPICH\_E_c}{I_{or}} = -10 \text{ dB}$	0.1 dB for $\frac{CPICH\_E_c}{I}$	$\frac{CPICH\_E_c}{I_{or}} = ratio + TT$
	lor/loc = 0 dB	0.3 dB for lor/loc	lor/loc = ratio + TT
	loc/RXLEV = 20	0.3 dB for loc/RXLEV	(loc/Rxlev) <sub>test requirement</sub> = (loc/Rxlev) <sub>minimum requirement</sub> + TT
			lor/loc = 0.3 dB
			$\frac{CPICH\_E_c}{I_{or}} = -9.9 \text{ dB}:$
			loc/RXLEV = 20.3
	During T2:		
	$\frac{CPICH\_E_c}{I_{or}} = -10 \text{ dB}$	0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$	$\frac{CPICH\_E_c}{I_{or}} = ratio - TT$
	lor/loc = - 5 dB	0.3 dB for lor/loc	lor/loc = ratio - TT
	loc/RXLEV = 5	0.3 dB for loc/RXLEV	(Ioc/Rxlev) <sub>test requirement</sub> = (Ioc/Rxlev) <sub>minimum requirement</sub> - TT
			lor/loc = -5.3 dB
			$\frac{CPICH\_E_c}{I_{or}}$ -10.1 dB:
			loc/RXLEV = 4.7

Test	Test Parameters in TS 25.133	Test Tolerance (TT)	Test Requirement in TS 34.121
8.3.6 Cell Re-selection in CELL_PCH			
8.3.6.1 One frequency present in the	Same as 8.2.2.1	Same as 8.2.2.1	Same as 8.2.2.1
neighbour list	$\frac{CPICH\_E_c}{I_{or}} = -10 \text{ dB}$ $I_{oc} = -70 \text{ dBm}$ $Ior/Ioc = 10.27 \text{ dB}$ Note: Parameters are valid for eql 1 of time T2 and coll	0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$ 0.3 dB for lor/loc	Formulas: $\frac{CPICH\_E_c}{I_{or}} = ratio + TT$ lor/loc = ratio + TT loc unchanged
	2 at time T1		lor/loc = 10.57 dB $\frac{CPICH \_ E_c}{I_{or}} -9.9 \text{ dB}:$
8.3.6.2 Two frequencies present in the neighbour list	Same as 8.2.2.2	Same as 8.2.2.2	Same as 8.2.2.2
8.3.7 Cell Be-selection	$\frac{CPICH\_E_c}{I_{or}} = -10 \text{ dB}$ $I_{oc} = -70 \text{ dBm}$ $Ior/Ioc = 2.2 \text{ dB}$ 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	Formulas: $\frac{CPICH\_E_c}{I_{or}} = \text{ratio} + \text{TT}$ Ior/Ioc = ratio + TT Ioc unchanged Ioc ratio unchanged Ior/Ioc = 2.5 dB $\frac{CPICH\_E_c}{I_{or}} -9.9 \text{ dB}:$
8.3.7 Cell Re-selection in URA_PCH			-
8.3.7.1 One frequency present in the neighbour list	Same as 8.2.2.1	Same as 8.2.2.1	Same as 8.2.2.1
8.3.7.2 Two frequencies present in the neighbour list	Same as 8.2.2.2	Same as 8.2.2.2	Same as 8.2.2.2
8.4 RRC Connection			
8.4.1 RRC Re- establishment delay	TBD		

Test	Test Parameters in TS 25 133	Test Tolerance (TT)	Test Requirement in TS 34.121
8.4.1.1 Test 1	Cell 1, T1: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB DCH_Ec/lor = -17 dB lor/loc = 2.39 dB Cell 1, T2: lor/loc = -infinity	0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$ 0.3 dB for lor/loc	Level settings in either direction are not critical with respect to the outcome of the test.
	Cell 2, T1: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB lor/loc = 4.39 dB Cell 2, T2: CPICH_Ec/lor = -10 dB		
	PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB lor/loc = 0.02 dB		
8.4.1.2 Test 2	Cell 1, T1: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB DCH_Ec/lor = -17 dB lor/loc = -3.35 dB Cell 1, T2: lor/loc = -infinity	0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$ 0.3 dB for lor/loc	Level settings in either direction are not critical with respect to the outcome of the test.
	Cell 2, T1: lor/loc = -infinity Cell 2, T2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB lor/loc = 0.02 dB		
8.4.2 Random Access	RACH power difference nominal 3dB ± 2dB UE setting uncertainty	Measurement TT:Power difference ± 1dBMaximum Power-1dB / +0.7dB	Test parameter settings unchanged.Power measurement:Upper limit +TT Lower limit -TT
8.4.3 Transport format combination selection in UE	DL Power control is ON so DPCH_Ec/lor depends on TPC commands sent by UE	0 dB for DPCH_Ec/lor	No test requirements for DPCH_Ec/lor
8.5 Timing and Signalling Characteristics	TBD		
8.5.1 UE Transmit Timing	TBD		
8.6 UE Measurements Procedures 8.6.1 FDD intra			
measurements	Recourse the relationships ha	twoon the Test system	uncortaintion and the Test Televenses
reporting in AWGN propagation conditions	are complex, it is not possible document. The analysis is red	e to give a simple derivation of the second se	ation of the Test Requirement in this 902 [24].

Test	Test Parameters in	Test Tolerance	Test Requirement in TS 34.121	
(R99)	During T1 to T4:	During T1 to T4:	During T1 to T4:	
(		<u></u>	<u> </u>	
	Cell 1:			
	$CPICH\_Ec/lor = -10 dB$	+0.70 dB	Ec/lor ratio + 11	
	SCH Ec/lor = -12 dB	+0.70 dB +0.70 dB	Ec/lor ratio + TT	
	PICH Ec/lor = $-15 \text{ dB}$	+0.70 dB	Ec/lor ratio + TT	
	– During T1/T4 only :	During T1/T4 only:	During T1/T4 only:	
	During 11/14 Only .	During 11/14 Only.	During 11/14 only.	
	Already covered above	Covered above	Already covered above	
	During T2/T3 only:	During T2/T3 only:	During T2/T3 only:	
	Cell 2:			
	$CPICH_Ec/lor = -10 dB$	+0.70 dB	Ec/lor ratio + 11	
	SCH Ec/lor = -12 dB	+0.70 dB +0.70 dB	Ec/lor ratio + TT	
	PICH Ec/lor = $-15 \text{ dB}$	+0.70 dB	Ec/lor ratio + TT	
8.6.1.1 A Event triggered reporting in AWGN propagation	Because the relationships be are complex, it is not possible document. The analysis is re-	tween the Test system to give a simple deriva corded in 3GPP TR 34	uncertainties and the Test Tolerances ation of the Test Requirement in this 902 [24].	
conditions (Rel-4 and	During T1 / T2 / T3:	During T1 / T2 / T3:	During T1 / T2 / T3:	
later)				
	Cell 1: CPICH Ec/lor - 10 dB	10.70 dB	Ec/lor ratio + TT	
	PCCPCH Ec/lor = -12 dB	+0.70 dB	Ec/lor ratio + TT	
	SCH Ec/lor = $-12 \text{ dB}$	+0.70 dB	Ec/lor ratio + TT	
	PICH_Ec/lor = -15 dB	+0.70 dB	Ec/lor ratio + TT	
	During T1/T3 only :	During T1/T3 only:	During T1/T3 only:	
	Already covered above	Covered above		
	During 12 only:	During 12 only:	During 12 only:	
	Cell 2:			
	$CPICH_EC/IOr = -10 dB$	+0.70 dB	Ec/lor ratio + 11	
	SCH Ec/lor = -12 dB	+0.70 dB +0.70 dB	Ec/lor ratio + TT	
	PICH Ec/lor = $-15 \text{ dB}$	+0.70 dB	Ec/lor ratio + TT	
	_ `			
8.6.1.2 Event triggered	Because the relationships be	tween the Test system	uncertainties and the Test Tolerances	
neighbours in AWGN	document. The analysis is re	corded in 3GPP TR 34	902 [24].	
propagation condition	During T0 to T6:	During T0 to T6:	During T0 to T6:	
(R99)		-		
	Cell 1, Cell 2 and Cell 3:		Follor ratio . TT	
	PCCPCH Ec/lor = -10 dB	+0.70 dB	Ec/lor ratio + TT	
	SCH Ec/lor = $-12 \text{ dB}$	+0.70 dB	Ec/lor ratio + TT	
	PICH_Ec/lor = -15 dB	+0.70 dB	Ec/lor ratio + TT	
8.6.1.2A EVENT	IBD	IBD	IBD	
multiple neighbours in				
AWGN propagation				
condition (Rel-4 and				
later)				
reporting of two	עסו			
detectable neighbours				
in AWGN propagation				
condition		1		

Test	Test Parameters in TS 25.133	Test Tolerance (TT)	Test Requirement in TS 34.121
8.6.1.4 Correct	TBD	(	
reporting of neighbours			
in fading propagation			
	TRD		
8.6.2 FDD Inter	ТВО		
measurements			
8.6.2.1 Correct	TBD		
reporting of neighbours			
in AWGN propagation			
condition	<b>T</b> DD		
8.6.2.2 Correct	IBD		
in Fading propagation			
condition			
8.6.3 TDD	TBD		
measurements			
8.6.3.1Correct	TBD		
reporting of TDD			
neighbours in AWGN			
8 6 4 GSM			
measurements			
8.6.4.1 Correct	During T2	During T2:	During T2 and T3
reporting of GSM	RXLEV=-75 dBm	+ 1 dB for RXLEV	RXLEV + TT
neighbours in AWGN			
propagation condition	During 13 DXLEV of dBm	During 13:	Only RXLEV is a critical parameter.
	RXLEV=-85 dBm	-I OB TOT RALEV	OE measurement accuracy for GSM
			During T2: measured GSM Carrier
			RSSI ± uncertainty of RXLEV setting
			shall be above ñ80 dBm (Threshold
			for GSM). => TT=+1 dB for RXLEV
			During T3: measured GSM Carrier
			BSSI + uncertainty of BXI EV setting
			shall be below ñ80 dBm (Threshold
			for GSM). => TT=-1 dB for RXLEV
8.7 Measurements	TBD		
Performance			
		1 dD for last 0.0	Any TT applied to the newinal activity
	see table 8.7.1.1.1.1		Any II applied to the nominal setting shall fulfil: Test 1 (absolute and
accuracy		forÖ., Fc/lor	relative): lo shall not go below -
			69dBm Test 2(absolute and relative):
			lo shall not go above -50 dBmTest 3
			(absolute and relative): lo shall not
			go below -94 dBm lor/loc + TTTT on
			top of UE measurement
			dB for lor/loc +0 1dB for
			CPICH Ec/lor > 1.4dBRelative±0.3
			dB for lor/loc (cell1)±0.3 dB for
			lor/loc (cell2)±0.1dB for
			CPICH_Ec/lor (cell1)±0.1dB for
			UPIUH_EC/IOr (cell2)∑ 0.8dB

Test	Test Parameters in TS 25.133	Test Tolerance (TT)	Test Requirement in TS 34.121
8.7.1.2 Inter frequency measurement accuracy	See table 8.7.1.2.1.1 andtable 8.7.1.2.1.2	±1 dB for loc±0.3 dB for loc1/loc2±0.3 dB for lor/loc±0.1dB for ÖEc/lor	Any TT applied to the nominal setting shall fulfil:Test 1: Io shall not go above -50 dBmTest 2: Io shall not go below -94 dBmIor/loc + TTTT on top of UE measurement accuracy:±0.3 dB for loc1/loc2±0.3 dB for lor/loc (cell1)±0.3 dB for lor/loc (cell2)±0.1dB for CPICH_Ec/lor (cell1)±0.1dB for CPICH_Ec/lor (cell2)∑ 1.1 dB
8.7.2 CPICH Ec/lo			

Test	Test Parameters in TS 25,133	Test Tolerance (TT)	Test Requirement in TS 34.121
8.7.2.1 Intra frequency measurements accuracy	table 8.7.2.1.1.1 and table 8.7.2.1.1.2	$\pm 1$ dB for Ioc $\pm 0.3$ dB for Ior/Ioc	Any TT applied to the nominal setting shall fulfil:
		±0.1dB for ÖEc/lor	Test 1(absolute and relative): Io shall not go above -50 dBm
			Test 2 (absolute and relative): Io shall not go below -87dBm
			Test 3 (absolute and relative): Io shall not go below -94 dBm
			CPICH Ec/Io shall stay in the UE accuracy ranges
			Ior/Ioc + TT
			TT on top of UE measurement accuracy:
			Absolute
			±0.3 dB for Ior/Ioc
			±0.1dB for CPICH_Ec/Ior
			$\sum 0.4$ dB
			Relative
			Ioc1=Ioc2
			±0.3 dB for Ior/Ioc (cell1)
			$\pm 0.3$ dB for Ior/Ioc (cell2)
			±0.1dB for CPICH_Ec/Ior (cell1)
			±0.1dB for CPICH_Ec/Ior (cell2)
			∑ 0.8dB

Test	Test Parameters in	Test Tolerance	Test Requirement in TS 34.121
8.7.2.2 Inter frequency measurement accuracy	Test Parameters in TS 25.133 table 8.7.2.2.2.1 and table 8.7.2.2.2.2	tolerance       (TT)       ±1 dB for Ioc       ±0.3 dB for Ioc/Ioc       ±0.3 dB for Ior/Ioc       ±0.1 dB       for ÖEc/Ior	Iest Requirement in 1S 34.121         Any TT applied to the nominal setting shall fulfil:         Test 1: Io shall not go above -50 dBm         Test 2: Io shall not go below -87 dBm         Test 3: Io shall not go below -94 dBm         Ior/Ioc + TT
			TT on top of UE measurement accuracy: Ioc1=Ioc2. $\pm 0.3$ dB for Ior/Ioc (cell1) $\pm 0.3$ dB for Ior/Ioc (cell2) $\pm 0.1$ dB for CPICH_Ec/Ior (cell1) $\pm 0.1$ dB for CPICH_Ec/Ior (cell2) $\sum 0.8$ dB

Test	Test Parameters in	Test Tolerance	Test Requirement in TS 34.121
8.7.3 UTRA Carrier RSSI	TS 25.133 Table 8.7.3.1.2	$\pm 1$ dB for Ioc	Any TT applied to the nominal setting shall fulfil:
		±0.3 dB for Ioc1/Ioc2	Test 1 (absolute): Io shall not go above -50 dBm
		±0.3 dB for Œr/Ioc	Test 2 (absolute): Io shall not go below -69 dBm
			Test 3 (absolute and relative): Io shall not go below -94 dBm
			Ior/Ioc + TT
			TT on top of UE measurement accuracy:
			Absolute tests:
			Test 1:
			Max TT= Io <sub>max</sub> ñ Io <sub>nominal</sub>
			$Io_{nominal} = -51.15 \text{ dBm}$
			$Io_{max} = Ioc_{max} + Ior_{max} = (-53.5 \text{ dBm} + 1\text{ dB}) + (-52.5 \text{ dBm} \tilde{n} 1.45 \text{ dB} + 0.3 \text{ dB}) = -50.0 \text{ dBm}$
			=> Max TT = 1.15 dB
			$Min \ TT = Io_{min} - Io$
			$Io_{min} = Ioc_{min} + Ior_{min} = (-53.5)$ dBm $\tilde{n}1$ dB) + (-54.5 dBm $\tilde{n}1.45$ dB $\tilde{n}0.3$ dB) = -52.3 dBm
			=> Min TT = -1.15 dB
			Test 2:
			Max TT= $Io_{max} \tilde{n} Io_{nominal}$
			$Io_{nominal} = -67.9 \text{ dBm}$
			$Io_{max} = Ioc_{max} + Ior_{max} = (-69.27 \text{ dBm} + 1\text{ dB}) + (-68.27 \text{ dBm} \tilde{n} 4.4 \text{ dB} + 0.3 \text{ dB}) = -66.8 \text{ dBm}$
			=> Max TT = 1.1 dB
			$Min \ TT = Io_{min} - Io$
			$\begin{split} Io_{min} &= Ioc_{min} + Ior_{min} = (-69.27 \text{ dBm } \tilde{n} \ 1 \text{ dB}) + (-70.27 \text{ dBm } \tilde{n} \ 4.4 \text{ dB} \ \tilde{n} \ 0.3 \text{ dB}) = -69.0 \text{ dBm} \end{split}$
			=> Min TT = -1.1 dB
			Test 3 (Band I):
			Max TT= $Io_{max} \tilde{n} Io_{nominal}$
			$Io_{nominal} = -93 \text{ dBm}$
			$\begin{split} Io_{max} &= Ioc_{max} + Ior_{max} + No = \\ (-93.46 \text{ dBm} + 1\text{ dB}) + (-92.46 \text{ dBm} \tilde{n} 9.24 \text{ dB} + 0.3 \\ \text{dB}) + -99 \text{ dBm} = -91.2 \end{split}$
		3GPP	=> Max TT = 1.8 dB

Test	Test Peremeters in	Test Teleranos	Test Dequirement in TS 24 121
Test	TS 25.133	(TT)	Test Requirement in 15 34.121
8.7.3A GSM Carrier RSSI	TBD		
8.7.3B Transport channel BLER	TBD		
8.7.3C UE Transmitted power	Accuracy upper limit Accuracy lower limit Depends on PUEMAX see table 8.7.3C.2.1	0.7 dB	Formula: Upper accuracy limit + TT Lower accuracy limit ñ TT Add and subtract TT to all the values in table 8.7.3C.2.1.
8.7.4 SFN-CFN observed time	T able 8.7.4.1.2 and Table 8.7.4.2.2	±1.0 dB for loc	Intra and inter frequency case:
difference		±0.3 dB for lor/loc	Test 1: lo shall not go above -50 dBm
		±0.5 chips for the actual SFN-CFN	Test 2: No restrictions on lo value
		observed time difference	Test 3: lo shall not go below -94 dBm (Band 1), or below ñ92 dBm (Band II) or below ñ91 dBm (Band III)
			Ober/loc + TT
			TT on top of UE measurements accuracy: SFN-CFN observed time difference: 1.0 chips + TT
8.7.5.1 SFN-SFN observed time	T able 8.7.5.1.2	±1.0 dB for loc	Test 1: lo shall not go above -50 dBm
difference type 1		±0.3 dB for lor/loc	Test 2: No restrictions on lo value
		±0.5 chips for the actual SFN-SFN observed time difference	Test 3: Io shall not go below -94 dBm (Band 1), or below ñ92 dBm (Band II) or below ñ91 dBm (Band III)
			0 <u>E</u> r/loc + TT
			TT on top of UE measurements accuracy: SFN-SFN observed time difference: 1.0 chips + TT

Test	Test Parameters in	Test Tolerance	Test Requirement in TS 34.121
8.7.6 UE Rx-Tx time difference	lo $\tilde{n}10.9 dB = loc$ , Test 1: lo = -94 dBm Test2 : lo = -72dBm Test3 : lo = -50dBm Timing Accuracy $\pm$ 1.5 chip	1 dB for loc 0.3 dB for lor/loc 0.5 chip for timing accuracy	Test 1: lo = -92.7 dBm, loc = -103.6 dBm Formula: loc*(1-TT <sub>loc</sub> + (lor/loc-TT <sub>lor/loc</sub> )) $\geq$ -94 Test 2: unchanged (no critical RF parameters) Test 3: lo = -51.3 dBm, loc = -62.2 dBm Formula: loc*(1+TT <sub>loc</sub> + (lor/loc+TT <sub>lor/loc</sub> )) $\leq$ -50 Timing accuracy $\pm$ 2.0 chip Formulas: Upper limit +TT Lower limit ñTT
8.7.7 Observed time difference to GSM cell	TBD		
8.7.8 P-CCPCH RSCP	TBD		

CHANGE REQUEST				
æ	<b>34.121</b> CR <sup>450</sup> <b># rev</b> - <sup><b>#</b> Cu</sup>	urrent version: <b>5.5.0</b> <sup>ж</sup>		
For <u>HELP</u> on us	sing this form, see bottom of this page or look at the po	op-up text over the <mark>೫</mark> symbols.		
Proposed change a	affects: UICC apps <mark>% MEX</mark> Radio Acce	ess Network Core Network		
Title: ೫	Correction to pathloss indicator			
Source: #	Anritsu			
Work item code: 🕷		Date: # 3/11/2004		
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>	elease:          Rel-5         Use one of the following releases:         2       (GSM Phase 2)         R96       (Release 1996)         R97       (Release 1997)         R98       (Release 1998)         R99       (Release 1999)         Rel-4       (Release 4)         Rel-5       (Release 5)         Rel-6       (Release 6)		
Reason for change	<ul> <li>B Pathloss measurement reports are not required i and T1-040840 are already changed the pathloss Control Messages. But, T1-041204 modified with control messages.</li> </ul>	n tests. In addition, T1-040827 s to be false in Measurement n misalign values in Measurement		
Summary of chang	e: 🔀 The pathloss in the measurement control messag The pathloss in the measurement report messag In addition, measurement report messages in An	ges are changed to False le is changed to absent. Inex I are corrected		
Consequences if not approved:	) 迷して Will not be tested properly.			
Clauses affected: Other specs affected:	#       8.3.2,8.7.1.2.1,8.7.2.1.1,8.7.2.2.2,8.7.3.1,8.7.4.1         #       X         Other core specifications       #         X       Test specifications         X       0&M Specifications	,8.7.4.2,Annex I		
Other comments:	H         This CR applies for Rel-99 and later releases.			

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 FDD/FDD Hard Handover

### 8.3.2.1 FDD/FDD Hard Handover to intra-frequency cell

#### 8.3.2.1.1 Definition and applicability

The hard handover delay of the UE is defined as the time from the end of the last TTI containing an RRC message implying hard handover to the transmission of the new uplink DPCCH.

The requirements and this test apply to the FDD UE.

#### 8.3.2.1.2 Minimum requirement

The interruption time shall be less than 110 ms in CELL\_DCH state in the single carrier case. The rate of correct handovers observed during repeated tests shall be at least 90% with a confidence level of 95 %.

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:

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

If intra-frequency hard handover is commanded or inter-frequency hard handover is commanded when the UE does not need compressed mode to perform inter-frequency measurements, the interruption time shall be less than T<sub>interrupt1</sub>

#### $T_{interrupt1} = T_{IU} + 40 + 20 * KC + 150 * OC + 10 * F_{max} ms$

where

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

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

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

 $F_{max}$  denotes the maximum number of radio frames within the transmission time intervals of all transport channels that are multiplexed into the same CCTrCH.

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

In the interruption requirement T<sub>interrupt1</sub> 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.

The normative reference for this requirement is TS 25.133 [2] clauses 5.2.2 and A.5.2.1.

#### 8.3.2.1.3 Test purpose

To verify that the UE meets the minimum requirement.

#### 8.3.2.1.4 Method of test

8.3.2.1.4.1 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 parameters are given in tables 8.3.2.1.1 to 8.3.2.1.3 below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A and 1B shall be used, and that CPICH Ec/Io and SFN-CFN observed timed difference shall be reported together with Event 1A. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a PHYSICAL CHANNEL RECONFIGURATION with activation time "now" 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].

N312 shall have the smallest possible value i.e. only one insync is required.

Dara	motor	l lmi4	Value	Commont
Para	neter	Unit	value	Comment
DCH paramete	ers		DL and UL Reference	As specified in clause C.3.1 and C.2.1
			Measurement Channel 12.2 kbps	
Power Control			On	
Target quality DTCH	value on	BLER	0.01	
Initial	Active cell		Cell 1	
conditions	Neighbourin g cell		Cell 2	
Final	Active cell		Cell 2	
condition				
Reporting rang	ge	dB	3	Applicable for event 1A and 1B
Hysteresis		dB	0	
W			1	Applicable for event 1A and 1B
Reporting dea threshold	ctivation		0	Applicable for event 1A
Time to Trigge	r	ms	0	
Filter coefficier	nt		0	
T1		S	5	
T2		S	5	
T3		s	5	

 Table 8.3.2.1.1: General test parameters for Handover to intra-frequency cell

Table 8.3.2.1.2: Cell specific test	parameters for Handover to	intra-frequency cell
-------------------------------------	----------------------------	----------------------

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	Note1	Note1	Note3	N/A	N/A	Note1
OCNS_Ec/lor	dB	Note2	Note2	Note2	-0.941	-0.941	Note2
$\dot{P}_{or}/I_{oc}$	dB	0 6.97		-Infinity	5.97		
CF (Note 4)	dBm	-70.00	-63.03		-Infinity	-64.03	
I <sub>oc</sub>	dBm/ 3.84 MHz	-70					
CPICH_Ec/lo	dB	-13		-Infinity	-14		
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 <sub>or</sub>							
Note 3: The DPCH may not be power controlled by the power control loop.							
Note 4: The nominal Obra values, although not explicitly defined in 25.133 are added here since they are implied and							
need to be identified so that the test equipment can be configured.							

#### 8.3.2.1.4.2 Procedure

- 1) The RF parameters are set up according to T1 in table 8.3.2.1.3.
- 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) SS shall transmit a MEASUREMENT CONTROL message.
- 5) 5 seconds after step 4 has completed, the SS shall switch the power settings from T1 to T2 in table 8.3.2.1.3.
- 6) UE shall transmit a MEASUREMENT REPORT message triggered by event 1A
- 7) SS shall transmit a PHYSICAL CHANNEL RECONFIGURATION message with activation time set to "now". SS shall transmit the whole message such that it will be available at the UE no later than a period equals to the RRC procedure delay (= 80 ms) prior to the beginning of T3.
- 8) After 5 seconds from the beginning of time period T2, the SS shall switch the power settings from T2 to T3 in table 8.3.2.1.3.
- 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 110 ms from the beginning of time period T3 then the number of successful tests is increased by one.
- 10) After 5 seconds from the beginning of time period T3, the UE is switched off. Any timing information of cell 2 is deleted in the UE.
- 11)Repeat step 1-10 until the confidence level according to annex F.6.2 is achieved

#### 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:

Information Element/Group name	Value/Remark
Message Type (10.2.17)	
UE information elements	
-RRC transaction identifier	0
-Integrity check info	
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IE. The first/
	leftmost bit of the bit string contains the
	most significant bit of the MAC-I.
-RRC message sequence number	SS provides the value of this IE, from its
	internal counter.
Measurement Information elements	
Measurement Germand (10.2.7.46)	l Madifi
Measurement Reporting Mode (10.3.7.40)	Modify
-Measurement Report Transfer Mode	AMBLC
-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)	Initia noquonoy modoaromoni
-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)	
-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	
-Pathloss reporting indicator	FALSE
-Reporting quantities for monitored set cells (10.3.7.5)	
-Cell synchronisation information reporting indicator	
-Cell Identity reporting indicator	
-CRICH Ec/NO reporting indicator	
-CPICH BSCP reporting indicator	TRUE
-Pathloss reporting indicator	FALSE
-Beporting quantities for detected set cells (10.3.7.5)	Not Present
-Reporting cell status (10.3.7.61)	Not Present
-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	3 dB
-Cells forbidden to affect Reporting Range	Not Present
-VV	
-Hysteresis Threshold used frequency	U GB Not Present
Poperting deactivation threshold	
-Replacement activation threshold	0 Not Present
-Time to triager	0 ms
-Amount of reporting	Infinity
-Reporting interval	0 ms (Note 2)
-Reporting cell status	-Report cells within active set and/or
	monitored set cells on used frequency
-Maximum number of reported cells	2
-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
-W	1.0
-Hysteresis	0 dB
-Threshold used frequency	Not Present

Information Element/Group name	Value/Remark				
-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					
-Report cells within active set and/or monitored set cells					
on used frequency					
-Maximum number of reported cells	2				
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 report	te 2: Reporting interval = 0 ms means no periodical reporting				

# PHYSICAL CHANNEL RECONFIGURATION message (step 7):

Information Element	Value/Remark
	Value/Remark
IIE Information Elements	
-BBC transaction identifier	0
-Integrity check info	
-message authentication code	SS calculates the value of MAC-I for this
moodage admonitoration oodo	message and writes to this IF. The first/
	leftmost bit of the bit string contains the
	most significant bit of the MAC-I.
-RRC message sequence number	SS provides the value of this IE. from its
ů i	internal counter.
-Integrity protection mode info	Not Present
-Ciphering mode info	Not Present
-Activation time	"now"
-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	Net Dresset
-UHA IDENTITY	
Development of the second seco	Not Procent
PhyCH information elements	
-Frequency info (10.3.6.36)	
-CHOICE mode	FDD
	Same unlink LIABECN as used for cell 2
-UABECN downlink(Nd)	Same downlink UABECN 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	64
	IRUE
-Number of FBI bit	Not Present(0)
-Puncturing Limit	1
-CHOICE mode	FDD
-Downlink PDSCH information	Not Present
-Downlink information common for all radio links (10.3.6.24)	
-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>	0
-DL rate matching restriction information	Not Present
-Spreading factor	128
-Fixed or Flexible Position	Fixed
-TFCI existence	TRUE
-CHOICE SF	128
-Number of bits for Pilot bits(SF=128,256)	8
-CHUICE mode	FUU Net Present
-DPGH compressed mode into (10.3.6.33)	Not Present
- 1 A Diversity (1000 (10.3.0.80)	Not Present
	v

Information Element	Value/Remark
-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
-Primary CPICH usage for channel estimation	Primary CPICH may be used
-DPCH frame offset	0 chips
-Secondary CPICH info	Not Present
-DL channelisation code	
-Secondary scrambling code	Not Present
-Spreading factor	128
-Code number	96
-Scrambling code change	No change
-TPC combination index	0
- SSDT Cell Identity	Not Present
<ul> <li>Closed loop timing adjustment mode</li> </ul>	Not Present
- SCCPCH information for FACH (10.3.6.70)	Not Present

MEASUREMENT REPORT message for Intra frequency test cases

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Measurement identity	1
Measured Results	
<ul> <li>Intra-frequency measured results list</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 present
<ul> <li>Cell synchronisation information</li> </ul>	
- Tm	Checked that this IE is present
- OFF	Checked that this IE is present
- CHOICE mode	FDD
- Primary CPICH info	Checked that this IE is present
- Primary scrambling code	100
- CPICH Ec/N0	Checked that this IE is present
- CPICH RSCP	Checked that this IE is present
- Cell measured results	
- Cell Identity	Not present
- Cell synchronisation information	
- Tm	Checked that this IE is present
- OFF	Checked that this IE is present
- CHOICE mode	FDD
- Primary CPICH info	Checked that this IE is present
- Primary scrambling code	150
- CPICH Ec/N0	Checked that this IE is present
- CPICH RSCP	Checked that this IE is present
- Pathloss	Checked that this IE is <u>absentpresent</u>
Measured results on RACH	Checked that this IE is absent
Additional measured results	Checked that this IE is absent
Event results	Checked that this IE is present

# 8.3.2.1.5 Test requirements

For the test to pass, the total number of successful tests shall be more than 90% of the cases with a confidence level of 95 %.

Parameter	Unit	Cell 1			Cell 2		
		T1	T2	T3	T1	T2	Т3
CPICH_Ec/lor	dB		-9.3		-9.3		
PCCPCH_Ec/lor	dB		-11.3		-11.3		
SCH_Ec/lor	dB		-11.3		-11.3		
PICH_Ec/lor	dB		-14.3		-14.3		
DPCH_Ec/lor	dB	Note1	Note1	Note3	N/A	N/A	Note1
OCNS Ec/lor	dB	Note2	Note2	Note2	-1.13	-1.13	Note2
$\hat{P}_{or}/I_{oc}$ (Note 4)	dB	0 7.0		-Infinity	6.0		
Œ,	dBm	-70.0	-60	3.0	-Infinity	-64.0	
I <sub>oc</sub>	dBm/ 3.84 MHz	-70					
CPICH_Ec/lo (Note 4)	dB	-12.3 -Infinity -13.3			3.3		
Propagation Condition		AWGN					
Note 1:The DPCH level is controlled by the power control loopNote 2:The power of the OCNS channel that is added shall make the total power from the cell to be equal to I <sub>or</sub> .Note 3:The DPCH may not be power controlled by the power control loop.							

#### Table 8.3.2.1.3: Test requirements for Handover to intra-frequency cell

Note 4: These parameters are not directly settable, but are derived by calculation from the settable parameters.

# 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 interruption time shall be less than 140 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 95 %.

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  $T_{interrupt2}$ 

 $T_{interrupt2} = T_{IU} + 40 + 50 * KC + 150 * OC + 10 * F_{max} ms$ 

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.

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.

# 8.3.2.2.3 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 tables 8.3.2.2.1 to 8.3.2.2.3 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 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 "now" 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].

N312 shall have the smallest possible value i.e. only one insync is required.

Para	meter	Unit	Value	Comment
DCH param	eters		DL and UL Reference Measurement Channel 12.2	As specified in clause C.3.1 and C.2.1
Power Contr	rol		On	
Target qualit DTCH	ty value on	BLER	0.01	
Compressed	d 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 conditions	Active cell		Cell 2	
Threshold no frequency	on used	dB	-18	Absolute Ec/I0 threshold for event 2C
Hysteresis		dB	0	
W non-used	frequency		1	Applicable for event 2C
Time to Trig	ger	ms	0	
Filter coeffic	ient		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	Т3	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_Ec/lor	dB	Note2	Note2	Note2	-0.941	-0.941	Note2	
$\dot{P}_{or}/I_{oc}$	dB	0		-Infinity	-1.8	-1.8		
$Q_{r(Note 4)}$	dBm	-70.0		-Infinity	-71.8	-71.8		
Iac	dBm/	-70						
00	3.84							
	MHz							
CPICH_Ec/lo	dB	-13 -Infinity -14			4			
Propagation		AWGN						
Condition								
Note 1: The DPC	: The DPCH level is controlled by the power control loop							
Note 2: The powe	er of the C	e OCNS channel that is added shall make the total power from the cell to be equal to $I_{\mathrm{or}}$						
Note 3: The DPC	H may no	may not be power controlled by the power control loop.						
Note 4: The nomi	inal Obr va	alues, although not explicitly defined in 25.133 are added here since they are implied and						
need to b	e identifie	ied so that the test equipment can be configured.						

#### 8.3.2.2.4.2 Procedure

- 1) The RF parameters are set up according to T1 in table 8.3.2.2.3.
- 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 messages.
- 5) 5 seconds after step 4 has completed, the SS shall switch the power settings from T1 to T2 in table 8.3.2.2.3.
- 6) UE shall transmit a MEASUREMENT REPORT message triggered by event 2C
- 7) SS shall transmit a PHYSICAL CHANNEL RECONFIGURATION message with activation time "now". SS shall transmit the whole message such that will be is available at the UE no later than a period equals to the RRC procedure delay (= 80 ms) prior to the beginning of T3.
- 8) After 10 seconds from the beginning of time period T2, the SS shall switch the power settings from T2 to T3 in table 8.3.2.2.3.
- 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 140 ms from the beginning of time period T3 then the number of successful tests is increased by one.
- 10) After 5 seconds from the beginning of time period T3, the UE is switched off. Any timing information of cell 2 is deleted in the UE.
- 11)Repeat step 1-10 until the confidence level according to annex F.6.2 is achieved

#### 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], with the following exceptions:

Information Element/Group name	Value/Remark
Message Type (10.2.17)	
UF information elements	
-BBC transaction identifier	0
	0
meaning check into	SS calculates the value of MAC I for this
-message aumentication code	55 calculates the value of MAC-1 for this
	message and writes to this IE. The first/
	leftmost bit of the bit string contains the
	most significant bit of the MAC-I.
-RRC message sequence number	SS provides the value of this IE, from its
	internal counter.
Measurement Information elements	
-Measurement Identity	2
-Measurement Command (10.3.7.46)	Setup
-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
	Inter-frequency measurement
-Inter-frequency measurement (10.3.7.16)	inter inequency inequencing
Inter frequency measurement objects list (10.3.7.13)	
CHOICE Inter frequency cell removal	Not Procent
- CHOICE Inter-inequency cell removal	Not Flesent
- New Inter frequency cells	0
- Inter frequency cell lu	
- Frequency Into	
	FDD
- UARFCN uplink(Nu)	Not Present
- UARFCN downlink(Nd)	Same frequency as "Channel2" in Table
	8.3.2.2.2
- Cell info	
- Cell individual offset	Not Present
<ul> <li>Reference time difference to cell</li> </ul>	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to Primary scrambling code of Cell2
- Primary CPICH Tx Power	Set to Primary CPICH Tx Power of Cell2
	described in Table 8.3.2.2.2
- Tx Diversity Indicator	FAI SE
- Cell for measurement	Not Present
-Inter-frequency measurement quantity (10.3.7.18)	Nothiosofit
-CHOICE reporting criteria	Inter-frequency reporting criteria
Inter frequency reporting criteria	Inter-frequency reporting citteria
Filter coefficient	0
-Measurement quantity for frequency quality estimate	
-Inter-frequency reporting quantity (10.3.7.21)	
-UTRA Carrier RSSI	FALSE
-Frequency quality estimate	FALSE
-ivon frequency related cell reporting quantities (10.3.7.5)	
-Cell synchronisation information reporting indicator	
-Cell Identity reporting indicator	TRUE
-CHOICE mode	FDD
-CPICH Ec/N0 reporting indicator	TRUE
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	FALSE
-Reporting cell status (10.3.7.61)	Not Present
-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 (10.3.7.10)	
-Parameters required for each event	1
Inter-frequency event identity (10.2.7.14)	Event 2C
-Inter-frequency event identity (10.0.7.14)	Not Present
W used frequency	Not Procent
-nysteresis	
- I Ime to trigger	u ms
-Reporting cell status (10.3.7.61)	
-CHOICE reported cell	Report cells within monitored set on non-

Information Element/Group name	Value/Remark
	used frequency
-Maximum number of reported cells per reported non-used	1
frequency	
-Parameters required for each non-used frequency	1
-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

# PHYSICAL CHANNEL RECONFIGURATION message (step 7):

Information Flement	Value/Remark
Message Type	Value/Keinark
UE Information Elements	
-BRC transaction identifier	0
-Integrity check info	
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IE. The first/
	leftmost bit of the bit string contains the
	most significant bit of the MAC-I.
-RRC message sequence number	SS provides the value of this IE, from its
	internal counter.
-Integrity protection mode info	Not Present
-Ciphering mode info	Not Present
	"Now"
	Not Present
-New C-RIVIT	
-ITRAN DBX 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	Not Present
PhyCH information elements	
-Frequency info (10.3.6.36)	
-CHOICE mode	FDD
	Same uplink UARFCN as used for cell 2
-UARFON downlink(Nd)	Same downlink UARFON as used for cell 2
Maximum allowed LIL TX nower	22 dBm
-CHOICE channel requirement	Unlink DPCH info
-Unlink 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	
-Scrampling code number	0 (0 to 16/7/215)
-Number of DPDCH Spreading factor	Not Present(1)
TECL evistence	
-Number of FBI bit	Not Present(0)
-Puncturing Limit	1
Downlink radio resources	
-CHOICE mode	FDD
-Downlink PDSCH information	Not Present
-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 trame offset	Not Present
-Downlink DPCH power control information (10.3.6.23)	0 (cincle)
	u (single)
-DV rate matching restriction information	v Not Present
-Spreading factor	128
-Fixed or Elexible Position	Fixed
-TFCI existence	TRUE
-CHOICE SF	128
-Number of bits for Pilot bits(SF=128,256)	8
-CHOICE mode	FDD
-DPCH compressed mode info (10.3.6.33)	
- Transmission gap pattern sequence	1

Information Element	Value/Remark
- TGPSI	1
- TGPS Status Flag	deactivate
- TGCFN	Not Present
- Transmission gap pattern sequence configuration	Not Present
parameters	
-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
-Primary CPICH usage for channel estimation	Primary CPICH may be used
-DPCH frame offset	0 chips
-Secondary CPICH info	Not Present
-DL channelisation code	
-Secondary scrambling code	Not Present
-Spreading factor	128
-Code number	96
-Scrambling code change	No change
-TPC combination index	0
- SSDT Cell Identity	Not Present
<ul> <li>Closed loop timing adjustment mode</li> </ul>	Not Present
- SCCPCH information for FACH (10.3.6.70)	Not Present

# MEASUREMENT REPORT message for Inter frequency test cases

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Measurement identity	1
Measured Results	
<ul> <li>Inter-frequency measured results</li> </ul>	
- Frequency Info	Checked that this IE is present
<ul> <li>Inter-freqcell measured results list</li> </ul>	
- Cell measured results	
- Cell Identity	Not present
- Cell synchronisation information	
- Im	Checked that this IE is present
- OFF	Checked that this IE is present
- CHOICE mode	FDD Checked that this IF is present
- Primary CPICH Into	Checked that this IE is present
	Checked that this IE is present
	Checked that this IE is present
	Checked that this IE is abcontarcont
Measured results on BACH	Checked that this IF is absent
Additional measured results	Checked that this IE is absent
Event results	Checked that this IE is present

# 8.3.2.2.5 Test requirements

For the test to pass, the total number of successful tests shall be more than 90% of the cases with a confidence level of 95%.

Parameter	Unit	Cell 1			Cell 2		
		T1	T2	T3	T1	T2	T3
UTRA RF Channel			Channel 1		Channel 2		
Number							
CPICH Ec/lor	dB		-9.2			-9.2	
PCCPCH Ec/lor	dB		-11.2			-11.2	
SCH Ec/lor	dB		-11.2			-11.2	
PICH Ec/lor	dB		-14.2			-14.2	
DPCH Ec/lor	dB	Note1	Note1	Note3	N/A	N/A	Note1
OCNS Ec/lor	dB	Note2	Note2	Note2	-1.16	-1.16	Note2
$\dot{P}_{or}/I_{oc}$ (Note 4)	dB		0			-1.8	-1.8
₫Ę,	dBm		-70.0		-Infinity	-71.8	-71.8
I <sub>oc</sub>	dBm/ 3.84 MHz	-70					
CPICH_Ec/lo	dB		-12.2		-Infinity	-13	3.2
(Note 4)							
Propagation				AV	VGN		
Condition							
Note 1: The DPC	H level is	controlled by the	he power contro	l loop			
Note 2: The powe	er of the C	CNS channel	that is added sh	all make the tot	al power from th	ne cell to be equ	al to I <sub>or.</sub>
Note 3: The DPC	H may no	t be power con	trolled by the po	ower control loo	р.		
Note 4: These pa	rameters	are not directly	settable, but ar	e derived by ca	lculation from th	ne settable parar	neters.

#### Table 8.3.2.2.3: Test requirements for Handover to inter-frequency cell

# {Unchanged Sections are clipped here}

# 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 $|_{dBm} \ge -114 \text{ dBm}$  for Band I.
- CPICH\_RSCP1 $|_{dBm} \ge -112 \text{ dBm}$  for Band II,
- CPICH\_RSCP1 $|_{dBm} \ge -111$ dBm for Band III.

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.

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

		Accura	cy [dB]		Conditions	
Parameter	Unit	Normal Extreme		lo [dBm/3.84 MHz]		
		condition	condition	Band I	Band II	Band III
CPICH_RSCP	dBm	±6	±9	-9470	-9270	-9170
	dBm	±8	±11	-7050	-7050	-7050

 Table 8.7.1.1.1.1: CPICH\_RSCP Intra frequency absolute accuracy

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	Tes	st 1	Tes	st 2	Tes	st 3
		Onic	Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2
UTRA RF Char	nel number		Chan	inel 1	Channel 1		Channel 1	
CPICH Ec/lor		dB	-1	0	-1	0	-1	0
PCCPCH Ec/lo	or	dB	-1	2	-1	2	-1	2
SCH Ec/lor		dB	-1	2	-1	2	-1	2
PICH Ec/lor		dB	-1	5	-1	5	-1	5
DPCH_Ec/lor		dB	-15	-	-15	-	-15	-
OCNS_Ec/lor		dB	-1.11	-0.94	-1.11	-0.94	-1.11	-0.94
	Band I		-75.54		-59.98		-97.47	
loc	Band II	dBm/ 3.84 MHz					-95.47	
	Band III						-94.47	
OEr/loc		dB	4	0	9	0	0	-6.53
	Band I						-107.47	-114.0
BSCP Note 1	Band II	dBm	-81.5	-85.5	-60.98	-69.88	-105.47	-112.0
	Band III						-104.47	-111.0
	Band I						-9	94
lo, Note 1	Band II	dBm/3.84 MHz	-6	69	-5	50	-9	92
Band III							-91	
Propagation co	ndition	-	AW	GN	AW	'GN	AW	GN
NOTE 1: CPIC	CH RSCP and lo	evels have been calc	ulated fron	n other par	ameters fo	or informati	on purpose	es. They
are r	not settable paran	neters themselves.						
Tests shall be c	lone sequentially.	Test 1 shall be done	first. After	test 1 has	been exec	cuted test r	parameters	for tests

#### Table 8.7.1.1.1.2: CPICH RSCP Intra frequency 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.

#### 8.7.1.1.1.4.2 Procedure

- 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 8.7.1.1.1.4.
- 2) SS shall transmit MEASUREMENT CONTROL message.

- 3) UE shall transmit periodically MEASUREMENT REPORT messages.
- SS shall check CPICH\_RSCP value in MEASUREMENT REPORT messages. CPICH RSCP power of Cell 1 r and Cell 2 eported by UE is compared to actual CPICH RSCP power for each MEASUREMENT REPORT message.
- 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 8.7.1.1.1.4 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. Then, step 4) above is repeated. After further 1000 MEASUREMENT REPORT messages have been received from UE, the RF parameters are set up according to table 8.7.1.1.1.4 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. Then, step 4) above is 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], with the following exceptions:

Information Element	Value/Remark
Message Type	
UE information elements	
-RRC transaction identifier	0
-Integrity check info	
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IE. The first/
	leftmost bit of the bit string contains the most
	significant bit of the MAC-I.
-RRC message sequence number	SS provides the value of this IE, from its
Measurement Information elements	
-Measurement Identity	5
-Measurement Command	SETUP
-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
-Intra-frequency measurement	
<ul> <li>Intra-frequency measurement objects list</li> </ul>	Not Present
-Intra-frequency measurement quantity	
-Filter coefficient	0
-CHOICE mode	
-Measurement quantity	CPICH RSCP
-Intra-frequency reporting quantity	
-Reporting quantities for active set cells	
-Cell Synchronisation mornation reporting	TRUE
-Cell Identity reporting indicator	TRUE
-CHOICE mode	FDD
-CPICH Ec/N0 reporting indicator	TBUE
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	FALSE
-Reporting quantities for monitored set cells	
-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	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
-ivieasurement validity	NOT Present
	Periodical reporting criteria
-Amount of reporting	
-neporting interval	200 IIIS
Physical channel information elements	Not Drocont
-DPOR compressed mode status into	NOLPTESENT

# 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

# Table 8.7.1.1.1.3: CPICH\_RSCP Intra frequency absolute accuracy, test requirement

		Accura	cy [dB]		Conditions	
Parameter	Unit	Unit Normal Extr		lo [dBm/3.84 MHz]		
		condition	condition	Band I	Band II	Band III
	dBm	±7.4	±10.4	-9470	-9270	-9170
	dBm	±9.4	±12.4	-7050	-7050	-7050

Table 8.7.1.1.1.4: CI	PICH RSCP Intra	frequency tes	st parameters
		inequency tes	n parameters

Parameter		Unit	Te	st 1	Te	st 2	Test 3	
		Unit	Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2
UTRA RF Char	nnel number		Char	nnel 1	Char	nel 1	Channel 1	
CPICH_Ec/lor		dB		10	-1	0	-1	0
PCCPCH Ec/lo	or	dB	- *	12	-1	2	-1	2
SCH_Ec/lor		dB	- *	12	-1	2	-1	2
PICH Ec/lor		dB	-	15	-1	5	-1	5
DPCH_Ec/lor		dB	-15	-	-15	-	-15	-
OCNS_Ec/lor		dB	-1.11	-0.94	-1.11	-0.94	-1.11	-0.94
	Band I						-96.47	
loc	Band II	dBm/ 3.84 MHz	-74.54		-61,6		-94.47	
	Band III						-93.47	
Ober/loc	Ober/loc		4.3	0.3	9.3	0.3	0.3	-6.23
	Band I						-106.17	-112.7
BSCP Note 1	Band II	dBm	-80.2	-84.2	-62.3	-71.3	-104.17	-110.7
	Band III						-103.17	-109.7
	Band I						-92	2,8
lo, Note 1	Band II	dBm / 3.84 MHz	-6	7.8	-51,4		-90	).8
	Band III						-89	9.8
Propagation co	Propagation condition - AWGN AWGN AWGN				GN			
NOTE 1: CPIC	CH RSCP and lo	levels have been calc	ulated fror	n other par	ameters fo	or informat	ion purpose	əs. They
are r	not settable parar	neters themselves.						
Tests shall be o	done sequentially	. Test 1 shall be done	first. After	test 1 has	been exec	uted test	parameters	for tests
2 and 3 shall be	e set within 5 sec	onds so that UE does	not loose	the Cell 2 i	n between	the tests.		

The reported values for the absolut intra frequency CPICH RSCP measurement shall meet the requirements in table 8.7.1.1.1.5.

Table 8.7.1.1.1.5: CPICH_RSCP Intra frequency absolute accuracy requirements for the reported
values

	Test 1	Test 2	Test 3 (Band I)	Test 3 (Band II)	Test 3 (Band III)
Normal Conditions					
Lowest reported	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_
value (Cell 1)	26	44	2	4	5
Highest reported	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_
value (Cell 1)	45	63	17	19	20
Lowest reported	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_
value (Cell 2)	22	35	0	0	0
Highest reported	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_
value (Cell 2)	41	54	10	12	13
Extreme Conditions					
Lowest reported	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_
value (Cell 1)	23	41	0	1	2
Highest reported	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_
value (Cell 1)	48	66	20	22	23
Lowest reported	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_
value (Cell 2)	19	32	0	0	0
Highest reported	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_
value (Cell 2)	44	57	13	15	16

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 $|_{dBm} \ge -114 \text{ dBm}$  for Band I,.
- CPICH\_RSCP1,2 $|_{dBm} \ge -112 \text{ dBm}$  for Band II,
- CPICH\_RSCP1,2 $|_{dBm} \ge -111 \text{ dBm}$  for Band III.

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

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

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

		Accura	cy [dB]		Conditions	
Parameter	Unit	Normal	Extreme	lo [dBm/3.84 MHz]		
	condition	condition	condition	Band I	Band II	Band III
CPICH_RSCP	dBm	±3	±3	-9450	-9250	-9150

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.

# 8.7.1.1.2.4.2 Procedure

- 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 8.7.1.1.2.3.
- 2) SS shall transmit MEASUREMENT CONTROL message.
- 3) UE shall transmit periodically MEASUREMENT REPORT messages.
- 4) 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.

- 5) The result of step 3) is compared to actual power level difference of CPICH RSCP of Cell 1 and Cell 2.
- 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 8.7.1.1.2.3 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 4) and 5) above are repeated. After further 1000 MEASUREMENT REPORT messages have been received from UE, the RF parameters are set up according to table 8.7.1.1.2.3 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 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], 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

### Table 8.7.1.1.2.2: CPICH\_RSCP Intra frequency relative accuracy, test requirements

		Accura	cy [dB]	Conditions			
Parameter	Unit	Normal	Extreme	lo [dBm/3.84 MHz]		z]	
		condition	condition	Band I	Band II	Band III	
CPICH_RSCP	dBm	±3.8	±3.8	-9450	-9250	-9150	

Dava	matar.	l l m it	Tes	st 1	Te	st 2	Test 3	
Para	meter	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	-1	10	-10		-10	
PCCPCH_Ec/lo	or	dB	-1	2	-1	12	-1	2
SCH_Ec/lor		dB	-1	2	-1	12	-1	2
PICH_Ec/lor		dB	-1	15	-1	15	-1	5
DPCH_Ec/lor		dB	-15	-	-15	-	-15	-
OCNS_Ec/lor		dB	-1.11	-0.94	-1.11	-0.94	-1.11	-0.94
	Band I		-74.54		-61,6		-96.47	
loc	Band II	dBm/ 3.84 MHz					-94.47	
	Band III						-93.47	
OEr/loc		dB	4.3	0.3	9.3	0.3	0.3	-6.23
	Band I						-106.17	-112.7
BSCP Note 1	Band II	dBm	-80.2	-84.2	-62.3	-71.3	-104.17	-110.7
	Band III						-103.17	-109.7
	Band I						-92	2,8
lo, Note 1	Band II	dBm/ 3.84 MHz	-67.8		-51,4		-90.8	
	Band III						-89.8	
Propagation condition -		-	AWGN		AWGN		AW	'GN
NOTE 1: CPIC	CH RSCP and lo	levels have been calc	ulated fron	n other par	ameters fo	or informati	ion purpose	es. They
are r	not settable parar	meters themselves.						
Tests shall be o	done sequentially	. Test 1 shall be done	first. After	test 1 has	been exec	cuted test p	parameters	for tests
2 and 3 shall be	2 and 3 shall be set within 5 seconds so that LIE does not loose the Cell 2 in between the tests							

# Table 8.7.1.1.2.3: CPICH RSCP Intra frequency test parameters

The reported values for the relative intra frequency CPICH RSCP measurement shall meet the requirements in table 8.7.1.1.2.4.

# Table 8.7.1.1.2.4: CPICH\_RSCP Intra frequency relative accuracy requirements for the reported values

	Test 1	Test 2	Test 3				
Normal Conditions							
Lowest reported value cell 2	CPICH_RSCP_(x - 8)	CPICH_RSCP_(x - 13)	CPICH_RSCP_(x - 11)				
Highest reported value cell 2	CPICH_RSCP_x	CPICH_RSCP_(x - 5)	CPICH_RSCP_(x - 3)				
Extreme Conditions							
Lowest reported value cell2	CPICH_RSCP_(x - 8)	CPICH_RSCP_(x - 13)	CPICH_RSCP_(x - 11)				
Highest reported value cell2	CPICH_RSCP_x	CPICH_RSCP_(x - 5)	CPICH_RSCP_(x - 3)				
CPICH_RSCP_x is the reported	CPICH RSCP x is the reported value of 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.

# 8.7.1.2 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 $|_{dBm} \ge -114 \text{ dBm}$  for Band I.
- CPICH\_RSCP1,2 $|_{dBm} \ge -112 \text{ dBm for Band II}$ ,

- CPICH\_RSCP1,2 $|_{dBm} \ge -111$  dBm for Band III.

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

- | Channel 1\_Io|<sub>dBm/3.84 MHz</sub> -Channel 2\_Io|<sub>dBm/3.84 MHz</sub> |  $\leq$  20 dB.

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

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

		Accuracy [dB]		Conditions			
Parameter	arameter Unit Normal		Extreme	lo [dBm/3.84 MHz]			
		condition	condition	Band I	Band II	Band III	
CPICH_RSCP	dBm	±6	±6	-9450	-9250	-9150	

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 except for TGRRC and TGCFN. TGPRC and TGCFN shall set to "Infinity" and "(Current CFN +  $(256 \ n\ TTI/10msec))$ mod 256". CPICH RSCP inter frequency relative accuracy requirements are tested by using test parameters in table 8.7.1.2.1.2.

Daram	otor	Unit	Tes	st 1	Test 2	
		Onic	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	-1	0
PCCPCH Ec/loi	•	dB	-1	2	-1	2
SCH Ec/lor		dB	-1	2	-1	2
PICH Ec/lor		dB	-1	5	-1	5
DPCH Ec/lor		dB	-15	-	-15	-
OCNS Ec/lor		dB	-1.11	-0.94	-1.11	-0.94
loc	Band I	dBm/ 3.84 MHz	-60.00	-60.00	-84.00	-94.46
	Band II				-82.00	-92.46
	Band III				-81.00	-91.46
Ober/loc		dB	9.54	9.54	0	-9.54
	Band I		-60.46		-94.0	-114.0
Noto 1	Band II	dBm		-60.46	-92.0	-112.0
NOLE I	Band III				-91.0	-111.0
	Band I	dPm/2.94		-50.00	-81.0	-94.0
lo, Note 1	Band II	udiii/3.64 MU-	-50.00		-79.0	-92.0
	Band III	IVITIZ			-78.0	-91.0
Propagation condition -			AW	GN	AWGN	
NOTE 1: CPIC	H RSCP and lo	o levels have bee	en calculated fro	m other parame	ters for informa	tion
purpo	ses. They are	not settable para	ameters themsel	ves.		
Tests shall be do	one sequential	ly. Test 1 shall b	e done first. Afte	er test 1 has bee	n 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.						

# Table 8.7.1.2.1.2: CPICH RSCP Inter frequency parameters

#### 8.7.1.2.1.4.2 Procedure

- 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 8.7.1.2.1.4.
- 2) SS shall transmit PHYSICAL CHANNEL RECONFIGURATION message.
- 3) UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message.
- 4) SS shall transmit MEASUREMENT CONTROL message for intra frequency measurement and transmit MEASUREMENT CONTROL message for inter frequency measurement.
- 5) UE shall transmit periodically MEASUREMENT REPORT messages.
- 6) 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.
- 7) The result of step 5) is compared to actual power level difference of CPICH RSCP of Cell 1 and Cell 2.
- 8) 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 8.7.1.2.1.4 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. Then, steps 6) and 7) above are repeated.
- 9) After further 1000 MEASUREMENT REPORT messages have been received from UE, the SS shall transmit RRC CONNECTION RELEASE message.
- 10) 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], with the following exceptions:

Message Type         Undertermink           UE Information Elements         FRAC transaction identifier         0           -Integrity check info         0           -message authentication code         SS calculates the value of MAC-I for this message and writes to this IE. The first/ leftmost bit of the bits tring contains the most significant bit of the MAC-I.           -RRC message sequence number         SS provides the value of this IE, from its internal counter.           -Integrity protection mode info         Not Present           -Cohering mode info         Not Present           -New C-RNTI         Not Present           -New C-RNT         Not Present           -New C-RNT         Not Present           -UTRAN DRX cycle length coefficient         Not Present           CN Information elements         -Omentix counter synchronisation info           OW Inkr radio resources         Not Present           -CHOICE channel requirement         Not Present           -Downlink information elements         -FDD           -Downlink information on for all radio links         -FDD           -Downlink information programmeters         -TGAPR           -TGAPR         -TGAPR           -TGAPR         -TGAPR           -TGAPR         -TGAPR           -TGAPR         -TGAPR	Information Element	Value/Remark
Internation Elements         0           -RRC transaction identifier         0           -Integrity check info         0           -ressage authentication code         SS calculates the value of MAC-1 for this message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-1.           -RRC message sequence number         SS provides the value of MAC-1 for this message and writes to this IE. from its internal counter.           -Integrity protection mode info         Not Present           -Colleving mode info         Not Present           -Activation time         Not Present           -New U-RNTI         Not Present           -Wer U-RNA DPX cycle length coefficient         Not Present           -CN Information elements         Not Present           -UTRAN mobility information elements         Not Present           -Downlink rober resources         Not Present           -PhyCH information elements         Not Present           -Downlink information elements         Not Present           -Ownlink rober resources         Not Present           -PhyCH information end on for all radio links         Not Present           -Ownlink information comon for all radio links         Not Present           -Ownlink information aparaters         FDD           -Tasmmission gap pattern sequence	Message Type	Value/Kemark
UE Information Elements       0         -Integrity check info       0         -message authentication code       SS calculates the value of MAC-I for this message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-1.         -RRC message sequence number       SS provides the value of this IE. The first/ leftmost bit of the value of this IE. from its internal counter.         -Integrity protection mode info       Not Present         -Ciphering mode info       Not Present         -New C-RNT       Not Present         -New C-RNT       Not Present         -New C-RNT       Not Present         -UTRAN DRX cycle length coefficient       Not Present         -UTRAN mobility information elements       Not Present         -UTRAN mobility information elements       Not Present         -Dawnlink counter synchronisation info       Not Present         -Diplick radio resources       FDD         -CHOICE mode       FDD         -Downlink radio resources       FDD         -TGPS Status Flag       1         -TGPS Status Flag       1         -TGPS CrapPic       FDD measurement         -TGPS CrapPic       Not Present         -TGPS CrapPic       Not Present         -TGPRC       TGM         -TGP	Meddage Type	
-RRC transaction identifier         0           -Integrity protection mode info         SS calculates the value of MAC-I for this message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.           -RRC message sequence number         SS provides the value of this IE, from its internal counter.           -Integrity protection mode info         Not Present           -Cphering mode info         Not Present           -Activation time         Not Present           -New U-RNTI         Not Present           -New U-RNTI         Not Present           -New U-RNTI         Not Present           -CN Information elements         Not Present           -UTRAN mobility information elements         Not Present           -CN Information elements         Not Present           -URAN induction elements         Not Present           -URAN induction elements         Not Present           -URAN induction elements         Not Present           -Downlink radio resources         Not Present           -CHOICE channel requirement         Not Present           -Downlink radio resources         FDD           -CHOICE channel fagurement         Not Present           -Downlink information elements         Not Present           -Downlink information or momon for all radio li	UE Information Elements	
Integrity check info         Scalculates the value of MAC-1 for this           -message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the bit string contains the most significant bit of the bit string contains the most significant bit of the Value of this IE, from its internal counter.           -RPC message sequence number         SS provides the value of this IE, from its internal counter.           -Integrity protection mode info         Not Present           -Qhering mode info         Not Present           -New C-RNTI         Not Present           -New C-RNTI         Not Present           -RC State Indicator         CELL_DCH           -UTRAN DRX cycle length coefficient         Not Present           -CN Information elements         Not Present           -Domlink counter synchronisation info         Not Present           -Domlink counter synchronisation info         Not Present           -CHOICE Annel requirement         Not Present           -CHOICE Annel requirement         Not Present           -CHOICE Charnel requirement         Not Present           -Tran	-RRC transaction identifier	0
-message authentication code         SS calculates the value of MAC-1 for this message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-1.           -RC message sequence number         SS provides the value of this IE, from its internal counter.           -Integrity protection mode info -Ciphering mode info -Activation time         Not Present           -Activation time         Not Present           -New U-RNTI         Not Present           -New U-RNTI         Not Present           -New U-RNTI         Not Present           -New U-RNTI         Not Present           -Activation time         Not Present           -New U-RNT         Not Present           -UTRAN DBX cycle length coefficient         Not Present           -UTRAN mobility information elements         Not Present           -UTRAN mobility information elements         Not Present           -Downlink radio resources         Not Present           -CHOICE channel requirement         Not Present           -Downlink information common for all radio links         Not Present           -Downlink information         FDD           -Transmission gap pattern sequence         FDD           -TGRPS         FDD           -TGRPS         Status Flag           -TGRP         G	-Integrity check info	
-RC message sequence number       message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-1.         -RRC message sequence number       SS provides the value of this IE, from its internal counter.         -Integrity protection mode info       Not Present         -Activation time       Not Present         -Activation time       Not Present         -New U-RNTI       Not Present         -OWING Elements       Not Present         -UTRAN mobility information elements       Not Present         -URAN identity       Not Present         -Downlink counter synchronisation info       Not Present         -PhyCH information elements       Not Present         -Obornlink PDSCH information       Not Present         -Downlink radio resources       FDD         -CHOICE mode       -DPCH compresed mode info         -Transmission gap pattern sequence       FDD         -TGPS Status Flag       -TGPS         -TGPS Compresed mode info       -Transmission gap pattern sequence         -TGPRC       -TGPRC         -TGPRC       -TGPRC	-message authentication code	SS calculates the value of MAC-I for this
-RRC message sequence number         significant bit of the bit string contains the most significant bit of the MAC1. SS provides the value of this IE, from its internal counter.           -Integrity protection mode info -Ciphering mode info -Activation time         Not Present           -Activation time         Not Present           -New U-RNT1         Not Present           New U-RNT1         Not Present           -New U-RNT1         Not Present           -New U-RNT1         Not Present           -Activation time         Not Present           -CN Information elements         -           -CN Information elements         Not Present           -Downlink counter synchronisation info         Not Present           -CHOICE channel requirement         Not Present           -Downlink information elements         -           -Frequency info         Not Present           -CHOICE mode         -           -Downlink information         Not Present           -CHOICE mode         -           -Downlink information         Not Present           -CHOICE mode         -           -Downlink information         Not Present           -CHOICE mode         -           -Transmission gap pattern sequence         -           -TGRPS         -     <		message and writes to this IE. The first/
-RRC message sequence number       significant bit of the MAC-1.         -RRC message sequence number       Sprovides the value of this IE, from its internal counter.         -Integrity protection mode info       Not Present         -Chyptering mode info       Not Present         -Activation time       Not Present         -New C-RNTI       Not Present         -New C-RNTI       Not Present         -UTRAN motion Elements       Not Present         -CN Information elements       Not Present         -UTRAN motion elements       Not Present         -UTRAN motion elements       Not Present         -UTRAN motion elements       Not Present         -UDRIN chornation elements       Not Present         -Downlink radio resources       Not Present         -CHOICE channel regurement       Not Present         -Downlink information common for all radio links       Not Present         -Downlink information common for all radio links       Not Present         -Downlink information elements       Information elements         -Downlink information common for all radio links       Not Present         -Downlink information common for all radio links       Not Present         -DOPCH compressed mode info       -Transmission gap pattern sequence         -TGPS Status Flag <td< td=""><td></td><td>leftmost bit of the bit string contains the most</td></td<>		leftmost bit of the bit string contains the most
-RRC message sequence number       SS provides the value of this IE, from its internal counters.         -Integrity protection mode info       Not Present         -Ciphering mode info       Not Present         -New U-RNT       Not Present         New C-RNT       Not Present         -New U-RNT       Not Present         -New C-RNT       Not Present         -TRAN DRX cycle length coefficient       Not Present         -CN Information elements       -CHIFAN mobility information elements         -UTRAN DRX cycle length coefficient       Not Present         -Downlink counter synchronisation info       Not Present         -Downlink calio resources       FDD         -Hrequency info       Not Present         -CHOICE channel requirement       Not Present         -Downlink radio resources       FDD         -CHOICE mode       FDD         -Downlink information common for all radio links       Not Present         -Downlink information parameters       FDD         -Transmission gap pattern sequence       1         -TGPSI       7         -TGPSI       1         -TGPSI       6         -TGPL1       7         -TGRPC       FDD measurement         -TGPL1       7		significant bit of the MAC-I.
Interrity protection mode info         Internal counter.           -Integrity protection mode info         Not Present           -Activation time         Not Present           -Activation time         Not Present           -New U-RNT1         Not Present           -RC State Indicator         CELL_DCH           -UTRAN DRX cycle length coefficient         Not Present           CN Information Elements         Not Present           -CN Information elements         Not Present           -Downlink counter synchronisation info         Not Present           PhyCH information elements         Not Present           -Downlink radio resources         Not Present           -CHOICE mode         Not Present           -Downlink information ocommon for all radio links         Not Present           -Downlink information sequence         FDD           -Transmission gap pattern sequence         FDD           -TGAPSI         1           -TGPS Status Flag         1           -TGPRC         1           -TGPL1         7           -TGPL1         7           -TGL2         Not Present           -TGPRC         1           -TGPRC         1           -TGPL1         7	-RRC message sequence number	SS provides the value of this IE, from its
Integrity protection mode info Ciphering mode info Activation time New CHNTI New CRNTI New CRNTI CRLIPC		internal counter.
-Cipfering mode info       Not Present         -Activation time       Not Present         -New U-RNTI       Not Present         -New C-RNTI       Not Present         -RC State Indicator       CELL_DCH         -UTRAN DRX cycle length coefficient       Not Present         CN Information Elements       Not Present         -UTRAN mobility information elements       Not Present         -URAN identity       Not Present         PhyCH information elements       -         -Prequency info       Not Present         PhyCH information elements       -         -Frequency info       Not Present         UPINK radio resources       FDD         -Ownlink information common for all radio links       Not Present         -Downlink information common for all radio links       Not Present         -Downlink information common for all radio links       Not Present         -Downlink information parameters       -         -TGPSI       1         -TGPRC       -         -TGUP       Not Present         -TGL2       Not Present         -TGL2       Not Present         -TGPL1       3         -TGPL2       Not Present         -TGL2       0 </td <td>-Integrity protection mode info</td> <td>Not Present</td>	-Integrity protection mode info	Not Present
-Activation time         Not Present           -New U-RNTI         Not Present           -New C-RNTI         Not Present           -RPC State Indicator         CELL_DCH           -UTRAN DRX cycle length coefficient         Not Present           -CN Information Elements         -           -UTRAN mobility information elements         -           -Downlink counter synchronisation info         Not Present           -Downlink counter synchronisation info         Not Present           -Downlink calor resources         -           -HCHOICE channel requirement         Not Present           -CHOICE channel requirement         Not Present           -Downlink radio resources         -           -CHOICE mode         FDD           -Downlink information common for all radio links         Not Present           -Downlink information common for all RL         -           -OHOICE mode         FDD           -Transmission gap pattern sequence         -           -TGRPS status Flag         1           -TGRS Status Flag         -           -TGRS CI_1         7           -TGL1         7           -TGL1         7           -TGL1         7           -TGL1         7	-Ciphering mode info	Not Present
-New U-RNTI         Not Present           -New C-RNTI         Not Present           -RC State Indicator         CELL_DCH           -UTRAN DRX cycle length coefficient         Not Present           CN Information Elements         Not Present           -CN Information elements         Not Present           -UTRAN mobility information elements         -           -UTRAN mobility information elements         -           -UPA identity         Not Present           -Downlink counter synchronisation info         Not Present           PhyCH information elements         -           -Frequency info         Not Present           Downlink radio resources         FDD           -CHOICE channel requirement         Not Present           Downlink radio resources         FDD           -Downlink romormon for all RL         -           -OHOICE mode         FDD           -Downlink DPCH information         Not Present           -Deroper sources         FDD           -Transmission gap pattern sequence         1           -Transmission gap pattern sequence         1           -Transmission gap pattern sequence         0           -Transmission gap pattern sequence         0           -TGRN         4	-Activation time	Not Present
I-New C-RNTI         Not Present           -RRC State Indicator         CELL_DOH           -UTRAN DRX cycle length coefficient         Not Present           CN Information Elements	-New U-RNTI	Not Present
-RRC State Indicator       CELL_DCH         -UTRAN DRX cycle length coefficient       Not Present         CN Information Elements       Not Present         -UTRAN mobility information elements       Not Present         -URAN mobility information elements       Not Present         -URAN mobility information elements       Not Present         -Downlink counter synchronisation info       Not Present         PhyCH information elements       -         -Frequency info       Not Present         Uplink radio resources       Not Present         -Maxium allowed UL TX power       Not Present         -Obmilink radio resources       FDD         -GHOICE mode       FDD         -Downlink PDSCH information       Not Present         -Downlink DPCH inforomon for all RL       FDD         -CHOICE mode       FDD         -Transmission gap pattern sequence       1         -TGPSI       Activate         Current CFN + (256 ñ TTI/10msec))mod 256       1         -Transmission gap pattern sequence       1         -TGPSI       0         -TGPSI       0         -TGPSI       0         -TGPL2       Not Present         -PDP       Mode 0         -ULDL mode <td>-New C-RNTI</td> <td>Not Present</td>	-New C-RNTI	Not Present
-UTRAN DRX cycle length coefficient         Not Present           CN Information Elements	-RRC State Indicator	CELL DCH
CN Information Elements       Not Present         -UTRAN mobility information elements       Not Present         -URA identity       Not Present         Bi information elements       Not Present         -Downlink counter synchronisation info       Not Present         PhyCH information elements       -         -Frequency info       Not Present         Uplink radio resources       Not Present         -OHOICE channel requirement       Not Present         Downlink radio resources       FDD         -CHOICE mode       FDD         -Downlink Information common for all radio links       Not Present         -Downlink Information common for all radio links       Not Present         -Downlink Information gap pattern sequence       FDD         -TGPS Istatus Flag       1         -TGPS Status Flag       1         -TGPRC       FDD measurement         -TGBRC       TGIL         -TGPL1       7         -TGPL1       3         -TGPL1       3         -TGPL1       3         -TGPL1       3         -TGPL2       Not Present         -TGP       3.0         -TGPL1       3.0         -TGPL2       Not Present <td>-UTRAN DRX cycle length coefficient</td> <td>Not Present</td>	-UTRAN DRX cycle length coefficient	Not Present
-CN Information info         Not Present           UTRAN mobility information elements	CN Information Elements	
UTRAN mobility information elements       Not Present         -URA identity       Not Present         RB information elements       Not Present         -Downlink counter synchronisation info       Not Present         PhyCH information elements       Not Present         -Frequency info       Not Present         Uplink radio resources       Not Present         -Maximum allowed UL TX power       Not Present         Downlink radio resources       FDD         -Downlink Information common for all radio links       FDD         -Downlink DPCH information       Not Present         -Downlink Information common for all RL       Not Present         -OHOICE mode       FDD         -TGPS Status Flag       1         -TGPS Status Flag       1         -TGRFS       1         -TGRPRC       FDD measurement         -TGL2       Not Present         -TGL2       Not Present         -TGPL1       3         -TGPL1       3         -TGPL1       3         -TGPL1       3.0         -TGPL2       Not Present         -Downlink compressed mode method       SF/2         -Downlink frame type       3.0         -Downlink frame ty	-CN Information info	Not Present
-URA identity         Not Present           RB information elements         -           -Downlink counter synchronisation info         Not Present           PhyCH information elements         -           -Frequency info         Not Present           Uplink radio resources         Not Present           -CHOICE channel requirement         Not Present           Downlink radio resources         -           -CHOICE mode         FDD           -Downlink information common for all radio links         Not Present           -Downlink DPCH info common for all RL         Not Present           -Downlink DPCH information         Not Present           -Downlink DPCH information sequence         1           -TGRPSI         1           -TGFR         Activate           -TGGFN         (Current CFN + (256 n̄ TTI/10msec))mod 256           -Transmission gap pattern sequence         1           -TGGFN         4           -TGIAPC         7           -TGBR         4           -TGIA         7           -TGL1         7           -TGL2         Not Present           -TGPL1         3           -TGPL1         3           -TGPL2         Not Present	UTBAN mobility information elements	
RB information elements       Not Present         -Downlink counter synchronisation info       Not Present         PhyCH information elements       Not Present         -Frequency info       Not Present         Uplink radio resources       Not Present         -Od/ICE channel requirement       Not Present         Downlink radio resources       FDD         -Ownlink NDSCH information       Not Present         -Downlink NDPCH information       Not Present         -Downlink NDPCH information common for all RL       Not Present         -CHOICE mode       FDD         -DPCH compressed mode info       Not Present         -Transmission gap pattern sequence       1         configuration parameters       1         -TGAPR       Activate         -TGAPRC       1         -TGBPRC       1         -TGBPRC       Not Present         -TGD       0         -TGPL1       7         -TGPL1       7         -TGPL1       3         -TGPL1       3.0         -Downlink compressed mode method       SF/2         -Downlink frame type       8         -DeltaSIRafter1       3.0         -DeltaSIRafter1       3.0	-URA identity	Not Present
-Downlink counter synchronisation info         Not Present           PhyCH information elements         - Frequency info         Not Present           Uplink radio resources         - -Maximum allowed UL TX power         Not Present           -OHOICE channel requirement         Not Present           Downlink radio resources         - CHOICE mode         FDD           -Downlink information common for all radio links         Not Present           -Downlink DPCH info common for all RL         - OHOICE mode         FDD           -Downlink DPCH info common for all RL         Not Present           -Downlink DPCH info common for all RL         Not Present           -Downlink DPCH info common for all RL         Not Present           -TGRPS         FDD           -Transmission gap pattern sequence         (Current CFN + (256 ñ TTI/10msec))mod 256           -Transmission gap pattern sequence         fmfinity           -TGPRC         Infinity           -TGBN         4           -TGPL1         7           -TGL2         Not Present           -TGPL1         3           -TGPL2         Not Present           -ITP         Mode 0           -Uplink compressed mode method         SF/2           -Downlink frame type         B      <	BB information elements	
Downlink information elements         Not Present           -Frequency info         Not Present           Uplink radio resources         Not Present           -OHOICE channel requirement         Not Present           Downlink radio resources         FDD           -OHOICE made         FDD           -Downlink DPCH information         Not Present           -Downlink DPCH information common for all radio links         Not Present           -Downlink DPCH inforcement for all radio links         Not Present           -Downlink DPCH inforcement for all radio links         Not Present           -Downlink DPCH inforcement for all radio links         Not Present           -OHOCE mode         -Transmission gap pattern sequence         FDD           -TGPS         1         Activate           -TGGFN         FDD measurement         Infinity           -TGBRC         Infinity         1           -TGPL2         Not Present         0           -TGPL1         3         3           -TGPL2         Not Present         Mode 0           -ITP         Mode 0         UL and DL           -Downlink compressed mode method         SF/2         S/2           -Downlink frame type         B         3.0	-Downlink counter synchronisation info	Not Present
Trajentity     Not Present       Uplink radio resources     Not Present       - CHOICE channel requirement     Not Present       Downlink radio resources     FDD       -CHOICE channel requirement     Not Present       Downlink PDSCH information     FDD       -Downlink IDPCH info common for all radio links     FDD       -Downlink IDPCH info common for all RL     Not Present       -OHOICE mode     FDD       -DPCH compressed mode info     FTansmission gap pattern sequence       -TGPS Status Flag     Activate       -TGCFN     (Current CFN + (256 ñ TTI/10msec))mod 256       -Transmission gap pattern sequence     FDD measurement       configuration parameters     FDD measurement       -TGIPC     Infinity       -TGPL2     Not Present       -Downlink compressed mode method     SF/2       -Downlink frame type     B       -DetaSIR1     3.0       -DetaSIR1     3.0       -DetaSIR1     3.0       -DetaSIR4ter1     3.0       -DetaSIR4ter1     3.0       -DetaSIR4ter1     3.0       -DetasIR4ter2     Not Present <t< td=""><td>PhyCH information elements</td><td></td></t<>	PhyCH information elements	
Trependy model       Not Present         Maximum allowed UL TX power       Not Present         Ocholic resources       Not Present         Downlink radio resources       FDD         -Odwnlink PDSCH information       Not Present         Downlink PDSCH information common for all radio links       Not Present         -Downlink Information common for all radio links       Not Present         -Downlink DPCH info common for all RL       Not Present         -CHOICE mode       FDD         -Develink Information gap pattern sequence       I         -TGPSI       1         -Transmission gap pattern sequence       (Current CFN + (256 ñ TTI/10msec))mod 256         -TGAPR       FDD measurement         -TGAPRC       Infinity         -TGL2       Not Present         -TGL2       Not Present         -TGPL1       3         -TGPL2       Not Present         -RPP       Mode 0         -CHOICE UL/DL mode       SF/2         -Downlink frame type       B         -DeltaSIR1       3.0         -DeltaSIR1       3.0         -DeltaSIR1       3.0         -DeltaSIR1       Not Present         -DeltaSIR1       3.0         -Det	-Frequency info	Not Present
Opminik Table Sources     Not Present       -CHOICE channel requirement     Not Present       Downlink radio resources     FDD       -CHOICE mode     FDD       -Downlink information common for all radio links     Not Present       -Downlink information common for all radio links     Not Present       -Downlink information common for all radio links     Not Present       -Downlink information common for all radio links     Not Present       -Downlink information common for all radio links     Not Present       -Downlink information common for all radio links     Not Present       -Downlink information common for all radio links     Not Present       -Downlink compressed mode info     1       -Transmission gap pattern sequence     1       configuration parameters     -TGNP       -TGRPC     Infinity       -TGL1     7       -TGL2     Not Present       -TGPL1     3       -TGPL2     Not Present       -RPP     Mode 0       -Uplink compressed mode method     SF/2       -Downlink frame type     B       -DetaSIR1     3.0       -DetaSIR2     Not Present       -Not Present     Not Present       -TK Diversity Mode     Not Present       -TK Diversity Mode     Not Present       -Downlink	Lolink radio resources	Norresent
-CHCICE channel resources     Not Present       -CHOICE mode     FDD       -Downlink radio resources     FDD       -Downlink information common for all radio links     Not Present       -Downlink information common for all radio links     Not Present       -Downlink information common for all radio links     Not Present       -Downlink DPCH info common for all RL     -CHOICE mode       -DCHCICE mode     FDD       -DOWNLINK information gap pattern sequence     1       -TGPSI     1       -TGCFN     It infinity       -TGAPC     Infinity       -TGAPC     Infinity       -TGL1     7       -TGL2     Not Present       -TGPL1     3       -TGPL2     Not Present       -TGPL2     Not Present       -TGPL3     3.0       -Downlink compressed mode method     SF/2       -Downlink frame type     B       -DettaSIR1     3.0       -DettaSIR1     3.0       -DettaSIR1     3.0       -DettaSIR1     3.0       -DettaSIR1     Not Present       -TREconfirm abort     Not Present       -T Reconfirm abort     Not Present       -T Reconfirm abort     Not Present       -T Reconfirm abort     Not Present       -T Rob	Maximum allowed LIL TX power	Not Present
Downlink radio resources     FDD       Oownlink radio resources     FDD       Oownlink information common for all radio links     FDD       Downlink DPSCH information     Not Present       OHOUSE mode     FDD       Obwnlink DPCH information     Not Present       CHOICE mode     FDD       ODOWNINK DPCH information common for all RL     Not Present       CHOICE mode     FDD       OPCH compressed mode info     Transmission gap pattern sequence       TGRPS I     1       Activate     (Current CFN + (256 ñ TTI/10msec))mod 256       Transmission gap pattern sequence     (Current CFN + (256 ñ TTI/10msec))mod 256       TGRPS     TGIL1       TGRN     4       TGRPC     Infinity       TGRL1     T       TGRL2     Not Present       TGRL3     Not Present       TGRPL1     3       TGRL2     Not Present       TGRL3     1       TGRL4     3.0       TGRL5     3.0       Obwnlink compressed mode method     SF/2       Obwnlink compressed mode method     SF/2       Obwnlink frame type     B       Obwnlink frame type     B       Obwnlink frame type     B       Obwnlink formation     Not Present       Not Pre	- CHOICE channel requirement	Not Present
Downlink radio resources       FDD         O-CHOICE mode       FDD         Downlink PDCH information common for all radio links       Not Present         Downlink DPCH information gap pattern sequence       FDD         -Transmission gap pattern sequence       1         -TGPSI       1         -TGCFN       1         -TGRN       Current CFN + (256 ñ TTI/10msec))mod 256         -Transmission gap pattern sequence       1         oonfiguration parameters       FDD measurement         -TGL1       7         -TGL2       Not Present         -TGPF1       3         -TGPL1       3         -TGPL2       Not Present         -RPP       Mode 0         -TIP       Mode 0         -Downlink frame type       B         -DeltaSIR1       3.0         -DeltaSIR4fer1       3.0         -DeltaSIR4fer1       3.0         -DeltaSIR4fer1       3.0         -TReconfirm abort       Not Present         -TReconfirm abort		Not resent
Downlink PDSCH information       Pownlink PDSCH information common for all radio links         Downlink PDSCH information common for all radio links       Not Present         Downlink PDSCH information common for all RL       Not Present         CHOICE mode       1         -Transmission gap pattern sequence       1         -TGPSI       1         -TGPSI       1         -TGPSI       1         -TGRPSI       1         -TGRPRC       (Current CFN + (256 ñ TTI/10msec))mod 256         -Transmission gap pattern sequence       (Current CFN + (256 ñ TTI/10msec))mod 256         -TGRPRC       Infinity         -TGPRC       FDD measurement         -TGPRC       Infinity         -TGPL2       Not Present         -RPP       Mode 0         -CHOICE UL/DL mode       SF/2         -Downlink compressed mode method       SF/2         -Downlink frame type       3         -DeltaSIRafter1       3.0         -DetaSIRafter2       Not Present         -N Identify abort       Not Present         -TR Reconfirm abort       Not Present         -TR Reconfirm abort       Not Present         -DetaSIRafter2       Not Present         -N Identify abort <t< td=""><td>CHOICE mode</td><td>EDD</td></t<>	CHOICE mode	EDD
-Downlink information common for all radio links         -Downlink information common for all radio links         -Downlink DPCH info common for all RL         -CHOICE mode         -DPCH compressed mode info         -Transmission gap pattern sequence         -TGPS Status Flag         -TGCFN         -Transmission gap pattern sequence         configuration parameters         -TGBPC         -TGL2         -TGPL1         -TGPL2         -RPP         -RPP         -CHOICE UL/DL mode         -Downlink frame type         -DeitaSIR1         -DeitaSIR1         -DeitaSIR1         -DeitaSIR1         -TX Diversity Mode         -Downlink information for each radio link ist	Downlink PDSCH information	Not Procent
Downlink DPCH info common for all RL         -Deventink DPCH info common for all RL         -CHOICE mode         -DFCH compressed mode info         -Transmission gap pattern sequence         -TGPSI         -TGCFN         -Transmission gap pattern sequence         configuration parameters         -TGPRC         -TGL1         -TGL1         -TGPL1         -TGPL2         -RPP         -TGPL2         -RPP         -CHOICE UL/DL mode         -Downlink frame type         -DetaSIR1         -TK Diversity Mode         -TK Diversity Mode <td>Downlink FDSCH Information</td> <td>NOL FIESEIIL</td>	Downlink FDSCH Information	NOL FIESEIIL
-DWinink Dr Aniko Connitor for an RL       Not Present         -CHOICE mode       FDD         -DPCH compressed mode info       -         -Transmission gap pattern sequence       1         -TGPS Status Flag       1         -TGCFN       (Current CFN + (256 ñ TTI/10msec))mod 256         -Transmission gap pattern sequence       Infinity         configuration parameters       FDD measurement         -TGRPC       Infinity         -TGL1       7         -TGL2       Not Present         -TGPL1       3         -TGPL2       Not Present         -RPP       Mode 0         -ITP       Mode 0         -Uplink compressed mode method       SF/2         -Downlink frame type       B         -DeltaSIR1       3.0         -DeltaSIR4fer2       Not Present         -N Identify abort       Not Present         -TX Diversity Mode       Not Present         -TX Diversity Mode       Not Present         -TX Diversity Mode       Not Present         -TGD       Not Present         -DetaSIR4fer2       Not Present         -DeltaSIR4fer2       Not Present         -DetaSIR4fer2       Not Present	Downlink information common for all PL	Not Brocont
-DPCH compressed mode info       1         -TGPSI       1         -TGPS Status Flag       1         -TGPS Status Flag       1         -TGCFN       (Current CFN + (256 ñ TTI/10msec))mod 256         -Transmission gap pattern sequence       (Current CFN + (256 ñ TTI/10msec))mod 256         -TGPR       Infinity         -TGPRC       Infinity         -TGL1       7         -TGL2       Not Present         -TGPL1       3         -TGPL2       Not Present         -RPP       Mode 0         -CHOICE UL/DL mode       UL and DL         -Downlink compressed mode method       SF/2         -Downlink frame type       B         -DeltaSIR1       3.0         -DeltaSIR1       3.0         -DeltaSIR1       Not Present         -T Reconfirm abort       Not Present		
-Transmission gap pattern sequence       1         -TGPSI       1         -TGPS Status Flag       1         -TGCFN       (Current CFN + (256 ñ TTI/10msec))mod 256         -Transmission gap pattern sequence       (Current CFN + (256 ñ TTI/10msec))mod 256         -TGRPR       Infinity         -TGPRC       Infinity         -TGL2       Not Present         -TGPL1       3         -TGPICE UL/DL mode       0         -Downlink compressed mode method       SF/2         -Downlink compressed mode method       SF/2         -DeitaSIR1       3.0         -DeitaSIR2       Not Present         -DeltaSIR1fer1       3.0         -DeltaSIR2       Not Present         -TR Reconfirm abort       Not Present         -TFP       Not Present         -DeltaSIR1       3.0         -DeltaSIR2       Not Present         -DeltaSIR2       Not Present         -TR econfirm abort       Not Present         -TR econfirm abort       Not Present         -TRecent Mode       Not Present         -Defusiter       Not Present         -TH econfirm abort       Not Present         -TP econfirm abort       Not Present	DPCH comproseed mode info	FDD
- TGRPSI       1         - TGPSI       1         - TGPSI       Activate         - TGCFN       (Current CFN + (256 ñ TTI/10msec))mod 256         - Transmission gap pattern sequence       (Current CFN + (256 ñ TTI/10msec))mod 256         - TGCFN       (Current CFN + (256 ñ TTI/10msec))mod 256         - TGRPC       Infinity         - TGPRC       Infinity         - TGL1       7         - TGL2       Not Present         - TGPL1       3         - TGPL2       Not Present         - RPP       Mode 0         - TTP       Mode 0         - TTP       Mode 0         - THP       Mode 0         - Downlink compressed mode method       SF/2         - Downlink frame type       B         - DeltaSIR1       3.0         - DeltaSIR1       3.0         - DeltaSIR1       3.0         - DeltaSIR2       Not Present         - T Reconfirm abort       No	-DF CH complessed mode mild	
-TGPS Status Flag       Activate         -TGCFN       Activate         -TGCFN       (Current CFN + (256 ñ TTI/10msec))mod 256         -Transmission gap pattern sequence       FDD measurement         Configuration parameters       FDD measurement         -TGPRC       Infinity         -TGL1       7         -TGL2       Not Present         -TGPL2       Not Present         -TGPL2       Not Present         -RPP       Mode 0         -ITP       Mode 0         -Uplink compressed mode method       SF/2         -Downlink frame type       B         -DeltaSIR1       3.0         -DeltaSIR2       Not Present         -DeltaSIR4       Not Present         -TR Pconfirm abort       Not Present         -DeltaSIR2       Not Present         -DeltaSIR4       3.0         -DeltaSIR4       Not Present         -TR Pconfirm abort       Not Present         -TR Pconfirm abort       Not Present         -TR Pconfirm abort       Not Present         -DetaSIR5       Not Present         -DetaSIR6       Not Present         -TR Pconfirm abort       Not Present         -TR Pconfirm abort	TGDSI	1
-TGCFN       Activate         -TGCFN       (Current CFN + (256 ñ TTI/10msec))mod 256         -TGRP       (Current CFN + (256 ñ TTI/10msec))mod 256         -TGMP       Infinity         -TGPRC       Infinity         -TGL2       Not Present         -TGPL1       3         -TGPL2       Not Present         -RPP       Mode 0         -TFP       Mode 0         -UDIN compressed mode method       SF/2         -Downlink frame type       B         -DeltaSIR1       3.0         -DeltaSIR2       Not Present         -DeltaSIR2       Not Present         -N Identify abort       Not Present         -TR PetasItficer2       Not Present         -DeltaSIR1       3.0         -DeltaSIR2       Not Present         -DeltaSIR2       Not Present         -TR Peconfirm abort       Not Present         -DeftasIRafter2       Not Present         -TR Peconfirm abort       Not Present         -TR Peconfirm abort       Not Present         -TR Peconfirm abort	TGPS Status Elag	
-Transmission gap pattern sequence configuration parameters       FDD measurement         -TGPRC       Infinity         -TGSN       4         -TGL1       7         -TGD       0         -TGPL1       3         -TGPL2       Not Present         -TGPL2       Not Present         -RPP       Mode 0         -CHOICE UL/DL mode       UL and DL         -Downlink compressed mode method       SF/2         -DeitaSIR1       3.0         -DeltaSIR2       Not Present         -DeltaSIR1       3.0         -DeltaSIR2       Not Present         -DeltaSIR1       3.0         -DeltaSIR2       Not Present         -DeltaSIR2       Not Present         -TR Pconfirm abort       Not Present         -TR Pconfirm abort       Not Present         -DettaSIR2       Not Present         -DeltaSIR4ter2       Not Present         -TR Pconfirm abort       Not Present         -TR Pconfirm abort       Not Present         -DeftaSIR4ter2       Not Present         -DeltaSIR4ter2       Not Present         -Downlink information       Not Present         -Downlink information       Not Present <td>TOCEN</td> <td>(Current CEN + (256 ñ TTI/10msoo))mod 256</td>	TOCEN	(Current CEN + (256 ñ TTI/10msoo))mod 256
-Transmission gap pattern sequence configuration parametersFDD measurement-TGMPInfinity-TGRCInfinity-TGSN4-TGL17-TGL2Not Present-TGPL2Not Present-TGPL2Not Present-TGPL2Not Present-TTPMode 0-TTPMode 0-TTPUL and DL-Downlink compressed mode methodSF/2-DeltaSIR13.0-DeltaSIR43.0-DeltaSIR43.0-DeltaSIR4Not Present-N Identify abortNot Present-T Reconfirm abortNot Present-TX Diversity ModeNot Present-Default DPCH Offset ValueNot Present-Default DPCH Offset ValueNot Present-Dewnlink information per radio link listNot Present-Downlink information per adio link list-Downlink information per adio link list	-IGOFN	
- Transmon gap parten sequence         configuration parameters         - TGMP         - TGPRC         - TGSN         4         - TGL2         - TGL2         - TGPL1         - TGPL2         - TGPL2         - TGPL1         - TGPL2         - TGPL1         - TGPL2         - TGPL3         - TGPL4         - TGPL5         - TGPL5         - TGPL6         - TGPL2         - TGPL2         - Downlink compressed mode method         - Downlink frame type         - DeltaSIR1         - DeltaSIR1         - DeltaSIR1         - DeltaSIR1         - DeltaSIR4fer1         - N Identify abort         - T Reconfirm abort         - DeltaSIL After1         - SS	Transmission gan pattern sequence	
-TGMP       FDD measurement         -TGPRC       Infinity         -TGSN       4         -TGL1       7         -TGD       0         -TGPRC       0         -TGL2       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         -Downlink frame type       B         -Downlink frame type       B         -DeltaSIR1       3.0         -DeltaSIR1       3.0         -DeltaSIR1       Not Present         -N Identify abort       Not Present         -T Reconfirm 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	configuration parameters	
- TGPRC       Infinity         - TGPRC       Infinity         - TGSN       4         - TGL1       7         - TGL2       Not Present         0       - TGPL1         - TGPL2       Not Present         - RPP       Mode 0         - TTP       Mode 0         - CHOICE UL/DL mode       UL and DL         - Downlink compressed mode method       SF/2         - Downlink frame type       B         - DeltaSIR1       3.0         - DeltaSIR2       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 list       -Downlink information for each radio link		EDD measurement
-TGRN       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       B         -DeltaSIR1       3.0         -DeltaSIR2       Not Present         -DeltaSIR4fer1       3.0         -DeltaSIR4fer2       Not Present         -N Identify abort       Not Present         -T Reconfirm abort       Not Present         -T Reconfirm abort       Not Present         -T X 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         -Downlink information for each radio link       -Downlink information for each radio link		Infinity
-TGUN       +         -TGL1       7         -TGL2       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         -Downlink compressed mode method       SF/2         -Downlink frame type       B         -DeltaSIR1       3.0         -DeltaSIR2       Not Present         -DeltaSIR4ter1       3.0         -DeltaSIR4ter2       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         -Downlink information for each radio link       -EDD		11111111y
-TGL1/-TGL2Not Present-TGPL13-TGPL2Not Present-RPPMode 0-ITPMode 0-CHOICE UL/DL modeUL and DL-Downlink compressed mode methodSF/2-Downlink compressed mode methodSF/2-Downlink frame typeB-DeitaSIR13.0-DeitaSIR2Not Present-DeitaSIR2Not Present-N Identify abortNot Present-T Reconfirm abortNot Present-TX Diversity ModeNot Present-Default DPCH Offset ValueNot Present-Default DPCH Offset ValueNot Present-Default pPCH Offset ValueNot Present-Downlink information per radio link list-Downlink information for each radio link-Choice modeFDD	TGL1	7
TGD0-TGPL13-TGPL2Not Present-RPPMode 0-ITPMode 0-CHOICE UL/DL modeUL and DL-Downlink compressed mode methodSF/2-Uplink compressed mode methodSF/2-Downlink frame typeB-DeltaSIR13.0-DeltaSIR2Not Present-DeltaSIR2Not Present-N Identify abortNot Present-T Reconfirm abortNot Present-TX Diversity ModeNot Present-Default DPCH Offset ValueNot Present-Default DPCH Offset ValueNot Present-Downlink information per radio link list-Downlink information for each radio link-Choice modeFDD		7 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         -DeltaSIR1       3.0         -DeltaSIR2       Not Present         -DeltaSIR4fer1       3.0         -DeltaSIR4fer2       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         -Downlink information for each radio link       -DD		
Instructor-TGPL2Not Present-RPPMode 0-ITPMode 0-CHOICE UL/DL modeUL and DL-Downlink compressed mode methodSF/2-Uplink compressed mode methodSF/2-Downlink frame typeB-DettaSIR13.0-DeltaSIR2Not Present-DeltaSIR2Not Present-DeltaSIR4fter2Not Present-N Identify abortNot Present-T Reconfirm abortNot Present-TX Diversity ModeNot Present-SSDT informationNot Present-Default DPCH Offset ValueNot Present-Downlink information for each radio linkFDD		
-rourL2       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         -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       FDD		S Not Procent
-ITTInde 0-ITPMode 0-CHOICE UL/DL modeUL and DL-Downlink compressed mode methodSF/2-Uplink compressed mode methodSF/2-Downlink frame typeB-DeltaSIR13.0-DeltaSIRafter13.0-DeltaSIR2Not Present-DeltaSIRafter2Not Present-N Identify abortNot Present-T Reconfirm abortNot Present-TX Diversity ModeNot Present-SSDT informationNot Present-Default DPCH Offset ValueNot Present-Downlink information per radio link listNot Present-Downlink information for each radio linkFDD		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         -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       FDD		Mode 0
-Downlink compressed mode method       SF/2         -Uplink compressed mode method       SF/2         -Downlink frame type       B         -DeltaSIR1       3.0         -DeltaSIRafter1       3.0         -DeltaSIRafter2       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       FDD	-CHOICE LIL/DL mode	
-Uplink compressed mode method       SF/2         -Uplink compressed mode method       SF/2         -Downlink frame type       B         -DeltaSIR1       3.0         -DeltaSIRafter1       3.0         -DeltaSIRafter2       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       FDD	-Downlink compressed mode method	SE did DE
-Downlink frame type       B         -DeltaSIR1       3.0         -DeltaSIRafter1       3.0         -DeltaSIRafter2       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       FDD	-Downlink compressed mode method	SF/2 SF/2
-DeltaSIR1       3.0         -DeltaSIRafter1       3.0         -DeltaSIRafter1       3.0         -DeltaSIRafter2       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       FDD	-Downlink frame type	B
-DeltaSIRafter1       3.0         -DeltaSIRafter1       3.0         -DeltaSIRafter2       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       FDD	-DeltaSIB1	30
-DeltaSIR2     Not Present       -DeltaSIRafter2     Not Present       -N Identify abort     Not Present       -T Reconfirm 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     FDD	-DeltaSIBafter1	3.0
-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     FDD	-DeltaSIB2	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     FDD	-DeltaSIBafter2	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     FDD	-N Identify 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     FDD	-T Reconfirm abort	Not Present
-SSDT information -Default DPCH Offset Value -Downlink information per radio link list -Downlink information for each radio link -Choice mode	-TX Diversity Mode	Not Present
-Default DPCH Offset Value     -Downlink information per radio link list     -Downlink information for each radio link     -Choice mode     -Choice mode	-SSDT information	Not Present
-Downlink information for each radio link -Choice mode		Not Present
-Downlink information for each radio link	-Downlink information per radio link list	
-Choice mode	-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	Set to value Default DPCH Offset Value ( as
	currently stored in SS) mod 38400
-Secondary CPICH info	Not Present
-DL channelisation code	
-Secondary scrambling code	Not Present
-Spreading factor	128
-Code number	96
-Scrambling code change	No code change
-TPC combination index	0
-SSDT Cell Identity	Not Present
<ul> <li>Closed loop timing adjustment mode</li> </ul>	Not Present
-SCCPCH Information for FACH	Not Present

Information Element	Value/Remark
Message Type	
LIE information elements	
-BBC transaction identifier	0
-Integrity check info	0
-message authentication code	SS calculates the value of MAC-I for this
message admentication code	message and writes to this IF. The first/
	leftmost bit of the bit string contains the most
	significant bit of the MAC-L
-RRC message sequence number	SS provides the value of this IE, from its
5 1	internal counter.
Measurement Information elements	
-Measurement Identity	1
-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
-Intra-frequency measurement	
- Intra-trequency measurement objects list	
-Intra-frequency cell into list	Not Present
-Intra-frequency measurement quantity	
-CHOICE mode	
-measurement quantity	
-Initia-frequency reporting quantity	
-Cell synchronisation information reporting	
indicator	
-Cell Identity reporting indicator	TRUE
-CHOICE mode	
-CPICH Ec/N0 reporting indicator	TRUE
-CPICH RSCP reporting indicator	FDD
-Pathloss reporting indicator	TRUE
-Reporting quantities for monitored set cells	FALSE <u>TRUE</u>
-Cell synchronisation information reporting	FALSE
indicator	
-Cell Identity reporting indicator	
-CHOICE mode	FALSE
-CPICH Ec/N0 reporting indicator	
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	
-Reporting quantities for detected set cells	FALSE IRUE
-Reporting cell status	
	FALSE Not Dropont
Maximum number of reported colls	Not Present
Moscurement validity	Report all active set colls + colls within
	monitored set on used frequency
-Amount of reporting	Virtual/active set cells ± 2
-Reporting interval	Not Present
	Periodical reporting criteria
	Infinity
	250 ms
Physical channel information elements	
-DPCH compressed mode status info	Not Present

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1

Information Flement	Value/Remark
Message Type	
LIE information alementa	
DE Information elements	0
-RRC transaction identifier	0
mossage authentication code	SS calculates the value of MAC I for this
-message aumentication code	mossage and writes to this IE. The first/
	leftmost bit of the bit string contains the most
	significant bit of the MAC-I
-BBC message sequence number	SS provides the value of this IF from its
	internal counter.
Measurement Information elements	
-Measurement Identity	2
-Measurement Command	Setup
-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 object list	
-CHOICE Inter-frequency cell removal	Not Present
-New inter-frequency cells	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	
-Measurement quantity for frequency quality	CPICH RSCP
-Inter-frequency reporting quantity	TRUE
-UTRA Carrier RSSI	TRUE
-Frequency quality estimate	IRUE
-Non frequency related cell reporting quantities	
-Cell synchronisation mormation reporting	TDUE
Coll Identity reporting indicator	INDE
	TOUE
-CPICH Ec/NO reporting indicator	FDD
-CPICH BSCP reporting indicator	TBUE
-Pathloss reporting indicator	TRUFEALSE
-Beporting cell status	FALSE
-CHOICE reported cell	
	Report cells within monitored set on non-used
-Maximum number of reported cells	frequency
-Measurement validity	2
-Inter-frequency set update	Not Present
-CHOICE report criteria	Not Present
-Amount of reporting	Periodical reporting criteria
-Reporting interval	Infinity
	500 ms
Physical channel information elements	
-DPCH compressed mode status info	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

# Table 8.7.1.2.1.3: CPICH\_RSCP Inter frequency relative accuracy, test requirements

		Accuracy [dB]		Conditions			
Parameter	Unit	Normal	Extreme	me lo [dBm/3.84 MHz]		z]	
		condition	condition	Band I	Band II	Band III	
CPICH_RSCP	dBm	±7.1	±7.1	-9450	-9250	-9150	

Parameter		Unit	Tes	st 1	Test 2		
		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	-1	0	
PCCPCH_Ec/lor		dB	-1	2	-1	2	
SCH_Ec/lor		dB	-1	2	-1	2	
PICH_Ec/lor		dB	-1	5	-1	5	
DPCH_Ec/lor		dB	-15	-	-15	-	
OCNS_Ec/lor		dB	-1.11	-0.94	-1.11	-0.94	
loc	Band I	dBm/ 3.84 MHz			-83.00	-93.46	
	Band II		-61.6	-61.6	-81.00	-91.46	
	Band III				-80.00	-90.46	
@fr/loc		dB	9.84	9.84	0.3	-9.24	
	Band I		-61.8		-92.7	-112.7	
Note 1	Band II	dBm		-61.8	-90.7	-110.7	
	Band III				-89.7	-109.7	
	Band I	dBm/2.94			-79.8	-93.0	
lo, Note 1	Band II	MH <sub>7</sub>	-51.3	-51.3	-77.8	-91.0	
	Band III				-76.8	-90.0	
Propagation condition -		-	AW	GN	AWGN		
NOTE 1: CPICH	HRSCP and lo	o levels have bee	en calculated fro	m other parame	ters for informa	tion	
purposes. They are not settable parameters themselves.							
Tests shall be do	one sequentiall	ly. Test 1 shall b	e done first. Afte	r test 1 has bee	n executed test	parameters	
for test 2 shall be	e set within 5 s	econds so that l	JE does not loos	e the Cell 2 in b	etween the test	S.	

#### Table 8.7.1.2.1.4: CPICH RSCP Inter frequency tests parameters

The reported values for the relative inter frequency CPICH RSCP measurement shall meet the requirements in table 8.7.1.2.1.5.

# Table 8.7.1.2.1.5: CPICH\_RSCP Inter frequency relative accuracy requirements for the reported values

	Test 1	Test 2			
Normal Conditions					
Lowest reported value cell 2	CPICH_RSCP_(x - 8)	CPICH_RSCP_(x - 28)			
Highest reported value cell 2	CPICH_Ec/No_(x + 8)	CPICH_Ec/No_(x - 12)			
Extreme Conditions					
Lowest reported value cell2	CPICH_RSCP_(x - 8)	CPICH_RSCP_(x - 28)			
Highest reported value cell2	CPICH_Ec/No_(x + 8)	CPICH_Ec/No_(x - 12)			
CPICH RSCP x is the reported value of 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.

# 8.7.2 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 $|_{dBm} \ge -114 \text{ dBm}$  for Band I.
- CPICH\_RSCP1 $|_{dBm} \ge -112 \text{ dBm}$  for Band II,
- CPICH\_RSCP1 $|_{dBm} \ge -111 dBm$  for Band III.

$$- \left. \frac{I_o}{\left( \overset{\bullet}{P}_{or} \right) \right|_{in \ dB}} - \left. \left( \frac{CPICH \_ E_c}{I_{or}} \right) \right|_{in \ dB} \le 20 dB \, .$$

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

Parameter Unit Normal condition			Conditions			
		Normal condition	Extreme	lo [dBm/3.84 MHz]		
		Normal condition	condition	Band I	Band II	Band III
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	-9250	-9150

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.

Table 8.7.2.1.1.2: CPICH	_Ec/lo Intra	frequency	parameters
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Boro	motor	Unit	Tes	st 1	Tes	st 2	Test 3	
Faranieter		Unit	Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2
UTRA RF Chai	nnel number		Char	Channel 1		nel 1	Channel 1	
CPICH Ec/lor		dB	-1	0	-1	0	-1	0
PCCPCH Ec/l	or	dB	-1	2	-1	2	-1	2
SCH Ec/lor		dB	-1	2	-1	2	-1	2
PICH_Ec/lor		dB	-1	5	-1	5	-1	5
DPCH_Ec/lor		dB	-15	-	-15	-	-6	-
OCNS_Ec/lor		dB	-1.11	-0.94	-1.11	-0.94	-2.56	-0.94
Ioc Band I Band II Band II			-56.98		-89.07		-94.98	
		dBm/ 3.84 MHz			-87.07		-92.98	
					-86.07		-91.98	
Ober/loc	Obr/loc		3.0	3.0	-2.9	-2.9	-9.0	-9.0
CPICH Ec/lo, N	Note 1	dBm	-14.0	-14.0	-16.0	-16.0	-20.0	-20.0
Io, Note 1	Band I				-8	36	-9	)4
	Band II	dBm/3.84 MHz	-50		-84		-92	
	Band III				-8	33	-9	)1
Propagation condition - AWGN AWGN				'GN	AW	GN		
NOTE 1: CPI	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 exec	cuted test p	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.								

# 8.7.2.1.1.4.2 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 for Test 1 are set up according to table 8.7.2.1.1.5.
- 2) SS shall transmit MEASUREMENT CONTROL message.
- 3) UE shall transmit periodically MEASUREMENT REPORT messages.
- 4) 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.
- 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 8.7.2.1.1.5 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 4) above is repeated. After further 1000 MEASUREMENT REPORT messages have been received from UE, the RF parameters are set up according to table 8.7.2.1.1.5 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 4) above is 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.

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
Ö	Ö	Ö
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

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

MEASUREMENT CONTROL message for Intra frequency measurement	(Ste	p 1	):
	(	r .	

Information Element	Value/Remark			
Message Type				
LIE information alamanta				
DE Information elements	0			
	0			
-message authentication code	SS calculates the value of MAC-I for this			
-RRC message sequence number	message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I. SS provides the value of this IE, from its			
	internal counter.			
Measurement Information elements				
-Measurement Identity				
-Measurement Command	Modify			
-Measurement Reporting Mode	Acknowledged mode RLC			
- Measurement Report Transfer Mode	Periodical reporting			
- Periodical Reporting / Event Trigger Reporting				
	Not Present			
	Intra-frequency measurement			
-CHOICE Measurement Type				
-Intra-frequency measurement	Net Dresent			
- Intra-frequency measurement objects list	Not Present			
-intra-irequency measurement quantity	0			
-OHOICE mode Measurement quantity				
-measurement quantity	CFICH HOOF			
-Initia-frequency reporting quantity				
-Cell synchronisation information reporting				
indicator	TRUE			
-Cell Identity reporting indicator	INDE			
-CHOICE mode	TRUE			
-CPICH Ec/N0 reporting indicator	FDD			
-CPICH RSCP reporting indicator	TRUE			
-Pathloss reporting indicator	TRUE			
-Reporting quantities for monitored set cells	FALSE			
-Cell synchronisation information reporting				
indicator				
-Cell Identity reporting indicator	FALSE			
-CHOICE mode				
-CPICH Ec/N0 reporting indicator	FALSE			
-CPICH RSCP reporting indicator	FDD			
-Pathloss reporting indicator	TRUE			
-Reporting quantities for detected set cells	TRUEFALSE			
-Reporting cell status	FALSE			
-CHOICE reported cell	Not Present			
-Maximum number of reported cells	Beport all active set cells + cells within			
-Measurement validity	monitored set on used frequency			
-CHOICE report criteria	Virtual/active set cells + 2			
-Amount of reporting	Not Present			
-Reporting interval	Periodical reporting criteria			
	Infinity			
	250 ms			
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.

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 (ñ99 dBm, -97 dBm, -96 dBm for Frequency Band I, II and III respectively) 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.

		Accuracy [dB]	Conditions			
Parameter	Unit	Normal condition	Extreme	lo [dBm/3.84 MHz]		
		Normal condition	condition	Band I	Band II	Band III
		-3.1Ö 1.9 for -14 ≤ CPICH Ec/lo ñ3.6Ö 2.4 for -16 ≤ CPICH Ec/lo < -14	-4.6Ö 3.4	-9487	-9285	-9184
CPICH_Ec/ dB	dB	ñ4.6O 3.4 for -20 ≤ CPICH Ec/lo < -16				
		$\pm$ 1.95 for -14 $\leq$ CPICH Ec/lo				
		$\pm$ 2.4 for -16 $\leq$ CPICH Ec/lo < -14	± 3.4	-8750	-8550	-8450
		$\pm$ 3.4 for -20 $\leq$ CPICH Ec/lo < -16				

Table 8.7.2.1.1.4: CPICH\_Ec/lo Intra frequency absolute accuracy, test requirements

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

Dara	motor	Unit	Te	st 1	Test 2		Test 3	
Farailleter		Unit	Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2
UTRA RF Char	nnel number		Char	nnel 1	Char	nel 1	Chan	nnel 1
CPICH Ec/lor		dB	-9	).7	-9	.8	-9	.9
PCCPCH_Ec/lo	or	dB	-1	1.7	-11	1.8	-11	1.9
SCH Ec/lor		dB	-1	1.7	-1	1.8	-11	1.9
PICH_Ec/lor		dB	-1-	4.7	-14	4.8	-14	4.9
DPCH_Ec/lor		dB	-14.7	-	-14.8	-14.8 -		-
OCNS_Ec/lor	OCNS Ec/lor		-1.2	-1.02	-1.17	-0.99	-2.64	-0.97
	Band I				-89.07		-93.98	
loc Band II		dBm/ 3.84 MHz	-58.5		-87.07		-91.98	
	Band III				-86.07		-90.98	
O∰r/loc		dB	3.3	3.3	-2.6	-2.6	-8.7	-8.7
CPICH Ec/lo, N	lote 1	dBm	-13.6	-13.6	-15.6	-15.6	-19.6	-19.6
Band I					-85.85		-92.9	
lo, Note 1	Band II	dBm / 3.84 MHz	-51.3		-83.85		-90.9	
Band III					-82.85		-89.9	
Propagation co	Propagation condition		AW	/GN	AWGN		AWGN	
NOTE 1: CPIC	CH Ec/lo and lo le	evels have been calcu	lated from	other para	meters for	informatio	n purposes	s. They

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.

The reported values for the absolute intra frequency CPICH Ec/Io measurement shall meet the requirements in table 8.7.2.1.1.6.

# Table 8.7.2.1.1.6: CPICH\_Ec/lo Intra frequency absolute accuracy requirements for the reported values

	Test 1		Test 3
Normal Conditions			
Lowest reported value	CPICH Ec/No 17	CPICH Ec/No 12	CPICH Ec/No 0
Highest reported value	CPICH_Ec/No_25	CPICH_Ec/No_22	CPICH_Ec/No_16
Extreme Conditions			
Lowest reported value	CPICH_Ec/No_14	CPICH_Ec/No_10	CPICH_Ec/No_0
Highest reported value	CPICH_Ec/No_28	CPICH_Ec/No_24	CPICH Ec/No 16

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 $|_{dBm} \ge -114 \text{ dBm}$  for Band I.
- CPICH\_RSCP1,2 $|_{dBm} \ge -112 \text{ dBm}$  for Band II,
- CPICH\_RSCP1,2 $|_{dBm} \ge -111 \text{ dBm}$  for Band III.

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

$$\left. \begin{array}{c} I_{o} \\ \left( \dot{P}_{or} \right) \right|_{in \ dB} & - \left( \frac{CPICH - E_{c}}{I_{or}} \right) \right|_{in \ dB} \leq 20 dB \, .$$

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

		Accuracy [dB]		Conditions			
Parameter	Unit	Normal condition	Extreme	lo [dBm/3.84 MHz]			
		Normal condition	condition	Band I	Band II	Band III	
	dB	$\pm$ 1,5 for -14 $\leq$ CPICH Ec/lo					
CPICH_Ec/lo		$\pm 2$ for -16 $\leq$ CPICH Ec/lo < -14	±3	-9450	-9250	-9150	
		$\pm$ 3 for -20 $\leq$ 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.

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.

# 8.7.2.1.2.4.2 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 for Test 1 are set up according to table 8.7.2.1.2.3.
- 2) SS shall transmit MEASUREMENT CONTROL message.
- 3) UE shall transmit periodically MEASUREMENT REPORT messages.
- 4) 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.

- 5) The result of step 3) is compared to actual power level difference of CPICH\_Ec/Io of Cell 1 and Cell 2.
- 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 8.7.2.1.2.3 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 4) and 5) above are repeated. After further 1000 MEASUREMENT REPORT messages have been received from UE, the RF parameters are set up according to table 8.7.2.1.2.3 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 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], 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

Accuracy [dB]			Conditions			
Parameter Unit		Normal condition	Extreme	lo [dBm / 3.84 MHz]		
		Normal condition	condition	Band I	Band II	Band III
	dB	$\pm 2.3$ for -14 $\leq$ CPICH Ec/lo				
CPICH_Ec/lo		$\pm 2.8$ for -16 $\leq$ CPICH Ec/lo < -14	±3.8	-9450	-9250	-9150
		$\pm$ 3.8 for -20 $\leq$ CPICH Ec/lo < -16				

Baramotor		Unit	Test 1		Test 2		Test 3	
Fai	ameter	Unit	Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2
UTRA RF Cha	nnel number		Channel 1		Channel 1		Channel 1	
CPICH_Ec/lor		dB	-9	.7	-9	.8	-9	.9
PCCPCH Ec/lor		dB	-11.7		-11.8		-11.9	
SCH_Ec/lor		dB	-11.7		-11.8		-11.9	
PICH_Ec/lor		dB	-14	4.7	-14	4.8	-14	4.9
DPCH_Ec/lor		dB	-14.7	-	-14.8	-	-5.9	-
OCNS_Ec/lor		dB	-1.2	- 1.02	-1.17	-0.99	-2.64	-0.97
	Band I		-58.5		-89.07		-93.98	
loc	Band II	dBm/ 3.84 MHz			-87.07		-91.98	
	Band III				-86.07		-90.98	
Obr/loc		dB	3.3	3.3	-2.6	-2.6	-8.7	-8.7
CPICH Ec/lo,	Note 1	dBm	-13.6	.6 -13.6 -15.6 -15.6 -19.6		-19.6		
	Band I				-85	.85	-92	2.9
lo, Note 1	Band II	dBm / 3.84 MHz	-51,3		-83.85		-90.9	
	Band III				-82.85		-89.9	
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 b	2 and 3 shall be set within 5 seconds so that UE does not loose the Cell 2 in between the tests							

The reported values for the relative intra frequency CPICH Ec/Io measurement shall meet the requirements in table 8.7.2.1.2.4.

# Table 8.7.2.1.2.4: CPICH\_Ec/lo Intra frequency relative accuracy requirements for the reported values

	Test 1	Test 2	Test 3			
Normal Conditions						
Lowest reported value cell 2	CPICH_Ec/No_(x - 5)	CPICH_Ec/No_(x - 6)	CPICH_Ec/No_(x - 8)			
Highest reported value cell 2	CPICH_Ec/No_(x+ 5)	CPICH_Ec/No_(x + 6)	CPICH_Ec/No_(x+ 8)			
Extreme Conditions						
Lowest reported value cell2	CPICH Ec/No (x - 8)	CPICH Ec/No (x - 8)	CPICH Ec/No (x - 8)			
Highest reported value cell2	CPICH_Ec/No_(x + 8)	CPICH_Ec/No_(x+ 8)	CPICH_Ec/No_(x+ 8)			
CPICH Ec/No x is the reported value of 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.

# 8.7.2.2 Inter frequency measurement accuracy

8.7.2.2.1 Absolute accuracy requirement

Void

- 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 $|_{dBm} \ge -114 \text{ dBm}$  for Band I.

- CPICH\_RSCP1,2 $|_{dBm} \ge -112 \text{ dBm}$  for Band II,
- CPICH\_RSCP1,2 $|_{dBm} \ge -111$  dBm for Band III.
- $|CPICH \_RSCP1|_{in \, dBm} CPICH \_RSCP2|_{in \, dBm}| \le 20 \, dB$ .
- | Channel 1\_Io|<sub>dBm/3.84 MHz</sub> -Channel 2\_Io|<sub>dBm/3.84 MHz</sub> |  $\leq$  20 dB.

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

Table 8.7.2.2.2.1: CPICH\_Ec/lo Inter frequency relative accuracy, minimum requirements

Parameter	Unit	Accuracy [dB]	Conditions			
		Normal condition	Extreme	lo [dBm/3.84 MHz]		
			condition	Band I	Band II	Band III
	dB	$\pm$ 1.5 for -14 $\leq$ CPICH Ec/lo				
CPICH_Ec/lo		$\pm 2$ for -16 $\leq$ CPICH Ec/lo < -14	±3	-9450	-9250	-9150
		$\pm 3$ 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 except for TGRRC and TGCFN. TGPRC and TGCFN shall set to "Infinity" and "(Current CFN +  $(256 \ n\ TTI/10msec))$ mod 256". CPICH Ec/Io inter frequency relative accuracy requirements are tested by using test parameters in table 8.7.2.2.2.2.

r		r			_		_	
Parameter		Unit	Test 1		Test 2		Test 3	
		Onic	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			Onanner		Onameri		Onarmer	
CPICH Ed	c/lor	dB	-10		-10		-10	
PCCPCH	Ec/lor	dB	-12		-12		-12	
SCH_Ec/lo	or	dB	-12		-12		-12	
PICH Ec/lor		dB	-15			15	-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	Band I	dBm/ 3.84 MHz	-52.22	-52.22	-87.27	-87.27	-94.46	-94.46
	Band II				-85.27	-85.27	-92.46	-92.46
	Band III				-84.27	-84.27	-91.46	-91.46
@Er/loc		dB	-1.75	-1.75	-4.7	-4.7	-9.54	-9.54
CPICH Ec/Io, Note 1		dBm	-14.0	-14.0	-16.0	-16.0	-20.0	-20.0
lo, Note 1	Band I	dBm/3.84 MHz	-50	-50	-86	-86	-94	-94
	Band II				-84	-84	-92	-92
	Band III				-83	-83	-91	-91
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 parameters

#### 8.7.2.2.2.4.2 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 for Test 1 are set up according to table 8.7.2.2.2.4.
- 2) SS shall transmit PHYSICAL CHANNEL RECONFIGURATION message.
- 3) UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message.
- 4) SS shall transmit a MEASUREMENT CONTROL message for intra frequency measurement and transmit another MEASUREMENT CONTROL message for inter frequency measurement.
- 5) UE shall transmit periodically MEASUREMENT REPORT messages.
- 6) 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.
- 7) The result of step 6) is compared to actual power level difference of CPICH\_Ec/Io of Cell 1 and Cell 2.
- 8) 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 8.7.2.2.2.4 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. Then, steps 6) and 7) above are repeated. After further 1000 MEASUREMENT REPORT messages have been received from UE, the RF parameters are set up according to table 8.7.2.2.2.4 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. Then, steps 6) and 7) above are repeated.
- 9) After 1000 MEASUREMENT REPORT messages have been received from UE, the SS shall transmit RRC CONNECTION RELEASE message.
- 10) 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], with the following exceptions:
Message Type         Undertermink           UE Information Elements         FRAC transaction identifier         0           -Integrity check info         0           -message authentication code         SS calculates the value of MAC-I for this message and writes to this IE. The first/ leftmost bit of the bits tring contains the most significant bit of the MAC-I.           -RRC message sequence number         SS provides the value of this IE, from its internal counter.           -Integrity protection mode info         Not Present           -Cohering mode info         Not Present           -New C-RNTI         Not Present           -New C-RNT         Not Present           -New C-RNT         Not Present           -UTRAN DRX cycle length coefficient         Not Present           CN Information elements         -Omentix counter synchronisation info           OW Inkr radio resources         Not Present           -CHOICE channel requirement         Not Present           -Downlink information elements         -FDD           -Downlink information on for all radio links         -FDD           -Downlink information prof all radio links         -FDD           -Downlink information parameters         -TGAPA           -TGAPA         -TGAPA           -TGAPA         G           -TGAPA         -TGAPA<	Information Element	Value/Remark
Internation Elements         0           -RRC transaction identifier         0           -Integrity check info         0           -ressage authentication code         SS calculates the value of MAC-1 for this message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-1.           -RRC message sequence number         SS provides the value of MAC-1 for this message and writes to this IE. from its internal counter.           -Integrity protection mode info         Not Present           -Colleving mode info         Not Present           -Activation time         Not Present           -New U-RNTI         Not Present           -Wer U-RNA DPX cycle length coefficient         Not Present           -CN Information elements         Not Present           -UTRAN mobility information elements         Not Present           -Downlink rober resources         Not Present           -PhyCH information elements         Not Present           -Downlink information elements         Not Present           -Ownlink rober resources         Not Present           -PhyCH information end on for all radio links         Not Present           -Ownlink information comon for all radio links         Not Present           -Ownlink information aparaters         FDD           -Tasmmission gap pattern sequence	Message Type	Value/Kemark
UE Information Elements       0         -Integrity check info       0         -message authentication code       SS calculates the value of MAC-I for this message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-1.         -RRC message sequence number       SS provides the value of this IE. The first/ leftmost bit of the value of this IE. from its internal counter.         -Integrity protection mode info       Not Present         -Ciphering mode info       Not Present         -New C-RNT       Not Present         -New C-RNT       Not Present         -New C-RNT       Not Present         -UTRAN DRX cycle length coefficient       Not Present         -UTRAN mobility information elements       Not Present         -UTRAN mobility information elements       Not Present         -Dawnlink counter synchronisation info       Not Present         -Diplick radio resources       FDD         -CHOICE mode       FDD         -Downlink radio resources       FDD         -TGPS Status Flag       1         -TGPS Status Flag       1         -TGPS CrapPic       FDD measurement         -TGPS CrapPic       Not Present         -TGPS CrapPic       Not Present         -TGPRC       TGM         -TGP	Meddage Type	
-RRC transaction identifier         0           -Integrity protection mode info         SS calculates the value of MAC-I for this message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.           -RRC message sequence number         SS provides the value of this IE, from its internal counter.           -Integrity protection mode info         Not Present           -Cphering mode info         Not Present           -Activation time         Not Present           -New U-RNTI         Not Present           -New U-RNTI         Not Present           -New U-RNTI         Not Present           -CN Information elements         Not Present           -UTRAN mobility information elements         Not Present           -CN Information elements         Not Present           -URAN induction elements         Not Present           -URAN induction elements         Not Present           -URAN induction elements         Not Present           -Downlink radio resources         Not Present           -CHOICE channel requirement         Not Present           -Downlink radio resources         FDD           -CHOICE channel fagurement         Not Present           -Downlink information elements         Not Present           -Downlink information or momon for all radio li	UE Information Elements	
Integrity check info         Scalculates the value of MAC-1 for this           -message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the bit string contains the most significant bit of the bit string contains the most significant bit of the Value of this IE, from its internal counter.           -RPC message sequence number         SS provides the value of this IE, from its internal counter.           -Integrity protection mode info         Not Present           -Qhering mode info         Not Present           -New C-RNTI         Not Present           -New C-RNTI         Not Present           -RC State Indicator         CELL_DCH           -UTRAN DRX cycle length coefficient         Not Present           -CN Information elements         Not Present           -Domlink counter synchronisation info         Not Present           -Domlink counter synchronisation info         Not Present           -CHOICE Annel requirement         Not Present           -CHOICE Annel requirement         Not Present           -CHOICE Charnel requirement         Not Present           -Tran	-RRC transaction identifier	0
-message authentication code         SS calculates the value of MAC-1 for this message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-1.           -RC message sequence number         SS provides the value of this IE, from its internal counter.           -Integrity protection mode info -Ciphering mode info -Activation time         Not Present           -Activation time         Not Present           -New U-RNTI         Not Present           -New U-RNTI         Not Present           -New U-RNTI         Not Present           -New U-RNTI         Not Present           -Activation time         Not Present           CN Information elements         Not Present           -UTRAN mobility information elements         Not Present           -Downlink radio resources         Not Present           -CHOICE channel requirement         Not Present           -Downlink radio resources         FDD           -Downlink radio resources         FDD           -Transmission gap pattern sequence         FDD           -TGRPS         FDD           -TGRPG         Infinity           -TGPAC         Infinity           -TGRPS         Status Flag           -TGRPS         G           -TGRPS         Status Flag	-Integrity check info	
-RC message sequence number       message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-1.         -RRC message sequence number       SS provides the value of this IE, from its internal counter.         -Integrity protection mode info       Not Present         -Activation time       Not Present         -Activation time       Not Present         -New U-RNTI       Not Present         -OWING Elements       Not Present         -UTRAN mobility information elements       Not Present         -URAN identity       Not Present         -Downlink counter synchronisation info       Not Present         -PhyCH information elements       Not Present         -Obornlink PSCH information       Not Present         -Downlink radio resources       FDD         -CHOICE mode       -DPCH compresed mode info         -Transmission gap pattern sequence       FDD         -TGPS Status Flag       -         -TGPS Compresed mode info       -         -Transmission gap pattern sequence       GU         -TGPRC       -	-message authentication code	SS calculates the value of MAC-I for this
-RRC message sequence number         significant bit of the bit string contains the most significant bit of the MAC1. SS provides the value of this IE, from its internal counter.           -Integrity protection mode info -Ciphering mode info -Activation time         Not Present           -Activation time         Not Present           -New U-RNT1         Not Present           New U-RNT1         Not Present           -New U-RNT0         Not Present           -New U-RNT1         Not Present           -New U-RNT1         Not Present           -Activation time         Not Present           -UTRAN DRX cycle length coefficient         Not Present           -UTRAN mobility information elements         Not Present           -Ownlink counter synchronisation info         Not Present           -Downlink radio resources         Not Present           -CHOICE channel requirement         Not Present           -Downlink indo resources         FDD           -OWNINK radio resources         FDD           -Transmission gap pattern sequence         FDD           -TGRPS         Status Flag           -TGRPS         FDD           -TGRPG         Infinity           -TGRPS         Graph           -TGRPS         Status Flag           -TGRPS         Grap		message and writes to this IE. The first/
-RRC message sequence number       significant bit of the MAC-1.         -RRC message sequence number       Sprovides the value of this IE, from its internal counter.         -Integrity protection mode info       Not Present         -Chyptering mode info       Not Present         -Activation time       Not Present         -New C-RNTI       Not Present         -New C-RNTI       Not Present         -UTRAN motion Elements       Not Present         -CN Information elements       Not Present         -UTRAN motion elements       Not Present         -UTRAN motion elements       Not Present         -UTRAN motion elements       Not Present         -UDRIN chornation elements       Not Present         -Downlink radio resources       Not Present         -CHOICE channel regurement       Not Present         -Downlink information common for all radio links       Not Present         -Downlink information common for all radio links       Not Present         -Downlink information sequence       FDD         -TGPS Status Flag       1         -TGPS Status Flag       1         -TGPS Chint presed mode info       -Transmission gap pattern sequence         -TGPRC       Not Present         -TGPS Chinformation       Not Present		leftmost bit of the bit string contains the most
-RRC message sequence number       SS provides the value of this IE, from its internal counters.         -Integrity protection mode info       Not Present         -Ciphering mode info       Not Present         -New U-RNT       Not Present         New C-RNT       Not Present         -New U-RNT       Not Present         -New C-RNT       Not Present         -TRAN DRX cycle length coefficient       Not Present         -CN Information elements       -CHIFAN mobility information elements         -UTRAN DRX cycle length coefficient       Not Present         -Downlink counter synchronisation info       Not Present         -Downlink calio resources       FDD         -Hrequency info       Not Present         -CHOICE channel requirement       Not Present         -Downlink radio resources       FDD         -CHOICE mode       FDD         -Downlink information common for all radio links       Not Present         -Downlink information parameters       FDD         -TGPSI       1         -TGPSI       Activate         -TGPSI       1         -TGPSI       7         -TGPSI       7         -TGPSI       7         -TGPL1       7         -TGP2 <td></td> <td>significant bit of the MAC-I.</td>		significant bit of the MAC-I.
Interrity protection mode info         Internal counter.           -Integrity protection mode info         Not Present           -Activation time         Not Present           -Activation time         Not Present           -New U-RNT1         Not Present           -RC State Indicator         CELL_DCH           -UTRAN DRX cycle length coefficient         Not Present           CN Information Elements         Not Present           -CN Information elements         Not Present           -Downlink counter synchronisation info         Not Present           PhyCH information elements         Not Present           -Downlink radio resources         Not Present           -CHOICE mode         Not Present           -Downlink information ocommon for all radio links         Not Present           -Downlink information sequence         FDD           -Transmission gap pattern sequence         FDD           -TGAPSI         1           -TGPS Status Flag         1           -TGPRC         1           -TGPL1         7           -TGPL1         7           -TGPL1         7           -TGRP C         Not Present           -TGRPL         Not Present           -TGPRC         1	-RRC message sequence number	SS provides the value of this IE, from its
Integrity protection mode info Ciphering mode info Activation time New CHNTI New CRNTI New CRNTI CRLIPC		internal counter.
-Cipfering mode info       Not Present         -Activation time       Not Present         -New U-RNTI       Not Present         -New C-RNTI       Not Present         -RC State Indicator       CELL_DCH         -UTRAN DRX cycle length coefficient       Not Present         CN Information Elements       Not Present         -UTRAN mobility information elements       Not Present         -URAN identity       Not Present         PhyCH information elements       -         -Prequency info       Not Present         PhyCH information elements       -         -Frequency info       Not Present         UPINK radio resources       FDD         -Ownlink information common for all radio links       Not Present         -Downlink information common for all radio links       Not Present         -Downlink information common for all radio links       Not Present         -Downlink information apartern sequence       1         -TGPSI       1         -TGPRC       1         -TGL2       Not Present         -TGL2       Not Present         -TGL2       Not Present         -TGPL1       3         -TGPL2       Not Present         -TGPL2       Not P	-Integrity protection mode info	Not Present
-Activation time         Not Present           -New U-RNTI         Not Present           -New C-RNTI         Not Present           -RPC State Indicator         CELL_DCH           -UTRAN DRX cycle length coefficient         Not Present           -CN Information Elements         -           -UTRAN mobility information elements         -           -Downlink counter synchronisation info         Not Present           -Downlink counter synchronisation info         Not Present           -Downlink calor resources         -           -HCHOICE channel requirement         Not Present           -CHOICE channel requirement         Not Present           -Downlink radio resources         -           -CHOICE mode         FDD           -Downlink information common for all radio links         Not Present           -Downlink information common for all RL         -           -OHOICE mode         FDD           -Transmission gap pattern sequence         -           -TGRPS status Flag         1           -TGRS Status Flag         -           -TGRS CI_1         7           -TGL1         7           -TGL1         7           -TGL1         7           -TGL1         7	-Ciphering mode info	Not Present
-New U-RNTI         Not Present           -New C-RNTI         Not Present           -RC State Indicator         CELL_DCH           -UTRAN DRX cycle length coefficient         Not Present           CN Information Elements         Not Present           -CN Information elements         Not Present           -UTRAN mobility information elements         -           -UTRAN mobility information elements         -           -UPA identity         Not Present           -Downlink counter synchronisation info         Not Present           PhyCH information elements         -           -Frequency info         Not Present           Downlink radio resources         FDD           -CHOICE channel requirement         Not Present           Downlink radio resources         FDD           -Downlink romormon for all RL         -           -OHOICE mode         FDD           -Downlink DPCH information         Not Present           -Deroper sources         FDD           -Transmission gap pattern sequence         1           -Transmission gap pattern sequence         1           -Transmission gap pattern sequence         0           -Transmission gap pattern sequence         0           -TGRN         4	-Activation time	Not Present
I-New C-RNTI         Not Present           -RRC State Indicator         CELL_DOH           -UTRAN DRX cycle length coefficient         Not Present           CN Information Elements	-New U-RNTI	Not Present
-RRC State Indicator       CELL_DCH         -UTRAN DRX cycle length coefficient       Not Present         CN Information Elements       Not Present         -UTRAN mobility information elements       Not Present         -URAN mobility information elements       Not Present         -URAN mobility information elements       Not Present         -Downlink counter synchronisation info       Not Present         PhyCH information elements       -         -Frequency info       Not Present         Uplink radio resources       Not Present         -Maxium allowed UL TX power       Not Present         -Obmilink radio resources       FDD         -GHOICE mode       FDD         -Downlink PDSCH information       Not Present         -Downlink DPCH inforomon for all RL       FDD         -CHOICE mode       FDD         -Transmission gap pattern sequence       1         -TGPSI       Activate         Current CFN + (256 ñ TTI/10msec))mod 256       1         -Transmission gap pattern sequence       1         -TGPSI       0         -TGPSI       0         -TGPSI       0         -TGPL2       Not Present         -PDP       Mode 0         -ULDL mode <td>-New C-RNTI</td> <td>Not Present</td>	-New C-RNTI	Not Present
-UTRAN DRX cycle length coefficient         Not Present           CN Information Elements	-RRC State Indicator	CELL DCH
CN Information Elements       Not Present         -UTRAN mobility information elements       Not Present         -URA identity       Not Present         Bi information elements       Not Present         -Downlink counter synchronisation info       Not Present         PhyCH information elements       -         -Frequency info       Not Present         Uplink radio resources       Not Present         -OHOICE channel requirement       Not Present         Downlink radio resources       FDD         -CHOICE mode       FDD         -Downlink Information common for all radio links       Not Present         -Downlink Information common for all radio links       Not Present         -Downlink Information gap pattern sequence       FDD         -TGPS Istatus Flag       1         -TGPS Status Flag       1         -TGPRC       FDD measurement         -TGBRC       TGIL         -TGPL1       7         -TGPL1       3         -TGPL1       3         -TGPL1       3         -TGPL1       3         -TGPL2       Not Present         -TGP       3.0         -TGPL1       3.0         -TGPL2       Not Present <td>-UTRAN DRX cycle length coefficient</td> <td>Not Present</td>	-UTRAN DRX cycle length coefficient	Not Present
-CN Information info         Not Present           UTRAN mobility information elements	CN Information Elements	
UTRAN mobility information elements       Not Present         -URA identity       Not Present         RB information elements       Not Present         -Downlink counter synchronisation info       Not Present         PhyCH information elements       Not Present         -Frequency info       Not Present         Uplink radio resources       Not Present         -Maximum allowed UL TX power       Not Present         Downlink radio resources       FDD         -Downlink Information common for all radio links       FDD         -Downlink DPCH information       Not Present         -Downlink Information common for all RL       Not Present         -OHOICE mode       FDD         -TGPS Status Flag       1         -TGPS Status Flag       1         -TGRFS       1         -TGRPRC       FDD measurement         -TGL2       Not Present         -TGL2       Not Present         -TGPL1       3         -TGPL1       3         -TGPL1       3         -TGPL1       3.0         -TGPL2       Not Present         -Downlink compressed mode method       SF/2         -Downlink frame type       3.0         -Downlink frame ty	-CN Information info	Not Present
-URA identity         Not Present           RB information elements         -           -Downlink counter synchronisation info         Not Present           PhyCH information elements         -           -Frequency info         Not Present           Uplink radio resources         Not Present           -CHOICE channel requirement         Not Present           Downlink radio resources         -           -CHOICE mode         FDD           -Downlink information common for all radio links         Not Present           -Downlink DPCH info common for all RL         Not Present           -Downlink DPCH information         Not Present           -Downlink DPCH information sequence         1           -TGRPSI         1           -TGFR         Activate           -TGGFN         (Current CFN + (256 n̄ TTI/10msec))mod 256           -Transmission gap pattern sequence         1           -TGGFN         4           -TGIAPC         7           -TGBR         4           -TGIA         7           -TGL1         7           -TGL2         Not Present           -TGPL1         3           -TGPL1         3           -TGPL2         Not Present	UTBAN mobility information elements	
RB information elements       Not Present         -Downlink counter synchronisation info       Not Present         PhyCH information elements       Not Present         -Frequency info       Not Present         Uplink radio resources       Not Present         -Od/ICE channel requirement       Not Present         Downlink radio resources       FDD         -Ownlink NDSCH information       Not Present         -Downlink NDPCH information       Not Present         -Downlink NDPCH information common for all RL       Not Present         -CHOICE mode       -DOPCH compressed mode info         -Transmission gap pattern sequence       1         -TGPSI       1         -TGPRC       1         -TGIN       1         -TGIN       4         -TGIN       4         -TGIN       4         -TGIN       4         -TGIN       3         -TGIN       3         -TGIN       4         -TGIN       3         -TGIN       3         -TGIN       3         -TGIN       4         -TGIN       3         -TGIN       3         -TGIN       3	-URA identity	Not Present
-Downlink counter synchronisation info         Not Present           PhyCH information elements         - Frequency info         Not Present           Uplink radio resources         - -Maximum allowed UL TX power         Not Present           -OHOICE channel requirement         Not Present           Downlink radio resources         - CHOICE mode         FDD           -Downlink information common for all radio links         Not Present           -Downlink DPCH info common for all RL         - OHOICE mode         FDD           -Downlink DPCH info common for all RL         Not Present           -Downlink DPCH info common for all RL         Not Present           -Downlink DPCH info common for all RL         Not Present           -TGRPS         FDD           -Transmission gap pattern sequence         (Current CFN + (256 ñ TTI/10msec))mod 256           -Transmission gap pattern sequence         fmfinity           -TGPRC         Infinity           -TGBN         4           -TGPL1         7           -TGL1         7           -TGPL2         Not Present           -PPP         Mode 0           -ITP         Mode 0           -ITP         S/2           -Downlink compressed mode method         SF/2           -Do	BB information elements	
Downlink information elements         Not Present           -Frequency info         Not Present           Uplink radio resources         Not Present           -OHOICE channel requirement         Not Present           Downlink radio resources         FDD           -OHOICE made         FDD           -Downlink DPCH information         Not Present           -Downlink DPCH information common for all radio links         Not Present           -Downlink DPCH inforcement for all radio links         Not Present           -Downlink DPCH inforcement for all radio links         Not Present           -Downlink DPCH inforcement for all radio links         Not Present           -OHOCE mode         -Transmission gap pattern sequence         FDD           -TGPS         1         Activate           -TGGFN         FDD measurement         Infinity           -TGBRC         Infinity         1           -TGPL2         Not Present         0           -TGPL1         3         3           -TGPL2         Not Present         Mode 0           -ITP         Mode 0         UL and DL           -Downlink compressed mode method         SF/2         S/2           -Downlink frame type         B         3.0	-Downlink counter synchronisation info	Not Present
Trajentity     Not Present       Uplink radio resources     Not Present       - CHOICE channel requirement     Not Present       Downlink radio resources     FDD       -CHOICE channel requirement     Not Present       Downlink PDSCH information     FDD       -Downlink IDPCH info common for all radio links     FDD       -Downlink IDPCH info common for all RL     Not Present       -OHOICE mode     FDD       -DPCH compressed mode info     FTansmission gap pattern sequence       -TGPS Status Flag     Activate       -TGCFN     (Current CFN + (256 ñ TTI/10msec))mod 256       -Transmission gap pattern sequence     FDD measurement       configuration parameters     FDD measurement       -TGIPC     Infinity       -TGPL2     Not Present       -Downlink compressed mode method     SF/2       -Downlink frame type     B       -DetaSIR1     3.0       -DetaSIR1     3.0       -DetaSIR1     3.0       -DetaSIR4ter1     3.0       -DetaSIR4ter1     3.0       -DetaSIR4ter1     3.0       -DetasIR4ter2     Not Present <t< td=""><td>PhyCH information elements</td><td></td></t<>	PhyCH information elements	
Trependy model       Not Present         Maximum allowed UL TX power       Not Present         Ocholic resources       Not Present         Downlink radio resources       FDD         -Odwnlink PDSCH information       Not Present         Downlink PDSCH information common for all radio links       Not Present         -Downlink Information common for all radio links       Not Present         -Downlink DPCH info common for all RL       Not Present         -CHOICE mode       FDD         -Develink Information gap pattern sequence       I         -TGPSI       1         -Transmission gap pattern sequence       (Current CFN + (256 ñ TTI/10msec))mod 256         -TGAPR       FDD measurement         -TGAPRC       Infinity         -TGL2       Not Present         -TGL2       Not Present         -TGPL1       3         -TGPL2       Not Present         -RPP       Mode 0         -CHOICE UL/DL mode       SF/2         -Downlink frame type       B         -DeltaSIR1       3.0         -DeltaSIR1       3.0         -DeltaSIR1       3.0         -DeltaSIR1       Not Present         -DeltaSIR1       3.0         -Det	-Frequency info	Not Present
Opminik Table Sources     Not Present       -CHOICE channel requirement     Not Present       Downlink radio resources     FDD       -CHOICE mode     FDD       -Downlink information common for all radio links     Not Present       -Downlink information common for all radio links     Not Present       -Downlink information common for all radio links     Not Present       -Downlink information common for all radio links     Not Present       -Downlink information common for all radio links     Not Present       -Downlink information common for all radio links     Not Present       -Downlink information common for all radio links     Not Present       -Downlink compressed mode info     1       -Transmission gap pattern sequence     1       configuration parameters     -TGNP       -TGRPC     Infinity       -TGAL1     7       -TGPL1     3       -TGPL2     Not Present       -RPP     Mode 0       -Intro     Mode 0       UL and DL     SF/2       -Downlink compressed mode method     SF/2       -DetaSIR1     3.0       -DetaSIR2     Not Present       -DetaSIR3     Not Present       -T Reconfirm abort     Not Present       -T Reconfirm abort     Not Present       -T Reconfirm abort <td>Lolink radio resources</td> <td>Norresent</td>	Lolink radio resources	Norresent
-CHCICE channel resources     Not Present       -CHOICE mode     FDD       -Downlink radio resources     FDD       -Downlink information common for all radio links     Not Present       -Downlink information common for all radio links     Not Present       -Downlink information common for all radio links     Not Present       -Downlink DPCH info common for all RL     -CHOICE mode       -DCHCICE mode     FDD       -DOWNLINK information gap pattern sequence     1       -TGPSI     1       -TGCFN     It infinity       -TGAPC     Infinity       -TGAPC     Infinity       -TGL1     7       -TGL2     Not Present       -TGPL1     3       -TGPL2     Not Present       -TGPL2     Not Present       -TGPL3     3.0       -Downlink compressed mode method     SF/2       -Downlink frame type     B       -DettaSIR1     3.0       -DettaSIR1     3.0       -DettaSIR1     3.0       -DettaSIR1     3.0       -DettaSIR1     Not Present       -TREconfirm abort     Not Present       -T Reconfirm abort     Not Present       -T Reconfirm abort     Not Present       -T Reconfirm abort     Not Present       -T Rob	Maximum allowed LIL TX power	Not Present
Downlink radio resources     FDD       Oownlink radio resources     FDD       Oownlink information common for all radio links     FDD       Downlink DPSCH information     Not Present       OHOUSE mode     FDD       Obwnlink DPCH information     Not Present       CHOICE mode     FDD       ODOWNINK DPCH information common for all RL     Not Present       CHOICE mode     FDD       OPCH compressed mode info     Transmission gap pattern sequence       TGRPS I     1       Activate     (Current CFN + (256 ñ TTI/10msec))mod 256       Transmission gap pattern sequence     (Current CFN + (256 ñ TTI/10msec))mod 256       TGRPS     TGIL1       TGRN     4       TGRPC     Infinity       4     7       TGL1     T       TGRPL1     3       Not Present     0       TGPL1     3       Not Present     0       TGPL1     3       Not Present     0       TGPL2     Not Present       PDWNINk compressed mode method     SF/2       -Downlink rame type     B       DetaSIR1     3.0       DetaSIR1fer1     3.0       Not Present     Not Present       Not Present     Not Present       Nich	- CHOICE channel requirement	Not Present
Downlink radio resources       FDD         O-CHOICE mode       FDD         Downlink PDCH information common for all radio links       Not Present         Downlink DPCH information gap pattern sequence       FDD         -Transmission gap pattern sequence       1         -TGPSI       1         -TGCFN       1         -TGRN       Current CFN + (256 ñ TTI/10msec))mod 256         -Transmission gap pattern sequence       1         oonfiguration parameters       FDD measurement         -TGL1       7         -TGL2       Not Present         -TGPF1       3         -TGPL2       Not Present         -TRPP       Mode 0         -TFP       Mode 0         -TGPL2       Not Present         -RPP       Mode 0         -TGPL3       3.0         -Downlink frame type       B         -DeltaSIR1       3.0         -DeltaSIR4fer1       3.0         -DeltaSIR4fer1       3.0         -TReconfirm abort       Not Present         -TReconfirm abort       Not Present         -TReconfirm abort       Not Present         -TReconfirm abort       Not Present         -TReconfirm abort <td< td=""><td></td><td>Not resent</td></td<>		Not resent
Downlink PDSCH information       Pownlink PDSCH information common for all radio links         Downlink PDSCH information common for all radio links       Not Present         Downlink PDSCH information common for all RL       Not Present         CHOICE mode       1         -Transmission gap pattern sequence       1         -TGPSI       1         -TGPSI       1         -TGPSI       1         -TGRPSI       1         -TGRPRC       (Current CFN + (256 ñ TTI/10msec))mod 256         -Transmission gap pattern sequence       (Current CFN + (256 ñ TTI/10msec))mod 256         -TGRPRC       Infinity         -TGPRC       FDD measurement         -TGPRC       Infinity         -TGPL2       Not Present         -RPP       Mode 0         -CHOICE UL/DL mode       SF/2         -Downlink compressed mode method       SF/2         -Downlink frame type       3         -DeltaSIRafter1       3.0         -DetaSIRafter2       Not Present         -N Identify abort       Not Present         -TR Reconfirm abort       Not Present         -TR Reconfirm abort       Not Present         -DetaSIRafter2       Not Present         -N Identify abort <t< td=""><td>CHOICE mode</td><td>EDD</td></t<>	CHOICE mode	EDD
-Downlink information common for all radio links         -Downlink information common for all radio links         -Downlink DPCH info common for all RL         -CHOICE mode         -DPCH compressed mode info         -Transmission gap pattern sequence         -TGPS Status Flag         -TGCFN         -Transmission gap pattern sequence         configuration parameters         -TGBPC         -TGL2         -TGPL1         -TGPL2         -RPP         -RPP         -CHOICE UL/DL mode         -Downlink frame type         -DeitaSIR1         -DeitaSIR1         -DeitaSIR1         -DeitaSIR1         -TX Diversity Mode         -Downlink information for each radio link ist	Downlink PDSCH information	Not Procent
Downlink DPCH info common for all RL         -Deventink DPCH info common for all RL         -CHOICE mode         -DFCH compressed mode info         -Transmission gap pattern sequence         -TGPSI         -TGCFN         -Transmission gap pattern sequence         configuration parameters         -TGPRC         -TGL1         -TGL1         -TGPL1         -TGPL2         -RPP         -TGPL2         -RPP         -CHOICE UL/DL mode         -Downlink frame type         -DetaSIR1         -TK Diversity Mode         -TK Diversity Mode <td>Downlink FDSCH Information</td> <td>NOL FIESEIIL</td>	Downlink FDSCH Information	NOL FIESEIIL
-DWinink Dr Aniko Connitor for an RL       Not Present         -CHOICE mode       FDD         -DPCH compressed mode info       -         -Transmission gap pattern sequence       1         -TGPS Status Flag       1         -TGCFN       (Current CFN + (256 ñ TTI/10msec))mod 256         -Transmission gap pattern sequence       Infinity         configuration parameters       FDD measurement         -TGRPC       Infinity         -TGL1       7         -TGL2       Not Present         -TGPL1       3         -TGPL2       Not Present         -RPP       Mode 0         -ITP       Mode 0         -Uplink compressed mode method       SF/2         -Downlink frame type       B         -DeltaSIR1       3.0         -DeltaSIR4fer2       Not Present         -N Identify abort       Not Present         -TX Diversity Mode       Not Present         -TX Diversity Mode       Not Present         -TX Diversity Mode       Not Present         -TGD       Not Present         -DetaSIR4fer2       Not Present         -DeltaSIR4fer2       Not Present         -DetaSIR4fer2       Not Present	Downlink information common for all PL	Not Brocont
-DPCH compressed mode info       1         -TGPSI       1         -TGPS Status Flag       1         -TGPS Status Flag       1         -TGCFN       (Current CFN + (256 ñ TTI/10msec))mod 256         -Transmission gap pattern sequence       (Current CFN + (256 ñ TTI/10msec))mod 256         -TGPR       Infinity         -TGPRC       Infinity         -TGL1       7         -TGL2       Not Present         -TGPL1       3         -TGPL2       Not Present         -RPP       Mode 0         -CHOICE UL/DL mode       UL and DL         -Downlink compressed mode method       SF/2         -Downlink frame type       B         -DeltaSIR1       3.0         -DeltaSIR1       3.0         -DeltaSIR1       Not Present         -T Reconfirm abort       Not Present		
-Transmission gap pattern sequence       1         -TGPSI       1         -TGPS Status Flag       1         -TGCFN       (Current CFN + (256 ñ TTI/10msec))mod 256         -Transmission gap pattern sequence       (Current CFN + (256 ñ TTI/10msec))mod 256         -TGRPR       Infinity         -TGPRC       Infinity         -TGL2       Not Present         -TGPL1       3         -TGPICE UL/DL mode       0         -Downlink compressed mode method       SF/2         -Downlink compressed mode method       SF/2         -DeitaSIR1       3.0         -DeitaSIR2       Not Present         -DeltaSIR1fer1       3.0         -DeltaSIR2       Not Present         -TR Reconfirm abort       Not Present         -TFP       Not Present         -DeltaSIR1       3.0         -DeltaSIR2       Not Present         -DeltaSIR2       Not Present         -TR econfirm abort       Not Present         -TR econfirm abort       Not Present         -TRecent Mode       Not Present         -Defusiter       Not Present         -TH econfirm abort       Not Present         -TP econfirm abort       Not Present	DPCH comproseed mode info	FDD
- TGRPSI       1         - TGPSI       1         - TGPSI       Activate         - TGCFN       (Current CFN + (256 ñ TTI/10msec))mod 256         - Transmission gap pattern sequence       (Current CFN + (256 ñ TTI/10msec))mod 256         - TGCFN       (Current CFN + (256 ñ TTI/10msec))mod 256         - TGRPC       Infinity         - TGPRC       Infinity         - TGL1       7         - TGL2       Not Present         - TGPL1       3         - TGPL2       Not Present         - RPP       Mode 0         - TTP       Mode 0         - TTP       Mode 0         - THP       Mode 0         - Downlink compressed mode method       SF/2         - Downlink frame type       B         - DeltaSIR1       3.0         - DeltaSIR1       3.0         - DeltaSIR1       3.0         - DeltaSIR2       Not Present         - T Reconfirm abort       No	-DF CH complessed mode mild	
-TGPS Status Flag       Activate         -TGCFN       Activate         -TGCFN       (Current CFN + (256 ñ TTI/10msec))mod 256         -Transmission gap pattern sequence       FDD measurement         Configuration parameters       FDD measurement         -TGPRC       Infinity         -TGL1       7         -TGL2       Not Present         -TGPL2       Not Present         -TGPL2       Not Present         -RPP       Mode 0         -ITP       Mode 0         -Uplink compressed mode method       SF/2         -Downlink frame type       B         -DeltaSIR1       3.0         -DeltaSIR2       Not Present         -DeltaSIR4       Not Present         -TR Pconfirm abort       Not Present         -DeltaSIR2       Not Present         -DeltaSIR4       3.0         -DeltaSIR4       Not Present         -TR Pconfirm abort       Not Present         -TR Pconfirm abort       Not Present         -TR Pconfirm abort       Not Present         -DetaSIR5       Not Present         -DetaSIR6       Not Present         -TR Pconfirm abort       Not Present         -TR Pconfirm abort	TGDSI	1
-TGCFN       Activate         -TGCFN       (Current CFN + (256 ñ TTI/10msec))mod 256         -TGRP       (Current CFN + (256 ñ TTI/10msec))mod 256         -TGMP       Infinity         -TGPRC       Infinity         -TGL2       Not Present         -TGPL1       3         -TGPL2       Not Present         -RPP       Mode 0         -TFP       Mode 0         -UDIN compressed mode method       SF/2         -Downlink frame type       B         -DeltaSIR1       3.0         -DeltaSIR2       Not Present         -DeltaSIR2       Not Present         -N Identify abort       Not Present         -TR PetasItficer2       Not Present         -DeltaSIR1       3.0         -DeltaSIR2       Not Present         -DeltaSIR2       Not Present         -TR Peconfirm abort       Not Present         -DeftasIRafter2       Not Present         -TR Peconfirm abort       Not Present         -TR Peconfirm abort       Not Present         -TR Peconfirm abort	TGPS Status Elag	
-Transmission gap pattern sequence configuration parameters       FDD measurement         -TGPRC       Infinity         -TGSN       4         -TGL1       7         -TGD       0         -TGPL1       3         -TGPL2       Not Present         -TGPL2       Not Present         -RPP       Mode 0         -CHOICE UL/DL mode       UL and DL         -Downlink compressed mode method       SF/2         -DeitaSIR1       3.0         -DeltaSIR2       Not Present         -DeltaSIR1       3.0         -DeltaSIR2       Not Present         -DeltaSIR1       3.0         -DeltaSIR2       Not Present         -DeltaSIR2       Not Present         -TR Pconfirm abort       Not Present         -TR Pconfirm abort       Not Present         -DettaSIR2       Not Present         -DeltaSIR4ter2       Not Present         -TR Pconfirm abort       Not Present         -TR Pconfirm abort       Not Present         -DeftaSIR4ter2       Not Present         -DeltaSIR4ter2       Not Present         -Downlink information       Not Present         -Downlink information       Not Present <td>TOCEN</td> <td>(Current CEN + (256 ñ TTI/10msoo))mod 256</td>	TOCEN	(Current CEN + (256 ñ TTI/10msoo))mod 256
-Transmission gap pattern sequence configuration parametersFDD measurement-TGMPInfinity-TGRCInfinity-TGSN4-TGL17-TGL2Not Present-TGPL2Not Present-TGPL2Not Present-TGPL2Not Present-TTPMode 0-TTPMode 0-TTPUL and DL-Downlink compressed mode methodSF/2-DeltaSIR13.0-DeltaSIR43.0-DeltaSIR43.0-DeltaSIR4Not Present-N Identify abortNot Present-T Reconfirm abortNot Present-TX Diversity ModeNot Present-Default DPCH Offset ValueNot Present-Default DPCH Offset ValueNot Present-Dewnlink information per radio link listNot Present-Downlink information per adio link list-Downlink information per adio link list	-IGOFN	
- Transmon gap parten sequence         configuration parameters         - TGMP         - TGPRC         - TGSN         4         - TGL2         - TGL2         - TGPL1         - TGPL2         - TGPL2         - TGPL1         - TGPL2         - TGPL1         - TGPL2         - TGPL3         - TGPL4         - TGPL5         - TGPL5         - TGPL6         - TGPL2         - TGPL2         - Downlink compressed mode method         - Downlink frame type         - DeltaSIR1         - DeltaSIR1         - DeltaSIR1         - DeltaSIR1         - DeltaSIR4fer1         - N Identify abort         - T Reconfirm abort         - DeltaSIL after1         - SS	Transmission gan pattern sequence	
-TGMP       FDD measurement         -TGPRC       Infinity         -TGSN       4         -TGL1       7         -TGD       0         -TGPRC       0         -TGL2       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         -Downlink frame type       B         -Downlink frame type       B         -DeltaSIR1       3.0         -DeltaSIR1       3.0         -DeltaSIR1       Not Present         -N Identify abort       Not Present         -T Reconfirm 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	configuration parameters	
- TGPRC       Infinity         - TGPRC       Infinity         - TGSN       4         - TGL1       7         - TGL2       Not Present         0       - TGPL1         - TGPL2       Not Present         - RPP       Mode 0         - TTP       Mode 0         - CHOICE UL/DL mode       UL and DL         - Downlink compressed mode method       SF/2         - Downlink frame type       B         - DeltaSIR1       3.0         - DeltaSIR2       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 list       -Downlink information for each radio link		EDD measurement
-TGRN       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       B         -DeltaSIR1       3.0         -DeltaSIR2       Not Present         -DeltaSIR4fer1       3.0         -DeltaSIR4fer2       Not Present         -N Identify abort       Not Present         -T Reconfirm abort       Not Present         -T Reconfirm abort       Not Present         -T X 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         -Downlink information for each radio link       -Downlink information for each radio link		Infinity
-TGUN       +         -TGL1       7         -TGL2       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         -Downlink compressed mode method       SF/2         -Downlink frame type       B         -DeltaSIR1       3.0         -DeltaSIR2       Not Present         -DeltaSIR4ter1       3.0         -DeltaSIR4ter2       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         -Downlink information for each radio link       -EDD		11111111y
-TGL1/-TGL2Not Present-TGPL13-TGPL2Not Present-RPPMode 0-ITPMode 0-CHOICE UL/DL modeUL and DL-Downlink compressed mode methodSF/2-Downlink compressed mode methodSF/2-Downlink frame typeB-DeitaSIR13.0-DeitaSIR2Not Present-DeitaSIR2Not Present-N Identify abortNot Present-T Reconfirm abortNot Present-TX Diversity ModeNot Present-Default DPCH Offset ValueNot Present-Default DPCH Offset ValueNot Present-Default pPCH Offset ValueNot Present-Downlink information per radio link list-Downlink information for each radio link-Choice modeFDD	TGL1	7
TGD0-TGPL13-TGPL2Not Present-RPPMode 0-ITPMode 0-CHOICE UL/DL modeUL and DL-Downlink compressed mode methodSF/2-Uplink compressed mode methodSF/2-Downlink frame typeB-DeltaSIR13.0-DeltaSIR2Not Present-DeltaSIR2Not Present-N Identify abortNot Present-T Reconfirm abortNot Present-TX Diversity ModeNot Present-Default DPCH Offset ValueNot Present-Default DPCH Offset ValueNot Present-Downlink information per radio link list-Downlink information for each radio link-Choice modeFDD		7 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         -DeltaSIR1       3.0         -DeltaSIR2       Not Present         -DeltaSIR4fer1       3.0         -DeltaSIR4fer2       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         -Downlink information for each radio link       -DD		
Instructor-TGPL2Not Present-RPPMode 0-ITPMode 0-CHOICE UL/DL modeUL and DL-Downlink compressed mode methodSF/2-Uplink compressed mode methodSF/2-Downlink frame typeB-DettaSIR13.0-DeltaSIR2Not Present-DeltaSIR2Not Present-DeltaSIR4fter2Not Present-N Identify abortNot Present-T Reconfirm abortNot Present-TX Diversity ModeNot Present-SSDT informationNot Present-Default DPCH Offset ValueNot Present-Downlink information for each radio linkFDD		
-rourL2       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         -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       FDD		S Not Procent
-ITTInde 0-ITPMode 0-CHOICE UL/DL modeUL and DL-Downlink compressed mode methodSF/2-Uplink compressed mode methodSF/2-Downlink frame typeB-DeltaSIR13.0-DeltaSIRafter13.0-DeltaSIR2Not Present-DeltaSIRafter2Not Present-N Identify abortNot Present-T Reconfirm abortNot Present-TX Diversity ModeNot Present-SSDT informationNot Present-Default DPCH Offset ValueNot Present-Downlink information per radio link listNot Present-Downlink information for each radio linkFDD		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         -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       FDD		Mode 0
-Downlink compressed mode method       SF/2         -Uplink compressed mode method       SF/2         -Downlink frame type       B         -DeltaSIR1       3.0         -DeltaSIRafter1       3.0         -DeltaSIRafter2       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       FDD	-CHOICE LIL/DL mode	
-Uplink compressed mode method       SF/2         -Uplink compressed mode method       SF/2         -Downlink frame type       B         -DeltaSIR1       3.0         -DeltaSIRafter1       3.0         -DeltaSIRafter2       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       FDD	-Downlink compressed mode method	SE did DE
-Downlink frame type       B         -DeltaSIR1       3.0         -DeltaSIRafter1       3.0         -DeltaSIRafter2       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       FDD	-Downlink compressed mode method	SF/2 SF/2
-DeltaSIR1       3.0         -DeltaSIRafter1       3.0         -DeltaSIRafter1       3.0         -DeltaSIRafter2       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       FDD	-Downlink frame type	B
-DeltaSIRafter1       3.0         -DeltaSIRafter1       3.0         -DeltaSIRafter2       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       FDD	-DeltaSIB1	30
-DeltaSIR2     Not Present       -DeltaSIRafter2     Not Present       -N Identify abort     Not Present       -T Reconfirm 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     FDD	-DeltaSIBafter1	3.0
-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     FDD	-DeltaSIB2	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     FDD	-DeltaSIBafter2	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     FDD	-N Identify 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     FDD	-T Reconfirm abort	Not Present
-SSDT information -Default DPCH Offset Value -Downlink information per radio link list -Downlink information for each radio link -Choice mode	-TX Diversity Mode	Not Present
-Default DPCH Offset Value     -Downlink information per radio link list     -Downlink information for each radio link     -Choice mode     -Choice mode	-SSDT information	Not Present
-Downlink information for each radio link -Choice mode		Not Present
-Downlink information for each radio link	-Downlink information per radio link list	
-Choice mode	-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	Set to value Default DPCH Offset Value ( as
	currently stored in SS) mod 38400
-Secondary CPICH info	Not Present
-DL channelisation code	
-Secondary scrambling code	Not Present
-Spreading factor	128
-Code number	96
-Scrambling code change	No code change
-TPC combination index	0
-SSDT Cell Identity	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/Remark
Message Type	
UE information elements	
-RRC transaction identifier	0
-Integrity check into	00 selectes the using of MAO I fourthis
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IE. The first/
	eignificant bit of the MAC I
PPC magazan anguanan number	Significant bit of the MAC-1.
-nno message sequence number	internal counter
Measurement Information elements	
Measurement Identity	1
-Measurement Command	Modify
-Measurement Benorting Mode	Wearry
- Measurement Report Transfer Mode	Acknowledged mode BLC
- Periodical Reporting / Event Trigger Reporting	Periodical reporting
Mode	r choulour roporting
-Additional measurement list	Not Present
-CHOICE Measurement Type	Intra-frequency measurement
-Intra-frequency measurement	initia nequency measurement
- Intra-frequency measurement objects list	
-Intra-frequency cell info list	Not Present
-Intra-frequency measurement quantity	
-Filter coefficient	0
-CHOICE mode	FDD
-Measurement quantity	CPICH RSCP
-Intra-frequency reporting quantity	
-Reporting quantities for active set cells	
-Cell synchronisation information reporting	
indicator	
-Cell Identity reporting indicator	TRUE
-CHOICE mode	
-CPICH Ec/N0 reporting indicator	TRUE
-CPICH RSCP reporting indicator	FDD
-Pathloss reporting indicator	TRUE
-Reporting quantities for monitored set cells	TRUEFALSE
-Cell synchronisation information reporting	FALSE
Indicator	
-Cell Identity reporting indicator	
-CHOICE mode	FALSE
-CPICH EC/NO reporting indicator	TOUE
-CPICH RSCP reporting indicator	
-Failliess reporting indicator	
Poporting quantities for detected set cells	
-Heporting cell status	
	Not Present
-Maximum number of reported cells	Not resent
-Measurement validity	Report all active set cells + cells within
-CHOICE report criteria	monitored set on used frequency
-Amount of reporting	Virtual/active set cells + 2
-Reporting interval	Not Present
	Periodical reporting criteria
	Infinity
	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	Value/Aciliark
LIE information elements	
-BBC transaction identifier	0
	0
manage authentiation and	SS coloulates the value of MAC I for this
-message aumentication code	55 calculates the value of MAC-1 for this
	Intessage and writes to this IE. The first/
	einnificent bit of the MAC L
	Significant bit of the WAC-I.
-RRC message sequence number	SS provides the value of this IE, from its
	Internal counter.
Measurement Information elements	
-Measurement Identity	2
-Measurement Command	Setup
-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
-New inter-frequency cells	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
<ul> <li>Measurement quantity for frequency quality</li> </ul>	CPICH RSCP
estimate	
-Inter-frequency reporting quantity	
-UTRA Carrier RSSI	TRUE
-Frequency quality estimate	TRUE
-Non frequency related cell reporting quantities	
-Cell synchronisation information reporting	
indicator	TRUE
-Cell Identity reporting indicator	
-CHOICE mode	TRUE
-CPICH Ec/N0 reporting indicator	FDD
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	TRUEFALSE
-Reporting cell status	FALSE
-CHOICE reported cell	
	Report cells within monitored set on non-used
-Maximum number of reported cells	frequency
-Measurement validity	2
-Inter-frequency set update	Not Present
-CHOICE report criteria	Not Present
-Amount of reporting	Periodical reporting criteria
-Reporting interval	Infinity
	500 ms
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 inter frequency test cases in clause 8.7 and is described in Annex I.

#### 8.7.2.2.2.5 Test requirements

1

The effect of assumed thermal noise and noise generated in the receiver (ñ99 dBm, -97 dBm, -96 dBm for Frequency Band I, II and III respectively) 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.

Table	Table 8.7.2.2.2.3: GPICH_EC/IO Inter frequency relative accuracy, test requirements							
Parameter	Unit	Normal condition	Extreme	lo [	dBm/3.84 M	Hz]		
			condition	Band I	Band II	Band III		
CPICH_Ec/lo	dB	$\pm$ 3.5 for -14 $\leq$ CPICH Ec/lo						
		$\pm$ 4 for -16 $\leq$ CPICH Ec/lo < -14	± 5	-9487	-9285	-9184		
		$\pm 5$ for -20 $\leq$ CPICH Ec/lo < -16						
		$\pm$ 2.3 for -14 $\leq$ CPICH Ec/lo						
		$\pm$ 2.8 for -16 $\leq$ CPICH Ec/lo < -14	± 3.8	-8750	-8550	-8450		
		$+ 3.8$ for $-20 \le CPICH Ec/lo \le -16$						

Table 8.7.2.2.2.3: CPICH\_Ec/lo Inter frequency relative accuracy, test requirements

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

 Table 8.7.2.2.2.4: CPICH Ec/lo Inter frequency tests parameters

Deremeter		Unit	Tes	st 1	Test 2		Test 3	
Fala	meter	Unit	Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2
UTRA RF number	Channel		Channel 1	Channel 2	Channel 1	Channel 2	Channel 1	Channel 2
CPICH E	c/lor	dB	-1	10	-1	10	-1	0
PCCPCH	Ec/lor	dB	-1	12	-1	12	-1	2
SCH_Ec/le	or	dB	-1	12	-1	12	-1	2
PICH_Ec/	or	dB	-1	15	-1	15	-1	5
DPCH_Ec	/lor	dB	-15	-	-6	-	-6	-
OCNS_Ec	/lor	dB	-1.12	-0.95	-2.55	-0.94	-2.55	-0.94
	Band I	dBm/2.04	/ 3.84 -53.5	-53.5	-86.27	-86.27	-93.46	-93.46
loc	Band II	UDIII/ 3.84 M니구			-84.27	-84.27	-91.46	-91.46
	Band III				-83.27	-83.27	-90.46	-90.46
O∰r/loc		dB	-1.45	-1.45	-4.4	-4.4	-9.24	-9.24
CPICH Ec	/lo, Note 1	dBm	-13.8	-13.8	-15.7	-15.7	-19.7	-19.7
	Band I	dBm /3.84			-84.9	-84.9	-93	-93
Io, Note 1	Band II	MH <sub>7</sub>	-51.15	-51.15	-82.9	-82.9	-91	-91
	Band III				-81.9	-81.9	-90	-90
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.								
Lests shall be done sequentially. Lest 1 shall be done tirst. 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.								

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.

The reported values for the relative inter frequency CPICH Ec/Io measurement shall meet the requirements in table 8.7.2.2.2.5.

Table 8.7.2.2.2.5: CPICH\_Ec/lo Inter frequency relative accuracy requirements for the reported values

	Test 1	Test 2	Test 3			
Normal Conditions						
Lowest reported value cell 2	CPICH Ec/No (x -5)	CPICH Ec/No (x - 6)	CPICH Ec/No (x - 10)			
Highest reported value cell 2	CPICH_Ec/No_(x+5)	CPICH_Ec/No_(x + 6)	CPICH_Ec/No_(x +10)			
Extreme Conditions						
Lowest reported value cell2	CPICH_Ec/No_(x - 8)	CPICH_Ec/No_(x - 8)	CPICH_Ec/No_(x - 10)			
Highest reported value cell2 CPICH_Ec/No_(x + 8) CPICH_Ec/No_(x + 8) CPICH_Ec/No_(x + 8)						
CPICH_Ec/No_x is the reported value of cell 1						

# 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		cy [dB]	Conditions		
Parameter	Unit	Normal	Extreme	lo	[dBm/3.84 MI	lz]
		condition	condition	Band I	Band II	Band III
UTRA Carrier	dBm	± 4	± 7	-9470	-9270	-9170
RSSI	dBm	± 6	± 9	-7050	-7050	-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 except for TGRRC and TGCFN. TGPRC and TGCFN shall set to "Infinity" and "(Current CFN + (256 ñ TTI/10msec))mod 256". UTRA Carrier RSSI absolute accuracy requirements are tested by using test parameters in table 8.7.3.1.2.

Table 8.7.3.1.2: UTRA Carrier RSSI Inter frequency test parameters

Deremeter		Unit	Tes	st 1	Test 2		Test 3	
Fala	meter	Unit	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			Onanner		Charmer		Onanner	
CPICH_EC	/lor	dB	-1	10		10	-1	0
PCCPCH	Ec/lor	dB	-1	12		12	-1	2
SCH_Ec/lo	or	dB	-1	12	-*	12	-1	2
PICH Ec/I	or	dB	-1	15	-*	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
	Band I	dBm/2.04					-94.46	-94.46
loc	Band II	UDIII/ 3.84 M⊔→	-52.22	-52.22	-70.27	-70.27	-92.46	-92.46
	Band III						-91.46	-91.46
Ober/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
	Band I	dBm/2.94					-94	-94
lo, Note 1	Band II	MH-	-50	-50	-69	-69	-92	-92
	Band III						-91	-91
Propagation condition - AWG			'GN	AWGN AWGN		'GN		
NOTE 1: CPICH Ec/lo and lo levels have been calculated from other parameters for information purposes. They					ses. 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.								

#### 8.7.3.1.4.2 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 for Test 1 are set up according to table 8.7.3.1.2.
- 2) SS shall transmit PHYSICAL CHANNEL RECONFIGURATION message.
- 3) UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message.
- 4) SS shall transmit MEASUREMENT CONTROL message.
- 5) UE shall transmit periodically MEASUREMENT REPORT messages.
- 6) 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.
- 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, step 6) 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 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 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 6) above is 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], with the following exceptions:

Information Element	Value/Remark
Message Type	
UE Information Flomenta	
BBC transaction identifier	0
-Integrity check info	0
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IE. The first/
	leftmost bit of the bit string contains the most
	significant bit of the MAC-I.
-RRC message sequence number	SS provides the value of this IE, from its
-Integrity protection mode info	internal counter.
-Ciphering mode info	Not Present
-Activation time	Not Present
-New C-RNTI	Not Present
-BBC State Indicator	Not Present
-UTBAN DBX cycle length coefficient	CELL DCH
	Not Present
CN Information Elements	
-CN Information info	Not Present
UTRAN mobility information elements	
-URA identity	Not Present
HB Information elements	Not Procent
-Downlink counter synchronisation into	
-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	Net Dresent
	FDD
-DPCH compressed mode info	
-Transmission gap pattern sequence	
-TGPSI	1
-TGPS Status Flag	Activate
-TGCFN	(Current CFN + (256 ñ TTI/10msec))mod 256
Transmission and nothing accurate	
- I ransmission gap pattern sequence	
	EDD measurement
-TGPBC	Infinity
-TGSN	4
-TGL1	7
-TGL2	Not Present
-TGD	0
-TGPL1	3
-TGPL2	Not Present
	Mode 0
-ITP CHOICE UI /DL modo	
-ONOICE OL/DL mode -Downlink compressed mode method	SE/2
-Uplink compressed mode method	SF/2
-Downlink frame type	B
-DeltaSIR1	3.0
-DeltaSIRafter1	3.0
-DeltaSIR2	Not Present
-DeltaSIRafter2	Not Present
-N Identity abort	Not Present
- I Heconfirm abort	Not Present
- I A Diversity Wode	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	Set to value Default DPCH Offset Value ( as
	currently stored in SS) mod 38400
-Secondary CPICH info	Not Present
-DL channelisation code	
-Secondary scrambling code	Not Present
-Spreading factor	128
-Code number	96
-Scrambling code change	No code change
-TPC combination index	0
-SSDT Cell Identity	Not Present
<ul> <li>Closed loop timing adjustment mode</li> </ul>	Not Present
-SCCPCH Information for FACH	Not Present

hafe were the ar Element	Value /Damanla
Information Element	Value/Remark
Message Type	
UE information elements	
-RRC transaction identifier	0
-Integrity check info	
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IE. The first/
	leftmost bit of the bit string contains the most
	significant bit of the MAC-I.
-RRC message sequence number	SS provides the value of this IE, from its
	internal counter.
Measurement Information elements	
-Measurement Identity	2
-Measurement Command	Setup
-Measurement Reporting Mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting	Periodical reporting
Mode	
	Not Present
-CHOICE Measurement Type	Inter-frequency measurement
-Inter-frequency measurement	
	Net Due e est
-CHOICE Inter-irrequency cell removal	Not Present
-New Inter-frequency cells	Vet Present
-Cell for measurement quantity	Not Present
CHOICE reporting criteria	Inter frequency reporting criteria
-Measurement quantity for frequency quality	CPICH BSCP
estimate	
-Inter-frequency reporting quantity	
-UTBA Carrier BSSI	TRUE
-Frequency quality estimate	TRUE
-Non frequency related cell reporting quantities	
-Cell synchronisation information reporting	
indicator	TRUE
-Cell Identity reporting indicator	
-CHOICE mode	TRUE
-CPICH Ec/N0 reporting indicator	FDD
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	TRUEFALSE
-Reporting cell status	FALSE
-CHOICE reported cell	
	Report cells within monitored set on non-used
-Maximum number of reported cells	frequency
-Measurement validity	2
-Inter-frequency set update	Not Present
-CHOICE report criteria	Not Present
-Amount of reporting	Periodical reporting criteria
-Reporting interval	Infinity
	500 ms
Physical channel information elements	
-DPCH compressed mode status info	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 (ñ99 dBm, -97 dBm, -96 dBm for Frequency Band I, II and III respectively) shall be added into the required accuracy defined in subclause 8.7.3.1.2 as shown in table 8.7.3.1.3.

		Accuracy [dB]					
Parameter	Unit	No	rmal condit	ion	Extr	eme condi	tion
		Test 1	Test 2	Test 3	Test 1	Test 2	Test 3
UTRA Carrier RSSI	dBm	± 7.15	± 5.1	-5Ö 5.8	± 10.15	± 8.1	-8Ö 8.8

The normative reference for this requirement is TS 25.133 [2] clause A.9.1.3.2.

#### Table 8.7.3.1.4: UTRA Carrier RSSI Inter frequency test parameters

Deremeter		Unit	Tes	st 1	Test 2		Test 3	
Paran	neter	Unit	Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2
UTRA RF C	Channel		Channel 1	Channel 2	Channel 1	Channel 2	Channel 1	Channel 2
number			onamor	onaniore	onamor	enamer E	onamori	
CPICH_Ec/	lor	dB	-1	0	-1	10	-1	0
PCCPCH_E	Ec/lor	dB	-1	2	-1	12	-1	2
SCH_Ec/lo	ſ	dB	-1	2	-1	12	-1	2
PICH_Ec/Ic	or	dB	-1	5	-1	15	-1	5
DPCH Ec/I	or	dB	-15	-	-6	-	-6	-
OCNS_Ec/I	or	dB	-1.11	-0.94	-2.56	-0.94	-2.56	-0.94
	Band I	dBm/2.04					-93.46	-93.46
loc	Band II	UDIII/ 3.84 M니구	-53.5	-53.5	-69.27	-69.27	-91.46	-91.46
	Band III						-90.46	-90.46
O∰r/loc		dB	-1.45	-1.45	-4.4	-4.4	-9.24	-9.24
CPICH Ec/I	o, Note 1	dBm	-13.8	-13.8	-15.7	-15.7	-19.7	-19.7
	Band I	dBm/2.94					-93	-93
lo, Note 1	Band II	MH-	-51.15	-51.15	-67.9	-67.9	-91	-91
	Band III						-90	-90
Propagation condition - AWGN AWGN AWGN				GN				
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	ne first. After	test 1 has be	en executed	test paramete	ers for tests
2 and 3 sha	II be set with	nin 5 seconds s	so that UE do	es not loose	the Cell 2 in b	petween the t	ests.	

The reported values for the UTRA Carrier RSSI absolute measurement shall meet the requirements in table 8.7.3.1.5.

#### Table 8.7.3.1.5: UTRA Carrier RSSI absolute accuracy requirements for the reported values

	Test 1	Test 2	Test 3
Normal Conditions	i		
Lowest reported	UTRA_carrier_RSSI_LEV_	UTRA_carrier_RSSI_LEV_	UTRA_carrier_RSSI_LEV_
value (Cell 2)	42	27	02
Highest reported	UTRA_carrier_RSSI_LEV_	UTRA_carrier_RSSI_LEV_	UTRA_carrier_RSSI_LEV_
value (Cell 2)	57	38	13
Extreme Condition	S		
Lowest reported	UTRA_carrier_RSSI_LEV_	UTRA_carrier_RSSI_LEV_	UTRA_carrier_RSSI_LEV_
value (Cell 2)	39	24	00
Highest reported	UTRA_carrier_RSSI_LEV_	UTRA_carrier_RSSI_LEV_	UTRA_carrier_RSSI_LEV_
value (Cell 2)	60 – –	41 – –	16 – –

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

		Accura	cy [dB]		Conditions	
Parameter	Unit	Normal	Extreme	lo	o [dBm/3.84 MH	z]
		condition	condition	Band I	Band II	Band III
UTRA Carrier RSSI	dBm	± 7	± 11	-9470	-9270	-9170

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 except for TGRRC and TGCFN. TGPRC and TGCFN shall set to "Infinity" and "(Current CFN + (256 ñ TTI/10msec))mod 256". UTRA Carrier RSSI relative accuracy requirements are tested by using test parameters in table 8.7.3.1.2.

#### 8.7.3.2.4.2 Procedure

- 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 3 are set up according to table 8.7.3.2.3.
- 2) SS shall transmit PHYSICAL CHANNEL RECONFIGURATION message.
- 3) UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message.
- 4) SS shall transmit MEASUREMENT CONTROL message.
- 5) UE shall transmit periodically MEASUREMENT REPORT messages.
- 6) 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.
- 7) The result of step 6) is compared to actual power level difference of UTRA Carrier RSSI of Channel 1 and Channel 2.
- 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], 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 ñ 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 (ñ99 dBm, -97 dBm, -96 dBm for Frequency Band I, II and III respectively) shall be added into the required accuracy defined in clause 8.7.3.2.2 as shown in table 8.7.3.2.2.

#### Table 8.7.3.2.2: UTRA Carrier RSSI relative accuracy

		Accuracy	/ [dB]
Parameter	Unit	Normal condition	Extreme condition
		Test 3	Test 3
UTRA Carrier RSSI	dBm	±7.4	± 11.4

The normative reference for this requirement is TS 25.133 [2] clause A.9.1.3.2.

#### Table 8.7.3.2.3: UTRA Carrier RSSI Inter frequency test parameters

Parameter		Unit	Test 3			
		Onic	Cell 1	Cell 2		
UTRA RF Channel number			Channel 1	Channel 2		
CPICH_Ec/	'lor	dB	-1	0		
PCCPCH_E	Ec/lor	dB	-1	2		
SCH_Ec/lo	r	dB	-1	2		
PICH Ec/lo	or	dB	-1	5		
DPCH Ec/lor		dB	-6	-		
OCNS_Ec/	or	dB	-2.56	-0.94		
	Band I	dDres / 0, 0,4	-93.46	-93.46		
loc	Band II	0Bm/ 3.84 MHz	-91.46	-91.46		
	Band III		-90.46	-90.46		
Ober/loc		dB	-9.24	-9.24		
CPICH Ec/I	o, Note 1	dBm	-19.7	-19.7		
	Band I	dPm/2.94	-93	-93		
Io, Note 1	Band II	UDIII/3.04 MU-	-91	-91		
	Band III		-90	-90		
Propagation condition		-	AWGN			
NOTE 1: 0	CPICH Ec/lo and lo le	evels have been	calculated from othe	er parameters for		
i	information purposes. They are not settable parameters themselves.					

The reported values for the UTRA Carrier RSSI relative measurement shall meet the requirements in table 8.7.3.2.4.

#### Table 8.7.3.2.4: UTRA Carrier RSSI relative accuracy requirements for the reported values

	Test 3				
Normal Conditions					
Lowest reported value (Cell 2)	UTRA_carrier_RSSI_LEV_(x ñ 8)				
Highest reported value (Cell 2)	UTRA carrier RSSI LEV (x + 8)				
Extreme Conditions					
Lowest reported value (Cell 2)	UTRA carrier RSSI LEV (x ñ 12)				
Highest reported value (Cell 2)	UTRA_carrier_RSSI_LEV(x + 12)				
UTRA carrier RSSI LEV x is the	UTRA carrier RSSI LEV x is the reported value of 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.

# 8.7.3A GSM Carrier RSSI

## 8.7.3A.1 Definition and applicability

The GSM carrier RSSI measurement is used for handover between UTRAN and GSM.

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

## 8.7.3A.2 Minimum Requirements

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

The absolute accuracy shall be as follows:

The R.M.S received signal level at the receiver input shall be measured by the UE and the BSS over the full range of -110 dBm to -48 dBm with an absolute accuracy of  $\pm 4$  dB from -110 dBm to -70 dBm under normal conditions and  $\pm 6$  dB over the full range under both normal and extreme conditions. The R.M.S received signal level at the receiver input shall be measured by the UE above -48 dBm up to -38 dBm with an absolute accuracy of  $\pm 9$  dB under both normal and extreme conditions.

If the received signal level falls below the reference sensitivity level for the type of UE or BSS, then the measured level shall be within the range allowing for the absolute accuracy specified above. In case the upper limit of this range is below the reference sensitivity level for the type of UE or BSS, then the upper limit shall be considered as equal to the reference sensitivity level.

The relative accuracy shall be as follows:

If signals of level x1 and x2 dBm are received (where  $x1 \le x2$ ) and levels y1 and y2 dBm respectively are measured, if x2 - x1 < 20 dB and x1 is not below the reference sensitivity level, then y1 and y2 shall be such that:

 $(x_2 - x_1) - a \le y_2 - y_1 \le (x_2 - x_1 + b)$  if the measurements are on the same or on different RF channel within the same frequency band;

and

 $(x^2 - x^1) - c \le y^2 - y^1 \le (x^2 - x^1 + d)$  if the measurements are on different frequency bands:

a, b, c and d are in dB and depend on the value of x1 as follows:

	<u>a</u>	b	<u>C</u>	<u>d</u>
$x1 \ge s+14, x2 < -48 \text{ dBm}$	2	2	4	4
s+14 > x1 ≥ s+1	3	2	5	4
s+1 > x1	4	2	6	4

For single band MS or BTS and measurements between ARFCN in the same band for a multiband

MS or BTS;

s = reference sensitivity level as specified in 3GPP TS 05.05 [28].

For measurements between ARFCN in different bands;

s = the reference sensitivity level as specified in 3GPP TS 05.05 [28] for the band including x1.

At extreme temperature conditions an extra 2 dB shall be added to c and d in above table.

The selectivity of the received signal level measurement shall be as follows:

- for adjacent (200 kHz) channel  $\geq$  16 dB;
- for adjacent (400 kHz) channel  $\geq$  48 dB;
- for adjacent (600 kHz) channel  $\geq$  56 dB.

The selectivity shall be met using random, continuous, GSM-modulated signals with the wanted signal at the level 20 dB above the reference sensitivity level.

The reporting range and mapping specified for RXLEV in TS 05.08 shall apply.

The normative reference for this requirement is TS 25.133 [2] clause 8.1.2.5 and 9.1.4 and TS 05.08 [20] clause 8.1.2.

## 8.7.3A.3 Test purpose

The purpose of this test is to verify that the GSM Carrier RSSI measurement accuracy in CELL\_DCH state, for UE that needs compressed mode to perform GSM measurements, is within the specified limits. This measurement is for UTRAN to GSM handover evaluation.

## 8.7.3A.4 Method of test

#### 8.7.3A.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 the test in Cell\_DCH state compressed mode with purpose i GSM Carrier RSSI Measurementî is applied to measure on GSM. The gap length is 7, detailed definition is in clause C.5, Set 2 of table C.5.2 except for TGPRC and TGCFN. TGPRC and TGCFN shall set to "Infinity" and "(Current CFN + (256 ñ TTI/10msec))mod 256". Table 8.7.3A.1 defines the limits of signal strengths and code powers on the UMTS FDD cell, where the requirement is applicable. In the measurement control information it is indicated to the UE that periodic reporting of the GSM RSSI measurement.

Table 8.7.3A.1	: General GSM	Carrier RSSI	test parameters
----------------	---------------	--------------	-----------------

Baramatar	Unit	Value	Commont
Farameter	Unit	value	Comment
DCH parameters		DL Reference Measurement Channel	As specified in section C.3.1
		12.2 kbps	
Power Control		On	
Target quality value on	BLER	0.01	
DTCH			
Compressed mode		Compressed mode reference pattern 2	As specified in table C.5.2 section C.5
patterns		Set 2	
- GSM carrier RSSI			
measurement			
Inter-RAT measurement		GSM Carrier RSSI	
quantity			
BSIC verification		Not required	
required			
Monitored cell list size		6 GSM neighbours	Measurement control information is
			sent before the compressed mode
			patterns starts.

Table 8.7.3A.2: Cell specific GSM Carrier R551 test parameters	Table 8.7.3A.2: Cell 9	specific GSM (	Carrier RSSI te	st parameters
--	------------------------	----------------	-----------------	---------------

Parameter	Unit	Cell 1
UTRA RF Channel number	-	Channel 1
Ober/loc	DB	-1
loc	dBm/ 3.84 MHz	-70
Propagation condition	-	AWGN

- The SS is set to produce the BCCHs of 6 surrounding cells at 28 dBµVemf(). The fading profile for the BCCHs of the surrounding cells will be set to static, see 51.010-1 [25]. The limits of the GSM test parameters are defined in TS 05.08 [20].
- 2) After 30 seconds 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 Cell 1 is set up according to table 8.7.3A.1 and 8.7.3A.2.

#### 8.7.3A.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 GSM carrier RSSI value of the GSM cells in MEASUREMENT REPORT messages. The measurement is done in 105 steps. The initial signal levels of the BCCHs of the surrounding cells are adjusted according to table 8.7.3A.3. At each step the SS keeps the signal levels stable for one reporting period, except at steps 21 + m × 21 where the level is held stable for 1,75 reporting periods. The GSM CARRIER RSSI value for the period in which the change occurs (reported in the following period) is discarded. The SS records the GSM CARRIER RSSI values reported for the surrounding cell BCCHs in steps 1 + m × 21 and 21 + m × 21. The GSM CARRIER RSSI values for BCCH 1 are recorded by the SS for all 105 steps.
- NOTE: This extension at steps  $21 + m \times 21$  is to allow an extra quarter reporting period for the UE to stabilize for steps  $1 + m \times 21$ .

	ARFCN	BCCH1	BCCH2	BCCH3	BCCH4	BCCH5	BCCH6
Step	GSM 450	276	293	264	269	281	288
	GSM 480	323	340	311	316	328	335
	GSM 900:	62	124	20	40	80	100
	DCS 1 800	700	885	585	660	790	835
	PCS 1 900	700	805	585	660	790	550
	450/900	124	276	293	269	288	1
	480/900	124	323	340	316	335	1
	450/1 800	885	276	293	269	288	512
	480/1 800	885	323	340	316	335	512
	900/1 800	885	62	124	40	100	512
	450/900/1 80	124	276	885	293	1	512
	0						
	480/900/1 80	124	323	885	340	1	512
	0						
	GSM 850	189	251	150	170	210	230
	GSM 750	475	511	440	455	485	500
	750/850	251	475	511	455	485	128
1 + m × 21		64,5 - m × 10					
		10	10	10	10	10	
2 + m × 21		63,5 - m ×	54,5 - m × 10				
		10	10	10	10	10	
3 + m × 21		62,5 - m ×	44,5 - m × 10				
		10	10	10	10	10	
						44,5 - m×	44,5 - m × 10
						10	
17 + m ×						44,5 - m×	44,5 - m × 10
21						10	
18 + m ×						44,5 - m×	44,5 - m × 10
21						10	
						44,5 - m×	44,5 - m × 10
						10	
21 + m ×		44,5 - m×	44,5 - m×	44,5 - m × 10			
21		10	10	10	10	10	
m = 0, 1, 2, 3	, 4.		-	-		-	

Table 8.7.3A.3: Signal levels at receiver input in dB $\mu$ Vemf( )

#### 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], with the following exceptions:

Information Element	Value/Remark
Message Type	Valdo/Kolliark
UE Information Elements	
-RRC transaction identifier	0
-Integrity check info	
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IE. The first/
	leftmost bit of the bit string contains the most
	significant bit of the MAC-I.
-RRC message sequence number	SS provides the value of this IE, from its
	internal counter.
-Integrity protection mode info	Not Present
-Ciphering mode info	Not Present
-Activation time	Not Present
-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
- 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 into	
- Iransmission gap pattern sequence	
- IGPS Status Flag	
-IGCFN	(Current CFN + (256 n TTI/10msec))mod 256
Transmission can pattern asquence	
- mails mission gap patient sequence	
	GSM carrier PSSI measurement
TGSN	1111111ty
-TGL1	7
-TGL2	Not Present
TGD	0
-TGPI 1	12
-TGPI 2	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
-T Reconfirm abort	Not Present
-TX Diversity Mode	Not Present
-SSDT information	Not Present
-Detault DPCH Offset Value	Not Present
-Downlink information per radio link list	
-Downlink information for each radio link	
-Choice mode	

-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	Set to value Default DPCH Offset Value ( as
	currently stored in SS) mod 38400
-Secondary CPICH info	Not Present
-DL channelisation code	
-Secondary scrambling code	Not Present
-Spreading factor	128
-Code number	96
-Scrambling code change	No code change
-TPC combination index	0
-SSDT Cell Identity	Not Present
<ul> <li>Closed loop timing adjustment mode</li> </ul>	Not Present
-SCCPCH Information for FACH	Not Present

Message Type     0       UE information elements -RRC transaction identifier -Integrity check info     0       -Integrity check info     0       -message authentication code     SS calculates the value of MAC-I for this message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I. SS provides the value of this IE, from its internal counter.       Measurement Command - Inter-RAT measurement - Inter-RAT measurement - Inter-RAT measurement - Inter-RAT measurement - Inter-RAT measurement quantity - Weasurement quantity or CHOICE system - GSM - Observed time difference to GSM cell Reporting indicator - GSM carrier RSSI reporting indicator - Benorting cell status     Not Present       Measurement quantity - URAN estimated quality - CHOICE system - GSM carrier RSSI reporting indicator     GSM - Call setting the state of the set of SSM cell Reporting indicator	Information Element	Value/Remark
UE information elements       0         -RRC transaction identifier       0         -Integrity check info       SS calculates the value of MAC-I for this message and writes to this IE. The first/ leftmost bit of the bits tring contains the most significant bit of the MAC-I.         -RRC message sequence number       SS provides the value of MAC-I for this message and writes to this IE. The first/ leftmost bit of the bits tring contains the most significant bit of the MAC-I.         -Measurement Identity       2         -Measurement Reporting Mode       -         - Measurement Report Transfer Mode       -         - Periodical Reporting / Event Trigger Reporting Mode       -         - Additional measurement list       -         -CHOICE Measurement Type       -         -Inter-RAT measurement objects list       -         -CHOICE Inter-RAT cells       9         -CHOICE Facio Access Technology       -         -Gell individual offset       0         -Cell selection and re-selection info       -         -BSIC       -         -Base transceiver Station Identity Code (BSIC)       -         -Band indicator       -         -BCH ARFCN       -         -CHOICE system       -         -GSM       GSM         -Measurement quantity       - <t< th=""><th>Message Type</th><th></th></t<>	Message Type	
Definition       O         -RRC transaction identifier       0         -Integrity check info       S         -message authentication code       S         Status       S         -RRC transaction identifier       0         -message authentication code       S         Status       S         -RRC message sequence number       S         Measurement Information elements       significant bit of the MAC-1.         -Measurement Reporting Mode       Acknowledged mode RLC         - Measurement Report Transfer Mode       Acknowledged mode RLC         - Periodical Reporting / Event Trigger Reporting       Not Present         -CHOICE Measurement Type       Inter-RAT measurement objects list         -CHOICE Inter-RAT cell removal       Not Present         -New inter-RAT cell       9         -CHOICE Radio Access Technology       GSM         -Gell individual offset       0         - Cell selection and re-selection info       9         -Base transceiver Station Identity Code (BSIC)       Reference to TS 34.108 table 6.1.10 for Cell 9         -CHOICE system       GSM         -GSM       GSM carrier RSSI         -Inter-RAT reporting quantity       FALSE         -Inter-RAT reporting quantity       FALSE	LIE information alamanta	
Integrity check info       0         Integrity check info       SS calculates the value of MAC-I for this         message authentication code       SS calculates the value of MAC-I for this         message authentication code       SS calculates the value of this IE. The first/         Ieffinity of the bit string contains the most significant bit of the MAC-I.       SS provides the value of this IE, from its         Measurement Information elements       Setup         Measurement Report Transfer Mode       Additional measurement list         -CHOICE Measurement Type       Acknowledged mode RLC         -Inter-RAT measurement       Periodical reporting         -CHOICE Inter-RAT cell id       9         -CHOICE Inter-RAT cell       9         -Cell Is individual offset       0         -Base transceiver Station Identity Code (BSIC)	-BBC transaction identifier	0
Imaging under the output of the term of	Integrity check info	0
Intersedge data ison to table of this its its its of this its its its its its its its its its i	-message authentication code	SS calculates the value of MAC-I for this
-RRC message sequence number       Instance of the bit string contains the most significant bit of the MAC-L.         -RRC message sequence number       Sprovides the value of this IE, from its internal counter.         Measurement Information elements       -         -Measurement Reporting Mode       2         - Measurement Report Transfer Mode       -         - Periodical Reporting / Event Trigger Reporting Mode       -         - Additional measurement list       -         - Inter-RAT measurement       -         - Inter-RAT measurement       -         - Inter-RAT measurement       -         - Inter-RAT measurement       -         - Inter-RAT cell id       9         - Cell individual offset       0         - Cell individual offset       0         - Cell individual offset       0         - SEIC       -         - Base transceiver Station Identity Code (BSIC)       -         - Cell is dictor       -         - GSIM       GSM         - Cell is	-message admentication code	message and writes to this IF. The first/
-RRC message sequence number       significant bit of the MAC-1.         -RRC message sequence number       significant bit of the MAC-1.         Measurement Information elements       Sprovides the value of this IE, from its internal counter.         Measurement Command       2         Measurement Report Transfer Mode       Acknowledged mode RLC         - Periodical Reporting / Mode       Acknowledged mode RLC         - Additional measurement list       CHOICE Measurement Type         -Inter-RAT measurement       Inter-RAT measurement         -Inter-RAT cells       9         -CHOICE IndexAT cell removal       Not Present         -New inter-RAT cell       9         -CHOICE Radio Access Technology       GSM         -Cell individual offset       0         -Cell individual offset       0         -Cell individual offset       0         -Base transceiver Station Identity Code (BSIC)       Reference to TS 34.108 table 6.1.10 for Cell 9         -Base transceiver Station Identity Code (BSIC)       Reference to TS 34.108 table 6.1.10 for Cell 9         -Cell for measurement       Not Present         -Inter-RAT measurement quantity       1         -Cell for measurement       Not Present         -Inter-RAT measurement       Not Present         -Inter-RAT measurement		leftmost bit of the bit string contains the most
-RRC message sequence number       Sprovides the value of this IE, from its internal counter.         Measurement Information elements       Sprovides the value of this IE, from its internal counter.         Measurement Information elements       Sprovides the value of this IE, from its internal counter.         Measurement Information elements       Sprovides the value of this IE, from its internal counter.         Measurement Information elements       Step         -Measurement Report Transfer Mode       Acknowledged mode RLC         - Periodical Reporting / Event Trigger Reporting       Acknowledged mode RLC         - Periodical Reporting / Event Trigger Reporting       Not Present         -Additional measurement Type       Inter-RAT measurement         -Inter-RAT measurement       Inter-RAT cell id         -Inter-RAT cell id       9         -Cell individual offset       0         -Base transceiver Station Identity Code (BSIC)       Reference to TS 34,108 table 6,1.10 for Cell 9         -Band indicator       1         -Base transceiver Station Identity for UTRAN quality       Not Present         -Inter-RAT measurement quantity       Not Present         -Measurement quantity       GSM         -Measurement quantity       Inter-RAT reporting quantity         -Inter-RAT reporting quantity       GSM         -Inter-RAT reporting qu		significant bit of the MAC-I
Measurement Information elements       2         -Measurement Reporting Mode       2         -Measurement Report Transfer Mode       2         -Measurement Report Transfer Mode       Acknowledged mode RLC         - Periodical Reporting / Event Trigger Reporting       Acknowledged mode RLC         -Additional measurement list       Not Present         -CHOICE Measurement objects list       -CHOICE Inter-RAT measurement objects list         -Inter-RAT measurement objects list       -CHOICE Inter-RAT cell removal         -New inter-RAT cell       9         -CHOICE Inter-RAT cell removal       Not Present         -New inter-RAT cell id       9         -CHOICE Inter-RAT cell removal       Not Present         -New inter-RAT cell id       9         -CHOICE Adal Access Technology       GSM         -Cell individual offset       0         -Cell solection and re-selection info       Not Present         -Basc transceiver Station Identity Code (BSIC)       Reference to TS 34.108 table 6.1.10 for Cell 9         According to PICS/PIXIT       Not Present         -Inter-RAT measurement quantity       Not Present         -Inter-RAT measurement quantity       SGM         -Bacd indicator       GSM         -Bacd Cuerificient       0         -CHOI	-BBC message sequence number	SS provides the value of this IF from its
Measurement Information elements       2         Measurement Command       2         Measurement Reporting Mode       Acknowledged mode RLC         Periodical Reporting / Event Trigger Reporting       Acknowledged mode RLC         Periodical Reporting / Event Trigger Reporting       Not Present         Mode       Not Present         -Additional measurement list       Not Present         -CHOICE Measurement Type       Inter-RAT measurement         -Inter-RAT measurement       Inter-RAT cells         -New inter-RAT cells       9         -CHOICE Radio Access Technology       GSM         -Cell individual offset       0         -Cell individual offset       0         -Cell individual offset       0         -Base transceiver Station Identity Code (BSIC)       Reference to TS 34.108 table 6.1.10 for Cell 9         -Base transceiver Station Identity Code (BSIC)       Reference to TS 34.108 table 6.1.10 for Cell 9         -Base transceiver Station Identity Code (BSIC)       Not Present         -Inter-RAT measurement       1         -Inter-RAT measurement quantity       0         -Cell for measurement quantity       0         -HOICE system       GSM         -GSM       GSM         -Measurement quantity       FALSE <td></td> <td>internal counter.</td>		internal counter.
-Measurement Identity       2         -Measurement Reporting Mode       Setup         - Measurement Report Transfer Mode       Acknowledged mode RLC         - Periodical Reporting / Event Trigger Reporting       Periodical reporting         Mode       Not Present         - Additional measurement list       Not Present         - CHOICE Measurement Type       Inter-RAT measurement         - Inter-RAT measurement       Inter-RAT measurement         - Inter-RAT cell removal       Not Present         - New inter-RAT cell removal       Not Present         - CHOICE Radio Access Technology       GSM         - Cell individual offset       0         - Cell individual offset       0         - Cell individual offset       0         - Basic       Reference to TS 34.108 table 6.1.10 for Cell 9         - Band indicator       According to PICS/PIXIT         - Bech arnsceiver Station Identity Code (BSIC)       Reference to TS 34.108 table 6.1.10 for Cell 9         - According to PICS/PIXIT       1         - Cell for measurement quantity       Not Present         - Inter-RAT measurement quantity       Not Present         - CHOICE system       GSM         - GSM       0         - Measurement quantity       Not Present	Measurement Information elements	
-Measurement CommandSetup-Measurement Reporting ModeAcknowledged mode RLC- Periodical Reporting / Event Trigger ReportingPeriodical reportingModeAcknowledged mode RLC- Periodical Reporting / Event Trigger ReportingPeriodical reportingModeNot Present-Additional measurement listNot Present-CHOICE Measurement objects list-CHOICE Inter-RAT cell removal-New inter-RAT cells9-CHOICE Ratio Access TechnologyGSM-Cell individual offset0-Cell selection and re-selection infoNot Present-Base transceiver Station Identity Code (BSIC)Reference to TS 34.108 table 6.1.10 for Cell 9-Base transceiver Station Identity Code (BSIC)Reference to TS 34.108 table 6.1.10 for Cell 9-Base transceiver Station Identity Code (BSIC)Not Present-Base transceiver Station Identity Code (BSIC)Reference to TS 34.108 table 6.1.10 for Cell 9-Base transceiver Station Identity Code (BSIC)Reference to TS 34.108 table 6.1.10 for Cell 9-Base transceiver Station IdentityNot Present-CHOICE systemGSM-GSMGSM-GSMnot required-Inter-RAT reporting quantityGSM Carrier RSSI-Filter coefficient0-BSIC verification requirednot required-Inter-RAT reporting quantityGSM-GSMGSM-GSMGSM-GSMGSM-GSMGSM-GSMGSM-GSMGSM-GSMGSM <t< td=""><td>-Measurement Identity</td><td>2</td></t<>	-Measurement Identity	2
-Measurement Reporting Mode       Acknowledged mode RLC         -Periodical Reporting / Event Trigger Reporting       Periodical reporting         Mode       Acknowledged mode RLC         -Additional measurement list       Not Present         -CHOICE Measurement Type       Inter-RAT measurement         -Inter-RAT measurement       Inter-RAT measurement         -Inter-RAT measurement       Not Present         -New inter-RAT cells       9         -OHOICE Inter-RAT cells       9         -Cell individual offset       0         -Base transceiver Station Identity Code (BSIC)       Reference to TS 34.108 table 6.1.10 for Cell 9         -Band indicator       1         -Bard indicator       1         -Bard indicator       Not Present         -Bard indicator       Not Present         -Bard indicator       Not Present         -Bard indicator       Not Present         -Bard indicator       0         -Bard indicator       0         -SGSM       0         -CHOICE system       GSM         -CHOICE system       0         -SGSM       0         -OHOICE system       GSM         -SGSM       0         -Heasurement quantity       0	-Measurement Command	Setup
- Measurement Report Transfer Mode       Acknowledged mode RLC         - Periodical Reporting / Event Trigger Reporting       Periodical reporting         Mode       Not Present         - Additional measurement list       Not Present         - CHOICE Measurement Type       Inter-RAT measurement         - Inter-RAT measurement       Not Present         - Inter-RAT measurement       Not Present         - Inter-RAT cell id       9         - CHOICE Inter-RAT cell id       9         - CHOICE Inter-RAT cell id       9         - CHOICE Inter-RAT cell id       9         - Cell individual offset       0         - Cell selection and re-selection info       Not Present         - Band indicator       0         - Back transceiver Station Identity Code (BSIC)       Reference to TS 34.108 table 6.1.10 for Cell 9         - According to PICS/PIXIT       1         - Cell for measurement quantity       Not Present         - Inter-RAT measurement quantity       Not Present         - Measurement quantity       Not Present         - Cell for measurement quantity       Not Present         - Cell selection and re-selection info       6SM         - GSM       0       not required         - Measurement quantity       not Present	-Measurement Reporting Mode	
- Periodical Reporting / Event Trigger Reporting       Periodical reporting         Mode       -Additional measurement list       Not Present         -Additional measurement Type       Inter-RAT measurement       Inter-RAT measurement         -Inter-RAT measurement objects list       -CHOICE Inter-RAT cell removal       Not Present         -New inter-RAT cell id       9         -CHOICE Radio Access Technology       GSM         -Cell individual offset       0         -Cell individual offset       0         -Cell individual offset       0         -Cell soluctor       Not Present         -Base transceiver Station Identity Code (BSIC)       Reference to TS 34.108 table 6.1.10 for Cell 9         -Band indicator       According to PICS/PIXIT         -Band indicator       Not Present         -Inter-RAT measurement quantity       Not Present         -Measurement quantity       Not Present         -Measurement quantity       SSM         -GSM       GSM         -GSM       GSM         -GSM       GSM         -GSM       GSM         -GSM       not required         -Inter-RAT reporting quantity       GSM Carrier RSSI         -Filter coefficient       0         -GSM	- Measurement Report Transfer Mode	Acknowledged mode RLC
Mode-Additional measurement listNot Present-CHOICE Measurement TypeInter-RAT measurement-Inter-RAT measurement objects listNot Present-CHOICE Inter-RAT cells9-Inter-RAT cellid9-CHOICE Radio Access TechnologyGSM-Cell individual offset0-Cell selection and re-selection infoNot Present-Base transceiver Station Identity Code (BSIC)Reference to TS 34.108 table 6.1.10 for Cell 9According to PICS/PIXIT1-BCCH ARFCN1-Inter-RAT measurement quantityNot Present-Base transceiver Station Identity Code (BSIC)Reference to TS 34.108 table 6.1.10 for Cell 9According to PICS/PIXIT1-Cell for measurement1-BCCH ARFCN1-CHOICE systemGSM-GSMGSM-Measurement quantityGSM Carrier RSSI-Filter coefficient0-BSIC verification requirednot required-Inter-RAT reporting quantityFALSE-CHOICE systemGSM-GSMGSM-GSMGSM-GSMGSM-GSMGSM-GSMGSM-GSM carrier RSSI reporting indicatorFALSE-GSM carrier RSSI reporting indicatorTRUE	- Periodical Reporting / Event Trigger Reporting	Periodical reporting
-Additional measurement list       Not Present         -CHOICE Measurement Type       Inter-RAT measurement         -Inter-RAT measurement       Inter-RAT measurement         -Inter-RAT measurement       Not Present         -New inter-RAT cells       9         -CHOICE Radio Access Technology       GSM         -Cell individual offset       0         -Cell selection and re-selection info       Not Present         -Base transceiver Station Identity Code (BSIC)       Reference to TS 34.108 table 6.1.10 for Cell 9         -Base transceiver Station Identity Code (BSIC)       Reference to TS 34.108 table 6.1.10 for Cell 9         -Base transceiver Station Identity Code (BSIC)       According to PICS/PIXIT         -Base transceiver Station Identity Code (BSIC)       Not Present         -Base transceiver Station Identity Code (BSIC)       Not Present         -Base transceiver Station Identity Code (BSIC)       According to PICS/PIXIT         -Base transceiver Station Identity       GSM         -Cell for measurement       Not Present         -Inter-RAT measurement quantity       GSM      <	Mode	
-CHOICE Measurement Type       Inter-RAT measurement         -Inter-RAT measurement objects list       .         -Inter-RAT measurement objects list       .         -CHOICE Inter-RAT cell removal       Not Present         -New inter-RAT cells       9         -CHOICE Radio Access Technology       GSM         -Cell individual offset       0         -Cell individual offset       0         -Cell selection and re-selection info       0         -Base transceiver Station Identity Code (BSIC)       Reference to TS 34.108 table 6.1.10 for Cell 9         -Band indicator       According to PICS/PIXIT         -BCCH ARFCN       1         -Cell for measurement       Not Present         -Inter-RAT measurement quantity       Not Present         -Measurement quantity for UTRAN quality       Not Present         -GSM       GSM         -GSM       GSM         -Heasurement quantity       Not Present         -Bilter coefficient       0         -Bilter coefficient       0         -Bilter coefficient       0         -Bilter coefficient       0         -UTRAN estimated quality       FALSE         -CHOICE system       GSM         -GSM       GSM	-Additional measurement list	Not Present
-Inter-RAT measurement         -Inter-RAT measurement objects list         -CHOICE Inter-RAT cell removal         -New inter-RAT cell id         -New inter-RAT cell id         -Inter-RAT cell id         -CHOICE Radio Access Technology         -GSM         -Cell individual offset         -Cell selection and re-selection info         -Base transceiver Station Identity Code (BSIC)         -Base transceiver Station Identity         -Base transceiver Station Identity         -Chell for measurement         -Chell settimate         -CHOICE system	-CHOICE Measurement Type	Inter-RAT measurement
-Inter-RAT measurement objects list -CHOICE Inter-RAT cell removal Not Present Not Present Not Present Not Present -Cell individual offset -Cell individual offset -Cell individual offset -Cell individual offset -Cell selection and re-selection info -BSIC -Base transceiver Station Identity Code (BSIC) -Baad indicator -BCCH ARFCN -Cell for measurement -Inter-RAT measurement quantity -Measurement quantity for UTRAN quality estimate -CHOICE system -GSM -GSM -Measurement quantity -Filter coefficient -BSIC verification required -Inter-RAT reporting quantity -UTRAN estimated quality -UTRAN estimated quality -UTRAN estimated quality -CHOICE system -GSM -Observed time difference to GSM cell Reporting indicator -GSM carrier RSSI reporting indicator -Benoting cell status	-Inter-RAT measurement	
-UNDICE Inter-RAT cell removal Not Present Not Present -New inter-RAT cells -Inter-RAT cells -Inter-RAT cells -CHOICE Radio Access Technology -GSM -Cell individual offset -Cell selection and re-selection info -BSIC -Base transceiver Station Identity Code (BSIC) -Band indicator -Band indicator -BCCH ARFCN -Cell for measurement -Inter-RAT measurement quantity -Measurement quantity for UTRAN quality estimate -CHOICE system -GSM -Measurement quantity -Filter coefficient -BSIC verification required -Inter-RAT reporting quantity -UTRAN estimated quality -CHOICE system -GSM -Observed time difference to GSM cell Reporting indicator -Benorting cell status	-Inter-RAT measurement objects list	
-New Inter-RAT cell is       9         -Inter-RAT cell id       9         -CHOICE Radio Access Technology       GSM         -Cell individual offset       0         -Cell selection and re-selection info       Not Present         -BSIC       -Base transceiver Station Identity Code (BSIC)         -Base transceiver Station Identity Code (BSIC)       Reference to TS 34.108 table 6.1.10 for Cell 9         -Base transceiver Station Identity Code (BSIC)       Reference to TS 34.108 table 6.1.10 for Cell 9         -Base transceiver Station Identity Code (BSIC)       Reference to TS 34.108 table 6.1.10 for Cell 9         -Base transceiver Station Identity Code (BSIC)       Reference to TS 34.108 table 6.1.10 for Cell 9         -Base transceiver Station Identity Code (BSIC)       Reference to TS 34.108 table 6.1.10 for Cell 9         -Base transceiver Station Identity Code (BSIC)       Reference to TS 34.108 table 6.1.10 for Cell 9         -Base transceiver Station Identity Code (BSIC)       Not Present         -Inter-RAT measurement quantity       Not Present         -Filter coefficient       0         -BSIC verification required       not required         -Inter-RAT reporting quantity       FALSE         -CHOICE system       GSM         -Observed time difference to GSM cell Reporting       FALSE         -Observed time difference to GSM c	-CHUICE Inter-RAT cell removal	Not Present
- CHOICE Radio Access Technology - CHOICE Radio Access Technology - Cell individual offset - Cell selection and re-selection info - BSIC - Base transceiver Station Identity Code (BSIC) - Band indicator - BCCH ARFCN - Cell for measurement - Inter-RAT measurement quantity - Measurement quantity for UTRAN quality estimate - CHOICE system - CHOICE system - GSM - Measurement quantity - Filter coefficient - Inter-RAT reporting quantity - Filter coefficient - CHOICE system - GSM - Observed time difference to GSM cell Reporting indicator - GSM carrier RSSI reporting indicator - Benorting cell status	-New Inter-RAT cells	0
- GSM       0         - Cell individual offset       0         - Cell selection and re-selection info       0         - Base transceiver Station Identity Code (BSIC)       Reference to TS 34.108 table 6.1.10 for Cell 9         - Band indicator       According to PICS/PIXIT         - Back Tarsceiver Station Identity Code (BSIC)       Reference to TS 34.108 table 6.1.10 for Cell 9         - Band indicator       According to PICS/PIXIT         - Back Tarsceiver Station Identity       Not Present         - Band indicator       1         - Back Tarsceiver Station Identity Code (BSIC)       Not Present         - Band indicator       1         - Back Tarsceiver Station Identity Code (BSIC)       Not Present         - Back Tarsceiver Station Identity Code (BSIC)       Not Present         - Back Tarsceiver Station Identity Code (BSIC)       Not Present         - Inter-RAT measurement quantity       GSM Carrier RSSI         - CHOICE system       GSM         - GSM       GSM         - Observed time difference to GSM cell Reporting indicator       FALSE         - GSM carrier RSSI reporting indicator	-Inter-RAT cell lu	9 CSM
- Cell individual offset0- Cell selection and re-selection infoNot Present- Base transceiver Station Identity Code (BSIC)Reference to TS 34.108 table 6.1.10 for Cell 9- Band indicatorAccording to PICS/PIXIT- BCCH ARFCN1- Cell for measurementNot Present- Inter-RAT measurement quantityNot Present- Measurement quantity for UTRAN qualityNot Present- CHOICE systemGSM- GSM0- Inter-RAT reporting quantityGSM Carrier RSSI- Inter-RAT reporting quantitynot required- Inter-RAT reporting quantityFALSE- CHOICE systemGSM- GSMNot Present- SSIC verification requirednot required- Inter-RAT reporting quantityFALSE- CHOICE systemGSM- GSM-Observed time difference to GSM cell Reporting- GSM carrier RSSI reporting indicatorFALSE- GSM carrier RSSI reporting indicatorTRUE	-GSM	GSM
<ul> <li>-Cell selection and re-selection info</li> <li>-BSIC</li> <li>-Base transceiver Station Identity Code (BSIC)</li> <li>-Band indicator</li> <li>-BCCH ARFCN</li> <li>-Cell for measurement</li> <li>-Inter-RAT measurement quantity</li> <li>-Measurement quantity for UTRAN quality</li> <li>estimate</li> <li>-CHOICE system</li> <li>-GSM</li> <li>-Measurement quantity</li> <li>-Filter coefficient</li> <li>-Inter-RAT reporting quantity</li> <li>-UTRAN estimated quality</li> <li>-UTRAN estimated quality</li> <li>-UTRAN estimated quality</li> <li>-CHOICE system</li> <li>-GSM</li> <li>-Diserved time difference to GSM cell Reporting indicator</li> <li>-GSM carrier RSSI reporting indicator</li> <li>-Reporting cell status</li> </ul>	-Cell individual offset	0
-BSIC       Base transceiver Station Identity Code (BSIC)       Reference to TS 34.108 table 6.1.10 for Cell 9         -Band indicator       According to PICS/PIXIT         -BCCH ARFCN       1         -Cell for measurement       Not Present         -Inter-RAT measurement quantity       Not Present         -Measurement quantity for UTRAN quality       Not Present         estimate       GSM         -CHOICE system       GSM Carrier RSSI         -BSIC verification required       not required         -Inter-RAT reporting quantity       FALSE         -UTRAN estimated quality       FALSE         -CHOICE system       GSM         -BSIC verification required       not required         -Inter-RAT reporting quantity       FALSE         -CHOICE system       GSM         -GSM       GSM         -Observed time difference to GSM cell Reporting       FALSE         -Observed time difference to GSM cell Reporting       FALSE         -Observed time difference to GSM cell Reporting       FALSE         -GSM carrier RSSI reporting indicator       TRUE	-Cell selection and re-selection info	Not Present
Base transceiver Station Identity Code (BSIC)Reference to TS 34.108 table 6.1.10 for Cell 9-Band indicatorAccording to PICS/PIXIT-BCCH ARFCN1-Cell for measurementNot Present-Inter-RAT measurement quantityNot Present-Measurement quantity for UTRAN qualityNot Present-CHOICE systemGSM-GSM0-BSIC verification required0-Inter-RAT reporting quantityFALSE-UTRAN estimated qualityFALSE-CHOICE systemGSM-BSIC verification requirednot required-Inter-RAT reporting quantityFALSE-CHOICE systemGSM-GSMGSM-UTRAN estimated qualityFALSE-CHOICE systemGSM-GSMTRUE	-BSIC	
Band indicatorAccording to PICS/PIXIT-BCCH ARFCN1-Cell for measurementNot Present-Inter-RAT measurement quantityNot Present-Measurement quantity for UTRAN qualityNot PresentestimateGSM-CHOICE systemGSM-Measurement quantityGSM Carrier RSSI-Measurement quantity0-BSIC verification requirednot required-Inter-RAT reporting quantityFALSE-CHOICE systemGSM-GSM-GSM-Inter-RAT reporting quantityFALSE-CHOICE systemGSM-GSM-GSM-CHOICE systemFALSE-CHOICE systemFALSE-CHOICE systemGSM-GSM-GSM-GSM-GSM carrier RSSI reporting indicator-Reporting cell statusTRUE	-Base transceiver Station Identity Code (BSIC)	Reference to TS 34.108 table 6.1.10 for Cell 9
BCCH ARFCN1-Cell for measurementNot Present-Inter-RAT measurement quantityNot Present-Measurement quantity for UTRAN qualityNot PresentestimateGSM-CHOICE systemGSM Carrier RSSI-GSM0-Heasurement quantityO-Filter coefficient0-BSIC verification requirednot required-Inter-RAT reporting quantityFALSE-CHOICE systemGSM-Inter-RAT reporting quantityFALSE-UTRAN estimated qualityFALSE-GSM-Observed time difference to GSM cell Reporting-Observed time difference to GSM cell ReportingFALSE-GSM carrier RSSI reporting indicatorTRUE	-Band indicator	According to PICS/PIXIT
-Cell for measurementNot Present-Inter-RAT measurement quantityNot Present-Measurement quantity for UTRAN qualityNot PresentestimateGSM-GSMGSM Carrier RSSI-Measurement quantityGSM Carrier RSSI-Filter coefficient0-BSIC verification requirednot required-Inter-RAT reporting quantityFALSE-CHOICE systemGSM-Inter-RAT reporting quantityFALSE-CHOICE systemGSM-GSM-Observed time difference to GSM cell Reporting-Observed time difference to GSM cell ReportingFALSE-GSM carrier RSSI reporting indicatorTRUE	-BCCH ARFCN	1
-Inter-RAT measurement quantity       Not Present         -Measurement quantity for UTRAN quality       Not Present         estimate       GSM         -CHOICE system       GSM         -GSM       GSM Carrier RSSI         -Neasurement quantity       0         -BSIC verification required       not required         -Inter-RAT reporting quantity       FALSE         -UTRAN estimated quality       FALSE         -GSM       GSM         -GSM       FALSE         -Observed time difference to GSM cell Reporting       FALSE         indicator       TRUE	-Cell for measurement	Not Present
-Measurement quantity for UTRAN quality       Not Present         estimate       -CHOICE system         -GSM       GSM Carrier RSSI         -Measurement quantity       GSM Carrier RSSI         -Filter coefficient       0         -BSIC verification required       not required         -Inter-RAT reporting quantity       FALSE         -CHOICE system       GSM         -GSM       -GSM         -Observed time difference to GSM cell Reporting       FALSE         indicator       -GSM carrier RSSI reporting indicator         -GSM carrier RSSI reporting indicator       TRUE	-Inter-RAT measurement quantity	
estimate       GSM         -CHOICE system       GSM         -GSM       GSM Carrier RSSI         -Neasurement quantity       0         -Filter coefficient       0         -BSIC verification required       not required         -Inter-RAT reporting quantity       FALSE         -UTRAN estimated quality       FALSE         -CHOICE system       GSM         -GSM       FALSE         -Observed time difference to GSM cell Reporting       FALSE         indicator       TRUE	-Measurement quantity for UTRAN quality	Not Present
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-GSM -Measurement quantity -Filter coefficient -BSIC verification required -Inter-RAT reporting quantity -UTRAN estimated quality -CHOICE system -GSM -Observed time difference to GSM cell Reporting indicator -GSM carrier RSSI reporting indicator -Reporting cell status	-CHOICE system	GSM
-Filter coefficient -BSIC verification required -Inter-RAT reporting quantity -UTRAN estimated quality -CHOICE system -GSM -Observed time difference to GSM cell Reporting indicator -GSM carrier RSSI reporting indicator -Beporting cell status	-Measurement quantity	GSM Carrier BSSI
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-UTRAN estimated quality FALSE -CHOICE system GSM -GSM -Observed time difference to GSM cell Reporting FALSE indicator -GSM carrier RSSI reporting indicator TRUE	-Inter-RAT reporting quantity	······
-CHOICE system -GSM -Observed time difference to GSM cell Reporting indicator -GSM carrier RSSI reporting indicator -Beporting cell status	-UTRAN estimated quality	FALSE
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-Observed time difference to GSM cell Reporting indicator -GSM carrier RSSI reporting indicator -Reporting cell status	-GSM	
indicator -GSM carrier RSSI reporting indicator TRUE	-Observed time difference to GSM cell Reporting	FALSE
-GSM carrier RSSI reporting indicator IRUE	indicator	
-Reporting cell status	-GSM carrier RSSI reporting indicator	IRUE
	-Reporting cell status	
-CHOICE reported cell Report cells within active set or within virtual	-CHOICE reported cell	Report cells within active set or within virtual
Maximum number of reported cells	-Maximum number of reported cells	
-Maximum number of reported cens 0 -CHOICE report criteria	-CHOICE report criteria	Periodical reporting criteria
-Amount of reporting	-Amount of reporting	Infinity
-Reporting interval 500 ms	-Reporting interval	500 ms
Physical channel information elements	Physical channel information elements	
-DPCH compressed mode status info Not Present	-DPCH compressed mode status info	Not Present

# MEASUREMENT REPORT message for inter ñ RAT test cases

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

## 8.7.3A.5 Test requirements

#### 8.7.3A.5.1 Relative accuracy of measurements on different ARFCN

For normal and each of the 4 extreme conditions tested the following applies:

- a) For each of the steps 1, 21, 22, 42, 43 and 64, of the 6 reported GSM CARRIER RSSI values checked, the difference between the minimum reported GSM CARRIER RSSI value and the maximum reported GSM CARRIER RSSI value shall be no more than 4 if the measurements are on the same or on different RF channel within the same frequency band and no more than 8 (12 for extreme temperature conditions) if the measurements are on different frequency bands.
- b) For each of the steps 63 and 85, of the 6 reported GSM CARRIER RSSI values checked, the difference between the minimum reported GSM CARRIER RSSI value and the maximum reported GSM CARRIER RSSI value shall be no more than 5 for small UE, DCS 1 800 and PCS 1 900 (Class 1 and 2) UE or 4 for other UE if the measurements are on the same or on different RF channel within the same frequency band and no more than 9 for small UE, DCS 1 800 and PCS 1 900 (Class 1 and 2) UE or 8 for other PCS 1 900 UE (13 and 12 for extreme temperature conditions) if the measurements are on different frequency bands.
- c) For step 84, of the 6 reported GSM CARRIER RSSI values checked, the difference between the minimum reported GSM CARRIER RSSI value and the maximum reported GSM CARRIER RSSI value shall be no more than 5 if the measurements are on the same or on different RF channel within the same frequency band and no more than 9 (13 for extreme temperature conditions) if the measurements are on different frequency bands.
- d) For step 105, of the reported GSM CARRIER RSSI values checked, the difference between the minimum reported GSM CARRIER RSSI value and the maximum reported GSM CARRIER RSSI value shall be no more than 6 if the measurements are on the same or on different RF channel within the same frequency band and no more than 10 (14 for extreme temperature conditions) if the measurements are on different frequency bands.

The normative reference for this requirement is TS 25.133 [2] clause A.9.1.3A.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.
- NOTE: It is not mandatory for the MS to report any of the BCCHs in step 105.

#### 8.7.3A.5.2 Relative accuracy at a single frequency (BCCH1)

For normal and each of the 4 extreme conditions tested the following applies:

For:  $n \le 21$  and  $RXLEV_1 = 63$ 

 $RXLEV_n$  - (63 - n + r) shall be between:

-2 and +2

NOTE 1: This formula allows for an MS with an absolute accuracy worse than +0,5 dB and therefore reporting an RXLEV of 63 for more than one step. The formula checks the relative accuracy from the lowest input level for which the MS last reports RXLEV of 63.

#### Otherwise:

 $RXLEV_{(m*21+1)}$  -  $RXLEV_{(m*21+n)}$  - n + 1 shall be between:

-2 and +2

for steps 2 to 62 and 65 to 71 for DCS 1 800 class 1/2 MS; or steps 2 to 62 and 65 to 73 for DCS 1 800 class 3, PCS 1 900 (Class 1&2) and Small GSM MS; or 2 to 75 for other MS and other PCS 1 900 MS.

-3 and +2

for steps 63 and 72 to 96 for DCS 1 800 class 1/2 MS; or steps 63 and 74 to 98 for DCS 1 800 class 3, PCS 1 900 (Class 1 and 2) and Small GSM MS; or

76 to 100 for other MS and other PCS 1 900 MS.

for steps 97 to 105 for DCS 1 800 class 1/2 MS; or steps 99 to 105 for DCS 1 800 class 3, PCS 1 900 (Class 1 and 2) and Small GSM MS; or 101 to 105 for other MS and other PCS 1 900 MS.

- where:  $1 < n \le 21$  and  $0 \le m \le 4$  as identified in table 8.7.3A.3, and r is the number of the last step where RXLEV of 63 was reported.
- NOTE 2: It is not mandatory for the MS to report BCCH1 for steps greater than 99 for GSM 400, GSM 700, GSM 850 or GSM 900 Small MS or 101 for other GSM and other PCS 1 900 MS or 97 for a DCS 1 800 Class 1 or Class 2 MS and 99 for DCS 1 800 Class 3 and PCS 1 900 (Class 1 and 2) MS. If the MS reports a level and the upper limit for this step in the above formula implies a level below the reference sensitivity level for the type of MS, then the upper limit shall be considered as equal to a value corresponding to the reference sensitivity level.

#### 8.7.3A.5.3 Absolute accuracy

For each BCCH reported,  $|RXLEV_{MS} + m \times 10 - 62|$  shall be no more than:

- 4 for steps 64 and 85 under normal conditions.
- 6 for steps 64 and 85 under extreme conditions.
- 6 for steps 1, 22 and 43 under normal and extreme conditions.

where:  $0 \le m \le 4$  as identified in table 8.7.3A.3.

# 8.7.3B Transport channel BLER

Void.

## 8.7.3C UE transmitted power

## 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.

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

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

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, no value shall be reported by the UE L1 for those slots.

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.

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

Parameter	Unit	Value	Comment
DCH parameters		DL Reference Measurement	As specified in clause C.3.1
		Channel 12.2 kbps	
Power Control		On	
Target quality value on DTCH	BLER	0.01	

Parameter Unit Cell 1						
CPICH_Ec/lor dB -10						
PCCPCH_Ec/lor dB -12						
SCH_Ec/lor dB -12						
PICH_Ec/lor	dB	-15				
DPCH_Ec/lor	dB	Note1				
OCNS_Ec/lor	OCNS_Ec/lor dB Note 2					
$\dot{P}_{or}/I_{oc}$ dB 0						
<i>I<sub>oc</sub></i> dBm/3.84 MHz -70						
CPICH_Ec/lo	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 <sub>or.</sub>						

#### Table 8.7.3C.4.2: Cell Specific 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.
- 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 1000 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-10.

#### 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], with the following exceptions:

#### MEASUREMENT CONTROL message:

Information Element	Value/Remark
Message Type	
UE information elements	
-RRC transaction identifier	0
-Integrity check info	
-message authentication code	SS calculates the value of MAC-I for this message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I. SS provides the value of this
	IE, from its internal counter.
Measurement Information elements	_
-Measurement Identity	5
-Measurement Command	SETUP
-CHOICE Measurement type	UE Internal measurement
-UE Internal measurement quantity	
-Measurement quantity	UE Transmitted power
-Filter coefficient	0
-UE Internal reporting quantity	
-UE Transmitted power	TRUE
-CHOICE mode	FDD
-UE Rx-Tx time difference	FALSE
-CHOICE report criteria	Periodical reporting criteria
-Amount of reporting	Infinity
-Reporting interval	250
-Measurement Reporting Mode	
-Measurement Report Transfer Mode	AM RLC
-Periodical Reporting / Event Trigger Reporting Mode	Periodical reporting
-AdditionalMeasurementList	Not Present
Physical channel information elements	
-DPCH compressed mode status info	Not Present

Information Element	Value/remark		
Message Type			
Integrity check info	The presence of this IE is dependent on PIXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.		
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.		
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.		
Measurement identity	5		
Measured Results			
- CHOICE Measurement	UE Internal measured results		
- Choice mode	FDD		
- UE Transmitted power	Checked that this IE is present		
- UE Rx-Tx report entries	Checked that this IE is absent		
Measured results on RACH	Checked that this IE is absent		
Additional measured results	Checked that this IE is absent		
Event results	Checked that this IE is absent		

# PHYSICAL CHANNEL RECONFIGURATION message:

Information Element	Value/Remark
Message Type	
LIF Information Elements	
-BBC transaction identifier	0
-Integrity check info	
-message authentication code	SS calculates the value of MAC-I for this message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
-RRC message sequence number	SS provides the value of this IE, from its internal counter.
-Integrity protection mode info	Not Present
-Ciphering mode info	Not Present
-Activation time	Not Present
-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

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.

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

Banamatan		Mean Power range [dB]		
Parameter	Unit	PUEMAX 24dBm	PUEMAX 21dBm	
UE transmitted power=PUEMAX	dBm	+1.7/-3.7	±2.7	
UE transmitted power=PUEMAX-1	dBm	+2.2/-4.2	±3.2	
UE transmitted power=PUEMAX-2	dBm	+2.7/-4.7	±3.7	
UE transmitted power=PUEMAX-3	dBm	+3.2/-5.2	±4.2	
UE transmitted power=PUEMAX-4	dBm	+3.7/-5.7	±4.7	
UE transmitted power=PUEMAX-5	dBm	+3.7/-5.7	±4.7	
UE transmitted power=PUEMAX-6	dBm	+3.7/-5.7	±4.7	
UE transmitted power=PUEMAX-7	dBm	+3.7/-5.7	±4.7	
UE transmitted power=PUEMAX-8	dBm	+3.7/-5.7	±4.7	
UE transmitted power=PUEMAX-9	dBm	+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 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 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 $|_{dBm} \ge -114 \text{ dBm}$  for Band I.

CPICH\_RSCP1,2 $|_{dBm} \ge -112$  dBm for Band II,

CPICH\_RSCP1,2 $|_{dBm} \ge -111 \text{ dBm}$  for Band III.

$$\begin{aligned} \left| CPICH \_RSCP1 \right|_{in \ dBm} - CPICH \_RSCP2 \right|_{in \ dBm} \\ \leq 20 dB \\ \frac{I_o}{\left( \overset{\circ}{P}_{or} \right)}_{in \ dB} - \left( \frac{CPICH \_E_c}{I_{or}} \right)_{in \ dB} \\ \leq 20 dB \end{aligned}$$

$$\frac{I_o}{(\mathbf{\hat{P}}_o)}\Big|_{in\ dB} - \left(\frac{P - CCPCH - E_c}{I_{or}}\right)\Big|_{in\ dB}$$

 $^{dB}$  is low enough to ensure successful SFN decoding.

#### Table 8.7.4.1.1 SFN-CFN observed time difference intra frequency accuracy

	Unit	Accuracy [chip]	Conditions			
Parameter			lo [dBm/3.84 MHz]			
			Band I	Band II	Band III	
SFN-CFN observed time difference	chip	± 1	-9450	-9250	-9150	

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 0Ö 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.

Table 8.7.4.1.2: SFN-CFN observed time difference Intra free	quency	y test	parameters
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Devementer	l lucit	Test 1	Test 2	Test 3		
Parameter	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		
Ober/loc	dB	10.5	10.5	10.5		
	dBm/ 3.84 MHz	lo ñ13.7 dB = loc,	$lo \tilde{n}13.7 dB = loc,$	, Io $\tilde{n}13.7  dB = Ioc$ ,		
		Note 1	Note 1	Note 1		
Band I	-			-94		
Io Band II	dBm/3.84 MHz	-50	-72	-92		
Band III				-91		
SFN-CFN observed time			x			
difference as specified in TS	chip		Note 2			
25.215 [22]						
Propagation condition	-	AWGN	AWGN	AWGN		
NOTE 1: <i>loc</i> level shall be adju	sted according the tot	tal signal power <i>lo</i> at	receiver input and th	e geometry factor		
Obt/loc.						
NOTE2: For example, x= 491520 or 9830399. This is a calculated value using parameters iOFFi and iTmi as						
specified in TS 25.215	5 [22].					
l ests shall be done sequentially	. Test 1 shall be done	tirst. 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.						

#### 8.7.4.1.4.2 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 for Test 1 are set up according to table 8.7.4.1.4.
- 2) SS shall transmit MEASUREMENT CONTROL message.
- 3) UE shall transmit periodically MEASUREMENT REPORT message.
- 4) 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.
- 5) 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 8.7.4.1.4 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. Then, step 4) above is repeated. After further 1000 MEASUREMENT REPORT messages have been received from UE, the RF parameters are set up according to table 8.7.4.1.4 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 8.7.4.1.4 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 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 4) above is 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], with the following exceptions:

Information Element	Value/Pemark
	Value/Relliark
Message Type	
UE information elements	
-RRC transaction identifier	0
-Integrity check info	
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IE. The first/
	leftmost bit of the bit string contains the most
	significant bit of the MAC-I.
-RRC message sequence number	SS provides the value of this IE, from its
	internal counter.
Measurement Information elements	
-Measurement Identity	1
-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
-Intra-frequency measurement	
<ul> <li>Intra-frequency measurement objects list</li> </ul>	Not Present
-Intra-frequency measurement quantity	
-Filter coefficient	0
-CHOICE mode	
-Measurement quantity	CPICH RSCP
-Intra-trequency reporting quantity	
-Reporting quantities for active set cells	
-Cell synchronisation information reporting	
Coll Identity reporting indicator	TOUE
	INDE
-CPICH Ec/NO reporting indicator	TRUE
-CPICH BSCP reporting indicator	FDD
-Pathloss reporting indicator	TBUE
-Reporting quantities for monitored set cells	
-Cell synchronisation information reporting	FALSE
indicator	
-Cell Identity reporting indicator	
-CHOICE mode	TRUE
-CPICH Ec/N0 reporting indicator	
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	FDD
-Reporting quantities for detected set cells	TRUEFALSE
-Reporting cell status	TRUE
-CHOICE reported cell	FALSE
	Not Present
-Maximum number of reported cells	
-Measurement validity	Report all active set cells + cells within
-CHOICE report criteria	monitored set on used frequency
-Amount of reporting	Virtual/active set cells + 2
-Reporting interval	Not Present
	Periodical reporting criteria
	Infinity
	250 ms
Physical channel information elements	
-DPCH compressed mode status info	Not Present

# MEASUREMENT REPORT message for Intra frequency test cases

I

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

			Conditions lo [dBm/3.84 MHz]		
Parameter	Unit	Accuracy [chip]			
			Band I Band II	Band II	Band III
SFN-CFN observed time difference	chip	± 1.5	-9450	-9250	-9150

#### Table 8.7.4.1.3 SFN-CFN observed time difference intra frequency accuracy

## Table 8.7.4.1.4: SFN-CFN observed time difference Intra frequency test parameters

Parameter		Unit	Test 1		Test 2 Test 3			st 3	
Falai	lielei	Unit	Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2	
UTRA RF Chan	nel number		Char	nnel 1	Channel 1 Chan		nel 1		
CPICH_Ec/lor		dB	-1	10	-1	0	-1	10	
PCCPCH_Ec/lo	r	dB	-1	2	-1	2	-1	12	
SCH_Ec/lor		dB	-1	2	-1	2	-1	12	
PICH_Ec/lor		dB	-1	15	-1	5	-1	15	
DPCH_Ec/lor		dB	-1	15	-1	5	-1	15	
OCNS_Ec/lor		dB	-1.	.11	-1.	.11	-1.	.11	
@Er/loc		dB	10	).8	10	).8	10	).8	
	Band I						-10		)6.7
loc	Band II	dBm/ 3.84 MHz	-65.3	-85.7		-104.7			
	Band III						-103.7		
	Band I						-92	2.7	
Io, Note 1 Band II		dBm/3.84 MHz	-51.3	1.3	-71.7		-90.7		
	Band III						-89	9.7	
SFN-CFN obser	ved time				,	~			
difference as sp	ecified in TS	chip			Not	te 2			
25.215 [22]									
Propagation cor	ndition	-	AWGN AWGN AWGN					/GN	
NOTE 1: lo lev	el has been calc	culated from other para	ameters fo	r informatio	on purpose	es. It is not	a settable		
parameter itself.									
NOTE2: For example, x= 491520 or 9830399. This is a calculated value using parameters iOFFi and iTmi as									
speci	fied in 15 25.21	5 [22].	<i>c</i>						
l ests shall be d	one sequentially	. Test 1 shall be done	first. After	test 1 has	been exec	cuted test p	parameters	s for tests	
2 and 3 shall be set within 5 seconds so that UE does not loose the Cell 2 in between the tests.									

The accuracy of the SFN-CFN observed time difference measurement value calculated from the reported i OFFi and i Tmî values shall meet the requirements in table 8.7.4.1.5.

# Table 8.7.4.1.5: SFN-CFN observed time difference measurement accuracy requirements for the reported values

	Test 1	Test 2	Test 3
Lowest reported value	SFN_CFN_TIME (X - 2)	SFN_CFN_TIME (X - 2)	SFN_CFN_TIME (X - 2)
Highest reported value	SFN_CFN_TIME (X + 2)	SFN_CFN_TIME (X + 2)	SFN_CFN_TIME (X + 2)
SFN-CFN_TIME (X) is the r	eported value for the actual S	FN-CFN observed time differ	ence value as defined in
table 8.7.4.1.4			

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

## 8.7.4.2 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 $|_{dBm} \ge -114 \text{ dBm}$  for Band I.

CPICH\_RSCP1,2 $|_{dBm} \ge -112 \text{ dBm}$  for Band II,

CPICH\_RSCP1,2 $|_{dBm} \ge -111 \text{ dBm}$  for Band III.

$$\left| CPICH \_ RSCP1 \right|_{in \, dBm} - CPICH \_ RSCP2 \right|_{in \, dBm} \le 20 dB$$

| Channel 1\_Io|<sub>dBm/3.84 MHz</sub> -Channel 2\_Io|<sub>dBm/3.84 MHz</sub> |  $\leq$  20 dB.

$$\frac{I_o}{\left(\mathbf{\hat{P}}_{or}\right)}\Big|_{in\ dB} \quad - \quad \left(\frac{CPICH\_E_c}{I_{or}}\right)\Big|_{in\ dB} \leq 20dB$$

#### Table 8.7.4.2.1 SFN-CFN observed time difference inter frequency accuracy

		Accuracy	Conditions			
Parameter	Unit	Ichin]	lo [dBm/3.84 MHz]			
		[cilib]	Band I	Band II	Band III	
SFN-CFN observed time difference	chip	± 1	-9450	-9250	-9150	

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 0Ö 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 "Infinity" and "(Current CFN +  $(256 \ n\ TTI/10msec))$ mod 256". Table 8.7.4.2.2 defines the limits of signal strengths and code powers, where the requirement is applicable.

#### Table 8.7.4.2.2: SFN-CFN observed time difference Inter frequency tests parameters

Para	motor	Unit	Tes	st 1	Te	st 2	Test 3	
Falameter		Unit	Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2
UTBA BE Channel number			Channel	Channel	Channel	Channel	Channel	Channel
			1	2	1	2	1	2
CPICH_Ec/lor		dB	-1	0	-1	0	-1	0
PCCPCH_Ec/lo	or	dB	-1	2	-1	2	-1	12
SCH_Ec/lor		dB	-1	2	-1	2	-1	2
PICH_Ec/lor		dB	-1	5	-1	5	-1	15
DPCH Ec/lor		dB	-1	5	-1	5	-1	5
OCNS_Ec/lor		dB	-1.	11	-1	.11	-1.	.11
Ober/loc		dB	10	).1	10	).1	10	).1
1		dBm/ 3.84 MHz	Io $\tilde{n}10.6 dB = loc$ ,		Io $\tilde{n}10.6 dB = loc$ ,		Io $\tilde{n}10.6 dB = loc$ ,	
100			Note 1		Note 1		Note 1	
	Band I					-9	<del>)</del> 4	
lo	Band II	dBm/3.84 MHz	-5	50	-72		-9-	<del>)</del> 2
	Band III						-9	<b>)</b> 1
S FN-CFN obse	erved time				,	~		
difference as sp	pecified in TS	chip			No	n te 2		
25.215 [22]					110			
Propagation co	ndition	-	AW	GN	AW	'GN	AW	'GN
NOTE 1: loc le	evel shall be adju	sted in each carrier fr	equency a	ccording th	ne total sign	nal power	<i>lo</i> at receiv	er input
and the geometry factor @r/loc.								
NOTE2: For example, x= 491520 or 9830399. This is a calculated value using parameters iOFFi and iTmi as								
specified in TS 25.215 [22].								
Tests shall be o	done sequentially	. Test 1 shall be done	first. After	test 1 has	been exec	cuted test p	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.								

#### 8.7.4.2.4.2 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 for Test 1 are set up according to table 8.7.4.2.4.
- 2) SS shall transmit PHYSICAL CHANNEL RECONFIGURATION message.
- 3) UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message.
- 4) SS shall transmit MEASUREMENT CONTROL message.
- 5) UE shall transmit periodically MEASUREMENT REPORT messages.
- 6) 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]. Note that according to TS 25.215 [22] UE is always reporting i OFFî parameter to be zero. This value shall be compared to the actual SFN-CFN observed time difference value for each MEASUREMENT REPORT message taking into account that i OFFî parameter is set to zero. .
- 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 8.7.4.2.4 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. 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 8.7.4.2.4 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. 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], with the following exceptions:

Information Element	Value/Remark
Message Type	
UE Information Flomenta	
DE Information Elements	0
-Integrity check info	0
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IF. The first/
	leftmost bit of the bit string contains the most
	significant bit of the MAC-I.
-RRC message sequence number	SS provides the value of this IE, from its
	internal counter.
-Integrity protection mode info	Not Present
-Ciphering mode info	Not Present
-Activation time	Not Present
-New U-RNTI	Not Present
-New C-RN11	Not Present
-RRC State Indicator	CELL_DCH Not Propert
-OTRAN DRA cycle length coefficient	
CN Information info	Not Present
LITRAN mobility information elements	Not i resent
-URA identity	Not Present
BB 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
Downlink radio resources	
-CHOICE mode	FDD
-Downlink PDSCH information	Not Present
-Downlink Information common for all radio links	Not Propert
-DPCH compressed mode info	
-Transmission gap pattern sequence	
-TGPSI	1
-TGPS Status Flag	Activate
-TGCFN	(Current CFN + (256 ñ TTI/10msec))mod 256
-Transmission gap pattern sequence	
configuration parameters	
-IGMP	FDD measurement
-IGPRC	Infinity
	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
-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	I FUU

-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	Set to value Default DPCH Offset Value ( as
	currently stored in SS) mod 38400
-Secondary CPICH info	Not Present
-DL channelisation code	
-Secondary scrambling code	Not Present
-Spreading factor	128
-Code number	96
-Scrambling code change	No code change
-TPC combination index	0
-SSDT Cell Identity	Not Present
<ul> <li>Closed loop timing adjustment mode</li> </ul>	Not Present
-SCCPCH Information for FACH	Not Present

Information Element	Value/Remark
	Value/Keinark
Message Type	
UE information elements	
-RRC transaction identifier	0
-Integrity check info	
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IE. The first/
	leftmost bit of the bit string contains the most
	significant bit of the MAC-I.
-RRC message sequence number	SS provides the value of this IE, from its
	internal counter.
Measurement Information elements	-
-Measurement Identity	2
-Measurement Command	Setup
-Measurement Reporting Mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting	Periodical reporting
	Not Drocont
-Additional measurement list	Not Present
-CHOICE Measurement Type	Inter-frequency measurement
-Inter-frequency measurement	
	Not Propert
Now inter frequency cells	Coll 2 information is included
-New Inter-inequency cens	
-Deli for measurement quantity	Inter-frequency reporting criteria
-CHOICE reporting criteria	Inter-frequency reporting citteria
	0
-CHOICE mode	FDD
-Measurement quantity for frequency quality	CPICH BSCP
estimate	
-Inter-frequency reporting quantity	
-UTRA Carrier RSSI	TRUE
-Frequency quality estimate	TRUE
-Non frequency related cell reporting quantities	
-Cell synchronisation information reporting	
indicator	TRUE
-Cell Identity reporting indicator	
-CHOICE mode	TRUE
-CPICH Ec/N0 reporting indicator	FDD
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	TRUEFALSE
-Reporting cell status	FALSE
-CHOICE reported cell	
	Report cells within monitored set on non-used
-Maximum number of reported cells	frequency
-Measurement validity	2
-Inter-frequency set update	Not Present
-CHOICE report criteria	Not Present
-Amount of reporting	Periodical reporting criteria
-Reporting interval	
Dhusiaal shararaliafamaati	500 ms
Physical channel information elements	Net Dessert
-DPGH compressed mode status into	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

#### Table 8.7.4.2.3 SFN-CFN observed time difference inter frequency accuracy

		_	Conditions			
Parameter	Unit	Accuracy	lo [dBm/3.84 MHz]			
		[chip]	Band I	Band II	Band III	
SFN-CFN observed time difference	chip	± 1.5	-9450	-9250	-9150	

#### Table 8.7.4.2.4: SFN-CFN observed time difference Inter frequency tests parameters

Parameter		Unit	Test 1		Test 2		Test 3		
			Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2	
LITBA BE Channel number			Channel	Channel	Channel	Channel	Channel	Channel	
			1	2	1	2	1	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	-15		-15		-15		
OCNS_Ec/lor		dB	-1.11		-1.11		-1.11		
Ober/loc		dB	10.4		10.4		10.4		
	Band I		-62.1		-82.6		103.5		
loc	Band II	dBm/ 3.84 MHz					101.5		
	Band III						100.5		
Io, Note 1	Band I		-51.3		-71.8		-92.7		
	Band II	dBm/3.84 MHz					-90.7		
	Band III						-89.7		
SFN-CFN observed time					,	~			
difference as specified in TS		chip	Note 2						
25.215 [22]									
Propagation condition		-	AWGN AWGN		AWGN				
NOTE 1: Io level has been calculated from other parameters for information purposes. It is not a settable									
parameter itself.									
NOTE2: For example, x= 491520 or 9830399. This is a calculated value using parameters iOFFi and iTmi as									
specified in TS 25.215 [22].									
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.									

The accuracy of the SFN-CFN observed time difference measurement value calculated from the reported i OFFî and i Tmî values shall meet the requirements in table 8.7.4.2.5.

# Table 8.7.4.2.5: SFN-CFN observed time difference measurement accuracy requirements for the reported values

	Test 1	Test 2	Test 3			
Lowest reported value	SFN_CFN_TIME (X - 2)	SFN_CFN_TIME (X - 2)	SFN_CFN_TIME (X - 2)			
Highest reported value	SFN_CFN_TIME (X + 2)	SFN_CFN_TIME (X + 2)	SFN_CFN_TIME (X + 2)			
SFN-CFN_TIME (X) is the reported value for the actual SFN-CFN observed time difference value as defined in						
table 8.7.4.2.4 taking into account that iOFFi parameter is set to zero.						

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.

{Unchanged Sections are clipped here}

# Annex I (normative): Default Message Contents

This Annex contains the default values of common messages, other than those described in TS 34.108. The messages are primarily concerning the RRM test cases in clause 8 and unless indicated otherwise in specific test cases, shall be transmitted and checked by the system simulator. The necessary messages are listed in alphabetical order.

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

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Measurement identity	1
Measured Results	
<ul> <li>Intra-frequency measured results list</li> </ul>	
- Cell measured results	
- Cell Identity	Not present
<ul> <li>Cell synchronisation information</li> </ul>	
- Tm	Checked that this IE is present
- OFF	Checked that this IE is present
- CHOICE mode	FDD
- Primary CPICH info	Checked that this IE is present
<ul> <li>Primary scrambling code</li> </ul>	150
- CPICH Ec/N0	If reporting of iCPICH Ec/N0i measurement is configured
	then check Checked that this IE is present. If reporting of
	<u>iCPICH Ec/N0 i measurement is not configured then</u>
	check that this IE is absent.
- CPICH RSCP	If reporting of i <u>CPICH RSCP</u> CPICH Ec/Noi measurement
	is configured then check <del>Checked</del> that this IE is present. If
	reporting of ICPICH RSCP i measurement is not
	configured then check that this IE is absent.
- Pathloss	Checked that this IE is absent it reporting of ICPICH
	Ec/NUI measurement is configured then checkChecked
	tnat tnis i⊨ is present
Measured results on RACH	Checked that this IE is absent
Additional measured results	Checked that this IE is absent
Event results	Checked that this IE is absent

Contents of MEASUREMENT REPORT message for Intra frequency test cases
# Contents of MEASUREMENT REPORT message for Inter frequency test cases

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Measurement identity	1
Measured Results	
<ul> <li>Inter-frequency measured results list</li> </ul>	
- UTRA Carrier RSSI	If reporting of i <u>UTRA Carrier RSSI</u> CPICH Ec/NOi measurement is configured then checkChecked that this IE is present. If reporting of iUTRA Carrier RSSI i measurement is not configured then check that this IE is absent.
<ul> <li>Inter-frequency cell measurement results</li> </ul>	
- Cell measured results	
- Cell Identity	Not present
- Cell synchronisation information	
-Tm	Checked that this IE is present
	Checked that this IE is present
- Primary CPICH Info	
- Primary scrampling code	150
	then sheet Checked that this IF is present. If reporting of
	CPICH Ec(NO) measurement is not configured then
	check that this IE is absent
- CPICH BSCP	If reporting of iCPICH BSCP CPICH Ec/NO measurement
	is configured then check <del>Checked</del> that this IF is present. If
	reporting of iCPICH BSCP i measurement is not
	configured then check that this IF is absent
- Pathloss	Checked that this IE is absentiff reporting of iCPICH
	Ec/N0ì measurement is configured then checkChecked
	that this IE is present
Measured results on RACH	Checked that this IE is absent
Additional measured results	Checked that this IE is absent
Event results	Checked that this IE is absent

# Contents of MEASUREMENT REPORT message for inter ñ RAT test cases

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Measurement identity	1
Measured Results	
<ul> <li>Inter-RAT measured results list</li> </ul>	
- CHOICE system - GSM	GSM
- Measured GSM cells	Checked that this IE is present
- GSM carrier RSSI	If reporting of <i>i</i> GSM carrier RSSI <i>i</i> measurement is configured then check <del>Checked</del> that this IE is present. If <u>reporting of <i>i</i>GSM carrier RSSI<i>i</i> measurement is not</u> configured then check that this IE is absent.
- CHOICE BSIC	Non verified BSIC
- Non verified BSIC	
- BCCH ARFCN	Checked that this IE is present
- Observed time difference to GSM cell	Checked that this IE is absent <del>If reporting of iObserved</del>
	time difference to GSM cellì measurement configured
	then checkChecked that this IE is present
Measured results on RACH	Checked that this IE is absent
Additional measured results	Checked that this IE is absent
Event results	Checked that this IE is absent

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CHANGE REQUEST								
æ	34.121	CR 454	жrev	- ¥	Current vers	sion: <b>5.5.0</b>	æ	
For <u><b>HELP</b></u> on using this form, see bottom of this page or look at the pop-up text over the $\frac{3}{8}$ symbols.								
Proposed change affects: UICC apps <sup>#</sup> ME X Radio Access Network Core Network								
Title: #	Correction	<mark>n to SFN-SFN obse</mark>	<mark>rved time c</mark>	lifference	type 1 meas	urement test ca	ase	
Source: 🔀	Motorola,	NEC						
Work item code: 🔀	TEI				Date: <mark>អ</mark>	03/11/2004		
Category: 🔀	F Use <u>one</u> of f F (con A (cor B (add C (fun D (edi Detailed exp be found in	the following categorie rection) responds to a correcta lition of feature), ctional modification of torial modification) blanations of the abov 3GPP <u>TR 21.900</u> .	es: ion in an ear feature) e categories	lier releas s can	Release: Use <u>one</u> of 2 e) R96 R97 R98 R99 Rel-4 Rel-5 Rel-6	Rel-5 the following rel (GSM Phase 2) (Release 1996) (Release 1997) (Release 1998) (Release 1999) (Release 4) (Release 5) (Release 6)	eases:	
Reason for change.	: 🔀 This c meas	hange is to configu urements in CELL_	re SFN-SF FACH state	N observ e.	ed time differ	ence type 1		
Summary of change	e: <mark># Confiç</mark> meas	gured the RACH rep urement through a r	oorting in S measureme	IB 11 and ent contro	d configured a pl procedure.	a periodic traffic	volume	
Consequences if not approved:	<mark>೫ SFN-</mark> can ne	SFN observed time ot be tested.	difference	type 1 m	easurements	in CELL_FAC	H state	

Clauses affected:	<b>第</b> 8.7.5
Other specs Affected:	Y       N         X       Other core specifications       X         X       Test specifications       X         X       O&M Specifications       X
Other comments:	This CR is applicable for UE's supporting Rel-99 or later.

# 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 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 $|_{dBm} \ge -114 \text{ dBm}$  for Band I.

CPICH\_RSCP1,2 $|_{dBm} \ge -112 \text{ dBm}$  for Band II,

CPICH\_RSCP1,2 $|_{dBm} \ge -111$  dBm for Band III.

$$\begin{vmatrix} CPICH \_RSCP1 \end{vmatrix}_{in \, dBm} - CPICH \_RSCP2 \rvert_{in \, dBm} \end{vmatrix} \le 20 dB$$

$$\frac{I_o}{\left(\overset{P}{P}_{or}\right)} \rvert_{in \, dB} - \left(\frac{CPICH \_E_c}{I_{or}}\right) \rvert_{in \, dB} \le 20 dB$$

$$I = \left(\begin{array}{c} P - CCPCH = E \end{array}\right) \end{vmatrix}$$

 $\overline{I}_{or}$ 

 $\int_{an}^{b} dB$  is low enough to ensure successful SFN decoding.

#### Table 8.7.5.1.1 SFN-SFN observed time difference type 1 measurement accuracy

			Conditions				
Parameter	Unit	Accuracy [chip]	lo [dBm/3.84 MHz]				
			Band I	Band II	Band III		
SFN-SFN observed time difference type1	chip	± 1	-9450	-9250	-9150		

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

 $\left. \overline{\left( \dot{\boldsymbol{h}}_{ar} \right)} \right|_{in dB}$ 

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 0Ö 9830399 chips.

1) Connect SS to the UE antenna connector as shown in figure A.1 $\underline{1}$ 

2) A call is set up according to the test procedure specified in TS 34.108 [3] subclause 7.3.5. 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

Parameter		Unit	Tes	Test 1		Test 2		st 3	
Fala	i diameter Onit		Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2	
UTRA RF Chan	inel number		Channel 1		Channel 1		Channel 1		
CPICH_Ec/lor		dB	-1	0	-1	0	-1	-10	
PCCPCH_Ec/lo	or	dB	-1	2	-1	2	-1	2	
SCH_Ec/lor		dB	-1	2	-1	2	-1	2	
PICH_Ec/lor		dB	-1	5	-1	15	-1	15	
S-CCPCH Ec/I	or	dB	-1	2	-1	2	-1	2	
OCNS_Ec/lor		dB	-1.	-1.29 -1.2		.29	-1.	29	
OEr/loc		dB	10	10.5 10.5		10.5			
		dBm/ 3 94 MUz	lo ñ13.7 dB = loc,		lo $\tilde{n}$ 13.7 dB = loc,		lo ñ13.7 dB = loc,		
loc			Note 1		No	Note 1		Note 1	
	Band I						-94		
lo	Band II	dBm/3.84 MHz	-50		-72		-92		
	Band III						-9	91	
SFN-SFN obse	erved time					×			
difference type	lifference type 1 as specified ch		chip		Note 2				
in TS 25.215 [2	2]		Note 2						
Propagation co	ndition	-	AWGN AWGN AWGN				'GN		
NOTE 1: loc le	evel shall be adju	sted according the tot	al signal p	ower <i>lo</i> at	receiver in	put and the	e geometry	/ factor	
ወታ//ሪ	DC.								

NOTE2: For example, x= 491520 or 9830399. This is a calculated value using the parameters iOFFi and iTmi as specified in TS 25.215 [22].

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) A call is set up according to the test procedure specified in TS 34.108 [3] subclause 7.3.5. The RF parameters for Test 1 are set up according to table 8.7.5.1.4.
- 2) SS shall transmit MEASUREMENT CONTROL message.
- <u>32)</u> UE shall transmit periodically MEASUREMENT REPORT messages.
- 43) 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.
- 54) 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 8.7.5.1.4 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. Then, step 43) above is repeated. After further 1000 MEASUREMENT REPORT messages have been received from UE, the RF parameters are set up according to table 8.7.5.1.4 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 8.7.5.1.4 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. Then, step 43) above is repeated.
- <u>6</u>5)\_After further 1000 MEASUREMENT REPORT messages have been received from UE, the SS shall transmit RRC CONNECTION RELEASE message.

<u>76</u>) 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 <u>clause 6.1.0b of</u> <u>34.108 [3] and</u> clause 9 of 34.108 [3], with the following exceptions:

Editorís note: UE behaviour is not specified for the current MEASUREMENT CONTROL message and therefore it is TBD.

Contents of System Information Block type 11 (FDD) (Step 1):

Information Element	Value/Remark
- Intra-frequency measurement system information	
<ul> <li>Intra-frequency reporting quantity for RACH Reporting</li> </ul>	
- SFN-SFN observed time difference reporting indicator	type 1
- CHOICE mode	FDD
- Reporting quantity	CPICH RSCP
<ul> <li>Maximum number of reported cells on RACH</li> </ul>	current cell + best neighbour

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

Information Element	Value/Romark
Message Type	Valaoritorialit
UE information elements	
-RRC transaction identifier	Ð
-Integrity check into	- CC coloulates the value of MAC L for this
-message authentication code	SS calculates the value of WAC-Horthis
	Intessage and writes to this re. The mist
	significant bit of the MAC I
-BBC message sequence number	SS provides the value of this IF from its
The message sequence number	internal counter
Measurement Information elements	
-Measurement Identity	4
-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-CHOICE	Not Present
Measurement Type	Intra-frequency measurement
<ul> <li>Intra frequency measurement</li> </ul>	
<ul> <li>Intra-frequency measurement objects list</li> </ul>	Not Present
<ul> <li>Intra frequency measurement quantity</li> </ul>	
- Filter coefficient	<del>0</del>
	FDD
- Measurement quantity	CPICH RSCP
Intra-trequency reporting quantity	
- Cell synchronisation information reporting-	
Coll Identity reporting indicator	триг
	TRUE
	EALSE
Benorting quantities for monitored set cells	FALSE
indicator	
Cell Identity reporting indicator	TRUE
	TRUE
	FDD
Pathloss reporting indicator	FALSE
Reporting quantities for detected set cells	TRUE
Reporting cell status	FALSE
	Not Present
Maximum number of reported calls	Poport all active set cells + cells within
Moasurement validity	mentered set on used frequency
- Micasurement valuary	Virtual/active set cells + 2
Amount of reporting	Not Procent
Reporting interval	Periodical reporting criteria
	Infinity
	<del>250 ms</del>
Physical channel information elements	
-DPCH compressed mode status info	Not Present

# MEASUREMENT CONTROL message for Traffic Volume measurement (Step 2):

Information Element/Group name	Value/Remark
Message Type (10.2.17)	
UE information elements	
- RRC transaction identifier	0
- Integrity check info	-
- message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IE. The first/
	most significant bit of the MAC-I
- BBC message sequence number	SS provides the value of this IF from its
- The message sequence humber	internal counter
Measurement Information elements	
- Measurement Identity	4
- Measurement Command (10.3.7.46)	Setup
- Measurement Beporting Mode (10.3.7.49)	
- Measurement Report Transfer Mode	AM BLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical reporting
- Additional measurements list (10.3.7.1)	Not Present
- CHOICE Measurement type (10.3.7.68)	Traffic Volume measurement
- Traffic volume measurement	
Object (10.3.7.70)	
- Traffic volume measurement objects	1
- Uplink transport channel type	RACHorCPCH
- UL Target Transport Channel ID	Not Present
- Traffic volume measurement	
<u>quantity (10.3.7.71)</u>	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity (10.3.7.74)	
<u>- RLC Buffer Payload for each RB</u>	FALSE
- Average of RLC Buffer Payload for each RB	FALSE
<ul> <li>Variance of RLC Buffer Payload for each RB</li> </ul>	FALSE
- Measurement validity (10.3.7.51)	Not Present
- CHOICE report criteria (10.3.7.53)	Periodical reporting criteria
<u>- Amount of reporting</u>	<u>Infinity</u>
Reporting interval	<u>250 ms</u>
Physical channel information elements	
-DPCH compressed mode status info (10.3.6.34)	Not Present

# MEASUREMENT REPORT message for Intra frequency test cases

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

# MEASUREMENT REPORT message for SFN-SFN observed time difference type 1 test case (Step 3)

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>4</u>
Measured Results	Checked that this IE is absent
Measured results on RACH	Checked that this IE is present
<ul> <li>Measurement result for current cell</li> </ul>	Checked that this IE is present
- CHOICE mode	FDD
<ul> <li>CHOICE measurement quantity</li> </ul>	Checked that this IE is present
<ul> <li>Measurement results for monitored cells</li> </ul>	<u>1</u>
<ul> <li>SFN-SFN observed time difference</li> </ul>	Checked that this IE is present
<u>- CHOICE Type</u>	Type 1
- CHOICE mode	FDD
- Primary CPICH info	Checked that this IE is present
<ul> <li>Primary scrambling code</li> </ul>	<u>150</u>
Additional measured results	Checked that this IE is absent
Event results	Checked that this IE is absent

# 8.7.5.1.5 Test requirements

# Table 8.7.5.1.3 SFN-SFN observed time difference type 1 measurement accuracy

Parameter			Conditions				
	Unit Accuracy [chip]		lo [dBm/3.84 MHz]				
			Band I	Band II	Band III		
SFN-SFN observed time difference type1	chip	± 1.5	-9450	-9250	-9150		

Baramotor		Unit	Te	st 1	Tes	Test 2		Test 3	
Falali	leter	Cell 1 Cell 2 Cell		Cell 1	Cell 2	Cell 1	Cell 2		
UTRA RF Chanr	nel number		Channel 1 Channel 1 C		Char	Channel 1			
CPICH_Ec/lor		dB	- "	10	-1	0	-1	10	
PCCPCH_Ec/loi	ſ	dB	-*	12	-1	2	-1	12	
SCH_Ec/lor		dB	-*	12	-1	2	-1	12	
PICH_Ec/lor		dB	-*	15	-1	15	-1	15	
S-CCPCH_Ec/lo	or	dB	- "	12	-1	2	-1	12	
OCNS_Ec/lor		dB	-1	.29	-1.	.29	-1.	.29	
Ober/loc		dB	10	).8	10	).8	10	).8	
	Band I						-106.7		
loc	Band II	dBm/ 3.84 MHz	-65.3 dB		-85.7		-104.7		
	Band III							-103.7	
	Band I				-71.7		-92.7		
Io, Note 1	Band II	dBm/3.84 MHz	-5	1.3			-90.7		
	Band III						-89.7		
SFN-SFN obser	ved time				,	~			
difference type 1	as specified	chip			No	n te 2			
in TS 25.215 [22	2]						1		
Propagation con	dition	-	AW	/GN	AW	'GN	AW	/GN	
NOTE 1: lo lev	el has been calc	culated from other para	ameters fo	r informatio	on purpose	es. It is not	a settable		
parameter itself.									
NOTE2: For example, x= 491520 or 9830399. This is a calculated value using the parameters iOFFi and iTmi a						d ìTmî as			
specified in TS 25.215 [22].									
Tests shall be do	Tests shall be done sequentially. Test 1 shall be done first. After test 1 has been executed test parameters for test					s 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 8.7.5.1.4: SFN-SFN observed time difference type 1 Intra frequency test parameters

The reported values for SFN-SFN observed time difference type 1 accuracy shall meet the requirements in table 8.7.5.1.5.

#### Table 8.7.5.1.5: SFN-SFN observed time difference type 1 measurement accuracy requirements for the reported values

	Test 1	Test 2	Test 3			
Lowest reported value	T1_SFN-SFN_TIME_(X ñ 2)	T1_SFN-SFN_TIME_(X ñ 2)	T1_SFN-SFN_TIME_(X ñ 2)			
Highest reported value	T1_SFN-SFN_TIME_(X + 2)	T1_SFN-SFN_TIME_(X + 2)	T1_SFN-SFN_TIME_(X + 2)			
T1 SFN-SFN TIME (X) is the reporting value corresponding to SFN-SFN observed time difference type 1 measured						
by system simulator						

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								
<b>H</b>	<mark>34.121</mark> CR <sup>455</sup> ж r	ev - 🕷 🤇	Current versi	<sup>on:</sup> 5.5.0 <sup>)#</sup>				
For <u>HELP</u> or	n using this form, see bottom of this pag	ge or look at the	pop-up text (	over the <mark>೫</mark> symbols.				
Proposed chang	Proposed change affects: UICC apps <sup>38</sup> ME X Radio Access Network Core Network							
Title:	Corrections to HSDPA test 6.3A (n	nax input power)						
Source:	X Agilent Technoliges							
Work item code:	H TEI		Date: 🔀	03/11/2004				
Category:	<ul> <li>F</li> <li>Use <u>one</u> of the following categories: <i>F</i> (correction) <i>A</i> (corresponds to a correction in a <i>B</i> (addition of feature), <i>C</i> (functional modification) <i>D</i> (editorial modification) Detailed explanations of the above categories be found in 3GPP <u>TR 21.900</u>.     </li> </ul>	an earlier release) re) egories can	Release: ₩ Use <u>one</u> of t 2 R96 R97 R98 R99 Rel-4 Rel-5 Rel-6	Rel-5 he following releases: (GSM Phase 2) (Release 1996) (Release 1997) (Release 1998) (Release 1999) (Release 4) (Release 5)				

Reason for change: 🔀	Clarification of the text and correction of several incorrect references
Summary of change: 🕷	<ul> <li>Added definition of regDTX and statDTX in section 3.1</li> <li>Added regDTX and statDTX to section 3.3 abbreviations</li> </ul>
	b) Added registry and statistic to section 5.5 abbreviations a) Corrected reference to HSDBA OCNS in 6.3A.2 from E.3.2 to E.5.2
	d) Corrected test purpose
	e) Corrected reference in 6.3A.4 to HSDPA downlink channels from E.3.3 to E.5.1
	<li>f) Removed redundant reference to algorithm 2 in method of test ñ this is already part of the initial conditions</li>
	<ul> <li>changed DTX to statDTX in various places</li> </ul>
	h) Added reference in 6.3A.5 test requirements to the specific table in F.6.3
	which defines the length of test
	i) Aligned name of table 6.3A.4 with table 6.3A.1
	j) Added missing column name in table 6.3A.4
	k) Added missing column heading in table 6.3A.4
	I) Added reference to 6.3A in E.5
Consequences if <b>#</b> not approved:	The test conditions will not be correct and the test may fail a good UE.
Clauses affected: 🖁	3.1, 3.3, 6.3A, E.5
	YN
Other specs 🛛 🔀	X Other core specifications
Affected:	X Test specifications
	X 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.

# 3.1 Definitions

For the purpose of the present document, the following additional terms and definitions apply:

**Maximum Output Power:** This is a measure of the maximum power the UE can transmit (i.e. the actual power as would be measured assuming no measurement error) in a bandwidth of at least  $(1 + \alpha)$  times the chip rate of the radio access mode. The period of measurement shall be at least one timeslot.

Nominal Maximum Output Power: This is the nominal power defined by the UE power class.

**Mean power:** When applied to a W-CDMA modulated signal this is the power (transmitted or received) in a bandwidth of at least  $(1 + \alpha)$  times the chip rate of the radio access mode. The period of measurement shall be at least one timeslot unless otherwise stated.

**RRC filtered mean power:** The mean power as measured through a root raised cosine filter with roll-off factor  $\alpha$  and a bandwidth equal to the chip rate of the radio access mode.

NOTE 1: The RRC filtered mean power of a perfectly modulated W-CDMA signal is 0.246 dB lower than the mean power of the same signal.

NOTE 2: The roll-off factor  $\alpha$  is defined in 25.101 clause 6.8.1.

**RegDTX:** Regular DTX. These are the times when the HS-DPCCH ACK/NACK is not expected to be transmitted due to an Inter-TTI period greater than 1

statDTX: Statistical DTX. These are the times when the HS-DPCCH is expected to transmit an ACK or NACK but none is transmitted due to the UE not being able to decode consistent control information from the HS\_SCCH.

**Throughput:** Number of information bits per second excluding CRC bits successfully received on HS-DSCH by a HSDPA capable UE.

# 3.2 Symbols

For the purposes of the present document, the following symbols apply:

[Ö] Values included in square bracket must be considered for further studies, because it means that a decision about that value was not taken

# 3.3 Abbreviations

For the purpose of the present document, the following additional abbreviations apply:

AFC	Automatic Frequency Control
ASD	Acceleration Spectral Density
ATT	Attenuator
BER	Bit Error Ratio
BLER	Block Error Ratio
BTFD	Blind Transport Format Detection
CQI	Channel Quality Indicator
EVM	Error Vector Magnitude
FDR	False transmit format Detection Ratio. A false Transport Format detection occurs when the
	receiver detects a different TF to that which was transmitted, and the decoded transport block(s)
	for this incorrect TF passes the CRC check(s).
HSDPA	High Speed Downlink Packet Access
HS-DSCH	High Speed Downlink Shared Channel
HS-PDSCH	High Speed Physical Downlink Shared Channel
HARQ	Hybrid ARQ sequence
HYB	Hybrid
IM	Intermodulation
ITP	Initial Transmission Power control mode
OBW	Occupied Bandwidth

OCNS	Orthogonal Channel Noise Simulator, a mechanism used to simulate the users or control signals on
	the other orthogonal channels of a downlink
PAR	Peak to Average Ratio
P-CCPCH	Primary Common Control Physical Channel
P-CPICH	Primary Common Pilot Channel
PCDE	Peak Code Domain Error
RBW	Resolution Bandwidth
PRBS	Pseudo Random Bit Sequence
regDTX	Regular DTX
RRC	Root-Raised Cosine
S-CCPCH	Secondary Common Control Physical Channel
S-CPICH	Secondary Common Pilot Channel
SCH	Synchronisation Channel consisting of Primary and Secondary synchronisation channels
SS	System Simulator; see Annex A for description
<u>statDTX</u>	Statistical DTX
TGCFN	Transmission Gap Connection Frame Number
TGD	Transmission Gap Distance
TGL	Transmission Gap Length
TGPL	Transmission Gap Pattern Length
TGPRC	Transmission Gap Pattern Repetition Count
TGSN	Transmission Gap Starting Slot Number

# 6.3A Maximum Input Level for HS-PDSCH Reception (16QAM)

# 6.3A.1 Definition and applicability

Maximum input level is defined as the maximum mean HS-PDSCH power received at the UE antenna port, which shall not degrade the specified HSDPA throughput performance. The requirements and this test apply to all types of UTRA FDD UE that support HSDPA(16QAM).

# 6.3A.2 Minimum requirements

For the parameters specified in Table 6.3A.1, the requirements are specified in terms of a minimum information bit throughput R as shown in Table 6.3A.2 for the DL reference channel H-Set 1 specified in Annex C.8. with the addition of the parameters added in the end of Table  $6.3A.1_{.5}$ 

The throughput shall meet or exceed the minimum level the- for the parameters specified in table 6.3A.1.

The reference for this requirement is TS 25.101 [1] clause 7.4.1.

# Table 6.3A.1 Minimum requirement parameters for 16QAM Maximum Input Level

Parameter	Unit	Test			
Phase reference		P-CPICH			
Q₽	dBm/3.84 MHz	-25 *			
UE transmitted mean	dBm	20 (for Power class 3)			
power	ubiii	18 (for Power class 4)			
DPCH	DPCH_Ec/lor	-13			
HS-SCCH 1	HS-SCCH Ec/lor	-13			
Redundancy and		6			
constellation version					
Maximum number of		1			
HARQ transmissions					
Note: The HS-DSCH shall be transmitted continuously with constant power					
but only every third TTI shall be sent to the UE under test.					

Table 6.3A.2 Minimum throughput requirement

HS-PDSCH $E_c/I_{or}$ (dB)	T-put $R$ (kbps) *
-3	700

NOTE: The structure of OCNS signal is defined in clause E.3.35.2.

# 6.3A.3 Test purpose

To verify that the UE HSDPA throughput <u>meets the minimum requirements specified in table 6.3A.2</u> for the <u>DL</u> reference channel H-Set 1 specified in Annex C.8. with the addition of the parameters specified in table 6.3A.4.

An inadequate- maximum input level causes loss of coverage near the Node B.

# 6.3A.4 Method of test

# 6.3A.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.

RF parameters are given in tables 6.3A.4 and table E.3.35.1.

Table 6.3A.3 Contents of RADIO BEARER SET	TUP message: AM or UM
---	-----------------------

Information Element	Value/Remark		
CHOICE channel requirement	Uplink DPCH info		
- Power Control Algorithm	Algorithm2		

#### 6.3A.4.2 Procedure

Connect the SS to the UE antenna connector as shown in figure A.3.

- 1) The UE is switched on.
- An RRC connection is set-up according to the generic HSDPA set-up procedure specified in TS 34.108 [3]. (The Power Control Algorithm for the Uplink is set to algorithm 2). Additional radio bearer message definition is- in table -6.3A.3.
- 3) Set the power level of UE according to the table 6.3A.4 and send power control commands to the UE-. The UE output power measured by Test System shall be kept at the specified power level with ±1dB tolerance.
- 4). Measure the HSDPA throughput received from the UE at the SS, by counting the number of NACK, ACK and <u>stat</u>DTX on the UL HS-DPCCH (Throughput = blocksize\*number of blocks acknowledged/time).
- 5) The UE is switched off.

# 6.3A.5 Test requirements

The measured throughput, as derived in step 4), shall meet or exceed 700Kbit/second. The minimum number of measurements required for a statistically significant result to this test are clarified in annex F.6.3, Table F.6.3.5.1.

Table 6.3A.4: Test conditions requirement parameters for 16QAM Maximum Input Level

Parameter	<u>Unit</u>	Value			
Phase reference		P-CPICH			
G₽	dBm/3.84 MHz	-25.7			
UE transmitted mean	dPm	20 (for Power class 3)			
power	ubili	18 (for Power class 4)			
DPCH	DPCH_Ec/lor	-13			
HS-SCCH_1	HS-SCCH_Ec/lor	-13			
Redundancy and constellation version		6			
Maximum number of HARQ transmissions					
Note: The HS-DSCH shall be transmitted continuously with constant power but only every third TTI shall be sent to the UE under test.					

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.

# E.5 HSDPA DL Physical channels

# E.5.1 Downlink Physical Channels connection set-up

Table E.5.1 is applicable for the measurements for tests in subclause 6.3A, 9.2.1 and 9.3. Table E.5.2 is applicable for the measurements for tests in subclause 9.2.2. Table E.5.3 is applicable for the measurements for tests in subclause 9.2.3. Table E.5.4 is applicable for the measurements for tests in subclause 9.4.

æ	34.121 CR 456 <b># rev</b> - <sup>#</sup> Current version:	<b>5.5.0 *</b>						
For <b>HELP</b> on using this form, see bottom of this page or look at the pop-up text over the $\frac{1}{8}$ symbols.								
Proposed chang	Proposed change affects: UICC apps ME X Radio Access Network Core Network							
Title:	CM configuration in FDD inter frequency measurements in TC 8.6.	2.1						
Source:	អ Intel							
Work item code	Date: ₩ 2/	11/2004						
Category:	F       Release:       Releit       Releit </th <th>99 following releases: M Phase 2) lease 1996) lease 1997) lease 1998) lease 1999) lease 4) lease 5) lease 6)</th>	99 following releases: M Phase 2) lease 1996) lease 1997) lease 1998) lease 1999) lease 4) lease 5) lease 6)						

Reason for change: 🖁 34.121 And 25.331 specs are not aligned. In 34.121 8.6.2.1.4.2 clause TGPRC IE is shown as "Not Present", although it is MP according to 25.331. Summary of change: Specify a value for TGPRC IE since it is MP according to 25.331. TGPRC IE will not be configured according to 34.121 spec since ASN.1 is Consequences if Ж not approved: aligned to 25.331 spec Clauses affected: Ħ 8.6.2.1 Ν Υ X Other core specifications Other specs ж Ж affected: Test specifications Х Х O&M Specifications H This CR applies to release 99 Other comments:

# 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

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

A cell shall be considered detectable when CPICH Ec/Io  $\geq$  -20 dB, SCH\_Ec/Io  $\geq$  -17 dB for at least one channel tap 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.

 $T_{Inter:}$  This is the minimum time that is available for inter frequency measurements , during the period  $T_{Measurement\_Period\ inter}$  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 8.6.2.1.1

# Table 8.6.2.1.1: Cell specific initial test parameters for Correct reporting of neighbours in AWGN propagation condition

Pa	rameter	Unit		Cell 1	C	Cell 2		Cell3					
			Т0		T0			Т0					
CPICH	Ec/lor	dB		-10		-10		-10		10		-10	$\top$
PCCPC	CCPCH Ec/lor dB			-12	-	12		-12					
SCH_E	c/lor	dB		-12	-	12		-12					
PICH_E	C/lor	dB		-15	-	15		-15					
DPCH_	Ec/lor	dB		-17		N/A		N/A					
OCNS_	Ec/lor	dB		-1.049 -0.941			-0.941						
$\dot{P}_{or}/I_{oc}$	2	dB	0		-	Inf		-Inf					
	I <sub>oc</sub>		dBm/3 .84 MHz	-70									
CPICH Ec/lo dB -13		-13	-	Inf		-Inf							
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 8.6.2.1.2 and 8.6.2.1.3 below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A and 2C shall be used. The CPICH Ec/I0 of the best cell on the unused frequency shall be reported together with Event 2C reporting.

# Table 8.6.2.1.2: General test parameters for Correct reporting of neighbours in AWGN propagation condition

Parameter	Unit	Value	Comment
DCH parameters		DL and UL Reference Measurement Channel 12.2 kbps	As specified in C.3.1 and C.2.1
Power Control		On	
Compressed mode		C.5.2 set 1	As specified in C.5.
Active cell		Cell 1	
Threshold non used frequency	dB	-18	Absolute Ec/I0 threshold for event 2C
Reporting range	dB	4	Applicable for event 1A
Hysteresis	dB	0	
W		1	Applicable for event 1A
W non-used 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 16 on channel 2	NOTE: See Annex I for cell information.The information is sent before the compressed mode pattern starts.
T1	S	10	
T2	S	5	

# Table 8.6.2.1.3: 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		Cha	annel 1	Chan	nel 1	Char	nel 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_Ec/lor	dB	-1.049		ñ0.941		ñ0.941	
$\dot{P}_{or}/I_{oc}$ dB		0	5.42	-Infinity	3.92	-1.8	-1.8
I <sub>oc</sub>	dBm/3.84 MHz	-70				-70	
CPICH_Ec/lo dB		-13	-13	-Infinity	-14.5	-14	-14
Propagation Condition	AWGN						

# 8.6.2.1.4.2 Procedure

- 1) The RF parameters are set up according to T0.
- 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).
- 6) SS shall transmit PHYSICAL CHANNEL RECONFIGURATION message.

- 7) 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.
- 9) 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. 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 successful tests is increased by one.
- 10) After 10 seconds from the beginning of T1, the SS shall switch the power settings from T1 to T2.
- 11) 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 1040 ms. If the reporting delay for this event is within the required limit, the number of succesful tests is increased by one.
- 12) After 5 seconds from the beginning of T2, the UE is switched off.
- 13)Repeat steps 1-12 until the confidence level according to annex F.6.2 is achieved.
- NOTE: The measurement reporting delay is 956.2 ms plus 80 ms delay uncertainty (twice the TTI). This gives a total of 1036.2 ms and rounded off to 1040 ms.

#### 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:

PHYSICAL CHANNEL RECONFIGURATION message for Inter frequency measurement:

Information Element	Value/Remark
Message Type	
UE Information Elements	
-RRC transaction identifier	0
-Integrity check info	SS calculates the value of MAC-I for this
-message authentication code	message and writes to this IE. The first/
	leftmost bit of the bit string contains the most
	significant bit of the MAC-I.
	SS provides the value of this IE, from its
-RRC message sequence number	internal counter.
	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	CELL_DCH
-RRC State Indicator	Not Present
-UTRAN DRX cycle length coefficient	
CN Information Elements	
-CN Information info	Not Present
UIRAN 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	
-Downlink PDSCH information	Not Present
-Downlink Information common for all radio links	Net Dresent
-CHOICE III0de	
-DFCH complessed mode mild	
- Tansinission gap patient sequence	1
-TGPS Status Flag	Activate
-TGCEN	(Current CEN $\pm$ (256 ñ TTI/10msec))mod 256
-Transmission gap pattern sequence	
configuration parameters	
-TGMP	FDD measurement
-TGPRC	Not present Infinity
-TGSN	4
-TGL1	7
-TGL2	Not Present
-TGD	UNDEFINED
-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
-DeltaSIRatter2	Not Present
-N Identity abort	Not Present

I

-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	
<ul> <li>Downlink information for each radio link</li> </ul>	
-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	Set to value Default DPCH Offset Value ( as
	currently stored in SS) mod 38400
-Secondary CPICH info	Not Present
-DL channelisation code	
-Secondary scrambling code	Not Present
-Spreading factor	128
-Code number	96
-Scrambling code change	No code change
-TPC combination index	0
-SSDT Cell Identity	Not Present
<ul> <li>Closed loop timing adjustment mode</li> </ul>	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	
-BBC transaction identifier	0
-Integrity check info	
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IF. The first/
	leftmost bit of the bit string contains the
	most significant bit of the MAC-I
-BBC message sequence number	SS provides the value of this IF from its
-Into message sequence number	internal counter
Measurement Information elements	
Measurement Identity	2
Mossurement Command (10.3.7.46)	Sotup
Measurement Reporting Mode (10.3.7.40)	Setup
Measurement Report Transfer Mode	
-Measurement Report Transfer Mode	Event trigger
-Additional measurements list (10.3.7.1)	Not Present
	Inter frequency measurement
Inter frequency measurement (10.2.7.16)	inter-frequency measurement
Inter-frequency measurement objects list (10.3.7.10)	
CHOICE Inter frequency cell removal	Not Procent
Now Inter-frequency cells	Not Flesent
- New littler frequency cells	0
- Intel frequency cell lu	0
CHOICE mode	
	Not Propert
- UARFON upinik(Nu)	Same frequency as "Channel?" in Table
Collinfo	0.0.2.1.5
- Cell individual offset	Not Present
- Beference time difference to cell	Not Present
- Reiderice time difference to cell - Read SEN indicator	
- CHOICE mode	FDD
- Drimary CDICH info	
- Primary scrambling code	Set to Primary scrambling code of Cell3
- Primary CPICH Ty Power	Set to Primary CPICH Ty Power of Cell3
	described in Table 8.6.2.1.3
- Tx Diversity Indicator	FALSE
- Cell for measurement	Not Present
-Inter-frequency measurement quantity (10.3.7.18)	Not Prosent
Inter frequency reporting criteria	
Intra-frequency measurement quantity (10.3.7.38)	
-Filter coefficient (10.3.7.0)	0
	FDD
Inter frequency reporting criteria	
Filter coefficient (10.3.7.0)	0
-CHOICE mode	
Measurement quantity for frequency quality estimate	
-Inter-frequency reporting quantity (10.3.7.21)	
LITPA Carrier DSSI	
Frequency quelity estimate	
Non frequency quality estimate	FALSE
-Cell synchronisation information reporting indicator	TRUE (Note 1)
-Cell Identity reporting indicator	
CHOICE mode	
-CPICH Ec/N0 reporting indicator	
-CPICH BSCP reporting indicator	TRUE
-or for hour reputing indicator	
-rainoss reporting indicator	Net Dresont
-nepoting cell status (10.3.7.01) Monouroment velidity (10.2.7.51)	Not Present
-weasurement validity (10.3.7.51)	NOT Present

Information Element/Group name	Value/Remark	
-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	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 cells within monitored set on non-	
	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	31, 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.		

MEASUREMENT CONTROL message (intra frequency):

Information Element/Group name	Value/Remark
Message Type (10.2.17)	Value/Keinaik
LIE information elements	
-BBC transaction identifier	0
-Integrity check info	0
-message authentication code	SS calculates the value of MAC I for this
-message admentication code	mossage and writes to this IE. The first/
	leftmost bit of the bit string contains the
	meet eignificant bit of the MAC
	most significant bit of the MAC-I.
-RRC message sequence number	SS provides the value of this IE, from its
Management information along anta	Internal counter.
Measurement Information elements	
-Measurement Identity	
-Measurement Command (10.3.7.46)	Modity
-Measurement Reporting Mode (10.3.7.49)	
-Measurement Report Transfer Mode	
-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-trequency 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)	
-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	FALSE
-Reporting quantities for monitored set cells (10.3.7.5)	
-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	FALSE
-Reporting quantities for detected set cells (10.3.7.5)	Not Present
-Reporting cell status (10.3.7.61)	Not Present
-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	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
-Reporting interval	0 ms (Note 2)
-Reporting cell status	Not Present

	Information Element/Group name	Value/Remark
Physical	channel information elements	
-DPCH c	ompressed 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	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% of the cases with a confidence level of 95%. 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.

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

# 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) 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 95 %.

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 to 8.2.2.1.3. 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.

	Parameter		Value	Comment
Initial	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3, Cell4, Cell5, Cell6	
Final condition	Active cell		Cell1	
SYSTEM INFORMATION BLOCK TYPE 1 - CN common GSM-MAP NAS system information		-	00 80(H) → Cell 1 00 81(H) → 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.
HCS				Not used
<u>Т<sub>я</sub></u>		<u>ms</u>	<u>1280</u>	See Annex I for the SIB repetition period of system information blocks.
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 8.2.2.1.1: Scenario 1: General test parameters for Cell Re-selection single carrier multi-cell case

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Parameter	Unit	ပီ	ji 1	Cel	2	Cell 3	Cell 4	Cell 5	Cell 6
		T1	T2	11	T2	T1 T2	T1 T2	T1 T2	T1 T2
UTRA RF Channel Number		Chanr	1 lər	Channe	11	Channel 1	Channel 1	Channel 1	Channel 1
CPICH_Ec/lor	dB	-10		-10		-10	-10	-10	-10
PCCPCH_Ec/lor	dB	-12		-12		-12	-12	-12	-12
SCH Ec/lor	dB	-12		-12		-12	-12	-12	-12
PICH Ec/lor	dB	-15		-15		-15	-15	-15	-15
OCNS_Ec/lor	dB	-0,941		-0,941		-0,941	-0,941	-0,941	-0,941
${ m  ilde{P}}_{or}/I_{oc}$	dB	7,3	10,27	10,27	7,3	0,27	0,27	0,27	0,27
$G_{r}^{(Note\ I)}$	dBm	- 62.7 3	-59.73	-59.73	-62.73	-69.73	-69.73	-69.73	-69.73
$I_{oc}$	dBm / 3,84 MHz	-70							
CPICH_Ec/Io	dB	-16	-13	-13	-16	-23	-23	-23	-23
Propagation Condition						A	VGN		
Cell_selection_and_ reselection_quality_ measure		CPICH	H E <sub>c</sub> /N <sub>o</sub>	CPICH	E <sub>c</sub> /N <sub>0</sub>	CPICH Ec/N	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	dВ		20	Ņ	0	-20	-20	-20	-20
Qrxlevmin	dBm	L-	15	·   -	15	-115	-115	-115	-115
UE_TXPWR_MAX_ RACH	dB	CV.	21	2	1	21	21	21	21
		C1,	C2: 0	C2, (	C1: 0	C3, C1: 0	C4, C1: 0	C5, C1: 0	C6, C1: 0
		Ū.	C3: 0	0, 02	33: 0	C3, C2: 0	C4, C2: 0	C5, C2: 0	C6, C2: 0
Qoffset2 <sub>s, n</sub>	dB	Ū.	C4: 0	С С5	24:0	C3, C4: 0	C4, C3: 0	C5, C3: 0	C6, C3: 0
		Ū.	C5: 0	С С С	05:0	C3, C5: 0	C4, C5: 0	C5, C4: 0	C6, C4: 0
		G,	C6: 0	C2, (	C6: 0	C3, C6: 0	C4, C6: 0	C5, C6: 0	C6, C5: 0
Qhyst2	dB		0	0		0	0	0	0
Treselection	s	-	0	0		0	0	0	0
Sintrasearch	dB	not	sent	not s	sent	not sent	not sent	not sent	not sent

The nominal Gr values, although not explicitly defined in 25.133 are added here since they are implied and need to be identified so that the test equipment can be configured. Note 1

#### 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 and the UE shall perform a first registration procedure on cell2.
- 4) 15 s after step 3 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) on cell1.
- 6) After 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) 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) on cell2.
- 8) After 15 s from the beginning of time period T1, the parameters are changed to that as described for T2.
- 9) Repeat step 5) to 8) until the confidence level according to annex F.6.2 is achieved.
- 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% of the cases with a confidence level of 95 %.

Parameter	Unit	C	ell 1	Cell 2 Cell 3		ell 3	Cell 4		Cell 5		Ce	ell 6	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1		Channel 1		Chan	nel 1	Chann	el 1	Chanr	iel 1	Chanı	nel 1
CPICH_Ec/lor	dB	-9.4		-9.4		-10.5		-10.5		-10.5		-10.5	
PCCPCH_Ec/lor	dB	-11.4		-11.4		-12.5		-12.5		-12.5		-12.5	
SCH_Ec/lor	dB	-11.4		-11.4		-12.5		-12.5		-12.5		-12.5	
PICH_Ec/lor	dB	-14.4		-14.4		-15.5		-15.5		-15.5		-15.5	
OCNS_Ec/lor	dB	-1.10		-1.10		-0.83		-0.83		-0.83		-0.83	
$\hat{P}_{or}/I_{oc}$ Note 1	dB	7.00	10.40	10.40	7.00	0.30		0.30		0.30		0.30	
Œ	dBm	- 63.0	-59.6	-59.6	-63.0	-69.7		-69.7		-69.7		-69.7	
I <sub>oc</sub>	dBm / 3,84 MHz						-7		0				
CPICH_Ec/lo Note 1	dB	- 15.7	-12.3	-12.3	-15.7	-23.5		-23.5		-23.5		-23.5	

Table 8.2.2.1.3: Scenario 1: Test requirements for Cell re-selection single carrier multi cell

All other parameters and conditions specified in table 8.2.2.1.2 are unchanged.

NOTE 1: These parameters are not directly settable, but are derived by calculation from the settable parameters.

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NOTE 2: 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) 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 95 %.

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 to 8.2.2.2.3. 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.

Parameter		Unit	Value	Comment			
Initial	Active cell		Cell2				
condition	Neighbour cells		Cell1, Cell3,Cell4,				
			Cell5, Cell6				
Final	Active cell		Cell1				
condition							
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 info	ormation			procedure (GMM) is performed when UE selects			
				more suitable cell in idle state.			
Access Ser	vice Class (ASC#0)			Selected so that no additional delay is caused by			
- Persistence value		-	1	the random access procedure. The value shall be			
				used for all cells in the test.			
HCS				Not used			
<u>T<sub>SI</sub></u>		<u>ms</u>	<u>1280</u>	See Annex I for the SIB repetition period of system			
				information blocks.			
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 8.2.2.2.1: Scenario 2: General test parameters for Cell Re-selection in multi carrier case
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Table 8.2.2.2: Scenario 2: Test parar

Parameter	Unit	Cell	1	Cell	2	Cell	3	ပိ	jii 4	Cel	15	Ce	II 6
		T1	Т2	T1	Т2	T1	Т2	T1	Т2	T1	T2	T1	Т2
UTRA RF Channel Number		Chanr	1 1	Chanr	s lər	Chanr	1 ler	Char	1 Juel 1	Chan	nel 2	Char	inel 2
CPICH_Ec/lor	đB	-	0	-	0	÷.	0		10	-	0	1	10
PCCPCH_Ec/lor	dB	-	2	-	2	Ţ	2		12	7	2	1	12
SCH_Ec/lor	ЯÞ	-	2	-	2	Ţ	2		12	<u>-</u>	N	`	12
PICH Ec/lor	dB	Ť,	5	÷	ß	Ţ	ъ С		15	-	5	1	15
OCNS_Ec/lor	dB	-0.9	41	-0.9	41	-0.9	41	-0	941	-0.9	141	-0	941
$\dot{P}_{or}/I_{oc}$	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
$G_{r}^{(Note \ I)}$	dBm	-73.39	- 67.7 5	-67.75	- 73.3 9	-77.39	- 74.7 5	- 77.3 9	-74.75	-74.75	- 77.3 9	- 74.7 5	-77.39
$I_{oc}$	dBm / 3.84 MHz							20					
CPICH_Ec/lo	đB	-16	-13	-13	-16	-5(	0	- 4	20	Ņ	0	<u>,</u>	0
Propagation Condition							AW	GN					
Cell_selection_and_ reselection_auality_		CPICH	E <sub>c</sub> /N <sub>0</sub>	CPICH	E <sub>c</sub> /N <sub>0</sub>	CPICH	E./No	CPICH	H Ec/No	CPICH	E <sub>c</sub> /N <sub>o</sub>	CPICH	Η E <sub>c</sub> /N <sub>o</sub>
measure			5		5		5		5		5		5
Qqualmin	Яþ	-2(	0	-5(	0	-2(	0	- 4	20	Ņ	0		00
Qrxlevmin	dBm	-11	5	-11	5	-11	5	-	15	-1	15	-1	15
UE_TXPWR_MAX_ RACH	Яþ	21		21		21			21	S	-	0	F
		C1, C	2:0	C2, C	1: 0	C3, C	1:0	C4,	C1: 0	C5, C	C1: 0	C6, (	C1: 0
	<u>í</u>	0.0 0.0	0:0 ;; 0	C2, C	0;0 ;;0	0 0 0 0 0	0 ;;0	8 6	C2: 0	0.02 0.02	22: 0	ů Ců	C2: 0
Qoffset2 <sub>s, n</sub>	dB	5.0		C2, C	4: 0	S S	4:0	5	C3: 0	3 3		9 9 0	0.3
		50	0:0 0:0	0 C 0 K 0 C	5: 0	ပ ဂိုဂ် ဂိုဂ်	0:0 0:0	5 S	C5: 0	0 C 2 C 2 C	0	0°00 0°00	04:0
	ļ	5	0:0	CZ, C	0:0	S. S.	0:0	5 7	C6: 0	S. S.	0:0	in Sin Sin Sin Sin Sin Sin Sin Sin Sin S	0:02
Qhyst2	dB	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 s	sent	not	sent
Sintersearch	dB	not s	ent	not s	ent	not s	ent	not	sent	not s	sent	not	sent

The nominal Gr values, although not explicitly defined in 25.133 are added here since they are implied and need to be identified so that the test equipment can be configured. Note 1

#### 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 and the UE shall perform a first location registration procedure on cell2.
- 4) 30 s after step3 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) 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) 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) on cell2.
- 8) After 15 s from the beginning of time period T1, the parameters are changed as described for T2.
- 9) Repeat step 5) to 8) until the confidence level according to annex F.6.2 is achieved.
- NOTE 1: 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 2: 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% of the cases with a confidence level of 95%.

# Table 8.2.2.2.3: Scenario 2: Test parameters for Cell re-selection multi carrier multi cell, test requirements

Parameter	Unit	Ce	ll 1	Ce	ll 2	Ce	ll 3	Ce	II 4	Ce	II 5	Ce	ll 6
		T1	T2										
UTRA RF Channel Number		Chann	iel 1	Chann	nel 2	Chann	iel 1	Chann	el 1	Chann	el 2	Chann	el 2
CPICH_Ec/lor	dB	-9	9.3	-9	9.3	-1(	D.8	-1(	0.8	-1(	0.8	-10	).8
PCCPCH_Ec/lor	dB	-11	1.3	-11	1.3	-12	2.8	-12	2.8	-12	2.8	-12	2.8
SCH_Ec/lor	dB	-1	1.3	-1	1.3	-12	2.8	-12	2.8	-12	2.8	-12	2.8
PICH_Ec/lor	dB	-14	4.3	-14	4.3	-1	5.8	-1	5.8	-1	5.8	-15	5.8
OCNS_Ec/lor	dB	-1.	.13	-1.	.13	-0.	77	-0.	77	-0.	77	-0.	77
$\dot{P}_{or}/I_{oc}$ Note 1	dB	-3.40	+4.80	+4.80	-3.40	-7.40	-3.00	-7.40	-3.00	-3.00	-7.40	-3.00	-7.40
ſ <b>Ŀ</b> ŗ	dBm	-73.4	-67.0	-67.0	-73.4	-77.4	-74.8	-77.4	-74.8	-74.8	-77.4	-74.8	-77.4
I <sub>oc</sub>	dBm/3.8 4 MHz	-70.0	-71.8	-71.8	-70.0	-70.0	-71.8	-70.0	-71.8	-71.8	-70.0	-71.8	-70.0
CPICH_Ec/lo Note 1	dB	-15.3	-11.5	-11.5	-15.3	-20.8	-20.8	-20.8	-20.8	-20.8	-20.8	-20.8	-20.8

All other parameters and conditions specified in table 8.2.2.2.2 are unchanged.

NOTE 1: These parameters are not directly settable, but are derived by calculation from the settable parameters.

NOTE 2: 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.

## {Unchanged Sections are clipped here}

## 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.

The requirements and this test apply to the FDD UE.

#### 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.

The test parameters are given in table 8.3.5.1.1 to 8.3.5.1.5. 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, one freq. in neighbour list

	Parameter	Unit	Value	Comment
Initial	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		Cell1	
Access Sei ñ Persister	rvice Class (ASC#0) ice value	-	1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.
HCS				Not used
<u>T<sub>SI</sub></u>		<u>ms</u>	<u>1280</u>	See Annex I for the SIB repetition period of system information blocks.
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, one freq. in neighbour list

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		

#### Table 8.3.5.1.3: Transport channel parameters for S-CCPCH, one freq. in neighbour list

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	Ω
Rate Matching attribute	256
Size of CRC	16
Position of TrCH in radio frame	Fixed

## Release 5 3GPP TS 34.121 V5.5.0 (2004-09 Table 8.3.5.1.4: Cell specific conditions for Cell Re-selection in CELL\_FACH, one freq. in neighbour

list

Parameter	Unit	Ce	1	Cel	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	Chapr	nol 1	Channel 1	Channel 1	Channel 1	Channel 1
Number		Unan		Unani			Channel I	Charmer I	Channel I
CPICH_Ec/lor	dB		10	-1	0	-10	-10	-10	-10
PCCPCH_Ec/lor	dB	-	12	-1:	2	-12	-12	-12	-12
SCH_Ec/lor	dB	-	12	-1:	2	-12	-12	-12	-12
PICH Ec/lor	dB	-'	15	-1	5	-15	-15	-15	-15
S-CCPCH_Ec/lor	dB	-1	2	-12	2	-12	-12	-12	-12
OCNS Ec/lor	dB	-1.2	295	-1.2	95	-1.295	-1.295	-1.295	-1.295
$\dot{P}_{or}/I_{oc}$	dB	7.3	10.27	10.27	7.3	0.27	0.27	0.27	0.27
CFr (Note 1)	dBm	-62.73	-59.73	-59.73	-62.73	-69.73	-69.73	-69.73	-69.73
I <sub>oc</sub>	dBm/3.84 MHz					-7	0		
CPICH_Ec/lo	dB	-16	-13	-13	-16	-23	-23	-23	-23
Propagation Condition		AWGN							
Cell_selection_and_ reselection_quality_ measure		CPICH	I E <sub>c</sub> /N <sub>0</sub>	CPICH	E <sub>c</sub> /N <sub>0</sub>	CPICH Ec/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	20	-20	0	-20	-20	-20	-20
Qrxlevmin	dBm	-1	15	-11	5	-115	-115	-115	-115
UE_TXPWR_ MAX_RACH	dBm	2	1	21		21	21	21	21
		C1, 0	C2: 0	C2, C	;1:0	C3, C1: 0	C4, C1: 0	C5, C1: 0	C6, C1: 0
		C1, (	C3: 0	C2, C	3: 0	C3, C2: 0	C4, C2: 0	C5, C2: 0	C6, C2: 0
Qoffset 2 <sub>s, n</sub>	dB	C1, (	C4: 0	C2, C	4: 0	C3, C4: 0	C4, C3: 0	C5, C3: 0	C6, C3: 0
		C1, (	C5: 0	C2, C	5: 0	C3, C5: 0	C4, C5: 0	C5, C4: 0	C6, C4: 0
		C1, (	C6: 0	C2, C	6: 0	C3, C6: 0	C4, C6: 0	C5, C6: 0	C6, C5: 0
Qhyst	dB	(	)	0		0	0	0	0
Treselection	S	(	)	0		0	0	0	0
Sintrasearch	dB	not	sent	not s	ent	not sent	not sent	not sent	not sent
IE "FACH Measurement occasion info"		not	sent	not s	ent	not sent	not sent	not sent	not sent

Note 1 The nominal Ger values, although not explicitly defined in 25.133 are added here since they are implied and need to be identified so that the test equipment can be configured.

## 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 7.3.5 to place the UE in the CELL\_FACH state on Cell 2 and the SS waits for this process to complete.
- 4) After 15 seconds from completion of step 3 or the beginning of T1, the parameters are changed to those defined for T2 in table 8.3.5.1.5.
- 5) If the UE responds on Cell 1 with a PRACH (CELL UPDATE message cause "cell reselection") within 1.7 s, then the success is recorded, the SS shall transmit a CELL 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 15 s 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 CELL UPDATE CONFIRM message and then the procedure continues with step 7.
- 7) After total of 15 s from the beginning of T2, the parameters are changed to those defined for T1 in table 8.3.5.1.5.

- 8) If the UE responds on Cell 2 with a PRACH (CELL UPDATE message cause "cell reselection") within 1.7 s, 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 15 s 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 CELL UPDATE CONFIRM message and then the procedure continues with step 10.
- 10) Steps 4 to 10 are repeated until the confidence level according to annex F.6.2 is achieved .
- 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). 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:

Contents of CELL UPDATE CONFIRM message for CELL\_FACH

Information Element	Value/remark
RRC transaction identifier	0
Activation time	Not Present
New C-RNTI	0101010101010 B
RRC State indicator	CELL_FACH

#### 8.3.5.1.5 Test requirements

For the test to pass, the total number of successful attempts shall be more than 90% of the cases with a confidence level of 95 %.

# Table 8.3.5.1.5: Cell specific test requirements for Cell Re-selection in CELL\_FACH, one freq. in neighbour list

Parameter	Unit	Ce	ll 1	Ce	ll 2	Ce	ell 3	Ce	II 4	Ce	II 5	Cel	16
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Char	nnel 1	Char	nnel 1	Cha	nnel 1	Chan	nel 1	Char	nel 1	Chan	nel 1
CPICH_Ec/lor	dB	-9	.4	-9	).4	-1	0.5	-10	).5	-10	0.5	-10	.5
PCCPCH Ec/lor	dB	-11	1.4	-11	1.4	-1	2.5	-12	2.5	-1:	2.5	-12	.5
SCH_Ec/lor	dB	-11	1.4	-11	1.4	-1	2.5	-12	2.5	-1:	2.5	-12	5
PICH Ec/lor	dB	-14	4.4	-14.4		-1	5.5	-15	5.5	-1	5.5	-15	.5
S-CCPCH_Ec/lor	dB	-11	1.4	-11.4		-1	2.5	-12	2.5	-1:	2.5	-12	5
OCNS_Ec/lor	dB	-1.	.52	-1.52		-1	.13	-1.	13	-1.	.13	-1.1	13
$\dot{P}_{or}/I_{oc}$ Note 1	dB	7.0	10.4	10.4	7.0	C	).3	0.	3	0	.3	0.3	3
Œ,	dBm	-63.0	-59.6	-59.6	-63.0	-6	9.7	-69	9.7	-6	9.7	-69	.7
I <sub>oc</sub>	dBm/3.84 MHz						-70	)					
CPICH_Ec/lo Note 1	dB	-15.7	-12.3	-12.3	-15.7	-2	3.5	-23	3.5	-23	3.5	-23	.5

All other parameters and conditions specified in table 8.3.5.1.4 are unchanged.

- Note 1: These parameters are not directly settable, but are derived by calculation from the settable parameters.
- Note 2: 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.

The requirements and this test apply to the FDD UE.

#### 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

#### 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 8.3.5.2.5. The UE is requested to monitor neighbouring cells on 2 carriers. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1280 ms

## Table 8.3.5.2.1: General test parameters for Cell Re-selection in CELL\_FACH, two freqs. in neighbour list

r	_			-
	Parameter	Unit	Value	Comment
Initial	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5, Cell6	
Final	Active cell		Cell1	
CONUMENT		_		
Access Service Class (ASC#0)				Selected so that no additional delay is
ñ Persister	ice value	-	1	caused by the random access procedure. The value shall be used for all cells in the test.
HCS				Not used
<u>T<sub>SI</sub></u>		<u>ms</u>	<u>1280</u>	See Annex I for the SIB repetition period of system information blocks.
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.

Fable 8.3.5.2.2: Physical cha	annel parameters for S-CCPCH	, two freqs. in neighbour list
-------------------------------	------------------------------	--------------------------------

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

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	Ω
Rate Matching attribute	256
Size of CRC	16
Position of TrCH in radio frame	Fixed

# Table 8.3.5.2.4: Cell specific conditions for Cell re-selection in CELL\_FACH state, two freqs. in neighbour list

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		Chan	nel 1	Chanr	nel 2	Chann	Channel 1 Channel 1		С	hannel	2	Channel 2			
Number	15	10		10								10			
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/IOr	dB	-15		-15		-15		-	15		-	15		-15	
S-CCPCH_EC/lor	dB	-12	-	-12		-12		-1	12		-1	2		-12	
	aв	-1.29	5	-1.295		-1.295		-1	1.295		-1	.295		-1.295	
$\dot{P}_{or}/I_{oc}$	dB	-1.8	2.2	2.2	-1.8	-6.8	-4.8	-6	5.8	-4.8	-4	1.8	-6.8	-4.8	-6.8
Œr <sub>(Note 1)</sub>	dBm	- 71.85	- 67.75	- 67.75	- 71.85	- 76.85	- 74.7	5	- 76.85	- 5 74.7	'5	- 74.75	- 76.85	- 74.75	- 76.85
I <sub>oc</sub>	dBm/3.8 4 MHz	-70													
CPICH_Ec/lo	dB	-15	-13	-13	-15	-2	0		-2	0		-20	)	-2	20
Propagation			N												
Condition		AWG	IN .	-											
Cell_selection_		CPIC	н	CPICH	4	CPICH									
and_reselection_			• •	E <sub>2</sub> /N <sub>2</sub>				С	CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH	$E_c/N_0$	
quality_measure															
Qqualmin	dB	-20		-20		-20		-20		-20			-20		
Qrxlevmin	dBm	-115		-115		-115		-115		-115		-115			
UE_TXPWR_ MAX_RACH	dBm	21		21		21		2	1		2	1		21	
		C1, C	2: 0	C2, C <sup>-</sup>	1:0	C3, C1	: 0	С	4, C1	: 0	С	5, C1: C	)	C6, C1	: 0
		C1, C	3: 0	C2, C3	3: 0	C3, C2	2: 0	С	4, C2	: 0	С	5, C2: 0	)	C6, C2	: 0
Qoffset2 <sub>s, n</sub>	dB	C1, C	4: 0	C2, C4	4: 0	C3, C4	: 0	С	4, C3	: 0	С	5, C3: 0	)	C6, C3	: 0
		C1, C	5: 0	C2, C5	5:0	C3, C5	6: 0	С	4, C5	: 0	С	5, C4: 0	)	C6, C4	: 0
		C1, C	6: 0	C2, C6	6: 0	C3, C6	6: 0	С	4, C6	: 0	С	5, C6: 0	)	C6, C5	: 0
Qhyst2	dB	0		0		0		0			0			0	
Treselection	S	0		0		0		0			0			0	
Sintrasearch	dB	not se	ent	not se	nt	not sei	nt	n	ot sen	t	not sent			not ser	nt
Sintersearch	dB	not se	ent	not se	nt	not ser	nt	n	ot sen	t	n	ot sent		not ser	nt
IE "FACH															
Measurement		sent		sent		sent		se	ent		S	ent		sent	
occasion info"															
FACH															
Measurement		2		2		0		0			0			0	
occasion cycle		3		3		3		3			3			3	
length coefficient															
Inter-frequency															
FDD measurement		TRUE	Ξ	TRUE		TRUE		Т	RUE		Т	RUE		TRUE	
indicator								1							
Inter-frequency															
TDD measurement		FALS	E	FALSE	Ξ	FALSE	<u> </u>	F.	ALSE		F.	ALSE		FALSE	
indicator															

Note 1 The nominal Ger values, although not explicitly defined in 25.133 are added here since they are implied and need to be identified so that the test equipment can be configured.

- 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.
- 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 7.3.5 to place the UE in the CELL\_FACH state on Cell 2 and the SS waits for this process to complete.
- 4) After 15 seconds from completion of step3 or the beginning of T1, the parameters are changed to those defined for T2 in table 8.3.5.2.5.
- 5) If the UE responds on Cell 1 with a PRACH (CELL UPDATE message cause "cell reselection") within 2.0 s, then the success is recorded, the SS shall transmit a CELL 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 15 s 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 CELL UPDATE CONFIRM message and then the procedure continues with step 7.
- 7) After total of 15 s from the beginning of T2, the parameters are changed to those defined for T1 in table 8.3.5.2.5.
- 8) If the UE responds on Cell 2 with a PRACH (CELL UPDATE message cause "cell reselection") within 2.0 s, 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 15 s 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 CELL UPDATE CONFIRM message and then the procedure continues with step 10.

10)Steps 4 to 10 are repeated until the confidence level according to annex F.6.2 is achieved.

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).

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:

Contents of CELL UPDATE CONFIRM message for CELL\_FACH

Information Element	Value/remark
RRC transaction identifier	0
Activation time	Not Present
New C-RNTI	0101010101010 B
RRC State indicator	CELL_FACH

## 8.3.5.2.5 Test requirements

For the test to pass, the total number of successful attempts shall be more than 90% of the cases with a confidence level of 95 %.

# Table 8.3.5.2.5: Cell specific test requirements for Cell re-selection in CELL\_FACH state, two freqs. in neighbour list

Parameter	Unit	Ce	ll 1	Ce	ll 2	Ce	II 3	Ce	ell 4	Ce	ell 5	Ce	II 6
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2

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UTRA RF Channel Number		Chann	iel 1	Chann	el 2	Chann	el 1	Chann	el 1	Chann	el 2	Chann	el 2
CPICH_Ec/lor	dB	-9	9.4	-9	9.4	-1	0.7	-1(	0.7	-1(	0.7	-10	).7
PCCPCH_Ec/lor	dB	-1	1.4	-1	1.4	-1:	2.7	-12	2.7	-12	2.7	-12	2.7
SCH_Ec/lor	dB	-1	1.4	-1	1.4	-1:	2.7	-12	2.7	-12	2.7	-12	2.7
PICH_Ec/lor	dB	-1	4.4	-1-	4.4	-1	5.7	-1	5.7	-15	5.7	-15	5.7
S-CCPCH_Ec/lor	dB	-1	1.4	-1	1.4	-1:	2.7	-12	2.7	-12	2.7	-12	2.7
OCNS_Ec/lor	dB	-1	.52	-1	.52	-1	.08	-1.	.08	-1.	08	-1.	08
$\dot{P}_{or}/I_{oc}$ Note 1	dB	-1.80	+4.64	+4.64	-1.80	-6.80	-3.16	-6.80	-3.16	-3.16	-6.80	-3.16	-6.80
ſ <b>Ŀ</b> ŗ	dBm	-71.8	-67.0	-67.0	-71.8	-76.8	-74.8	-76.8	-74.8	-74.8	-76.8	-74.8	-76.8
I <sub>oc</sub>	dBm/3.8 4 MHz	-70.0	-71.6	-71.6	-70.0	-70.0	-71.6	-70.0	-71.6	-71.6	-70.0	-71.6	-70.0
CPICH_Ec/lo Note 1	dB	-14.4	-11.6	-11.6	-14.4	-20.7	-20.7	-20.7	-20.7	-20.7	-20.7	-20.7	-20.7

All other parameters and conditions specified in table 8.3.5.2.4 are unchanged.

Note 1: These parameters are not directly settable, but are derived by calculation from the settable parameters.

Note 2: 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

#### 8.3.5.3.1 Definition and applicability

The cell re-reselection delay is defined as the time from the beginning of time period T2, to the moment when the UE starts to transmit the random access in Cell 2 (the GSM cell).

This requirements and this test apply to UE supporting FDD PS and GSM GPRS.

#### 8.3.5.3.2 Minimum requirements

The cell re-selection delay shall be less than  $5.5 + T_{RA}$  s.

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

NOTE: The cell re-selection delay can be expressed

$$T_{\text{reselection, GSM}} = T_{\text{identify,GSM}} + T_{\text{measurement, GSM}} + 40 + T_{\text{BCCH}} + T_{\text{RA}} \text{ ms}$$

where:

$T_{\text{identify},GSM}$	Specified in TS 25.133 [2] clause 8.4.2.5.2.1, here it is 2880 ms
T <sub>measurement, GSM</sub>	Specified in TS 25.133 [2] clause 5.5.2.1.4, here it is 640 ms
T <sub>BCCH</sub>	According to TS 05.08 [20], the maximum time allowed to read the BCCH data, when being synchronized to a BCCH carrier, is 1.9 s.
T <sub>RA</sub>	The additional delay caused by the random access procedure in the GSM cell, is 10 ms (2 GSM radio frames).

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 5.5.2.1.4 and A.5.5.3.

#### 8.3.5.3.3 Test purpose

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

# Release 58.3.5.3.4Method of test

#### 8.3.5.3.4.1 Initial conditions

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

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

The test parameters are given in table 8.3.5.3.1 to 8.3.5.3.5. This scenario implies the presence of 1 UTRAN serving cell, and 1 GSM cell to be re-selected. The UTRAN cell and the GSM cell are set to belong to different location areas. The GSM cell shall be set up to allow UE to transmit radio access burst in every GSM radio frame. The UE is requested to monitor neighbouring cells on 1 UMTS carrier and 6 GSM cells.

#### Table 8.3.5.3.1: General test parameters for UTRAN to GSM Cell Re-selection

Parameter		Unit	Value	Comment
Initial condition	Active cell		Cell1	
	Neighbour cell		Cell2	
Final condition	Active cell		Cell2	
HCS				Not used
Neighbour cell list	size		24 FDD neighbours on Channel 1 6 GSM neighbours including ARFCN 1	
T1		S	5	
T2		S	10	

The transport and physical parameters of the S-CCPCH carrying the FACH are defined in Table 8.3.5.3.2 and Table Table 8.3.5.3.3.

Table 9 2 5 2 2.	Dhysical	channal	naramotore	for S-CCD	СП
Table 0.3.3.3.2.	Physical	channel	parameters	101 3-CCP	сп.

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		

Table 8.3.5.3.3:	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	Ω
Rate Matching attribute	256
Size of CRC	16
Position of TrCH in radio frame	Fixed

Parameter	Unit	Cell 1 (	UTRA)
		T1	T2
UTRA RF Channel Number		Chan	nel 1
CPICH Ec/lor	dB	-1	0
PCCPCH Ec/lor	dB	-1	2
SCH Ec/lor	dB	-1	2
PICH_Ec/lor	dB	-1	5
S-CCPCH_Ec/lor	dB	-1	2
OCNS_Ec/lor	dB	-1.2	295
$\dot{P}_{or}/I_{oc}$	dB	0	-5
I <sub>oc</sub>	dBm/3.84 MHz	-7	0
CPICH_Ec/lo	dB	-13	-16.2
CPICH_RSCP	dBm	-80	-85
Propagation Condition		AW	GN
Cell_selection_and_ reselection_quality_mea sure		CPICH	l Ec/lo
Qqualmin	dB	-2	0
Qrxlevmin	dBm	-11	15
UE_TXPWR_MAX_ RACH	dBm	2	1
Qoffset1 <sub>s, n</sub>	dB	C1, C	C2: 0
Qhyst1	dB	C	)
Treselection	S	C	)
Ssearch <sub>RAT</sub>	dB	Not :	sent
IE ìFACH Measurement occasion infoî		Se	ent
FACH Measurement occasion cycle length coefficient		3	3
Inter-frequency FDD measurement indicator		FAL	SE
Inter-frequency TDD measurement indicator		FAL	SE
Inter-RAT measurement	1		
indicators		Inclu	Ided

Table 8.3.5.3.4: Cell re-selection UTRAN to GSM cell case (cell 1)

Table 8.3.5.3.5: Cell re-selection UTRAN to GSM cell case (cell 2)

Parameter	Unit	Cell 2	(GSM)
		T1	T2
Absolute RF Channel		ARFCN	11
Number			
RXLEV	dBm	-90	-75
RXLEV_ACCESS_ MIN	dBm	-104	
MS_TXPWR_MAX_ CCH	dBm	33	

#### 8.3.5.3.4.2 Procedure

- 1) The SS activates cell 1-2 with RF parameters set up according to T1 in tables 8.3.5.3.6 and 8.3.5.3.7.
- 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 7.3.5 to place the UE in CELL\_FACH and the SS waits for this process to complete.
- 4) After 5 seconds from completion of step3 or the beginning of T1, the parameters are changed to those defined for T2 in tables 8.3.5.3.6 and 8.3.5.3.7.

- 5) The SS waits for random access requests from the UE. If the UE responds on cell 2 within 5.51 s (=5.5 s +  $T_{RA}s$ ) from the beginning of time period T2 then a success is recorded and the SS completes the location update procedure in GSM and the procedure continues with 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 10s 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 completes the location update procedure in GSM and the procedure continues with step 7.
- 7) After 10 s from the beginning of time period T2, the parameters are changed to those defined for T1 in tables 8.3.5.3.6 and 8.3.5.3.6.
- 8) The SS waits for random access requests from the UE on cell 1. The SS completes the location update procedure in UTRA
- 9) Repeat step 3) to 8) until the confidence level according to annex F.6.2 is achieved.

#### 8.3.5.3.5 Test requirements

#### Table 8.3.5.3.6: Cell re-selection UTRAN to GSM cell case (cell 1) Test Requirements

Parameter	Unit	Cell 1 (UTRA)		
		T1	T2	
UTRA RF Channel		Chan	nol 1	
Number		Unai		
CPICH_Ec/lor	dB	-9.9	-10.1	
PCCPCH_Ec/lor	dB	-1	2	
SCH_Ec/lor	dB	-1	2	
PICH_Ec/lor	dB	-1	5	
S-CCPCH Ec/lor	dB	-1	2	
OCNS_Ec/lor	dB	-1.309	-1.282	
$\dot{P}_{or}/I_{oc}$	dB	0.3	-5.3	
I <sub>oc</sub>	dBm/3.84 MHz	-7	<b>'</b> 0	
CPICH_Ec/lo	dB	-12.8	-16.5	
CPICH RSCP	dBm	-79.6	-85.4	
Propagation Condition		AW	GN	
Cell_selection_and_		CPICH		
sure		01101		
Qqualmin	dB	-2	20	
Qrxlevmin	dBm	-115		
UE_TXPWR_MAX_ BACH	dBm	21		
Qoffset1 <sub>s n</sub>	dB	C1. (	C2: 0	
Qhyst1	dB	(	)	
Treselection	s	0		
SsearchBAT	dB	Not	sent	
IE ìFACH Measurement		6	nt	
occasion infoî		36	erit	
FACH Measurement				
occasion cycle length		3	3	
coefficient				
Inter-frequency FDD		FAI	SE	
measurement indicator				
Inter-frequency TDD measurement indicator		FAL	SE	
Inter-BAT measurement				
indicators		Inclu	lded	
>RAT type		GS	SM	

Parameter	Unit	Cell 2	(GSM)
		T1	T2
Absolute RF Channel Number		ARFCN	11
RXLEV	dBm	-90.3	-74.7
RXLEV_ACCESS_ MIN	dBm	-104	
MS_TXPWR_MAX_ CCH	dBm	33	

NOTE 1: 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 attempts shall be more than 90% of the cases with a confidence level of 95 %.

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 Cell Re-selection in CELL\_PCH

## 8.3.6.1 One frequency present in the neighbour list

#### 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 95 %.

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 and is capable of camping on to a new cell, within the required time, when the preferred cell conditions change.

#### 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.

This scenario implies the presence of 1 carrier and 6 cells as given in tables 8.3.6.1.1 to 8.3.6.1.3. 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, one freq. in neighbour list

Parameter		Unit	Value	Comment
initial	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5, Cell6	
final condition	Active cell		Cell1	
Access Se	rvice Class (ASC#0)			Selected so that no additional delay is caused by the
- Persisten	ce value	-	1	random access procedure. The value shall be used for all cells in the test.
HCS				Not used
<u>T<sub>SI</sub></u>		<u>ms</u>	<u>1280</u>	See Annex I for the SIB repetition period of system information blocks.
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 8.3.6.1.2: Cell specific test parameters for Cell re-selection in CELL\_PCH state, one freq. in neighbour list

Baramotor	Unit	Ce	Cell 1		12	Cell 3		Cell 4		Cell 5		Cell 6	
Falameter	Onic	T1 T2		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel		Channel 1		Channel 1		Chann	ol 1	Chan	nol 1	Chapr		Chapr	
Number		Channel I		Ghanne		Ghanni		Chan		Ghani		Ghann	lei i
CPICH_Ec/lor	dB	-10		-10		-10		-10		-10		-10	
PCCPCH Ec/lor	dB	-12		-12		-12		-12		-12		-12	
SCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12	
PICH_Ec/lor	dB	-15		-15		-15		-15		-15		-15	
OCNS_Ec/lor	dB	-0.941		-0.941		-0.941		-0.94	1	-0.941		-0.941	
$\dot{P}_{or}/I_{oc}$	dB	7.3	10.27	10.27	7.3	0.27		0.27		0.27		0.27	
$\mathcal{F}_{r(Note 1)}$	dBm	-62.73	-59.73	-59.73	- 62.73	-69.73		-69.7	3	-69.73	3	-69.73	
I <sub>oc</sub>	dBm/ 3.84MHz	-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	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>	CPICH	H E <sub>c</sub> /N <sub>0</sub>	CPICH Ec/No	ł
Qqualmin	dB	-4	20	-2	0	-20	)	-20		-	20	-2	0
Qrxlevmin	dBm	-1	15	-1	15	-11	5	-115		-1	115	-11	15
UE_TXPWR_ MAX_RACH	dBm	2	21	21		21	21 2		21	:	21	2.	1
Qoffset2 <sub>s, n</sub>	dB	C1, C1, C1, C1, C1, C1,	C2: 0 C3: 0 C4: 0 C5: 0 C6: 0	C2, C1: 0 C2, C3: 0 C2, C4: 0 C2, C5: 0 C2, C6: 0		C3, C C3, C C3, C C3, C C3, C C3, C	1: 0 2: 0 4: 0 5: 0 6: 0	C4, C4, C4, C4, C4, C4,	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, C C6, C C6, C C6, C C6, C	)1:0 )2:0 )3:0 )4:0 )5:0
Qhyst2	dB		0	C	)	0			0	0		0	
Treselection	S		0	C	)	0			0		0	0	1
Sintrasearch	dB	not	sent	not s	sent	not s	ent	no	sent	not	sent	not s	sent

Note 1 The nominal Ger values, although not explicitly defined in 25.133 are added here since they are implied and need to be identified so that the test equipment can be configured.

- 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) An RRC connection is set up according to the generic set-up procedure specified in TS 34.108 [3] subclause 7.3.3 to place the UE in the CELL\_PCH state on Cell 2 and then 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 T2 in table 8.3.6.1.3.
- 5) If the UE responds on Cell 1 with a PRACH (CELL UPDATE message cause "cell reselection") within 8s, then a success is recorded, the SS shall transmit a CELL 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 CELL 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 in table 8.3.6.1.3.
- 8) If the UE responds on Cell 2 with a PRACH (CELL UPDATE message cause "cell 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 CELL UPDATE CONFIRM message and then the procedure continues with step 10.

10)Steps 4 to 10 are repeated until the confidence level according to annex F.6.2 is achieved.

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:

#### PHYSICAL CHANNEL RECONFIGURATION (Step 3)

Information Element	Value/remark
RRC State Indicator	CELL PCH
UTRAN DRX cycle length coefficient	7
Downlink information for each radio link - Primary CPICH info	
- Primary scrambling code	Reference to TS 34.108 clause 6.1 iDefault settings (FDD)î

#### Contents of CELL UPDATE CONFIRM message for CELL\_PCH

Information Element	Value/remark
RRC transaction identifier	0
Activation time	Not Present
RRC State indicator	CELL PCH
UTRAN DRX cycle length coefficient	7 -

#### 8.3.6.1.5 Test requirements

For the test to pass, the total number of successful attempts shall be more than 90% of the cases with a confidence level of 95 %.

Table 8.3.6.1.3: Cell specific test requirements for Cell re-selection in CELL_	PCH state, one freq. in
neighbour list	

Parameter	Unit	C	Cell 1 Cell 2		C	Cell 3 Cell 4		Cell 5		Cell 6				
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	
UTRA RF Channel Number		Channel 1		Channel 1		Chan	Channel 1		Channel 1		Channel 1		Channel 1	
CPICH_Ec/lor	dB	-9.4		-9.4		-10.5		-10.5		-10.5		-10.5		
PCCPCH Ec/lor	dB	-11.4		-11.4		-12.5		-12.5		-12.5		-12.5		
SCH_Ec/lor	dB	-11.4		-11.4		-12.5	-12.5		-12.5		-12.5			
PICH Ec/lor	dB	-14.4		-14.4		-15.5	-15.5 -15.5		-15.5		-15.5			
OCNS_Ec/lor	dB	-1.10		-1.10		-0.83	-0.83		-0.83		-0.83			
$\dot{P}_{or}/I_{oc}$ Note 1	dB	7.00	10.40	10.40	7.00	0.30		0.30		0.30		0.30		
<i>Œ</i> ,	dBm	- 63.0	-59.6	-59.6 -63.0		-69.7	-69.7 -69.7			-69.7		-69.7		
I <sub>oc</sub>	dBm / 3,84 MHz	-70												
CPICH_Ec/lo Note 1	dB	- 15.7	-12.3	-12.3	-15.7	-23.5		-23.5		-23.5		-23.5		

All other parameters and conditions specified in table 8.3.6.1.2 are unchanged.

- NOTE 1: These parameters are not directly settable, but are derived by calculation from the settable parameters.
- NOTE 2: 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

#### 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 95 %.

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.T<sub>SI</sub>Maximum repetition period of relevant system info blocks that needs to be received by<br/>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.

# Release 58.3.6.2.3Test 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.

## 8.3.6.2.4 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 to 8.3.6.2.3. 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, two freqs. in neighbour list

	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.
HCS	HCS			Not used
<u>T<sub>SI</sub></u>		<u>ms</u>	<u>1280</u>	See Annex I for the SIB repetition period of system information blocks.
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.
Τ2		S	15	T2 need to be defined so that cell re- selection reaction time is taken into account.

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Table 8.3.6.2.2: Cell specific test parameters for	Cell re-selection in CELL_PCH state, two freqs. in
neigh	bour list

Parameter	Unit	Ce	ell 1	Ce	ell 2	Ce	13	Ce	II 4	Cel	5	Ce	ll 6	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	
UTRA RF Channel Number		Chan	nel 1	Chan	nel 2	Chanr	iel 1	Chann	el 1	Channel	2	Chanr	Channel 2	
CPICH_Ec/lor	dB	-10		-10		-10		-10		-10		-10		
PCCPCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12		
SCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12		
PICH Ec/lor	dB	-15		-15		-15		-15		-15		-15		
OCNS_Ec/lor	dB	-0.94	1	-0.94	1	-0.941	-	-0.941		-0.941		-0.941	-	
$\dot{P}_{or}/I_{oc}$	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	
(Note 1)	dBm	- 73.3 9	- 67.75	- 67.7 5	- 73.39	- 77.39	- 74.7 5	- 77.39	- 74.75	-74.75	- 77.39	- 74.7 5	- 77.39	
I <sub>oc</sub>	dBm/3.8 4 MHz	-70												
CPICH_Ec/lo	dB	-16	-13	-13	-16	-20		-20		-20		-20		
Propagation Condition							ļ	AWGN						
Cell_selection_ and_reselection_ quality_measure		CPIC E <sub>c</sub> /N <sub>0</sub>	Η	CPIC E <sub>c</sub> /N <sub>0</sub>	Η	CPICH E <sub>c</sub> /N <sub>0</sub>	ł	CPICH	I E <sub>c</sub> /N <sub>0</sub>	CPICH E	E <sub>c</sub> /N <sub>0</sub>	CPICH	Η E <sub>c</sub> /N₀	
Qqualmin	dB	-	20	-:	20	-2	0	-2	20	-20	)	-2	20	
Qrxlevmin	dBm	-1	15	-1	15	-11	15	-1	15	-11	5	-1	15	
UE_TXPWR_ MAX_RACH	dBm	2	21	2	21	2	1	2	1	21		2	:1	
		C1, C1,	C2: 0 C3: 0	C2, C2,	C1: 0 C3: 0	C3, C C3, C	C1: 0 C2: 0	C4, 0 C4, 0	C1: 0 C2: 0	C5, C C5, C	1: 0 2: 0	C6, 0 C6, 0	C1: 0 C2: 0	
Qoffset2 <sub>s, n</sub>	dB	C1,	C4: 0	C2,	C4: 0	C3, C	24: 0	C4, 0	C3: 0	C5, C	3: 0	C6,	C3: 0	
		C1,	C5: 0	C2,	C5: 0	C3, C	5: 0	C4, 0	C5: 0	C5, C	4: 0	C6,	C4: 0	
		C1,	C6: 0	C2,	C6: 0	C3, C	6: 0	C4, 0	C6: 0	C5, C	6: 0	C6, 0	C5: 0	
Qhyst2	dB		0		0	C		(	)	0		(	)	
Ireselection	S		0		0	0		(	)	0			<u>)</u> .	
Sintrasearch	dB	not	sent	not	sent	not s	sent	not	sent	not s	ent	not	sent	
Sintersearch	dB	not	sent	not	sent	not s	sent	not	sent	not s	ent	not	sent	

Note 1 The nominal **G** rvalues, although not explicitly defined in 25.133 are added here since they are implied and need to be identified so that the test equipment can be configured.

#### 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 7.3.3 to place the UE in CELL\_PCH state on cell 2. The SS waits for this process to complete.
- 4) After 30 s from the completion of step 3 or the beginning of T1, the parameters are changed to those defined for T2 in table 8.3.6.2.3.
- 5) If the UE responds on Cell 1 with a PRACH (CELL UPDATE message cause "cell reselection") within 8s, then a success is recorded, the SS shall transmit a CELL 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 CELL 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 in table 8.3.6.2.3.

- 8) If the UE responds on Cell 2 with a PRACH (CELL UPDATE message cause "cell 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 CELL UPDATE CONFIRM message and then the procedure continues with step 10.
- 10) After a total of 15 s from the beginning of T1, the parameters are changed to those defined for T2 in table 8.3.6.2.3.
- 11) Steps 5 to 10 are repeated until the confidence level according to annex F.6.2 is achieved.
- NOTE 1: 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 2: 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:

#### PHYSICAL CHANNEL RECONFIGURATION (Step 3)

Information Element	Value/remark
RRC State Indicator	CELL PCH
UTRAN DRX cycle length coefficient	7
Downlink information for each radio link - Primary CPICH info - Primary scrambling code	Reference to TS 34.108 clause 6.1 iDefault settings

#### Contents of CELL UPDATE CONFIRM message for CELL\_PCH

Information Element	Value/remark
RRC transaction identifier	0
Activation time	Not Present
RRC State indicator	CELL PCH
UTRAN DRX cycle length coefficient	7

#### 8.3.6.2.5 Test requirements

For the test to pass, the total number of successful tests shall be more than 90% of the cases with a confidence level of 95%.

# Table 8.3.6.2.3: Cell specific test requirements for Cell re-selection in CELL\_PCH state, two freqs. in neighbour list

Parameter	Unit	Ce	Cell 1 Cell 2		Cell 3		Cell 4		Cell 5		Cell 6		
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2

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UTRA RF Channel Number		Chanr	nel 1	Chanr	nel 2	Chann	nel 1	Chanr	iel 1	Chann	el 2	Chann	el 2	
CPICH Ec/lor	dB	-9	-9.3		-9.3		-10.8		-10.8		-10.8		-10.8	
PCCPCH Ec/lor	dB	-1	-11.3		-11.3		-12.8		-12.8		-12.8		-12.8	
SCH Ec/lor	dB	-1	1.3	-1	1.3	-1:	-12.8 -1		2.8	-12.8		-12.8		
PICH_Ec/lor	dB	-1	-14.3		-14.3		-15.8		-15.8		-15.8		-15.8	
OCNS_Ec/lor	dB	-1	-1.13		-1.13		-0.77		-0.77		-0.77		-0.77	
$\dot{P}_{or}/I_{oc}$ Note 1	dB	-3.40	+4.80	+4.80	-3.40	-7.40	-3.00	-7.40	-3.00	-3.00	-7.40	-3.00	-7.40	
Œ,	dBm	-73.4	-67.0	-67.0	-73.4	-77.4	-74.8	-77.4	-74.8	-74.8	-77.4	-74.8	-77.4	
I <sub>oc</sub>	dBm/3.8 4 MHz	-70.0	-71.8	-71.8	-70.0	-70.0	-71.8	-70.0	-71.8	-71.8	-70.0	-71.8	-70.0	
CPICH_Ec/lo Note 1	dB	-15.3	-11.5	-11.5	-15.3	-20.8	-20.8	-20.8	-20.8	-20.8	-20.8	-20.8	-20.8	

All other parameters and conditions specified in table 8.3.6.2.2 are unchanged.

NOTE 1: These parameters are not directly settable, but are derived by calculation from the settable parameters.

NOTE 2: 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 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 95%.

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 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.

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This scenario implies the presence of 1 carrier and 6 cells as given in tables 8.3.7.1.1 to 8.3.7.1.3. 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. In System Information Block Type 2 cell1 and cell 2 URA identity is set to a different value.

Table 8.3.7.1.1: General test	parameters for C	ell Re-selection in U	RA PCH,	one freq.	in neighbour	list

	Parameter	Unit	Value	Comment
Initial	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		Cell1	
SYSTEM II TYPE 2 - URA iden - URA iden	NFORMATION BLOCK tity list tity	-	0000 0000 0000 0001(B) (Cell 1) 0000 0000 0000 0010(B) (Cell 2)	
Access Sel - Persisten	rvice Class (ASC#0) ce value	-	1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.
HCS				Not used
<u>T<sub>si</sub></u>		<u>ms</u>	<u>1280</u>	See Annex I for the SIB repetition period of system information blocks.
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.

#### Release 5 3GPP TS 34.121 V5.5.0 (2004-09 Table 8.3.7.1.2: Cell specific test parameters for Cell re-selection in URA\_PCH state, one freq. in neighbour list

Parameter	Unit	Ce	ell 1	Cel	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		Chanr	nel 1	Channel	1	Channel 1	Channel 1	Channel 1	Channel 1
CPICH_Ec/lor	dB	-10		-10		-10	-10	-10	-10
PCCPCH_Ec/lor	dB	-12		-12		-12	-12	-12	-12
SCH_Ec/lor	dB	-12		-12		-12	-12	-12	-12
PICH Ec/lor	dB	-15		-15		-15	-15	-15	-15
OCNS_Ec/lor	dB	-0,941		-0,941		-0,941	-0,941	-0,941	-0,941
$\dot{P}_{or}/I_{oc}$	dB	7,3	10,27	10,27	7,3	0,27	0,27	0,27	0,27
(Note 1)	dBm	-62.73	-59.73	-59.73	- 62.73	-69.73	-69.73	-69.73	-69.73
I <sub>oc</sub>	dBm / 3,84 MHz	-70	-70						
CPICH_Ec/lo	dB	-16	-13	-13	-16	-23	-23	-23	-23
Propagation Condition						AW	GN		
Cell_selection_and_ reselection_quality_ measure		CPICH	HE <sub>c</sub> /N <sub>0</sub>	CPICH E	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	-4	20	-20	)	-20	-20	-20	-20
Qrxlevmin	dBm	-1	15	-11	5	-115	-115	-115	-115
UE_TXPWR_MAX_ RACH	dB	2	21	21		21	21	21	21
Qoffset2 <sub>s, n</sub>	dB	C1, C1, C1, C1, C1, C1,	C2: 0 C3: 0 C4: 0 C5: 0 C6: 0	C2, C C2, C C2, C C2, C C2, C C2, C	1: 0 3: 0 4: 0 5: 0 6: 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
Treselection	S		0	0		0	0	0	0
Sintrasearch	dB	not	sent	not s	ent	not sent	not sent	not sent	not sent

Note 1 The nominal **G** rvalues, although not explicitly defined in 25.133 are added here since they are implied and need to be identified so that the test equipment can be configured.

#### 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) An RRC connection is set up according to the generic set-up procedure specified in TS 34.108 [3] subclause 7.3.3 to place the UE in the URA\_PCH state on Cell 2 and then the SS waits for this process to complete.
- 4) After 15 s from the completion of step 3 or the beginning of T1, the parameters are changed to those defined for T2 in table 8.3.7.1.3.
- 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 another 15 s from the beginning of T2, the parameters are changed to those defined for T1 in table 8.3.7.1.3.
- 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 the confidence level according to annex F.6.2 is achieved.

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:

#### PHYSICAL CHANNEL RECONFIGURATION (Step 3)

Information Element	Value/remark
RRC State Indicator	URA PCH
UTRAN DRX cycle length coefficient	7

#### Contents of URA UPDATE CONFIRM message for URA\_PCH

Information Element	Value/remark
RRC transaction identifier	0
RRC state indicator	URA PCH
UTRAN DRX cycle length coefficient	7
URA identity	000000000000010 B

#### 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 95% of the cases.

Table 8.3.7.1.3: Cell specific test requirements for Cell re-selection in URA_PCH state, one freq.	. in
neighbour list	

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 Number		Chan	Channel 1 Channel 1		el 1	Channel 1		Channel 1		Channel 1		Channel 1	
CPICH_Ec/lor	dB	-9.4		-9.4	-9.4			-10.5		-10.5		-10.5	
PCCPCH Ec/lor	dB	-11.4		-11.4	-11.4			-12.5		-12.5		-12.5	
SCH_Ec/lor	dB	-11.4		-11.4		-12.5		-12.5		-12.5		-12.5	
PICH Ec/lor	dB	-14.4		-14.4		-15.5		-15.5		-15.5		-15.5	
OCNS_Ec/lor	dB	-1.10	-	-1.10		-0.83		-0.83		-0.83		-0.83	
$\dot{P}_{or}/I_{oc}$ Note 1	dB	7.00	10.40	10.40	10.40 7.00			0.30		0.30		0.30	
Œ	dBm	- 63.0	-59.6	-59.6	-63.0	-69.7		-69.7		-69.7		-69.7	
I <sub>oc</sub>	dBm / 3,84 MHz						-7	0					
CPICH_Ec/lo Note 1	dB	- 15.7	-12.3	-12.3	-15.7	-23.5		-23.5		-23.5		-23.5	

All other parameters and conditions specified in table 8.3.7.1.2 are unchanged.

- NOTE 1: These parameters are not directly settable, but are derived by calculation from the settable parameters.
- NOTE 2: 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 95 %.

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.

# Release 58.3.7.2.3Test 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 to 8.3.7.2.3. 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 cell 1 and cell 2 URA identity is set to different value.

# Table 8.3.7.2.1: General test parameters for Cell Re-selection in URA\_PCH, two freqs. in neighbour list

	Parameter	Unit	Value	Comment
Initial	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5, Cell6	
Initial	Active cell Cell2		Cell1	
condition				
SYSTEM II	NFORMATION		0000 0000 0000 0001 (B) (Cell 1)	
BLOCK TY	'PE 2	-	0000 0000 0000 0010(B) (Cell 2)	
- URA iden	tity list			
- URA iden	tity			
Access Se	rvice Class (ASC#0)			Selected so that no additional delay
- Persisten	ce value	-	1	is caused by the random access
				procedure. The value shall be used
				for all cells in the test.
HCS				Not used
<u>T<sub>SI</sub></u>		<u>ms</u>	<u>1280</u>	See Annex I for the SIB repetition
				period of system information blocks.
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.

#### Release 5 3GPP TS 34.121 V5.5.0 (2004-09 Table 8.3.7.2.2: Cell specific test parameters for Cell Re-selection in URA\_PCH state, two freqs. in neighbour list

Parameter	Unit	Ce	II 1	Cell 2		Cell 3		Cell 4		Cell 5			Cell 6					
		T1	T2	T1	T2	1	T1	T	2	T1		2	T1		T2		T1	T2
UTRA RF Channel Number		Char	nnel 1	Cha	Channel 2		Ch	Channel 1		Channel 1		Channel 2			Channel 2			
CPICH_Ec/lor	dB	-'	10		-10			-10			-10			-10	)		-	·10
PCCPCH_Ec/lor	dB	-	12		-12			-12			-12			-12	2		-12	
SCH_Ec/lor	dB	-	12		-12			-12			-12			-12	2		-	12
PICH Ec/lor	dB	-	15		-15			-15			-15			-15	5		-	15
OCNS_Ec/lor	dB	-0.	941	-0	.941		-	0.941			-0.941		-1	0.94	1		-0.	.941
$\dot{P}_{or}/I_{oc}$	dB	-3.4	2.2	2.2	-3.4	1	-7.4	1 -4	.8	-7.4	1 -4	1.8	-4.8	3	-7.4	1 -	4.8	-7.4
(Note 1)	dBm	-73.39	- 67.7 5	- 67.7 5	- 73.3 9	- 7 9	- 77.3 9	- 74.7 5	- 77 9	7.3	- 74.7 5	-74	.75	- 77. 9	3	- 74.7 5	· -7	77.39
I <sub>oc</sub>	dBm / 3.84 MHz		-70															
CPICH_Ec/lo	dB	-16	-16 -13 -13 -16 -20				-20 -20 -20				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>		CPI	CH E <sub>c</sub> /	No	CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		<sub>0</sub> (	CPICH E <sub>c</sub> /N <sub>0</sub>					
Qqualmin	dB	-2	20		-20			-20		-20		-20			-20			
Qrxlevmin	dBm	-1	15	-	115			-115		-115		-115			-115			
UE_TXPWR_MAX_ RACH	dB	2	21		21			21		21		21			21			
		C1, 0	C2: 0	C2,	C1: 0		CS	8, C1: (	)	С	4, C1:	0	C5	, C <sup>.</sup>	1:0		C6,	C1: 0
		C1, 0	C3: 0	C2,	C3: 0		C3	8, C2: 0	)	C	4, C2:	0	C5	, C2	2: 0		C6,	C2: 0
Qoffset2 <sub>s, n</sub>	dB	C1, 0	C4: 0	C2,	C4: 0		C3	8, C4: 0	)	C	4, C3:	0	C5	, C3	3: 0		C6,	C3: 0
		C1, 0	C5: 0	C2,	C5: 0		CE	3, C5: (	)	C	4, C5:	0	C5	, C4	4:0		C6,	C4: 0
	in	C1, 0	06:0	C2,	06:0		C3, C6: 0		)	C4, C6: 0		C5, C6: 0			C6,	05:0		
Qnyst2	<u>an</u>		0		0			0			0		0		_	0		
Cintracerch	S dD	nct	J	-	U						0		U		_	0		
Sintasearch		not	Sent	110	teent			JI Sent			iot ser	ιι .+	not sent		_	not sent		
Sintersearch	UD	not	sent	110	sent		n n	JI Sent		l l	iot ser	IL	n	n se	FIIL		not	Sent

Note 1 The nominal **G** rvalues, although not explicitly defined in 25.133 are added here since they are implied and need to be identified so that the test equipment can be configured.

#### 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) An RRC connection is set up according the generic set-up procedure specified in TS 34.108 [3] subclause 7.3.3 to place the UE in URA\_PCH state on cell 2. The SS waits for this process to complete.
- 4) After 30 s from the completion of step 3 or the beginning of T1, the parameters are changed to those defined for T2 in table 8.3.7.2.3.
- 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 in table 8.3.7.2.3.

- 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) After a total of 15 s from the beginning of T1, the parameters are changed to those defined for T2 in table 8.3.7.2.3.
- 11) Steps 5 to 10 are repeated until the confidence level according to annex F.6.2 is achieved.
- NOTE 1: 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 2: 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:

#### PHYSICAL CHANNEL RECONFIGURATION (Step 3)

Information Element	Value/remark
RRC State Indicator	URA PCH
UTRAN DRX cycle length coefficient	7

#### Contents of URA UPDATE CONFIRM message for URA\_PCH

Information Element	Value/remark
RRC transaction identifier	0
RRC state indicator	URA PCH
UTRAN DRX cycle length coefficient	7
URA identity	000000000000010 B

#### 8.3.7.2.5 Test requirements

For the test to pass, the total number of successful tests shall be more than 90% of the cases with a confidence level of 95%.

# Table 8.3.7.2.3: Cell specific test requirements for Cell re-selection in URA\_PCH state, two freqs. in neighbour list

Parameter	Unit	Ce	Cell 1 Cell 2		Ce	Cell 3 Cell			Ce	II 5	Cell 6			
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	
UTRA RF Channel Number		Chann	Channel 1		Channel 2		Channel 1		Channel 1		Channel 2		Channel 2	
CPICH_Ec/lor	dB	-9	9.3	-9	-9.3		-10.8 -10		D.8	-10.8		-10.8		
PCCPCH_Ec/lor	dB	-1	1.3	-11.3		-1:	2.8	-12.8		-12.8		-12.8		
SCH_Ec/lor	dB	-1	1.3	-11.3		-1:	2.8	-12.8		-12.8		-12.8		
PICH_Ec/lor	dB	-1-	4.3	-14	-14.3		5.8	-15.8		-15.8		-15.8		
OCNS_Ec/lor	dB	-1	.13	-1,	.13	-0.	.77	-0.	77	-0.	77	-0.	77	
$\dot{P}_{or}/I_{oc}$ Note 1	dB	-3.40	+4.80	+4.80	-3.40	-7.40	-3.00	-7.40	-3.00	-3.00	-7.40	-3.00	-7.40	
<i>Œ</i> ,	dBm	-73.4	-67.0	-67.0	-73.4	-77.4	-74.8	-77.4	-74.8	-74.8	-77.4	-74.8	-77.4	
I <sub>oc</sub>	dBm/3.8 4 MHz	-70.0	-71.8	-71.8	-70.0	-70.0	-71.8	-70.0	-71.8	-71.8	-70.0	-71.8	-70.0	
CPICH_Ec/lo Note 1	dB	-15.3	-11.5	-11.5	-15.3	-20.8	-20.8	-20.8	-20.8	-20.8	-20.8	-20.8	-20.8	

All other parameters and conditions specified in table 8.3.7.2.2 are unchanged.

- NOTE 1: These parameters are not directly settable, but are derived by calculation from the settable parameters.
- NOTE 2: 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.

{Unchanged Sections are clipped here}

## Annex I (normative): Default Message Contents

This Annex contains the default values of common messages, other than those described in TS 34.108. The messages are primarily concerning the RRM test cases in clause 8 and unless indicated otherwise in specific test cases, shall be transmitted and checked by the system simulator. The necessary messages are listed in alphabetical order.

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

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Measurement identity	1
Measured Results	
<ul> <li>Intra-frequency measured results list</li> </ul>	
- Cell measured results	
- Cell Identity	Not present
- Cell synchronisation information	
- Tm	Checked that this IE is present
- OFF	Checked that this IE is present
- CHOICE mode	FDD
- Primary CPICH info	Checked that this IE is present
- Primary scrambling code	150
- CPICH Ec/N0	If reporting of iCPICH Ec/N0i measurement is configured then checkChecked that this IE is present
- CPICH RSCP	If reporting of iCPICH Ec/N0i measurement is configured then checkChecked that this IE is present
- Pathloss	If reporting of iCPICH Ec/N0i measurement is configured then checkChecked that this IE is present
Measured results on RACH	Checked that this IE is absent
Additional measured results	Checked that this IE is absent
Event results	Checked that this IE is absent

Contents of MEASUREMENT REPORT message for Intra frequency test cases

## Contents of MEASUREMENT REPORT message for Inter frequency test cases

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Measurement identity	1
Measured Results	
<ul> <li>Inter-frequency measured results list</li> </ul>	
- UTRA Carrier RSSI	If reporting of iCPICH Ec/N0i measurement is configured then checkChecked that this IE is present
<ul> <li>Inter-frequency cell measurement results</li> </ul>	
- Cell measured results	
- Cell Identity	Not present
- Cell synchronisation information	
-Tm	Checked that this IE is present
- OFF	Checked that this IE is present
- CHOICE mode	FDD
- Primary CPICH info	Checked that this IE is present
<ul> <li>Primary scrambling code</li> </ul>	150
- CPICH Ec/N0	If reporting of iCPICH Ec/N0i measurement is configured
	then checkChecked that this IE is present
- CPICH RSCP	If reporting of iCPICH Ec/N0i measurement is configured
	then checkChecked that this IE is present
- Pathloss	If reporting of iCPICH Ec/N0i measurement is configured
	then checkChecked that this IE is present
Measured results on RACH	Checked that this IE is absent
Additional measured results	Checked that this IE is absent
Event results	Checked that this IE is absent

#### Contents of MEASUREMENT REPORT message for inter ñ RAT test cases

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Measurement identity	1
Measured Results	
<ul> <li>Inter-RAT measured results list</li> </ul>	
- CHOICE system - GSM	GSM
- Measured GSM cells	Checked that this IE is present
- GSM carrier RSSI	If reporting of iGSM carrier RSSIi measurement is configured then checkChecked that this IE is present
- CHOICE BSIC	Non verified BSIC
- Non verified BSIC	
- BCCH ARFCN	Checked that this IE is present
- Observed time difference to GSM cell	If reporting of iObserved time difference to GSM celli measurement configured then checkChecked that this IE is present
Measured results on RACH	Checked that this IE is absent
Additional measured results	Checked that this IE is absent
Event results	Checked that this IE is absent

#### Contents of Master Information Block PLMN type is the case of GSM-MAP

The following information element is exception of TS34.108 based on 8.2.2, 8.3.5, 8.4.1, 8.3.6, 8.3.7 test cases.

Information Element	Value/Remark
- SIB REP	128
- SIB POS	44
- SIB and SB type	System Information Type 1
- SIB REP	128
- SIB POS	44
- SIB and SB type	System Information Type 2
<u>- SIB_REP</u>	128
<u>- SIB_POS</u>	<u>40</u>
- SIB and SB type	System Information Type 3
<u>- SIB_REP</u>	128
SIB_POS	<u>104</u>
- SIB and SB type	System Information Type 4
<u>- SIB_REP</u>	128
<u>- SIB_POS</u>	<u>76</u>
<u>- SIB and SB type</u>	System Information Type 5

#### Contents of Scheduling Block 1 (FDD)

The following information element is exception of TS34.108 based on monitorlist size for 8.2.2, 8.3.5, 8.4.1, 8.3.6, 8.3.7 test cases.

Information Element	Value/Remark
<u>- SIB_REP</u>	<u>128</u>
- SIB POS	<u>12</u>
- SIB type SIBs only	System Information Type 6
- SIB REP	128
- SIB POS	<u>116</u>
<u>- SIB type SIBs only</u>	System Information Type 11

- SIB REP	128
- SIB POS	52
- SIB type SIBs only	System Information Type 12
- SIB REP	128
<u>- SIB_POS</u>	<u>72</u>
<u>- SIB type SIBs only</u>	System Information Type 18

Contents of Master Information Block PLMN type is the case of GSM-MAP

The following information element is exception of TS34.108 based on monitorlist size for 8.3.4, 8.4.1.1, 8.4.1.2, 8.6.1.1, 8.6.1.2, 8.6.1.3, 8.6.1.4, 8.6.2.1 test cases.

Information Element	Value/Remark
- SIB_POS	1
- SIB_POS offset info	Not Present
- SIB and SB type	Scheduling Block 1
- SIB_REP	128
- SIB_POS	11
<ul> <li>SIB_POS offset info</li> </ul>	Not Presen
- SIB and SB type	System Information Type 1
- SIB_REP	128
- SIB_POS	11
<ul> <li>SIB_POS offset info</li> </ul>	Not Present
- SIB and SB type	System Information Type 2
- SIB_REP	128
- SIB_POS	10
<ul> <li>SIB_POS offset info</li> </ul>	Not Present
- SIB and SB type	System Information Type 3
- SIB_REP	128
- SIB_POS	26
<ul> <li>SIB_POS offset info</li> </ul>	Not Present
- SIB and SB type	System Information Type 4
- SIB_REP	128
- SIB_POS	19
- SIB_POS offset info	3
- SIB and SB type	System Information Type 5

Contents of Scheduling Block 1 (FDD)-size

The following information element is exception of TS34.108 based on monitorlist size for 8.4.1.1,8.4.1.2,8.6.1.1,8.6.1.4 test cases.

Information Element	Value/Remark
- References to other system information blocks	
- SIB_REP	128
- SIB_POS	3
- SIB_POS offset info	3
- SIB type SIBs only	System Information Type 6
- SIB_POS	2
- SIB type SIBs only	System Information Type 7
- SEG_COUNT	4
- SIB_REP	128
- SIB_POS	27
- SIB_POS offset info	3
- SIB_OFF	4
- SIB type SIBs only	System Information Type 11
- SIB_REP	128
- SIB_POS	13
<ul> <li>SIB_POS offset info</li> </ul>	2
- SIB type SIBs only	System Information Type 12
- CHOICE Value tag	Cell Value tag
- Cell Value tag	1
- SIB_REP	128
- SIB_POS	18
- SIB type SIBs only	System Information Type 18

Contents of System Information Block type 11 (FDD)

The following information element is exception of TS34.108 based on monitorlist size for 8.4.1.1,8.4.1.2,8.6.1.1,8.6.1.4

Information Element	Value/Remark
<ul> <li>Intra-frequency measurement system</li> </ul>	
information	
<ul> <li>New intra-frequency cells</li> </ul>	24
- Intra-frequency cell id	9+n (n=0 to 18)
- Cell info	Same content as specified for Intra-frequency cell id=2 with the exception that value for Primary scrambling code shall not be overlaped values.
<ul> <li>Inter-frequency measurement system</li> </ul>	Not Present
information	
<ul> <li>Inter-RAT measurement system information</li> </ul>	Not Present

¥	<b>34.121</b> CR <sup>458</sup> <b>* rev</b> - <sup>*</sup> Current version: <b>5.5.0</b>			
For <b>HELP</b> on using this form, see bottom of this page or look at the pop-up text over the $\frac{1}{8}$ symbols.				
Proposed change	affects: UICC apps # ME X Radio Access Network Core Network	:		
Title: #	Correction to 8.3.1 UE FDD/FDD Soft Handover			
Source: #	Anritsu			
Work item code: 🔀	Date: <mark>器 3/11/2004</mark>			
Category: ⊮	FRelease: XRel-5Use 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 canRel-4(Release 4)be found in 3GPP TR 21.900.Rel-5(Release 5)Rel-6(Release 6)			
Reason for change	<ul> <li>2: # 1) According to TS25.331: 8.6.7.9, if îReporting cell is statusî is iNot Presenti ir Measurement Control Message, Measurement Report Message will be sent wit no "Measured Results".</li> <li>2) T5 value is not aligned with TS25.133.</li> </ul>	n :h		
Summary of chang	<ul> <li>(#) "Reporting cell status" is configured in Measurement Control Message.</li> <li>2) T5 value is corrected to 10 ms in Table 8.3.1.1.1</li> </ul>			
Consequences if not approved:	₩ UE will not be tested properly.			
Clauses affected:	₩ 8.3.1			
Other specs affected:	Y       N         X       Other core specifications       X         X       Test specifications       X         X       O&M Specifications       X			
Other comments:	This CR applies for Rel-99 and later releases.			
How to create CRs usin Comprehensive informatio summary: 1) Fill out the above form	<b>g this form:</b> on and tips about how to create CRs can be found at <u>http://www.3gpp.org/specs/CR.htm</u> . Below is a brief n. The symbols above marked <b>#</b> 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 UTRAN Connected Mode Mobility

## 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 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.

If the UE have radio links in the active set that it can not use for data detection (due to low signal level), the UE shall at least every 150 ms search for the radio link.

The normative reference for this requirement is TS 25.133 [2] clauses 5.1.2 and A.5.1.1. The active set update delay shall be less than 60 ms in CELL\_DCH state when using test parameters as given in table 8.3.1.1.

## 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 8.3.1.1.1 and 8.3.1.1.2 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 six successive time periods, with a time duration of T1, T2, T3, T4, T5 and T6 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

Para	meter	Unit	Value	Comment
DCH parameters			DL and UL Reference Measurement Channel 12.2 kbps	As specified in clause C.3.1 and C.2.1
Power Control			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 rang	ge	dB	3	Applicable for event 1A and 1B
Hysteresis		dB	0	
W			1	Applicable for event 1A and 1B
Reporting dea threshold	ctivation		0	Applicable for event 1A
Time to Trigge	er	ms	0	
Filter coefficie	nt		0	
T1		S	5	
T2		S	3	
Т3		S	0.5	
T4		ms	60	This is the requirement on active set update delay, see clause 8.3.1.2, where KC=1 and OC=0.
T5		ms	10	
T6		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	T6	T1	T2	T3	T4	Т	Т
												5	6
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	No	te1	N/	N/	N/A	N/A	Note3	Note1	Not	e1
							^						
OCNS_Ec/lor	dB	Note2	Note2	No	te2	-	-	-0.94	-0.94	Note2	Note2	Not	e2
						0.9	0.9						
						4	4						
à /r	dB	0	2.91	2.	91	2.9	2.9	-Inf	2.91	2.91	2.91	2.9	1
$F_{or}/I_{oc}$						1	1						
I	dBm/3.							-70		l			
1 <sub>oc</sub>	84												
	MHz									-			
CPICH_Ec/lo	dB	-13	-14	-1	14	-14	-14	-Inf	-14	-14	-14	-1	4
Propagation							A	AWGN					
Condition													
Relative delay of	chips						{-14	8 Ö 148}					
paths received from							1	Vote 4					
cell 2 with respect to													
cell 1													
Note 1: The DPCH leve	el is contro	lled by the	power conti	rol loop									
Note 2: The new or of t	ha OCNE	honnol the	t in addad a	hall mak	a tha ta	tol nou	or from	n the cell te	he 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  ${
m I_{or}}$ 

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.

Note 4: The relative delay of the path from cell 2 with respect to cell 1 shall always be within ±148 chip.

#### 8.3.1.4.2 Procedure

1) The RF parameters are set up according to T1 in table 8.3.1.1.3.

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.
- 4) SS shall transmit a MEASUREMENT CONTROL message.
- 5) 5 seconds after step4 has completed, 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 T6.
- 11)5 seconds after step10 has completed, the UE is switched off. Any timing information of cell 2 is deleted in the UE.
- 12) BLER is measured during concatenated time periods T6.Repeat step 1-11 until the confidence level for BLER is achieved. This is defined in annex F.6.1.10

#### 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:

MEASUREMENT CONTROL message (step 4):

Information Element/Group name	Value/Remark
Message Type (10.2.17)	
LIE information elements	
PPC transaction identifier	0
	0
-Integrity check info	
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IE. The first/
	leftmost bit of the bit string contains the
	most significant bit of the MAC-I
-BBC message sequence number	SS provides the value of this IF from its
	internal counter
Management lefamorilan alamanta	
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
	Intro frequency measurement
Intro frequency macautement (10.0.7.06)	initia-inequency measurement
-initia-inequency measurement (10.3.7.30)	Net Descent
-intra-trequency 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)	·
Benorting quantities for active set cells (10.3.7.5)	
Coll experiences for active set cells (10.0.7.0)	TDUE (Note 1)
-Cell synchronisation information reporting indicator	
-Cell Identity reporting indicator	IRUE
-CHOICE mode	FDD
-CPICH Ec/N0 reporting indicator	TRUE
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	FALSE
-Reporting quantities for monitored set cells (10.3.7.5)	
-Cell synchronisation information reporting indicator	TBLIE (Note 1)
Cell Identity reporting indicator	
-CPICH Ec/NU reporting indicator	IRUE
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	FALSE
-Reporting quantities for detected set cells (10.3.7.5)	Not Present
-Reporting cell status (10.3.7.61)	Not Present
-Measurement validity (10.3.7.51)	Not Present
	Intra-frequency measurement reporting
	oritorio
	Ginella
-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
-W	10
Hysteresis	0 dB
Throshold used frequency	Not Procent
- meshou used nequelity	
-neporting deactivation threshold	U Not Decent
-Replacement activation threshold	Not Present
- I ime to trigger	0 ms
-Amount of reporting	Infinity
-Reporting interval	0 ms (Note 2)
-Reporting cell status	Not Present
- CHOICE reported cell	Report cell within active set and/or
	monitored set cells on used frequency
Maximum number of reported calls	
	U Event 1D
-intra-frequency event identity	
- I riggering condition 1	Active set cells and monitored set cells
-Reporting Range Constant	3 dB

Information Element/Group name	Value/Remark		
-Cells forbidden to affect Reporting Range	Not Present		
-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		
- CHOICE reported cell	Report cell within active set and/or		
	monitored set cells on used frequency		
<ul> <li>Maximum number of reported cells</li> </ul>	<u>3</u>		
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	6 25.331, clause 10.3.7.5 is set to TRUE in		
MEASUREMENT CONTROL.			
Note 2: Reporting interval = 0 ms means no periodical report	ng		

## PHYSICAL CHANNEL RECONFIGURATION message (step 7):

Information Element	Value/Remark
Message Type	
UE Information Elements	
-BBC transaction identifier	0
-Integrity check info	5
-message authentication code	SS calculates the value of MAC-I for this
moodage dation loade	message and writes to this IF. The first/
	leftmost bit of the bit string contains the
	most significant bit of the MAC-I
-BBC message sequence number	SS provides the value of this IF from its
	internal counter
-Integrity protection mode info	Not Present
-Cinhering mode info	Not Present
-Activation time	"now"
	Not Present
-New C-RNTI	Not Present
-BBC State Indicator	CELL DCH
-UTBAN DBX cycle length coefficient	Not Present
CN Information Elements	
-CN Information info	Not Present
UTRAN mobility information elements	
-UBA identity	Not Present
RB information elements	
-Downlink counter synchronisation info	Not Present
PhyCH information elements	Not i loscili
-Frequency info (10.3.6.36)	
-CHOICE mode	EDD
-LIABECN uplink(Nu)	Same unlink LIABECN as used for cell 2
-UABECN downlink(Nd)	Same downlink LIABECN as used for cell 2
Unlink radio resources	
-Maximum allowed LIL TX power	33 dBm
-CHOICE channel requirement	Unlink DPCH info
-Unlink 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
- SBB 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	64
-TFCI existence	TRUE
-Number of FBI bit	Not Present(0)
-Puncturing Limit	1
Downlink radio resources	
-CHOICE mode	FDD
-Downlink PDSCH information	Not Present
-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)	
-DPC mode	0 (single)
-CHOICE mode	FDD
-Power offset P <sub>Pilot-DPDCH</sub>	0
-DL rate matching restriction information	Not Present
-Spreading factor	128
-Fixed or Flexible Position	Fixed
-TFCI existence	TRUE
-CHOICE SF	128
-Number of bits for Pilot bits(SF=128,256)	8
-CHOICE mode	FDD

Information Element	Value/Remark
-DPCH compressed mode info (10.3.6.33)	Not Present
-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
-Primary CPICH usage for channel estimation	Primary CPICH may be used
-DPCH frame offset	0 chips
-Secondary CPICH info	Not Present
-DL channelisation code	
-Secondary scrambling code	Not Present
-Spreading factor	128
-Code number	96
-Scrambling code change	No change
-TPC combination index	0
- SSDT Cell Identity	Not Present
<ul> <li>Closed loop timing adjustment mode</li> </ul>	Not Present
- SCCPCH information for FACH (10.3.6.70)	Not Present

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Other specs affected:	æ	YN X X X	Other co Test spe O&M Sp	re specific cifications ecificatior	cations s is	æ						
Other comments:	ж	This	CR applie	<mark>s for Rel-</mark>	<mark>99 and la</mark>	ter rel	eases	S.				
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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.

## 8.7.1 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 $|_{dBm} \ge -114 \text{ dBm}$  for Band I.
- CPICH\_RSCP1 $|_{dBm} \ge -112 \text{ dBm}$  for Band II,
- CPICH\_RSCP1 $|_{dBm} \ge -111$ dBm for Band III.

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

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

		Accura	cy [dB]		Conditions		
Parameter	Unit	Normal	Extreme	lo [dBm/3.84 MHz]			
		condition	condition	Band I	Band II	Band III	
	dBm	±6	±9	-9470	-9270	-9170	
OFION_NOOF	dBm	±8	±11	-7050	-7050	-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

## 8.7.1.1.1.4.1 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.

Baramatar		Unit	Tes	st 1	Tes	st 2	Test 3	
Fala	neter	Unit	Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2
UTRA RF Char	nel number		Channel 1		Channel 1		Channel 1	
CPICH_Ec/lor		dB	-1	0	-1	0	-1	0
PCCPCH_Ec/lo	or	dB	-1	2	-1	2	-1	2
SCH_Ec/lor		dB	-1	2	-1	2	-1	2
PICH_Ec/lor		dB	-1	5	-1	5	-1	5
DPCH_Ec/lor		dB	-15	-	-15	-	-15	-
OCNS_Ec/lor		dB	-1.11	-0.94	-1.11	-0.94	-1.11	-0.94
	Band I		-75.54				-97.47	
loc	Band II	dBm/ 3.84 MHz			-59.98		-95.47	
	Band III						-94.47	
Ober/loc		dB	4	0	9	0	0	-6.53
	Band I						-107.47	-114.0
BSCP Note 1	Band II	dBm	-81.5	-85.5	-60.98	-69.88	-105.47	-112.0
	Band III						-104.47	-111.0
	Band I						-9	)4
lo, Note 1	Band II	dBm/3.84 MHz	-6	69	-5	50	-9	92
	Band III						-9	91
Propagation condition		-	AW	GN	AW	'GN	AWGN	
NOTE 1: CPIC	CH RSCP and lo	levels have been calc	ulated fron	n other par	ameters fo	or informati	on purpose	es. They
are r	not settable paran	neters themselves.						

#### Table 8.7.1.1.1.2: CPICH RSCP Intra frequency 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.

#### 8.7.1.1.1.4.2 Procedure

- 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 8.7.1.1.1.4.
- 2) SS shall transmit MEASUREMENT CONTROL message.
- 3) UE shall transmit periodically MEASUREMENT REPORT messages.
- 4) SS shall check CPICH\_RSCP value in MEASUREMENT REPORT messages. CPICH RSCP power of Cell 1 **#** and Cell 2 reported by UE is compared to actual CPICH RSCP power for each MEASUREMENT REPORT message.
- 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 8.7.1.1.1.4 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. Then, step 4) above is repeated. After further 1000 MEASUREMENT REPORT messages have been received from UE, the RF parameters are set up according to table 8.7.1.1.1.4 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. Then, step 4) above is 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], with the following exceptions:

MEASUREMENT CONTROL message for Intra frequency measurement (Step 12):

	1
Information Element	Value/Remark
Message Type	
UE information elements	
-RRC transaction identifier	0
-Integrity check info	
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IE. The first/
	leftmost bit of the bit string contains the most
	significant bit of the MAC-I.
-RRC message sequence number	SS provides the value of this IE, from its
	internal counter.
Measurement Information elements	
-Measurement Identity	5 <u>1</u>
-Measurement Command	SETUP <u>Modify</u>
-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
-Intra-frequency measurement	
<ul> <li>Intra-frequency measurement objects list</li> </ul>	Not Present
<ul> <li>Intra-frequency measurement quantity</li> </ul>	
-Filter coefficient	0
-CHOICE mode	FDD
-Measurement quantity	CPICH RSCP
-Intra-frequency reporting quantity	
-Reporting quantities for active set cells	
-Cell synchronisation information reporting	70.05
indicator	TRUE
-Cell Identity reporting indicator	IRUE
-CHOICE mode	FDD
-CPICH Ec/NU reporting indicator	
-CPICH RSCP reporting indicator	
-Patnioss reporting indicator	FALSE
-Reporting quantities for monitored set cells	EN OF
-Cell synchronisation information reporting	FALSE
	TOUE
-Cell Identity reporting indicator	
-CHUICE mode	
-CPICH EC/NU reporting indicator	
-CPICH RSCP reporting indicator	
-Pathioss reporting indicator	FALSE Not Drespect
-Reporting quantities for detected set cells	Not Present
-Reporting cell status	Demontal active actually visiting
	neport all active set cells + cells within
Maximum number of reported calls	Virtual/active set online + 2
-waximum number of reported cells	Not Dropont
	NOL FIESEIIL Derindical reporting criteria
	Fenoulcal reporting chiefla
-Amount of reporting	
-nepotiting interval	200 1115
DRCH comproceed mode status info	Not Dropont
ן -טרטה compressed mode status into	NULFIESEIIL

#### 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

		Accura	cy [dB]		Conditions			
Parameter	Unit	Normal	Extreme	lo [dBm/3.84 MHz]				
		condition	condition	Band I	Band II	Band III		
	dBm	±7.4	±10.4	-9470	-9270	-9170		
CPICH_RSCP	dBm	±9.4	±12.4	-7050	-7050	-7050		

#### Table 8.7.1.1.1.3: CPICH\_RSCP Intra frequency absolute accuracy, test requirement

#### Table 8.7.1.1.1.4: CPICH RSCP Intra frequency test parameters

Para	motor	Unit	Tes	st 1	Te	st 2	Test 3	
Fala	meter	Onit	Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2
UTRA RF Char	nnel number		Char	Channel 1		Channel 1		nel 1
CPICH Ec/lor		dB	-1	0	-1	10	-10	
PCCPCH_Ec/lo	or	dB	-1	2	-1	12	-1	2
SCH_Ec/lor		dB	-1	2	-1	12	-1	2
PICH_Ec/lor		dB	-1	5	-1	15	-1	5
DPCH_Ec/lor		dB	-15	-	-15	-	-15	-
OCNS_Ec/lor		dB	-1.11	-0.94	-1.11	-0.94	-1.11	-0.94
	Band I		-74.54				-96.47	
loc	Band II	dBm/ 3.84 MHz			-61,6		-94.47	
	Band III						-93.47	
Ober/loc		dB	4.3	0.3	9.3	0.3	0.3	-6.23
	Band I						-106.17	-112.7
BSCP Note 1	Band II	dBm	-80.2	-84.2	-62.3	-71.3	-104.17	-110.7
	Band III						-103.17	-109.7
	Band I				-51,4		-92	2,8
lo, Note 1	Band II	dBm / 3.84 MHz	-6	7.8			-90.8	
	Band III						-89.8	
Propagation condition		-	AW	'GN	AW	/GN	AW	'GN
NOTE 1: CPIC	CH RSCP and lo	levels have been calc	ulated fron	n other par	ameters fo	or informati	on purpose	es. They
are r	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 UE does not loose the Cell 2 in between the tests.

The reported values for the absolut intra frequency CPICH RSCP measurement shall meet the requirements in table 8.7.1.1.1.5.

	Test 1	Test 2	Test 3 (Band I)	Test 3 (Band II)	Test 3 (Band III)
Normal Conditions					
Lowest reported	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_
value (Cell 1)	26	44	2	4	5
Highest reported	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_
value (Cell 1)	45	63	17	19	20
Lowest reported	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_
value (Cell 2)	22	35	0	0	0
Highest reported	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_
value (Cell 2)	41	54	10	12	13
Extreme Conditions					
Lowest reported	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_
value (Cell 1)	23	41	0	1	2
Highest reported	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_
value (Cell 1)	48	66	20	22	23
Lowest reported	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_
value (Cell 2)	19	32	0	0	0
Highest reported	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_
value (Cell 2)	44	57	13	15	16

# Table 8.7.1.1.1.5: CPICH\_RSCP Intra frequency absolute accuracy requirements for the reported values

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 Meeting #25 St Paulís Bay, Malta, November 1<sup>st</sup> - 5<sup>th</sup>, 2004

## *Tdoc* **#***T1-041858*

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Source:	X Nokia	
Work item code.	# TEI	Date: <mark>೫</mark> 2004-11-04
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 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: <b>X</b> REL-5Use oneof the following releases:2(GSM Phase 2)9)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: 38 The current requirement of performing the section 7 test cases with UE maximum output power has caused problems for a good UE to pass section 7 test cases. When UE is operating with maximum output power it can send only TFCs that belong to minimum set of TFCs that are given in Annex C of TS 34.121. This has caused problems at least in following test cases TC 7.10 Blind transport format detection: UE fails the TC since it is not • able to send the required TFCs in uplink TC 7.7.1 In a generic call set procedure UE is configured to send measurement reports to SS. When operating at the maximum power TFC selection rules are such that UE sends DCCH but not DTCH since DCCH may have the higher priority than DTCH. This has caused test failures when UE has sent requested reports to SS since the BLER calculation has stopped due to missing DTCH in uplink. In order to allow a good UE to pass these test cases it is proposed that current requirement of perfoming the section 7 test cases with maximum UE output power is removed. This requirement did not come from core specification TS 25.101 but it was specified by T1 in order to allow error free uplink. It is now expected that error free uplink is true even UE is not at maximum output power. In order to give guidance to SS vendors, it is proposed that a new note is being added indicating problems with test cases in section 7.7 and 7.10 when UE is operating at maximum UE output power. This note can be used to resolve the possible conflicts with SS and UE vendors. Also in TC 7.6.3 (SSDT) there are two cells for which UE is configured to do measurements in a generic call set up. It is expected that similar problems may occur in this test case as in section 7.7 test cases when performing the test case

	at maximum UE output power.
Summary of change: <mark>೫</mark>	Requirement of performing the Section 7 test cases with maximum UE output power is deleted from section 7.1.1.
	A following note has been added into section 7.1.1: ilf tests are performed with maximum UE output power it is known that this may cause a good UE to fail at least for tests in sections 7.7 and 7.10. $\hat{i}$
	A new note has been added saying that ithe UE output power needs to be high enough so that uplink transmission can be received error free in the SS.î
	Chip rate 3.84 MHz was removed from section 7.1.1 as there is no need to mention it this section.
	The side condition releted to maximum output power was deleted from Section C.6.2.
	Forward channels was replaces with downlink channels
Consequences if 🛛 🕱	A good UE may not pass the tests in section 7.7 and it will not pass the test in
not approved:	section 7.10.
Clauses affected: #	7.1.1, Annex C.6.2
Other specs # Affected:	X     Other core specifications     #       X     Test specifications     #
	X O&M Specifications
Other comments: #	This CR is applicable for UEis supporting Rel-99 or later.

#### 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.

# 7 Performance requirements

## 7.1 General

The performance requirements for the UE in this clause are specified for the measurement channels specified in annex C and table 7.1.1, the propagation conditions specified in clause 7.1.2 and the Down link Physical channels specified in annex D. Unless stated otherwise, DL power control is OFF.

For loopback tests, DCCH Data shall be continuously transmitted on downlink DCH during the measurement period.

The method for Block Error Ratio (BLER) measurement is specified in 3GPP TS 34.109 [4].

Type of User	User bit rate	DL DPCH symbol rate	DL DPCH	TTI (ms)
12,2 kbps reference measurement channel	12,2 kbps	30 ksps	60 kbps	20
64/144/384 kbps reference measurement channel	64 kbps	120 ksps	240 kbps	20
144kbps reference measurement channel	144 kbps	240 ksps	480 kbps	20
384 kbps reference measurement channel	384 kbps	480 ksps	960 kbps	10

Table 7.1.1: Bit / Symbol rate for Test Channel

The common RF test conditions of Performance requirement are defined in clause E.3.3, and each test conditions in this clause (clause 7) should refer clause E.3.3. Individual test conditions are defined in the paragraph of each test.

All Block Error ratio (BLER) measurements in clause 7 shall be performed according to the general rules for statistical testing in Annex F.6

## 7.1.1 Measurement Configurations

In all measurements UE should transmit with maximum power while receiving signals from Node B. This is guaranteed by the measurement configurations defined in Annex C (i.e. if the DTCH DCH TFS consists of a single transportformat, it is not blocked by the UE as stated in 3GPP TS 25.331). Chip Rate is specified to be 3,84 MHz.

It as assumed that fields inside DPCH have the same energy per PN chip. Also, if the power of S-CCPCH is not specified in the test parameter table, it should be set to zero. The power of OCNS should be adjusted that the power ratios ( $E_c/I_{or}$ ) of all specified <u>downlink</u> forward channels add up to one.

Measurement configurations for different scenarios are shown in figure A.9, figure A.10 and figure A.11.

Note 1: If tests are performed with maximum UE output power it is known that this may cause a good UE to fail at least for tests in sections 7.7 and 7.10.

Note 2: The UE output power needs to be high enough so that uplink transmission can be received error free in the SS.

# C.6.2 Channel combinations for BLER measurements

# Table C.6.2 Measurement channels for BLER tests for UL DL data rate combinations

UL:	RMC 12.2kbit/s	RMC 64kbit/s	RMC 144kbit/s	RMC 384kbit/s
DL:				
RMC 12.2kbit/s 1)	RLC TM, TL2, (UL CRC off, see C.6.3)	RLC TM, TL2	RLC TM, TL2	RLC TM, TL2
RMC 64kbit/s	RLC AM using AUXMC, See C.6.7 (ACK/NACK count)	RLC TM, TL2, (UL CRC off, see C.6.4)	RLC TM, TL2	RLC TM, TL2
RMC 144kbit/s	RLC AM using AUXMC, See C.6.7 (ACK/NACK count)	RLC AM (ACK/NACK count)	RLC TM, TL2, (UL CRC off, see C.6.5)	RLC TM, TL2
RMC 384kbit/s	RLC AM using AUXMC, See C.6.7 (ACK/NACK count)	RLC AM (ACK/NACK count)	RLC AM (ACK/NACK count)	RLC TM, TL2, (UL CRC off, see C.6.6)

Note : In the red and blue area BLER is tested by ACK/NACK counting.

The side condition in all Performance Tests, maximum uplink power, can be fulfilled by closing TL1.

In the grey and green area BLER is tested by observing the looped back data field containing the DL Data and DL CRC closing TL2.

# Tdoc **#**T1-041817

æ	34.121 CR 462 <b>⊭ rev</b> - <sup>ℋ</sup> <sup>C</sup>	current version: <b>5.5.0</b>		
For <u>HELP</u> or	n using this form, see bottom of this page or look at the p	pop-up text over the <mark>%</mark> symbols.		
Proposed chang	<b>Je affects:</b> UICC apps <mark>% ME X</mark> Radio Acc	ess Network Core Network		
Title:	Change of notes position in TS34.121 Annex E.3			
Source:	₩ Intel			
Work item code:	₩ TEI	Date: 🔀 2/11/2004		
Category:	<ul> <li>F</li> <li>F</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>	Release:XR99Use oneof 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 char	ge: X Notes in Annex E.3 are hidden and not appear	in the printed version		

Reason for change.	Notes in Annex E.S are nidden and not appear in the printed version		
Summary of change: 🔀	copy the hidden notes to the associated table in the section		
Consequences if <b>#</b>	Notes in Annex E.3 can be disregard		
not approved:	·		
Clauses affected: 🖁	Annex E.3.3, E.3.4 & E.3.5		
	YN		
Other specs #	X Other core specifications		
offootod	V Taget angeigingtions		
anecieu.			
	X O&M Specifications		

Other comments:	ж	This CR applies to release 99 and later releases

# E.3 During connection

The following clauses describe the downlink Physical Channels that are transmitted during a connection i.e., when measurements are done. For these measurements the offset between DPCH and SCH shall be zero chips at base station meaning that SCH is overlapping with the first symbols in DPCH in the beginning of DPCH slot structure.

## E.3.1 Measurement of Tx Characteristics

Table E.3.1 is applicable for measurements on the Transmitter Characteristics (clause 5) with the exception of clauses 5.3, 5.4.1, 5.4.4 and 5.5.2.

NOTE: Applicability to clause 5.7 (Power setting in uplink compressed mode) is FFS.

Table E.3.1: Downlink Physical Channels transmitted during a connection

Physical Channel	Power			
Œr	ñ93 dBm / 3,84MHz			
CPICH	CPICH_Ec / DPCH_Ec	= 7 dB		
P-CCPCH	$P-CCPCH_Ec / DPCH_Ec = 5 dB$			
SCH	SCH_Ec / DPCH_Ec		= 5 dB	
PICH	PICH_Ec / DPCH_Ec	= 2 dB		
DPCH	ñ103,3 dBm / 3,84MHz			

## E.3.2 Measurement of Rx Characteristics

Table E.3.2.1 is applicable for measurements on the Receiver Characteristics (clause 6) with the exception of clauses 6.3 and 6.8.

Physical Channel	Power		
CPICH	CPICH_Ec / DPCH_Ec	= 7 dB	
P-CCPCH	P-CCPCH_Ec/ DPCH_Ec	= 5 dB	
SCH	SCH_Ec / DPCH_Ec	= 5 dB	
PICH	PICH Ec / DPCH Ec = 2 dB		
DPCH	Test dependent power		

Table E.3.2.1: Downlink Physical Channels transmitted during a connection

Table E.3.2.2 describes the downlink Physical Channels that are required for the test of Spurious Emissions (clause 6.8). The UE is in the CELL\_FACH state during the measurement.

 Table E.3.2.2: Downlink Physical Channels transmitted during the Rx Spurious

 Emissions test

Physical Channel	Power		
CPICH	ñ86dBm / 3,84MHz		
P-CCPCH	P-CCPCH_Ec/ CPICH_Ec	= -2 dB	
SCH	SCH_Ec / CPICH_Ec	= -2 dB	
PICH	PICH_Ec / CPICH_Ec	= -5 dB	
S-CCPCH	S-CCPCH_Ec / CPICH_Ec	= -2 dB	

## E.3.3 Measurement of Performance requirements

Table E.3.3 is applicable for measurements on the Performance requirements (clause 7), including clauses 6.3 and 5.4.4, excluding clauses 7.6.1 and 7.6.2.

Physical Channel	Power		Note	
P-CPICH	P-CPICH_Ec/lor	= -10 dB	Use of P-CPICH or S-CPICH as	
	_		phase reference is specified for	
			each requirement and is also set by	
			higher layer signalling.	
S-CPICH	S-CPICH_Ec/lor	= -10 dB	When S-CPICH is the phase	
			reference in a test condition, the	
			phase of S-CPICH shall be	
			180 degrees onset from the phase	
			the phase reference, it is not	
			transmitted	
P-CCPCH	P-CCPCH Ec/lor	– _12 dB		
SCH	SCH Ec/lor	= 12 dB	This power shall be divided equally	
0011		= =12 ub	between Primary and Secondary	
			Synchronous channels	
PICH	PICH Ec/lor	= –15 dB		
DPCH	Test dependent pow	er	When S-CPICH is the phase	
			reference in a test condition, the	
			phase of DPCH shall be	
			180 degrees offset from the phase	
			of	
			P-CPICH.	
OCNS	Necessary power so	that total	OCNS interference consists of 16	
	transmit power spec	tral density	dedicated data channels as	
	of Node B (lor) adds	to one	specified in table E.3.6.	
NUIE1: For dynamic po	ower correction require	ed to compen	sate for the presence of transient	
channels, e.g. control channels, a subset of the DPCH channels may be used.				
INUTE 2: Power levels are pased on the assumption that multipath propagation conditions and				
noise source representing interference from other cens foc are turned on alter the call-				
ser-up pliase.				

## Table E.3.3: Downlink Physical Channels transmitted during a connection<sup>4</sup>

Power levels are based on the assumption that multipath propagation conditions and noise source representing interference from other cells loc are turned on after the call set-up phase.

# E.3.4 Connection with open-loop transmit diversity mode

Table E.3.4 is applicable for measurements for clause 7.6.1.

Physical Channel	Power	Note		
P-CPICH (antenna 1)	$P-CPICH_E_{c1}/I_{or} = -13 \text{ dB}$	1. Total P-CPICH_ $E_c/I_{or} = -10$		
		dB		
P-CPICH (antenna 2)	P-CPICH_E <sub>c2</sub> /I <sub>or</sub> = -13 dB			
P-CPICH (antenna 1)	$P-CPICH_E_{c1}/I_{or} = -13 \text{ dB}$	1. Total P-CPICH_ $E_c/I_{or} = -10$		
P-CPICH (antenna 2)	$P-CPICH_E_{c2}/I_{or} = -13 \text{ dB}$	dB		
P-CCPCH (antenna 1)	P-CCPCH_Ec <sub>1</sub> /l <sub>or</sub> = -15 dB	1. STTD applied		
P-CCPCH (antenna 2)	$P-CCPCH\_Ec_2/I_{or} = -15 dB$	2. Total P-CCPCH_Ec/I <sub>or</sub> = -		
		12 dB		
SCH (antenna 1 / 2)	$SCH_E_c/I_{or} = -12 dB$	1. TSTD applied.		
		2. This power shall be divided		
		equally between Primary and		
		Secondary Synchronous channels		
PICH (antenna 1)	PICH_E <sub>c1</sub> /I <sub>or</sub> = -18 dB	1. STTD applied		
PICH (antenna 2)	$PICH_{E_{c2}}/I_{or} = -18 \text{ dB}$	2. Total PICH_ $E_c/I_{or} = -15 \text{ dB}$		
DPCH	Test dependent power	1. STTD applied		
		2. Total power from both		
		antennas		
OCNS	Necessary power so that total	1. This power shall be divided		
	transmit power spectral density	equally between antennas		
	of Node B (I <sub>or</sub> ) adds to one	<ol><li>OCNS interference consists of</li></ol>		
		16 dedicated data channels as		
		specified in Table E.3.6.		
NOTE <u>1</u> : For dynamic po	ower correction required to compe	nsate for the presence of transient		
channels, e.g. control channels, a subset of the DPCH channels may be used.				
NOTE 2: Power levels are based on the assumption that multipath propagation conditions and				
noise source representing interference from other cells loc are turned on after the call-				
<u>set-up phase.</u>				

Table E.3.4: Downlink Physical Channels transmitted during a connection<sup>2</sup>

<sup>&</sup>lt;sup>2</sup> Power levels are based on the assumption that multipath propagation conditions and noise source representing interference from other cells loc are turned on after the call set-up phase.

## E.3.5 Connection with closed loop transmit diversity mode

table E.3.5 is applicable for measurements for clause 7.6.2.

Physical Channel	Powe	r		Note
P-CPICH (antenna 1)	P-CPICH_Ec1/lor	= –13 dB	1.	Total P-CPICH_Ec/lor = -
P-CPICH (antenna 2)	P-CPICH_Ec2/lor	= –13 dB	10	dB
P-CCPCH (antenna 1)	P-CCPCH_Ec1/lor	r  = −15 dB	1.	STTD applied
P-CCPCH (antenna 2)	P-CCPCH_Ec2/lor	r  = −15 dB	1.	STTD applied, total
			P-0	$CCPCH_Ec/lor = -12 dB$
SCH (antenna 1 / 2)	SCH_Ec/lor	= –12 dB	1.	TSTD applied
PICH (antenna 1)	PICH_Ec1/lor	= –18 dB	1.	STTD applied
PICH (antenna 2)	PICH Ec2/lor	= -18 dB	2.	STTD applied, total
			PIC	$CH_Ec/lor = -15 dB$
DPCH	Test dependent po	ower	1.	Total power from both
			ant	ennas
OCNS	Necessary power	so that total	1.	This power shall be divided
	transmit power spe	ectral density		equally between antennas
	of Node B (lor) add	ds to one	2.	OCNS interference consists of
				16 dedicated data channels as
				specified in Table E.3.6.
NOTE <u>1</u> : For dynamic po	wer correction requi	red to compen	sate	for the presence of transient
channels, e.g. c	ontrol channels, a s	ubset of the DI	РСН	channels may be used.
NOTE 2: Power levels are based on the assumption that multipath propagation conditions and				
noise source representing interference from other cells loc are turned on after the call-				
<u>set-up phase.</u>				

Table E.3.5: Downlink Physical Channels transmitted during a connection<sup>3</sup>

#### Table E.3.6: DPCH Channelization Code and relative level settings for OCNS signal.

Channelization Code at SF=128 <sup>1</sup>	Relative Level setting (dB) <sup>1,2</sup>	DPCH Data
2	-1	The DPCH data
11	-3	for each
17	-3	channelization
23	-5	code shall be
31	-2	uncorrelated
38	-4	with each other
47	-8	and with any
55	-7	wanted signal
62	-4	over the period
69	-6	of any
78	-5	measurement.
85	-9	
94	-10	
125	-8	
113	-6	]
119	0	

- NOTE 1: The DPCH Channelization Codes and relative level settings are chosen to simulate a signal with realistic Peak to Average Ratio.
- NOTE 2: The relative level setting specified in dB refers only to the relationship between the OCNS channels. The level of the OCNS channels relative to the Ior of the complete signal is a function of the power of the other channels in the signal with the intention that the power of the group of OCNS channels is used to make the total signal add up to 1.

<sup>&</sup>lt;sup>3</sup> Power levels are based on the assumption that multipath propagation conditions and noise source representing interference from other cells Ioc are turned on after the call set-up phase.

## 3GPP TSG-T WG1 Meeting #25 St Paulís Bay, Malta, November 1<sup>st</sup> - 5<sup>th</sup>, 2004

## Tdoc **#**T1-041860

CHANGE REQUEST					
æ	34.121 CR 463 жг	ev - <sup>x</sup>	Current version:	<b>5.5.0</b> <sup>#</sup>	
For <mark>HELP</mark> or	n using this form, see bottom of this pag	e or look at the	pop-up text ove	r the <mark>೫</mark> symbols.	
Proposed chang	ne affects: UICC apps <mark>%</mark> M	E X Radio Ac	cess Network	Core Network	
Title:	BLER testing for UEs with asymmetry	rical UL/DL data	a rates		
Source:	육 Nokia				
Work item code:	₩ TEI		Date: <mark>ቘ 200</mark>	4-11-04	
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 a B (addition of feature),</li> <li>C (functional modification of feature)</li> <li>D (editorial modification)</li> <li>Detailed explanations of the above categories</li> <li>be found in 3GPP <u>TR 21.900</u>.</li> </ul>	n earlier release) e) gories can	Release:         #         RI           Use one of the f         2         (GS           2         (GS         (Rel           R96         (Rel         (Rel           R97         (Rel         (Rel           R98         (Rel         (Rel           R99         (Rel         (Rel           Rel-4         (Rel         (Rel	EL-5 ollowing releases: M Phase 2) ease 1996) ease 1997) ease 1998) ease 1999) ease 4) ease 5)	

Reason for change: # It has been unclear whether Section 7 test cases can be validated in GCF using asymmetrical data rates (UL data rate < DL data rate). The currect TS 34.121 has following points: Section 7.2.1.4.1 the method of test specifies that iEnter the UE into loopback test mode and start the loopback testî Annex C.6.2. says iNote: In the red and blue area BLER is tested by ACK/NACK counting.î So the method of test does not say anything about ACK/NACK method and neither the note in Annex C.6.2 say that ACK/NACK method can be used while being in loopback mode. This has caused uncertainty whether high DL data rates can be validated using smaller uplink data rates in GCF where the current status is that DL 144 kbps and 384 kbps have been not been validated possibly due to reason that no UE support symmetrical data rates up to 144 kbps or 384 kbps. There exists many WCDMA terminals in markets that support 384 kbps in DL but not in UL. Also in future there will be WCDMA terminals that support higher data rates in DL than in UL due to complexity and cost reasons. It is important that receiver performance of these kind of terminals can be tested using GCF validated test cases. Therefore TS 34.121 has to be clear enough that BLER ACK/NACK testing can be used also in TC validation. Summary of change: H The note in Annex C.6.2 has been modified to allow ACK/NACK method while being in loopback Consequences if **#** It is unclear whether receiver performance of UEs supporting asymmetrical data rates can be validated in GCF. not approved:

Clauses affected:	# Annex C.6.2
Other specs Affected:	Y       N         X       Other core specifications         X       Test specifications         X       O&M Specifications
Other comments:	This CR is applicable for UEis supporting Rel-99 or later.

#### 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.6 Auxiliary measurement channels (informative)

## C.6.1 Introduction

BLER tests with (UL data rate  $\leq$  DL data rate) need special attention. This annex defines a choice of measurement channels for all UL-DL fidata-rate combinations.

## C.6.2 Channel combinations for BLER measurements

# Table C.6.2 Measurement channels for BLER tests for UL DL data rate combinations

UL:	RMC 12.2kbit/s	RMC 64kbit/s	RMC 144kbit/s	RMC 384kbit/s
DL:				
RMC 12.2kbit/s 1)	RLC TM, TL2, (UL CRC off, see C.6.3)	RLC TM, TL2	RLC TM, TL2	RLC TM, TL2
RMC 64kbit/s	RLC AM using AUXMC, See C.6.7	RLC TM, TL2, (UL CRC off, see C.6.4)	RLC TM, TL2	RLC TM, TL2
	(ACK/NACK count)			
RMC 144kbit/s	RLC AM using AUXMC, See C.6.7 (ACK/NACK count)	RLC AM (ACK/NACK count)	RLC TM, TL2, (UL CRC off, see C.6.5)	RLC TM, TL2
	(, ,			
RMC 384kbit/s	RLC AM using AUXMC, See C.6.7	RLC AM (ACK/NACK count)	RLC AM (ACK/NACK count)	RLC TM, TL2, (UL CRC off, see C.6.6)
	(ACK/NACK count)			

Note : In the red and blue area BLER is tested by ACK/NACK counting. <u>This method can be used while being in loopback mode.</u>

The side condition in all Performance Tests, maximum uplink power, can be fulfilled by closing TL1.

In the grey and green area BLER is tested by observing the looped back data field containing the DL Data and DL CRC closing TL2.

CHANGE REQUEST					
<b>(#</b> )	<mark>34.121</mark> CR <sup>464</sup> ⊮rev	- <sup>#</sup> Current version: <b>5.5.0</b>			
For <mark>HELP</mark> or	n using this form, see bottom of this page o	r look at the pop-up text over the <b>#</b> symbols.			
Proposed chang	e affects: UICC apps <mark>#</mark> ME	K Radio Access Network Core Network			
Title:	Invalid MAC header for downlink dumi	ny DCCH			
Source:	₩ NEC				
Work item code:	₩ TEI	Date: 🔀 04/11/2004			
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 an e</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 categori</li> <li>be found in 3GPP <u>TR 21.900</u>.</li> </ul>	Release: # Rel-5Use one of the following releases: Ph2 (GSM Phase 2)arlier release)R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999)es canRel-4 (Release 1999) Rel-5 (Release 5) Rel-6 (Release 6) Rel-7 (Release 7)			

Reason for change: 🔀	Recently downlink dummy DCCH has been defined for the BTFD test case. The RAN4 LS R4-040567 indicates that downlink dummy DCCH is also required for other test cases and that the use of an invalid MAC header is the preferred method.
Summary of change: <mark></mark> ₩	The continous DCCH data transmission on downlink DCH is clarified for clauses 5.1, 6.1 and 7.1. The continous DCCH data transmission on downlink DCH is added for clauses 8.1 and 9.1. Annex C.9 is extended to apply an invalid MAC header as dummy DCCH for all test cases.
·	
Consequences if <b>B</b> not approved:	Good UEs might fail.

Clauses affected:	策 <mark>5.1, 6.1, 7.1, 8.1, 9.1, C.9</mark>
Other specs affected:	Y       N         X       Other core specifications         X       Test specifications         X       O&M Specifications
Other comments:	器 Appliable for terminals supporting R99 and later.

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 Transmitter Characteristics

## 5.1 General

Transmitting performance test of the UE is implemented during communicating with the SS via air interface. The procedure is using normal call protocol until the UE is communicating on traffic channel basically. On the traffic channel, the UE provides special function for testing that is called Logical Test Interface and the UE is tested using this function. (Refer to TS 34.109 [4]).

Transmitting or receiving bit/symbol rate for test channel is shown in table 5.1.

Type of User Information	User bit rate	DL DPCH symbol rate	UL DPCH bit rate	Remarks
12,2 kbps reference measurement channel	12,2 kbps	30 ksps	60 kbps	Standard Test

#### Table 5.1: Bit / Symbol rate for Test Channel

Unless detailed the transmitter characteristic are specified at the antenna connector of the UE. For UE with integral antenna only, a reference antenna with a gain of 0 dBi is assumed. Transmitter characteristics for UE(s) with multiple antennas/antenna connectors are FFS.

The UE antenna performance has a significant impact on system performance, and minimum requirements on the antenna efficiency are therefore intended to be included in future versions of the present document. It is recognised that different requirements and test methods are likely to be required for the different types of UE.

All the parameters in clause 5 are defined using the UL reference measurement channel (12,2 kbps) specified in clause C.2.1 and unless stated otherwise, with the UL power control ON.

The common RF test conditions of Tx Characteristics are defined in clause E.3.1, and each test conditions in this clause (clause 5) should refer clause E.3.1. Individual test conditions are defined in the paragraph of each test.

<u>When DCCH has been configured on downlink DCH then</u>For loopback tests, DCCH Data shall be continuously transmitted on downlink DCH during the measurement period. <u>When there is no signalling to transmit on downlink</u> DCCH then dummy DCCH transmission as described in Annex C.9 shall be used.

# 6 Receiver Characteristics

## 6.1 General

Receiving performance test of the UE is implemented during communicating with the SS via air interface. The procedure is using normal call protocol until the UE is communicating on traffic channel basically. On the traffic channel, the UE provides special function for testing that is called Logical Test Interface and the UE is tested using this function (Refer to TS 34.109 [4])

Transmitting or receiving bit/symbol rate for test channel is shown in table 6.1.

Type of User Information	User bit rate	DL DPCH symbol rate	UL DPCH bit rate	Remarks
12,2 kbps reference measurement channel	12,2 kbps	30 ksps	60 kbps	Standard Test

#### Table 6.1: Bit / Symbol rate for Test Channel

Unless otherwise stated the receiver characteristics are specified at the antenna connector of the UE. For UE(s) with an integral antenna only, a reference antenna with a gain of 0 dBi is assumed. UE with an integral antenna may be taken into account by converting these power levels into field strength requirements, assuming a 0 dBi gain antenna. Receiver characteristics for UE(s) with multiple antennas/antenna connectors are FFS.

The UE antenna performance has a significant impact on system performance, and minimum requirements on the antenna efficiency are therefore intended to be included in future versions of the present document. It is recognised that different requirements and test methods are likely to be required for the different types of UE.

With the exception of clause 6.8, all the parameters in clause 6 are defined using the DL reference measurement channel (12,2 kbps) specified in clause C.3.1 and unless stated otherwise, with DL power control OFF.

The common RF test conditions of Rx Characteristics are defined in clause E.3.2, and each test conditions in this clause (clause 6) should refer clause E.3.2. Individual test conditions are defined in the paragraph of each test.

<u>When DCCH has been configured on downlink DCH then</u> For loopback tests, DCCH Data shall be continuously transmitted on downlink DCH during the measurement period. <u>When there is no signalling to transmit on downlink</u> DCCH then dummy DCCH transmission as described in Annex C.9 shall be used.

All Bit Error ratio (BER) measurements in clause 6 shall be performed according to the general rules for statistical testing in Annex F.6

# 7 Performance requirements

## 7.1 General

The performance requirements for the UE in this clause are specified for the measurement channels specified in annex C and table 7.1.1, the propagation conditions specified in clause 7.1.2 and the Down link Physical channels specified in annex D. Unless stated otherwise, DL power control is OFF.

<u>When DCCH has been configured on downlink DCH then</u>For loopback tests, DCCH Data shall be continuously transmitted on downlink DCH during the measurement period. <u>When there is no signalling to transmit on downlink</u> DCCH then dummy DCCH transmission as described in Annex C.9 shall be used.

The method for Block Error Ratio (BLER) measurement is specified in 3GPP TS 34.109 [4].

Type of User	User bit rate	DL DPCH	DL DPCH	TTI
Information		symbol rate	bit rate	(ms)
12,2 kbps reference measurement channel	12,2 kbps	30 ksps	60 kbps	20
64/144/384 kbps reference measurement channel	64 kbps	120 ksps	240 kbps	20
144kbps reference measurement channel	144 kbps	240 ksps	480 kbps	20
384 kbps reference measurement channel	384 kbps	480 ksps	960 kbps	10

Table 7.1.1: Bit / Symbol rate for Test Channel

The common RF test conditions of Performance requirement are defined in clause E.3.3, and each test conditions in this clause (clause 7) should refer clause E.3.3. Individual test conditions are defined in the paragraph of each test.

All Block Error ratio (BLER) measurements in clause 7 shall be performed according to the general rules for statistical testing in Annex F.6

# 8 Requirements for support of RRM

## 8.1 General

The cell configuration mapping between cells as defined in TS 34.121 and cells as defined in TS 34.108 section 6.1.4 is described in Annex K.

When DCCH has been configured on downlink DCH then DCCH Data shall be continuously transmitted on downlink DCH. When there is no signalling to transmit on downlink DCCH then dummy DCCH transmission as described in Annex C.9 shall be used.

The downlink dummy DCCH is optional in this version of the specification. It will become mandatory in T1#26.

# 9 Performance requirements for HSDPA

## 9.1 General

The performance requirements for the UE in this clause are specified for the measurement channels specified in Annex C, the propagation conditions specified in Annex D and the Down link Physical channels specified in Annex E.

When DCCH has been configured on downlink DCH then DCCH Data shall be continuously transmitted on downlink DCH during the measurement period. When there is no signalling to transmit on downlink DCCH then dummy DCCH transmission as described in Annex C.9 shall be used.

# C.9 Downlink reference channel dummy DCCH transmission on DCH

Several Many test cases have been designed to have continuous downlink DCCH transmission on DCH. The DCCH is carrying SRBs. When there are no signalling messages to be transmitted on downlink DCCH then dummy DCCH messages shall be transmitted on the downlink.

For <u>all</u> test cases <u>using Blind Transport Format Detection with continuous downlink DCCH transmission on DCH</u> the format of the dummy DCCH message is using an invalid MAC header with the value i 11111î for the C/T field. The UE shall discard PDUís with this invalid MAC header according to TS 25.321. This applies for cases where a MAC header is used to distinguish between several logical channels. In the case of the reference measurement channels the SRBs on DCH use a 4 bit MAC header.

#### For other test cases the format of the dummy DCCH is TBD.

For all test cases except Blind Transport Format Detection (section 7.10) using an invalid MAC header with the value 11111î for the C/T field for downlink dummy DCCH is optional in this version of the specification. It will become mandatory in T1#26. For Blind Transport Format Detection using an invalid MAC header with the value 11111î for the C/T field for downlink dummy DCCH is mandatory in this version of the specification.

## 3GPP TSG-T WG1 Meeting #25 St Paulís Bay, Malta, November 1<sup>st</sup> - 5<sup>th</sup>, 2004

# Tdoc **#**T1-041869

	CHANGE REC	CR-Form-v7
<b>H</b>	34.121 CR 469 ж rev	- <sup>#</sup> Current version: <b>5.5.0</b> <sup>#</sup>
For <mark>HELP</mark> or	o using this form, see bottom of this page o	r look at the pop-up text over the $\frac{1}{8}$ symbols.
Proposed chang	e affects: UICC apps <mark>%</mark> ME	K Radio Access Network Core Network
Title:	Corrections to TC 8.2.3.1 and 8.2.3.2	
Source:	೫ Nokia	
Work item code:	¥ TEI	Date: <mark>೫ 2004-11-04</mark>
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 an ease (addition of feature),</li> <li>C (functional modification of feature)</li> <li>D (editorial modification)</li> <li>Detailed explanations of the above categories be found in 3GPP <u>TR 21.900</u>.</li> </ul>	Release: # REL-5Use one of the following releases: 2 (GSM Phase 2)arlier release)R96 (Release 1996)R97 (Release 1997)R98 (Release 1997)R98 (Release 1998)R99 (Release 1998)R99 (Release 1999)Rel-4 (Release 4)Rel-5 (Release 5)Rel-6 (Release 6)

Reason for change: 38	The purpose of TC 8.2.3.1 and 8.2.3.2 is to verify that UE fulfils the UTRAN-GSM cell re-selection delay requirements that have been specified in <u>idle</u> mode. However, in current tests UE gets stuck into CELL_FACH state since SS does not response to UE random access burst that are needed for a location registration procedure. Therefore UE keeps sending random access burst during T1 and it is not in idle mode when T2 starts. Due to this UE is not able to make a cell re-selection to GSM cell during T2 and it fails the test. The same errors were also in FDD/FDD cell re-selection tests (TC 8.2.1 and TC 8.2.2) but these errors were corrected already with a CR in T1-020460 of T1#16 meeting, August 2002. Now it is the time to do the same for UTRAN-GSM cell re-selection tests cases.
	Similarly during T2 SS and UE shall complete a location update in GSM mode to avoid problems due to UE not being in idle mode before T2 ends. The timing is unclear in test procedures
Summary of change: <mark>Ж</mark>	Step 3 and step 7 in test procedures in sections 8.2.3.1.4.2 and 8.2.3.2.4.2 have been modified so that SS and UE shall finalise the location registration procedure on cell 1.
	Step 5 has been revised so that SS shall wait for a location registration on cell 2.
	Other steps in test procedure have been clarified in order to know the exact time when to change test parameters from T1 to T2 and vice versa. Note that in a first test run T1 starts after location registration procedure. This is due to unknown time for UE to be up and running after power has been switched ON and due to unknown and unspecified time to make a cell selection to UTRAN cell. The time period T2 and also T1 and T2 for following test runs include the time needed for

	UE and SS to complete a location registration procedure that happens when UE makes cell re-selections.	
Consequences if	# UE gets stucked in CELL FACH state and it will not be able to make a cell re-	
not approved:	selection to GSM cell thus it will not pass the test case. Unclear timing in test	
	procedure may result in different implementation among SS vendors.	
Clauses affected:	# Section 8.2.3.1.4.2 and 8.2.3.2.4.2	
	YN	
Other specs	<b>X</b> Other core specifications	
Affected:	X Test specifications	
/	1 out ob comodition	

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

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:

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

# This CR is applicable for UEss supporting Rel-99 or later.

- 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.
# 8.2.3 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 95 %.

NOTE:	The cell re-selection	delay car	be expressed as	s: 4* T <sub>measu</sub>	$_{\rm ureGSM} + T_{\rm BCCH}$ , where:
-------	-----------------------	-----------	-----------------	--------------------------	---

$T_{measureGSM} \\$	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, as given in tables 8.2.3.1.1 to 8.2.3.1.5. 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: Scenario 1: General test parameters for UTRAN to GSM Cell Re-selection

Parameter		Unit	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	45	
T2		S	35	

Parameter	Unit	Cell 1 (l	JTRA)
		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	
$\dot{P}_{or}/I_{oc}$	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> /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	
Treselection	S	0	
Ssearch <sub>RAT</sub>	dB	not sent	

Table 8.2.3.1.2: Scenario 1: Test parameters for Cell re-selection UTRAN to GSM cell case (cell 1)

#### Table 8.2.3.1.3: Scenario 1: Test parameters for Cell re-selection UTRAN to GSM cell case (cell 2)

Baramotor	Unit	Cell 2 (GSM)	
Faranielei	Unit		T2
Absolute RF Channel Number		ARFCN <sup>-</sup>	1
RXLEV	dBm	-90	-75
RXLEV_ACCESS_MIN	dBm	-104	
MS_TXPWR_MAX_CCH	dBm	33	3

#### 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) <u>The SS and the UE shall perform a location registration procedure on cell 1.</u> The SS waits for random accessrequests from the UE on cell 1.
- 4) After 45 s from the end of step 3, 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 a location registration procedure from the UE. If the UE responds begins transmitting on cell 2 within 28 s then the number of successful tests is increased by one.
- 6) After 35 s from the beginning of T2, the parameters are changed as described for T1 in tables 8.2.3.1.4 and 8.2.3.1.5.
- 7) <u>The SS and the UE shall perform a location registration procedure on cell 1. The SS waits for random access requests from the UE on cell 1.</u>
- 8) After 45 s from the end of step 6, the parameters are changed as described for T2 in tables 8.2.3.1.4 and 8.2.3.1.5.
- <u>98</u>) Repeat step <u>54</u>) to <u>87</u>) until the confidence level according to annex F.6.2 is achieved.

# 8.2.3.1.5 Test requirements

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

Parameter	Unit	Cell 1	(UTRA)
		T1	T2
UTRA RF Channel Number		Channel <sup>•</sup>	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
$\dot{P}_{or}/I_{oc}$	dB	0.3	-5.3
I <sub>oc</sub>	dBm/3.84 MHz	-70	
CPICH_Ec/lo (Note 1)	dB	-12.8	-16.5
CPICH_RSCP (Note1)	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	
Treselection	S	0	
Ssearch <sub>RAT</sub>	dB	not sent	

# Table 8.2.3.1.5: Scenario 1: Cell re-selection UTRAN to GSM cell case (cell 2), test requirements

Baramotor	Unit	Cell 2 (GSM)	
Parameter	Onit	T1	T2
Absolute RF Channel Number		ARFCN 1	l
RXLEV	dBm	-90.3	-74.7
RXLEV_ACCESS_MIN	dBm	-104	
MS_TXPWR_MAX_CCH	dBm	3	3

NOTE 1: 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 95 %.

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 7.7 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 95 %.

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.
Т <sub>вссн</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 7.68 s +  $T_{BCCH}$ , allow 7.7 s +  $T_{BCCH}$  in the test case.

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

#### 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, as given in tables 8.2.3.2.1 to 8.2.3.2.5. 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 8.2.3.2.1: Scenario 2: General test parameters for UTRAN to GSM Cell Re-selection

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

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	
$\dot{P}_{or}/I_{oc}$	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_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	
Treselection	S	0	
Ssearch <sub>RAT</sub>	dB	not sent	

Table 8.2.3.2.2: Scenario 2: Test parameters for Cell re-selection UTRAN to GSM cell case (cell 1)

#### Table 8.2.3.2.3: Scenario 2: Test parameters for 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) <u>The SS and the UE shall perform a location registration procedure on cell 1.</u> The SS waits for random accessrequests from the UE on cell 1.
- 4) After 45 s from the end of step 3, 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 a location registration procedure from the UE. If the UE responds begins transmitting on cell 2 within 9.7 s then the number of successful tests is increased by one.
- 6) After 12 s from the beginning of T2, the parameters are changed as described for T1 in tables 8.2.3.2.4 and 8.2.3.2.5.
- 7) <u>The SS and the UE shall perform a location registration procedure on cell 1.</u> The SS waits for random accessrequests from the UE on cell 1.
- 8) After 45 s from the end of step 6, the parameters are changed as described for T2 in tables 8.2.3.2.4 and 8.2.3.2.5.
- <u>98</u>) Repeat step <u>54</u>) to <u>87</u>) until the confidence level according to annex F.6.2 is achieved.

#### 8.2.3.2.5 Test requirements

#### Table 8.2.3.2.4: Scenario 2: Cell re-selection UTRAN to GSM cell case (cell 1), 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
$\dot{P}_{or}/I_{oc}$	dB	20.3	-9.3
I <sub>oc</sub>	dBm/3.84 MHz	-81	
CPICH_Ec/lo (Note1)	dB	-9.9	-19.9
CPICH_RSCP (Note1)	dBm	-70.6	-100.4
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	
Treselection	S	0	
Ssearch <sub>RAT</sub>	dB	not sent	

#### Table 8.2.3.2.5: Scenario 2: Cell re-selection UTRAN to GSM cell case (cell 2), test requirements

Parameter	Unit	Cell 2	(GSM)
		T1	T2
Absolute RF Channel Number		ARFCN 1	
RXLEV	dBm	-80.3	-79.7
RXLEV_ACCESS_MIN	dBm	-104	
MS_TXPWR_MAX_CCH	dBm	33	

NOTE 1: 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 95 %.

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:

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 interruption time shall be less than 140 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 95 %.

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  $T_{interrupt2}$ 

 $T_{interrupt2} = T_{IU} + 40 + 50 * KC + 150 * OC + 10 * F_{max} ms$ 

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 tables 8.3.2.2.1 to 8.3.2.2.3 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 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 "now" 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].

N312 shall have the smallest possible value i.e. only one insync is required.

Parameter		Unit	Value	Comment
DCH parameters			DL and UL Reference	As specified in clause C.3.1 and C.2.1
			Measurement Channel 12.2	
			kbps	
Power Contr	ol		On	
Target qualit DTCH	ty value on	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 conditions	Active cell		Cell 2	
Threshold no	on used	dB	-18	Absolute Ec/I0 threshold for event 2C
frequency				
Hysteresis		dB	0	
W non-used	frequency		1	Applicable for event 2C
Time to Trigger		ms	0	
Filter coefficient			0	
T1		S	5	
T2		S	10	
Т3		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_Ec/lor	dB	Note2	Note2	Note2	-0.941	-0.941	Note2	
$\dot{P}_{or}/I_{oc}$	dB		0		-Infinity	-1.8	-1.8	
CF (Note 4)	dBm	-70.0 -Infinity -71.8 -71.8					-71.8	
Inc	dBm/			-	70			
00	3.84							
	MHz							
CPICH_Ec/lo	dB		-13		-Infinity	-1	4	
Propagation				AM	/GN			
Condition								
Note 1: The DPC	Note 1: The DPCH level is controlled by the power control loop							
Note 2: The powe	er of the C	CNS channel	that is added sha	all make the tot	al power from th	ne cell to be equ	al to I <sub>or.</sub>	
Note 3: The DPCH may not be power controlled by the power control loop.								
Note 4: The nomi	inal Obr va	lues, although	not explicitly def	ined in 25.133 a	are added here	since they are ir	nplied and	
need to b	e identifie	ed so that the te	est equipment ca	an be configure	d.			

#### 8.3.2.2.4.2 Procedure

- 1) The RF parameters are set up according to T1 in table 8.3.2.2.3.
- 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 messages.
- 5) 5 seconds after step 4 has completed, the SS shall switch the power settings from T1 to T2 in table 8.3.2.2.3.

- 6) UE shall transmit a MEASUREMENT REPORT message triggered by event 2C
- 7) SS shall transmit a PHYSICAL CHANNEL RECONFIGURATION message with activation time "now". SS shall transmit the whole message such that will be is available at the UE no later than a period equals to the RRC procedure delay (= 80 ms) prior to the beginning of T3.
- 8) After 10 seconds from the beginning of time period T2, the SS shall switch the power settings from T2 to T3 in table 8.3.2.2.3.
- 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 140 ms from the beginning of time period T3 then the number of successful tests is increased by one.
- 10) After 5 seconds from the beginning of time period T3, the UE is switched off. Any timing information of cell 2 is deleted in the UE.
- 11)Repeat step 1-10 until the confidence level according to annex F.6.2 is achieved

# 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], with the following exceptions:

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	5
-message authentication code	SS calculates the value of MAC-I for this
needuge damended eeue	message and writes to this IF. The first/
	leftmost bit of the bit string contains the
	most significant bit of the MAC I
PPC magazaga agguarag number	Se provideo the value of this IE from ite
-nno message sequence number	ss provides the value of this IE, from its
Maggurament Information elements	internal counter.
Measurement Identity	0
-measurement identity	2 Octor
-Measurement Command (10.3.7.46)	Setup
-Measurement Reporting Mode (10.3.7.49)	
-Measurement Report Transfer Mode	AMRLO
-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-trequency measurement objects list (10.3.7.13)	
- CHOICE Inter-frequency cell removal	Not Present
- New Inter frequency cells	
- Inter frequency cell id	0
- Frequency info	
- CHOICE mode	FDD
- UARFCN uplink(Nu)	Not Present
- UARFCN downlink(Nd)	Same frequency as "Channel2" in Table
	8.3.2.2.2
- Cell info	
- Cell individual offset	Not Present
<ul> <li>Reference time difference to cell</li> </ul>	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to Primary scrambling code of Cell2
- Primary CPICH Tx Power	Set to Primary CPICH Tx Power of Cell2
	described in Table 8.3.2.2.2
- Tx Diversity Indicator	FALSE
- Cell for measurement	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
<ul> <li>Measurement quantity for frequency quality estimate</li> </ul>	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)	
-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	FALSE
-Reporting cell status (10.3.7.61)	Not Present
-Measurement validity (10.3.7.51)	Not Present
-Inter-frequency set update (10.3.7.22)	Not Present
-UE autonomous update mode	On with no reporting
-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

Information Element/Group name	Value/Remark
-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 Report cells within
	monitored and/or virtual active set on non-
	used frequency
-Maximum number of reported cells per reported non-used	1
frequency	
<ul> <li>Parameters required for each non-used frequency</li> </ul>	1
-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

# PHYSICAL CHANNEL RECONFIGURATION message (step 7):

Information Element	Value/Remark
Message Type	
UE Information Elements	
-BBC transaction identifier	0
-Integrity check info	
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IF. The first/
	loftmost bit of the bit string contains the
	most significant bit of the MAC I
PPC magazaga agguarga number	Se provideo the value of this IE from ite
-nno message sequence number	ss provides the value of this IE, from its
Intervity protection people info	Internal counter.
-integrity protection mode into	Not Present
-Cipnering mode into	Not Present
	"now"
	Not Present
-New C-RN II	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	Not Present
PhyCH information elements	
-Frequency info (10.3.6.36)	
-CHOICE mode	FDD
-UARFCN uplink(Nu)	Same uplink UARFCN 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	64
-TFCI existence	TRUE
-Number of FBI bit	Not Present(0)
-Puncturing Limit	1
Downlink radio resources	
-CHOICE mode	EDD
-Downlink PDSCH information	Not Present
-Downlink information common for all radio links (10.3.6.24)	
-Downlink DPCH info common for all BL (10.3.6.18)	
-Timing indicator	Initialise
-CEN-targetSEN frame offset	Not Present
-Downlink DPCH power control information (10.3.6.23)	
-DPC mode	0 (single)
-CHOICE mode	
	0
-DL rate matching restriction information	Not Present
-Spreading factor	108
-Opteaulity lactor -Fixed or Elevible Docition	Fixed
-TECL evictence	
	100
	120

Information Element	Value/Remark
-Number of bits for Pilot bits(SF=128,256)	8
-CHOICE mode	FDD
-DPCH compressed mode info (10.3.6.33)	
- Transmission gap pattern sequence	1
- TGPSI	1
- TGPS Status Flag	deactivate
- TGCFN	Not Present
<ul> <li>Transmission gap pattern sequence configuration</li> </ul>	Not Present
parameters	
-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
-Primary CPICH usage for channel estimation	Primary CPICH may be used
-DPCH frame offset	0 chips
-Secondary CPICH info	Not Present
-DL channelisation code	
-Secondary scrambling code	Not Present
-Spreading factor	128
-Code number	96
-Scrambling code change	No change
-TPC combination index	0
- SSDT Cell Identity	Not Present
<ul> <li>Closed loop timing adjustment mode</li> </ul>	Not Present
- SCCPCH information for FACH (10.3.6.70)	Not Present

# MEASUREMENT REPORT message for Inter frequency test cases

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

# 8.3.2.2.5 Test requirements

For the test to pass, the total number of successful tests shall be more than 90% of the cases with a confidence level of 95 %.

Parameter	Unit		Cell 1		Cell 2			
		T1	T2	Т3	T1	T2	T3	
UTRA RF Channel			Channel 1			Channel 2		
Number								
CPICH_Ec/lor	dB		-9.2		-9.2			
PCCPCH_Ec/lor	dB		-11.2			-11.2		
SCH_Ec/lor	dB		-11.2			-11.2		
PICH Ec/lor	dB		-14.2		-14.2			
DPCH Ec/lor	dB	Note1	Note1	Note3	N/A	N/A	Note1	
OCNS_Ec/lor	dB	Note2	Note2	Note2	-1.16	-1.16	Note2	
$\hat{P}_{or}/I_{oc (Note 4)}$	dB		0		-Infinity	-1.8	-1.8	
Œ,	dBm		-70.0		-Infinity -71.8 -71.8			
Inc	dBm/			-	70			
00	3.84							
	MHz							
CPICH_Ec/lo	dB		-12.2		-Infinity	-13	.2	
(Note 4)								
Propagation				AM	/GN			
Condition								
Note 1: The DPC	H level is	controlled by t	he 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 <sub>or</sub>								

Table 8.3.2.2.3: Test requirements for Handover to inter-frequency cell

Note 3: The DPCH may not be power controlled by the power control loop. Note 4: These parameters are not directly settable, but are derived by calculation from the settable parameters.

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

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

A cell shall be considered detectable when CPICH  $Ec/Io \ge -20$  dB,  $SCH\_Ec/Io \ge -17$  dB for at least one channel tap 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

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

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.

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

7

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

 $T_{Inter:}$  This is the minimum time that is available for inter frequency measurements, during the period  $T_{Measurement\_Period\ inter}$  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 initial test parameters are given in table 8.6.2.1.1

# Table 8.6.2.1.1: Cell specific initial test parameters for Correct reporting of neighbours in AWGN propagation condition

Parameter	Unit	Cell 1	Cell 2	Cell3	
		TO	TO	Т0	
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_Ec/lor	dB	-1.049	-0.941	-0.941	
$\dot{P}_{or}/I_{oc}$	dB	0	-Inf	-Inf	
I <sub>oc</sub>	dBm/3 .84 MHz		-70		
CPICH_Ec/lo	dB	-13	-Inf	-Inf	
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 8.6.2.1.2 and 8.6.2.1.3 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 Channel 12.2 kbps	As specified in C.3.1 and C.2.1
Power Control		On	
Compressed mode		C.5.2 set 1	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 16 on channel 2	NOTE: See Annex I for cell information. The information is sent before the compressed mode pattern starts.
T1	S	10	
T2	S	5	

# Table 8.6.2.1.2: General test parameters for Correct reporting of neighbours in AWGN propagation condition

# Table 8.6.2.1.3: 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		Char	nnel 1	Chanr	nel 1	Chan	nel 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_Ec/lor	dB	-1.049	-	ñ0.941	-	ñ0.941	
$\dot{P}_{or}/I_{oc}$	dB	0	5.42	-Infinity	3.92	-1.8	-1.8
I <sub>oc</sub>	dBm/3.84 MHz	-70				-70	
CPICH_Ec/lo	dB	-13	-13	-Infinity	-14.5	-14	-14
Propagation Condition	AWGN						

### 8.6.2.1.4.2 Procedure

- 1) The RF parameters are set up according to T0.
- 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).
- 6) SS shall transmit PHYSICAL CHANNEL RECONFIGURATION message.
- 7) 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.

- 9) 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. 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 successful tests is increased by one.
- 10) After 10 seconds from the beginning of T1, the SS shall switch the power settings from T1 to T2.
- 11) 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 1040 ms. If the reporting delay for this event is within the required limit, the number of succesful tests is increased by one.
- 12) After 5 seconds from the beginning of T2, the UE is switched off.
- 13)Repeat steps 1-12 until the confidence level according to annex F.6.2 is achieved.
- NOTE: The measurement reporting delay is 956.2 ms plus 80 ms delay uncertainty (twice the TTI). This gives a total of 1036.2 ms and rounded off to 1040 ms.

#### 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:

PHYSICAL CHANNEL RECONFIGURATION message for Inter frequency measurement:

Information Element	Value/Remark
Message Type	
UE Information Elements	
-RRC transaction identifier	0
-Integrity check info	SS calculates the value of MAC-I for this
-message authentication code	message and writes to this IE. The first/
	leftmost bit of the bit string contains the most
	significant bit of the MAC-I.
	SS provides the value of this IE, from its
-RRC message sequence number	internal counter.
	Not Present
-Integrity protection mode info	Not Present
-Ciphering mode info	Not Present
-Activation time	Not Present
-New U-RNTI	Not Present
-New C-RN11	
-RRC State Indicator	Not Present
-UTRAN DRX cycle length coefficient	
CN Information Elements	Not Brocont
-CN Information info	
-URA identity	Not Present
BB 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	Net Dresent
-OHOIOE mode DPCH compressed mode info	TBB
-Transmission gap pattern sequence	
-TGPSI	1
-TGPS Status Flag	Activate
-TGCFN	(Current CFN + (256 ñ TTI/10msec))mod 256
-Transmission gap pattern sequence	
configuration parameters	
-TGMP	FDD measurement
-IGPRC	Not present
-IGSN	4
-IGLI	/ Not Dreport
	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
-DeltaSIRatter1	3.0 Not Decemb
-DeltaSIK2	Not Present
-DeltaSIHatter2	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	
<ul> <li>Downlink information for each radio link</li> </ul>	
-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	Set to value Default DPCH Offset Value ( as
	currently stored in SS) mod 38400
-Secondary CPICH info	Not Present
-DL channelisation code	
-Secondary scrambling code	Not Present
-Spreading factor	128
-Code number	96
-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

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MEASUREMENT CONTROL message (inter frequency):

Information Element/Group name	Value/Remark
Message Type (10 2 17)	
UE information elements	
DE Information identifier	
	0
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IE. The first/
	leftmost bit of the bit string contains the
	most significant bit of the MAC-I.
-RRC message sequence number	SS provides the value of this IE, from its
	internal counter.
Measurement Information elements	
-Measurement Identity	2
-Measurement Command (10.3.7.46)	Setup
-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)	1 5
-Inter-frequency measurement objects list (10.3.7.13)	
- CHOICE Inter-frequency cell removal	Not Present
- New Inter frequency cells	
- Inter frequency cell id	0
- Frequency info	Ĭ
- CHOICE mode	FDD
	Not Procent
- OARFON upilink(Nu)	Not Fresent Same frequency on "Channel?" in Table
O-III infe	8.0.2.1.3
	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- 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 for measurement	Not Present
-Inter-frequency measurement quantity (10.3.7.18)	
<u>-CHOICE reporting criteria</u> —-Intra-frequency reporting-	Inter-frequency reporting criteria
criteria	
Intra-frequency measurement quantity (10.3.7.38)	
— Filter coefficient (10.3.7.9)	0
	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)	
-Cell synchronisation information reporting indicator	TRUE (Note 1)
-Cell Identity reporting indicator	TRUE
-CHOICE mode	FDD
-CPICH Ec/N0 reporting indicator	TRUE
-CPICH BSCP reporting indicator	TRUE
-Pathloss reporting indicator	FALSE
-Reporting cell status (10.3.7.61)	Not Present
Measurement validity (10.3.7.51)	Not Present
-interstreenency set undate (10.2.7.02)	
LIE autonomous update mode	On with no reporting
	inter-frequency measurement reporting

Information Element/Group name	Value/Remark			
	criteria			
-Inter-frequency measurement reporting criteria (10.3.7.19)				
-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 cells within monitored and/or virtual			
	active set on non-used frequency Report-			
	cells within monitored set on non-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 25.331, 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.				

MEASUREMENT CONTROL message (intra frequency):

Information Element/Group name	Value/Remark
Message Type (10.2.17)	
UE information elements	1
-RRC transaction identifier	0
-Intearity check info	
-message authentication code	SS calculates the value of MAC-I for this message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I
-RRC message sequence number	SS provides the value of this IE, from its internal counter.
Measurement Information elements	4
Measurement Command (10.3.7.46)	Modify
-Measurement Reporting Mode (10.3.7.49)	Wouny
-Measurement Report Transfer Mode	AM BLC
-Periodical Reporting / Event Trigger Reporting Mode	Fvent 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
-Filter coefficient (10.3.7.9)	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)	
-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	FALSE
-Reporting quantities for monitored set cells (10.3.7.5)	
-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	FALSE
-Reporting quantities for detected set cells (10.3.7.5)	Not Present
-Reporting cell status (10.3.7.61)	Not Present
-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	Fvent 1A
-Triggering condition 2	Monitored set cells
-Reporting Range Constant	4 dR
-Cells forbidden to affect Reporting Range	Not Present
-CHOICF mode	
-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 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

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

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% of the cases with a confidence level of 95%. 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.

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<b>D</b>	
Reason for change: 🕱	Clarification of the text and correction of several incorrect references
Summary of change: <sup>#</sup>	<ul><li>a) Corrected reference to 25.101 in 6.3A.2.</li><li>b) Changed the connection diagram in 9.2.1.4.1 procedure from A.16 to A.17</li></ul>
	which is the one with the AMC included.
	c) Added missing reference in 9.2.1.4.1 procedure to E.5.1 for channel setup
	<ul> <li>Added istati to DTX in 9.2.1.4.2, 9.2.2.4.2 and 9.2.3.4.2 procedures</li> </ul>
	<ul> <li>Added more detailed references in 9.2.1.4.2, 9.2.2.4.2 and 9.2.3.4.2 procedures to tables in F.6.3 for statistical testing</li> </ul>
	<li>f) Corrected references to new diversity connection diagram for 9.2.2.4.1 and 9.2.3.4.1</li>
	<ul> <li>g) Added more detailed references in 9.2.2.4.2 procedure to tables in F.6.3 for statistical testing</li> </ul>
	<ul> <li>h) Corrected numbering of 9.2.2.4.3 Test requirements which should have been level 3 heading 9.2.2.5</li> </ul>
	i) Corrected titles of tables 9.2.2.12, 9.2.2.14, 9.2.2.16 & 9.2.2.17
	j) Corrected initial step number in 9.2.3.4.1
	<ul> <li>k) Corrected numbering of 9.2.3.4.3 Test requirements which should have been level 3 heading 9.2.3.5</li> </ul>
	I) Corrected titles of tables 9.2.3.12, 9.2.3.14, 9.2.3.16 & 9.2.3.17
	<ul> <li>m) Corrected error with connection diagrams A.16 and A.17 which have the wrong titles. A.16 is used for tests without MC or diversity. A.17 is used for tests with AMC and without diversity.</li> </ul>
	n) Corrected title of figure A.17 which applies to both CQI tests
	o) Added new connection diagram A.19 for open and closed loop diversity
	p) Corrected spaces in numbering of Table F.6.3.5.2.2 and F.6.3.5.2.3
	q) Removed duplicate numbering of tables in F.6.3
1	r) Added descriptive names to tables in F.6.3

	<ul> <li><u>s) Further update of 9.2.1.4.1 to correct and clarify references to parameter</u> <u>and requirements tables</u></li> <li><u>t) Removed redundant information from Table 9.2.1.16</u></li> </ul>
Consequences if not approved:	* The test conditions will not be correct and the test may fail a good UE.
Clauses affected:	8 6.3A, 9.2, Annex A, Annex F.6.3
Other specs Affected:	Y       N         X       Other core specifications       X         X       Test specifications       X         X       O&M Specifications       V
Other comments:	۲ ۲

#### 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.

# 6.3A Maximum Input Level for HS-PDSCH Reception (16QAM)

# 6.3A.1 Definition and applicability

Maximum input level is defined as the maximum mean HS-PDSCH power received at the UE antenna port, which shall not degrade the specified HSDPA throughput performance. The requirements and this test apply to all types of UTRA FDD UE that support HSDPA(16QAM).

# 6.3A.2 Minimum requirements

For the parameters specified in Table 6.3A.1, the requirements are specified in terms of a minimum information bit throughput R as shown in Table 6.3A.2 for the DL reference channel H-Set 1 specified in Annex C.8. with the addition of the parameters added in the end of Table 6.3A.1,

The throughput shall meet or exceed the minimum level the for the parameters specified in table 6.3A.1.

The reference for this requirement is TS 25.101 [1] clause 7.4.42.

# 9 Performance requirements for HSDPA

# 9.1 General

The performance requirements for the UE in this clause are specified for the measurement channels specified in Annex C, the propagation conditions specified in Annex D and the Down link Physical channels specified in Annex E.

# 9.2 Demodulation of HS-DSCH (Fixed Reference Channel)

# 9.2.1 Single Link Performance

# 9.2.1.1 Definition and applicability

The receiver single link performance of the High Speed Physical Downlink Shared Channel (HS-DSCH) in different multi-path fading environments are determined by the information bit throughput R.

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

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

# 9.2.1.2 Minimum requirements

Requirements for a particular UE belonging to certain HS-DSCH category are determined according to Table 9.2.1.1. During the Fixed Reference Channel (FRC) tests the behaviour of the Node-B emulator in response to the ACK/NACK signalling field of the HS-DPCCH is specified in Table 9.2.1.2.

HS-DSCH category	Corresponding requirement
Category 1	H-Set 1
Category 2	H-Set 1
Category 3	H-Set 2
Category 4	H-Set 2
Category 5	H-Set 3
Category 6	H-Set 3
Category 11	H-Set 4
Category 12	H-Set 5

Table 9.2.1.1: Mapping between HS-DSCH category and FRC

HS-DPCCH ACK/NACK Field State	Node-B Emulator Behaviour
ACK	ACK: new transmission using 1 <sup>st</sup>
	redundancy version (RV)
NACK	NACK: retransmission using the next RV (up
	to the maximum permitted number or RVis)
DTX	DTX: retransmission using the RV
	previously transmitted to the same H-ARQ
	process

For the parameters specified in Table 9.2.1.3, 9.2.1.5, 9.2.1.7 the requirements are specified in terms of minimum information bit throuhput R as shown in Table 9.2.1.4, 9.2.1.6, 9.2.1.8, and 9.2.1.9 for QPSK and 16QAM and for the DL reference channels specified in Annex C.8.1.

Table 9.2.1.3: Test Parameters for Testing QPSK FRCs H-Set 1/H-Set 2/H-Set 3

Parameter	Unit	Test 1	Test 2	Test 3	Test 4
Phase reference	dBm/3.84 MHz		P-CF	VICH	
$I_{oc}$		-60			
Redundancy and constellation version coding sequence		{0,2,5,6}			
Maximum number of HARQ transmission			4	Ļ	

# Table 9.2.1.4: Minimum requirement QPSK, Fixed Reference Channel (FRC) H-Set 1/2/3

Test	Propagation	Reference value				
Number	Conditions	HS-PDSCH	T-put $R$ (kbps) *	T-put R (kbps) *		
		$E_c/I_{or}$ (dB)	$\hat{P}_{or} / I_{oc} = 0  \mathbf{dB}$	$\dot{P}_{or}$ / $I_{oc}$ = 10 dB		
1	DV3	-6	65	309		
1	FA3	-3	N/A	423		
2	DB2	-6	23	181		
2	F D3	-3	138	287		
2	\//20	-6	22	190		
3	VASU	-3	142	295		
4	\///120	-6	13	181		
4	VAIZO	-3	140	275		
* Notes:	Image:					

# Table 9.2.1.5: Test Parameters for Testing 16-QAM FRCs H-Set 1/H-Set 2/H-Set 3

Parameter	Unit	Test 1	Test 2	Test 3	Test 4
Phase reference	dBm/3.84 MHz		P-CF	NCH	
I <sub>oc</sub>		-60			
Redundancy and constellation version coding sequence		{6,2,1,5}			
Maximum number of HARQ transmission		4			

Table 9.2.1.6: Minimum re	equirement 16QAM,	Fixed Reference	Channel (FRC	C) H-Set 1/2/3
	• • • • • • • • • • • • • • • • • • •		•••••••••••••••••••••••••••••••••••••••	//

Test	Propagation	Reference value		
Number	Conditions	HS-PDSCH $E_c/I_{or}$ (dB)	<b>T-put</b> $R$ (kbps) * $\dot{P}_{or}/I_{oc}$ = 10 dB	
-		-6	198	
I	PA3	-3	368	
0	DP2	-6	34	
2	PD3	-3	219	
2	1/420	-6	47	
3	VA3U	-3	214	
4	1/4100	-6	28	
	VA120	-3	167	

* Notes:	1)The reference value R is for the Fixed Reference Channel (FRC) H-Set 1
	2) For Fixed Reference Channel (FRC) H-Set 2 the reference values for R
	should be scaled (multiplied by 1.5 and rounding to the nearest integer t-put in
	kbps, where values of i+1/2 are rounded up to i+1, i integer)
	3) For Fixed Reference Channel (FRC) H-Set 3 the reference values for R
	should be scaled (multiplied by 3 and rounding to the nearest integer t-put in
	kbps, where values of i+1/2 are rounded up to i+1, i integer)

Table 9.2.1.7: Test Parameters for Testing QPSK FRCs H-Set 4/H-Set 5

Parameter	Unit	Test 1	Test 2	Test 3	Test 4
Phase reference			P-CF	PICH	
$I_{oc}$	dBm/3.84 MHz	-60			
Redundancy and constellation version coding sequence		{0,2,5,6}			
Maximum number of HARQ transmission		4			

## Table 9.2.1.8: Minimum requirement QPSK, Fixed Reference Channel (FRC) H-Set 4

Test	Propagation		Reference value			
Number	Conditions	HS-PDSCH	<b>T-put</b> $R$ (kbps) *	T-put R (kbps) *		
		$E_c / I_{or}$ (dB)	$\dot{P}_{or} / I_{oc} = 0 \text{ Db}$	$\hat{P}_{or}/I_{oc}$ = 10 dB		
1	P۸3	-6	72	340		
1	FAS	-3	N/A	439		
2	PB3	-6	24	186		
		-3	142	299		
3 VA30	V/A30	-6	19	183		
	VASU	-3	148	306		
4	VA120	-6	11	170		
		-3	144	284		
* Notes: 1) The reference value B is for the Fixed Beference Channel (FBC) H-Set 4						

Table 9.2.1.9: Minimum requirement	<b>QPSK, Fixed Reference</b>	Channel (FRC) H-Set 5

Test	Propagation				
Number	Conditions	HS-PDSCH	T-put R (kbps) *	T-put R (kbps) *	
		$E_c / I_{or}$ (dB)	$\dot{P}_{or} / I_{oc} = 0 \text{ dB}$	$\dot{P}_{or}$ / $I_{oc}$ = 10 dB	
1	DAO	-6	98	464	
I	FAS	-3	N/A	635	
2	PB3	-6	35	272	
		-3	207	431	
3 VA30	1/420	-6	33	285	
	VA30	-3	213	443	
4	VA120	-6	20	272	
		-3	210	413	
* Notes: 1) The reference value R is for the Fixed Reference Channel (FRC) H-Set 5					

The reference for this requirement is TS 25.101 [1] clauses 9.2.1.1, 9.2.1.2 and 9.2.1.3.

# 9.2.1.3 Test purpose

To verify the ability of the receiver to receive a predefined test signal, representing a multi-path fading channel with information bit throughput R not falling below -a specified value.-- The test stresses the multicode reception and channel decoding with incremental redundancy.

# 9.2.1.4 Method of test

#### 9.2.1.4.1 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.

- Connect the SS (node B emulator) and fader and AWGN noise source to the UE antenna connector as shown in annex A figure <u>A.176</u>.
- 2) Set up an HSDPA call according to TS 34.108 [3] clause 7.3.6.3. Set test conditions according to test 1 according table 9.2.1.3 (Category 1-6) or 9.2.1.7 (Category 11,12).
- 3) Set the test parameters for tests 1-4 according to tables 9.2.1.2, 9.2.1.3—9.2.1.5, (Category 1-6) or -9.2.1.7 (Category 11,12)—and levels according to tables 9.2.1.12 to 9.2.1.15 (Category 1-6) or 9.2.1.16 to 9.2.1.18 (Category 11,12)<sup>8</sup>. The configuration of the downlink channels is defined in table E.5.1.
- 4) The information bit data shall be pseudo random and not repeated not before 10 different information bit payload blocks are processed. (e.g. Fixed reference Channel Definition H-set 1 (16 QAM): The information bit payload block is 4664 bits long. Hence the PRBSequence must be at least 4664 \* 10 bits long.) Use a PRBS from ITU-R 0.153 Ref [26]
- 5) The SS shall not time the transmission freely. It shall time the transmission strictly according to the reference measurement channels: i.e. Process number i is continued exactly after 6 TTIs.
- 6) Setup fading simulators as fading conditions, which are described in table D.2.2.1.A

### 9.2.1.4.2 Procedure

- 1) Start transmitting HSDPA Data.
- 2) For all relevant propagation conditions, for all relevant Ioc levels, for all relevant Ec/Ior, for all relevant (Er/Ioc, for all relevant H-sets in tables 9.2.1.12 to 9.2.1.18 count the number of NACK, ACK and statDTX on the UL HS-DPCCH during the test interval and decide pass or fail according to Annex F.6.3 tables F.6.3.5.2.1, F.6.3.5.2.2, F.6.3.5.2.3 and F.6.3.5.2.4.

# 9.2.1.5 Test Requirements

Tables 9.2.1.12 to 9.2.1.18 define the level settings including test tolerance for all relevant throughput tests. The pass / fail decision for throughput is done according to Annex F.6.3.

Parameter Unit		Test 1	Test 2	Test 3	Test 4
Phase reference		P-CPICH			
I <sub>oc</sub>	dBm/3.84 MHz	-60 (no test tolerance applied)		ied)	

# Table 9.2.1.13: Test requirement QPSK, Fixed Reference Channel (FRC) H-Set 1/2/3

Test	Propagation				
Number	Conditions	HS-PDSCH	T-put R (kbps) *	T-put R (kbps) *	
		$E_c / I_{or}$ (dB)	$\dot{P}_{or}/I_{oc}$ = 0.3 dB	$\dot{P}_{or}$ / $I_{oc}$ = 10.3 dB	
1	DV3	-5.9	65	309	
1	1 70	-2.9	N/A	423	
0	DRO	-5.9	23	181	
2	PB3	-2.9	138	287	
3 \	<b>\/A00</b>	-5.9	22	190	
	VA30	-2.9	142	295	
	V/4120	-5.9	13	181	
4	VAIZU	-2.9	140	275	
<ul> <li>* Notes: 1) The reference value R is for the Fixed Reference Channel (FRC) H-Set 1</li> <li>2) For Fixed Reference Channel (FRC) H-Set 2 the reference values for R should be scaled (multiplied by 1.5 and rounding to the nearest integer t-put in kbps, where values of i+1/2 are rounded up to i+1, i integer)</li> <li>3) For Fixed Reference Channel (FRC) H-Set 3 the reference values for R should be scaled (multiplied by 3 and rounding to the nearest integer t-put in kbps, where values of i+1/2 are rounded up to i+1, i integer)</li> </ul>					

# Table 9.2.1.14: Test Parameters for Testing 16-QAM FRCs H-Set 1/H-Set 2/H-Set 3

Parameter Unit		Test 1	Test 2	Test 3	Test 4
Phase reference		P-CPICH			
I <sub>oc</sub>	dBm/3.84 MHz	-60 (no test tolerance applied)		ied)	

# Table 9.2.1.15: Test requirement 16QAM, Fixed Reference Channel (FRC) H-Set 1/2/3

Test	Propagation	Reference value			
Number	Conditions	HS-PDSCH	T-put R (kbps) *		
		$E_c/I_{or}$ (dB)	$\dot{P}_{or}$ / $I_{oc}$ = 10.3 dB		
-1	DA3	-5.9	198		
1	FAS	-2.9	368		
0	DDO	-5.9	34		
2	PB3	-2.9	219		
3	VA30	-5.9	47		
		-2.9	214		
4	VA120	-5.9	28		
4	VA120	-2.9	167		
<ul> <li>* Notes: 1)The reference value R is for the Fixed Reference Channel (FRC) H-Set 1</li> <li>2) For Fixed Reference Channel (FRC) H-Set 2 the reference values for R should be scaled (multiplied by 1.5 and rounding to the nearest integer t-put in kbps, where values of i+1/2 are rounded up to i+1, i integer)</li> <li>3) For Fixed Reference Channel (FRC) H-Set 3 the reference values for R should be scaled (multiplied by 3 and rounding to the nearest integer t-put in</li> </ul>					
kbps, where values of $i+1/2$ are rounded up to $i+1$ , i integer)					

Parameter	Unit	Test 1	Test 2	Test 3	Test 4
Phase reference		P-CPICH			
I <sub>oc</sub>	dBm/3.84 MHz	-60_(no test tolerance applied)			ied)
Redundancy and constellation version coding sequence		<del>{0,2,5,6}</del>			
Maximum number of HARQ transmission		4			

# Table 9.2.1.16: Test Parameters for Testing QPSK FRCs H-Set 4/H-Set 5

# Table 9.2.1.17: Test requirement QPSK, Fixed Reference Channel (FRC) H-Set 4

Test	Propagation		Reference value				
Number	Conditions	HS-PDSCH	T-put R (kbps) *	T-put R (kbps) *			
		$E_c / I_{or}$ (dB)	$\dot{P}_{or} / I_{oc} = 0.3 \text{ dB}$	$\dot{P}_{or} / I_{oc} = 10.3 \text{ dB}$			
1	PA3	-5.9	72	340			
		-2.9	N/A	439			
2	PB3	-5.9	24	186			
		-2.9	142	299			
3 VA	1/420	-5.9	19	183			
	VASU	-2.9	148	306			
4	VA120	-5.9	11	170			
		-2.9	144	284			
* Notes:	1) The reference	value R is for the Fixed Re	ference Channel (FRC) H-Set	4			

Table 9.2.1.18	: Test requirement	<b>QPSK</b> , Fixed Refer	ence Channel (FRC) H-Set 5
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Test	Propagation		Reference value				
Number	Conditions	HS-PDSCH $E_c/I_{or}$ (dB)	T-put $R$ (kbps) * $\dot{P}_{or}/I_{oc}$ = 0.3 dB	<b>T-put</b> $R$ (kbps) * $\dot{P}_{or}/I_{oc}$ = 10.3 dB			
1	DA2	-5.9	98	464			
I	PA3	-2.9	N/A	635			
2	PB3	-5.9	35	272			
		-2.9	207	431			
2	1/430	-5.9	33	285			
3	VASU	-2.9	213	443			
4	VA120	-5.9	20	272			
		-2.9	210	413			
	* Notes: 1) The reference value R is for the Fixed Reference Channel (FRC) H-Set 5						
## 9.2.2 Open Loop Diversity Performance

## 9.2.2.1 Definition and applicability

The receiver single open loop transmit diversity performance of the High Speed Physical Downlink Shared Channel (HS-DSCH) in multi-path fading environments are determined by the information bit throughput R.

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

The requirements and this test apply to all types of UTRA for FDD UE that support HSDPA.

## 9.2.2.2 Minimum requirements

Requirements for a particular UE belonging to certain HS-DSCH category are determined according to Table 9.2.2.1. During the Fixed Reference Channel (FRC) tests the behaviour of the Node-B emulator in response to the ACK/NACK signalling field of the HS-DPCCH is specified in Table 9.2.2.2.

HS-DSCH category	Corresponding requirement
Category 1	H-Set 1
Category 2	H-Set 1
Category 3	H-Set 2
Category 4	H-Set 2
Category 5	H-Set 3
Category 6	H-Set 3
Category 11	H-Set 4
Category 12	H-Set 5

#### Table 9.2.2.1: Mapping between HS-DSCH category and FRC

Table 9.2.2.2: Node-E	B Emulator	Behaviour in	response to	ACK/NACK/DTX
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HS-DPCCH ACK/NACK Field State	Node-B Emulator Behaviour
ACK	ACK: new transmission using 1 <sup>st</sup>
	redundancy version (RV)
NACK	NACK: retransmission using the next RV (up
	to the maximum permitted number or RVis)
DTX	DTX: retransmission using the RV
	previously transmitted to the same H-ARQ
	process

For the parameters specified in Tables 9.2.2.3, 9.2.2.5, 9.2.2.7 the requirements are specified in terms of minimum information bit throughput R as shown in Table 9.2.2.4, 9.2.2.6, 9.2.2.8, and 9.2.2.9 for QPSK and 16QAM and for the DL reference channels specified in Annex C.8.1.

Table 9.2.2.3: Test Parameters for Testing QPSK FRCs H-Set 1/H-Set 2/H-Set 3

Parameter	Unit	Test 1	Test 2	Test 3	Test 4
Phase reference			P-C	PICH	
I <sub>oc</sub>	dBm/3.84 MHz		-(	60	
Redundancy and constellation version coding sequence			{0,2	,5,6}	
Maximum number of HARQ transmission				4	

## Table 9.2.2.4: Minimum requirement QPSK, Fixed Reference Channel (FRC) H-Set 1/2/3

Test	Propagation	Reference value			
Number	Conditions	HS-PDSCH	T-put $R$ (kbps) *	T-put R (kbps) *	
		$E_c / I_{or}$ (dB)	$\hat{P}_{or} / I_{oc} = 0  \mathbf{dB}$	$\dot{P}_{or}$ / $I_{oc}$ = 10 dB	
1	D۸3	-6	77	375	
1	1 73	-3	180	475	
2	DB2	-6	20	183	
2	F D3	-3	154	274	
2	3 VA30	-6	15	187	
3		-3	162	284	
<ul> <li>* Notes: 1) The reference value R is for the Fixed Reference Channel (FRC) H-Set 1</li> <li>2) For Fixed Reference Channel (FRC) H-Set 2 the reference values for R should be scaled (multiplied by 1.5 and rounding to the nearest integer t-put in kbps, where values of i+1/2 are rounded up to i+1, i integer)</li> <li>3) For Fixed Reference Channel (FRC) H-Set 3 the reference values for R should be scaled (multiplied by 3 and rounding to the nearest integer t-put in kbps, where values of i+1/2 are rounded up to i+1, i integer)</li> </ul>					

## Table 9.2.2.5: Test Parameters for Testing 16-QAM FRCs H-Set 1/H-Set 2/H-Set 3

Parameter	Unit	Test 1	Test 2	Test 3	Test 4
Phase reference			P-CF	PICH	
I <sub>oc</sub>	dBm/3.84 MHz		-6	60	
Redundancy and constellation version coding sequence			{6,2	,1,5}	
Maximum number of HARQ transmission			2	4	

## Table 9.2.2.6: Minimum requirement 16QAM, Fixed Reference Channel (FRC) H-Set 1/2/3

Test	Propagation	Reference value					
Number	Conditions	HS-PDSCH	T-put $R$ (kbps) *				
		$E_c / I_{or}$ (dB)	$\dot{P}_{or} / I_{oc} = 10 \text{ dB}$				
-1	DV3	-6	295				
1	FA3	-3	463				
2	DB2	-6	24				
2	FDS	-3	243				
2	VA30	-6	35				
3		-3	251				
* Notes:	* Notes: 1) The reference value R is for the Fixed Reference Channel (FRC) H-Set 1						
	2) For Fixed Reference Channel (FRC) H-Set 2 the reference values for R						
should be scaled (multiplied by 1.5 and rounding to the nearest integer t-put in							
kbps, where values of $i+1/2$ are rounded up to $i+1$ , i integer)							
3) For Fixed Reference Channel (FRC) H-Set 3 the reference values for R							
should be scaled (multiplied by 3 and rounding to the nearest integer t-put in							
kbps, where values of i+1/2 are rounded up to i+1, i integer)							

Parameter	Unit	Test 1	Test 2	Test 3	Test 4
Phase reference			P-C	PICH	
I <sub>oc</sub>	DBm/3.84 MHz		-(	60	
Redundancy and constellation version coding sequence			{0,2	!,5,6}	
Maximum number of HARQ transmission				4	

Table 9.2.2.7: Test Parameters for Testing QPSK FRCs H-Set 4/H-Set 5

## Table 9.2.2.8: Minimum requirement QPSK, Fixed Reference Channel (FRC) H-Set 4

Test	Propagation	Reference value			
Number	Conditions	HS-PDSCH $E_c/I_{or}$ (dB)	T-put $R$ (kbps) * $\dot{P}_{or} / I_{oc} = 0 \text{ dB}$	<b>T-put</b> $R$ (kbps) * $\dot{P}_{or} / I_{oc}$ = 10 dB	
1		-6	70	369	
I FAS	-3	171	471		
0	2 PB3	-6	14	180	
2		-3	150	276	
2	\//\20	-6	11	184	
5 V	VASU	-3	156	285	
* Notes: 1) The reference value R is for the Fixed Reference Channel (FRC) H-Set 4					

## Table 9.2.2.9: Minimum requirement QPSK, Fixed Reference Channel (FRC) H-Set 5

Test	Propagation	Reference value				
Number	Conditions	HS-PDSCH	HS-PDSCH T-put R (kbps) *			
		$E_c/I_{or}$ (dB)	$\dot{P}_{or} / I_{oc} = 0 \text{ dB}$	$\dot{P}_{or} / I_{oc} = 10 \text{ dB}$		
1	DAO	-6	116	563		
I PA3	-3	270	713			
0	DP2	-6	30	275		
2	FDS	-3	231	411		
2	3 \/^30	-6	23	281		
5 VA	VASU	-3	243	426		
* Notes:	s: 1) The reference value R is for the Fixed Reference Channel (FRC) H-Set 5					

The reference for this requirement is TS 25.101 [1] clauses 9.2.2.1, 9.2.2.2 and 9.2.2.3.

## 9.2.2.3 Test purpose

To verify the ability of the receiver to receive a predefined test signal, representing a multi-path fading channel with information bit throughput R not exceeding a specified value. The test stresses the multi-code reception and channel decoding with incremental redundancy.

## 9.2.2.4 Method of test

## 9.2.2.4.1 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.

- 1. Connect the SS (Note: This is the Node B Emulator) and fader and AWGN noise source to the UE antenna connector as shown in figure A.196.
- 2. Set the test parameters for test as specified in tables 9.2.2.11, 9.2.2.13 and 9.2.2.15 and levels as specified in tables 9.2.2.12, 9.2.2.14, 9.2.2.16 and 9.2.2.17. Setup fading simulators as fading condition, which are described in table D.2.2.1A. Power The configuration of the downlink channels is defined in table E.5.2.

#### Table 9.2.2.10: Specific Message Contents for open-loop transmit diversity mode

#### SYSTEM INFORMATION BLOCK TYPE5

Information Element	Value/remark
PRACH system information list	
- AICH info	
- STTD Indicator	TRUE
Secondary CCPCH system information	
- PICH info	
- STTD Indicator	TRUE
- Secondary CCPCH info	
- STTD Indicator	TRUE
Primary CCPCH info	
- CHOICE mode	FDD
- TX Diversity indicator	TRUE

#### **RRC CONNECTION SETUP**

Information Element	Value/remark
Downlink information common for all radio links	
- CHOICE mode	FDD
- TX Diversity Mode	STTD
Downlink DPCH info for each RL	
- CHOICE mode	FDD
- Downlink DPCH info for each RL	
<ul> <li>Closed loop timing adjustment mode</li> </ul>	1

#### RADIO BEARER SETUP

Information Element	Value/remark
Downlink information common for all radio links	
- CHOICE mode	FDD
- TX Diversity Mode	STTD
Downlink DPCH info for each RL	
- CHOICE mode	FDD
- Downlink DPCH info for each RL	
<ul> <li>Closed loop timing adjustment mode</li> </ul>	1

#### 9.2.2.4.2 Procedure

- 1. Set up a HSDPA connection according to the generic HSDPA set-up procedure specified in TS 34.108 [3].
- 2. Start transmitting HSDPA Data.
- 3. The information bit data shall be pseudo random and not repeated before 10 different information bit payload blocks are processed. (e.g. Fixed reference Channel Definition H-set 1 (16 QAM): The information bit payload block is 4664 bits long. Hence the PRBS must be at least 4664 \* 10 bits long [27]).
- 4. Count the number of NACK, ACK and <u>stat</u>DTX on the UL HS-DPCCH during the test interval and decide pass or fail according to Annex F.6.3 <u>tables F.6.3.5.3.1</u>, F.6.3.5.3.2, F.6.3.5.3.3 and F.6.3.5.3.4. ACK is counted as a pass. NACK and <u>stat</u>DTX are counted as a failure.

## 9.2.2.54.3 Test Requirements

The parameters and requirements are specified in table (s 9.2.2.11 to 9.2.2.17. The pass / fail decision for throughput is done according to Annex F.6.3.

Parameter	Unit	Test 1	Test 2	Test 3	Test 4
Phase reference		P-CPICH			
I <sub>oc</sub>	DBm/3.84 MHz		-(	60	
Redundancy and constellation version coding sequence			{0,2	:,5,6}	
Maximum number of HARQ transmission				4	

Table 9.2.2.11: Test Parameters for Testing QPSK FRCs H-Set 1/H-Set 2/H-Set 3

## Table 9.2.2.12: Minimum Test requirement QPSK, Fixed Reference Channel (FRC) H-Set 1/2/3

Test	Propagation	Reference value		
Number	Conditions	HS-PDSCH	T-put R (kbps) *	T-put R (kbps) *
		$E_c / I_{or}$ (dB)	$\dot{P}_{or} / I_{oc} = 0 \text{ dB}$	$\dot{P}_{or} / I_{oc} = 10 \text{ dB}$
1	DV3	-6	77	375
I	FAJ	-3	180	475
0	002	-6	20	183
2	2 PD3	-3	154	274
2	1/420	-6	15	187
3	3 VA30	-3	162	284
<ul> <li>* Notes: 1) The reference value R is for the Fixed Reference Channel (FRC) H-Set 1</li> <li>2) For Fixed Reference Channel (FRC) H-Set 2 the reference values for R should be scaled (multiplied by 1.5 and rounding to the nearest integer t-put in kbps, where values of i+1/2 are rounded up to i+1, i integer)</li> <li>3) For Fixed Reference Channel (FRC) H-Set 3 the reference values for R should be scaled (multiplied by 3 and rounding to the nearest integer t-put in kbps, where values of i+1/2 are rounded up to i+1, i integer)</li> </ul>				

## Table 9.2.2.13: Test Parameters for Testing 16-QAM FRCs H-Set 1/H-Set 2/H-Set 3

Parameter	Unit	Test 1	Test 2	Test 3	Test 4
Phase reference			P-CPICH		
I <sub>oc</sub>	dBm/3.84 MHz		-6	30	
Redundancy and constellation version coding sequence			{6,2	,1,5}	
Maximum number of HARQ transmission				4	

## Table 9.2.2.14: Minimum Test requirement 16QAM, Fixed Reference Channel (FRC) H-Set 1/2/3

Test	Propagation	Reference value			
Number	Conditions	HS-PDSCH	T-put R (kbps) *		
		$E_c/I_{or}$ (dB)	$\dot{P}_{or} / I_{oc} = 10 \text{ dB}$		
- 1	DA3	-6	295		
I	FAJ	-3	463		
2	2 PB3	-6	24		
2		-3	243		
2	VA30	-6	35		
5		-3	251		
* Notes:	* Notes: 1) The reference value R is for the Fixed Reference Channel (FRC) H-Set 1				
	2) For Fixed Refe	erence Channel (FRC) H-Set 2 t	he reference values for R		
should be scaled (multiplied by 1.5 and rounding to the nearest integer t-put in					
kbps, where values of $i+1/2$ are rounded up to $i+1$ , i integer)					
3) For Fixed Reference Channel (FRC) H-Set 3 the reference values for R					
should be scaled (multiplied by 3 and rounding to the nearest integer t-put in					
	kbps, where values of i+1/2 are rounded up to i+1, i integer)				

#### Table 9.2.2.15: Test Parameters for Testing QPSK FRCs H-Set 4/H-Set 5

Parameter	Unit	Test 1	Test 2	Test 3	Test 4
Phase reference			P-C	PICH	
I <sub>oc</sub>	DBm/3.84 MHz		-(	60	
Redundancy and constellation version coding sequence			{0,2	!,5,6}	
Maximum number of HARQ transmission				4	

## Table 9.2.2.16: Minimum Test requirement QPSK, Fixed Reference Channel (FRC) H-Set 4

Test Propagation		Reference value			
Number	Conditions	HS-PDSCH	T-put R (kbps) *	T-put R (kbps) *	
		$E_c/I_{or}$ (dB)	$\dot{P}_{or} / I_{oc} = 0 \text{ dB}$	$\dot{P}_{or} / I_{oc} = 10 \text{ dB}$	
1	DV3	-6	70	369	
I	I FAS	-3	171	471	
0	DBo	-6	14	180	
2	FDS	-3	150	276	
2	2 \/420	-6	11	184	
3 VA	VASU	-3	156	285	
* Notes: 1)	* Notes: 1) The reference value R is for the Fixed Reference Channel (FRC) H-Set 4				

Table 9.2.2.17: Minimum-Test requirement	nt QPSK, Fixed Reference	Channel (FRC) H-Set 5
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Test	Propagation		Reference value		
Number	Conditions	HS-PDSCH	T-put R (kbps) *	T-put R (kbps) *	
		$E_c / I_{or}$ (dB)	$\dot{P}_{or} / I_{oc} = 0 \text{ dB}$	$\dot{P}_{or} / I_{oc} = 10 \text{ dB}$	
1	DA2	-6	116	563	
1	I PAS	-3	270	713	
0	002	-6	30	275	
2	FDS	-3	231	411	
2	3 \/// 30	-6	23	281	
5 VA3	VA30	VA30 -3	243	426	
* Notes: 1) The reference value B is for the Fixed Beference Channel (FBC) H-Set 5					

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.

## 9.2.3 Closed Loop Diversity Performance

## 9.2.3.1 Definition and applicability

The receiver single closed loop transmit diversity performance of the High Speed Physical Downlink Shared Channel (HS-DSCH) in multi-path fading environments are determined by the information bit throughput R.

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

The requirements and this test apply to all types of UTRA for FDD UE that support HSDPA.

## 9.2.3.2 Minimum requirements

Requirements for a particular UE belonging to certain HS-DSCH category are determined according to Table 9.2.3.1. During the Fixed Reference Channel (FRC) tests the behaviour of the Node-B emulator in response to the ACK/NACK signalling field of the HS-DPCCH is specified in Table 9.2.3.2.

HS-DSCH category	Corresponding requirement
Category 1	H-Set 1
Category 2	H-Set 1
Category 3	H-Set 2
Category 4	H-Set 2
Category 5	H-Set 3
Category 6	H-Set 3
Category 11	H-Set 4
Category 12	H-Set 5

#### Table 9.2.3.1: Mapping between HS-DSCH category and FRC

HS-DPCCH ACK/NACK Field State	Node-B Emulator Behaviour
ACK	ACK: new transmission using 1 <sup>st</sup>
	redundancy version (RV)
NACK	NACK: retransmission using the next RV (up to the maximum permitted number or RV(s)
DTX	DTX: retransmission using the RV
	previously transmitted to the same H-ARQ
	process

For the parameters specified in Tables 9.2.3.3, 9.2.3.5, 9.2.3.7 the requirements are specified in terms of minimum information bit throughput R as shown in Table 9.2.3.4, 9.2.3.6, 9.2.3.8, and 9.2.3.9 for QPSK and 16QAM and for the DL reference channels specified in Annex C.8.1.

Parameter	Unit	Test 1	Test 2	Test 3
Phase reference			P-CPICH	
$I_{oc}$	dBm/3.84 MHz		-60	
DPCH frame offset	Chin		0	
$( au_{DPCH,n})$	Chip	0		
Redundancy and				
constellation version coding		{0,2,5,6}		
sequence				
Maximum number of HARQ transmission			4	
Feedback Error Rate	%		4	
Closed loop timing adjustment mode			1	

## Table 9.2.3.3: Test Parameters for Testing QPSK FRCs H-Set 1/H-Set 2/H-Set 3

#### Table 9.2.3.4: Minimum requirement QPSK, Fixed Reference Channel (FRC) H-Set 1/2/3

Test	Propagation	Reference value					
Number	Conditions	HS-PDSCH	T-put R (kbps) *	T-put R (kbps) *			
		$E_c / I_{or}$ (dB)	$\dot{P}_{or} / I_{oc} = 0 \text{ dB}$	$\dot{P}_{or}$ / $I_{oc}$ = 10 dB			
- 1	DV3	-6	118	399			
1	FA3	-3	225	458			
2	DB2	-6	50	199			
2	FDS	-3	173	301			
2	1/420	-6	47	204			
3	VASU	-3	172	305			
* Notes:	1) The reference	value R is for the Fixed Re	eference Channel (FRC) H-	Set 1			
	2) For Fixed Refe	rence Channel (FRC) H-S	et 2 the reference values for	or R should be scaled			
	(multiplied by 1.5	and rounding to the neare	st integer t-put in kbps, whe	ere values of i+1/2 are			
	rounded up to i+1, i integers)						
	3) For Fixed Reference Channel (FRC) H-Set 3 the reference values for R should be scaled						
	(multiplied by 3 and rounding to the nearest integer t-put in kbps, where values of i+1/2 are						
	rounded up to i+1, i integer)						

## Table 9.2.3.5: Test Parameters for Testing 16-QAM FRCs H-Set 1/H-Set 2/H-Set 3

Parameter	Unit	Test 1	Test 2	Test 3
Phase reference			P-CPICH	
I <sub>oc</sub>	dBm/3.84 MHz		-60	
DPCH frame offset	Ohin		0	
$( au_{DPCH,n})$	Cnip	Chip 0		
Redundancy and				
constellation version coding		{6,2,1,5}		
sequence				
Maximum number of HARQ			4	
transmission		4		
Feedback Error Rate	%		4	
Closed loop timing			1	
adjustment mode			I	

## Table 9.2.3.6 Minimum requirement 16QAM, Fixed Reference Channel (FRC) H-Set 1/2/3

Test	Propagation	Reference value					
Number	Conditions	HS-PDSCH	T-put R (kbps) *				
		$E_c / I_{or}$ (dB)	$\dot{P}_{or} / I_{oc} = 10 \text{ dB}$				
4	D۸3	-6	361				
1	1 43	-3	500				
2	DB3	-6	74				
2	F D3	-3	255				
3	V/A30	-6	84				
3	VA30	-3	254				
* Notes:	1)The reference	value R is for the Fixed F	Reference Channel (FRC) H-Set 1				
	2) For Fixed Refe	erence Channel (FRC) H	-Set 2 the reference values for R				
	should be scaled (multiplied by 1.5 and rounding to the nearest integer t-put in						
kbps, where values of $i+1/2$ are rounded up to $i+1$ , i integer)							
3) For Fixed Reference Channel (FRC) H-Set 3 the reference values for R							
should be scaled (multiplied by 3 and rounding to the nearest integer t-put in							
	kbps, where valu	es of i+1/2 are rounded	up to i+1, i integer)				

## Table 9.2.3.7: Test Parameters for Testing QPSK FRCs H-Set 4/H-Set 5

Parameter	Unit	Test 1	Test 2	Test 3
Phase reference			P-CPICH	
$I_{oc}$	dBm/3.84 MHz		-60	
DPCH frame offset	Chin		0	
$( au_{DPCH,n})$	Chip	Chip 0		
Redundancy and				
constellation version		{0,2,5,6}		
coding sequence				
Maximum number of		4		
HARQ transmission		4		
Feedback Error Rate	%		4	
Closed loop timing		1		
adjustment mode		1		

## Table 9.2.3.8: Minimum requirement QPSK, Fixed Reference Channel (FRC) H-Set 4

Test	Propagation	Reference value					
Number	Conditions	HS-PDSCH	T-put R (kbps) *				
		$E_c / I_{or}$ (dB)	$\dot{P}_{or} / I_{oc} = 0 \text{ dB}$	$\dot{P}_{or}$ / $I_{oc}$ = 10 dB			
- 1	DV3	-6	114	398			
1	FAS	-3	223	457			
2	DB3	-6	43	196			
2	FD3	-3	167	292			
2	1/430	-6	40	199			
3	VASU	-3	170	305			
* Notes: 1	) The reference valu	e value R is for the Fixed Reference Channel (FRC) H-Set 4					

Test	Propagation	n Reference value				
Number	Conditions	HS-PDSCH	HS-PDSCH T-put R (kbps) *			
		$E_c/I_{or}$ (dB)	$\dot{P}_{or} / I_{oc} = 0 \text{ dB}$	$\dot{P}_{or} / I_{oc} = 10 \text{ dB}$		
1	DV3	-6	177	599		
I	FA3	-3	338	687		
0	DB2	-6	75	299		
2 FB3	-3	260	452			
0	1/430	-6	71	306		
5	VASU	-3	258	458		
* Notes:	1) The reference value R is for the Fixed Reference Channel (FRC) H-Set 5					

#### Table 9.2.3.9: Minimum requirement QPSK, Fixed Reference Channel (FRC) H-Set 5

The reference for this requirement is TS 25.101 [1] clauses 9.2.3.1, 9.2.3.2 and 9.2.3.3.

## 9.2.3.3 Test purpose

To verify the ability of the receiver to receive a predefined test signal, representing a multi-path fading channel with information bit throughput R not exceeding a specified value. The test stresses the multi-code reception and channel decoding with incremental redundancy.

## 9.2.3.4 Method of test

## 9.2.3.4.1 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.

- 2.1.Connect the SS (Note: This is the Node B Emulator) and fader and AWGN noise source to the UE antenna connector as shown in figure A.196.
- 2. Set the test parameters for tests as specified in tables 9.2.3.11, 9.2.3.13 and 9.2.3.15 and levels as specified in tables 9.2.3.12, 9.2.3.14, 9.2.3.16 and 9.2.3.17. Setup fading simulators as fading condition, which are described in table D.2.2.1A. The configuration Power of the downlink channels is defined in table E.5.3.

#### Table 9.2.3.10: Specific Message Contents for closed loop transmit diversity mode

#### SYSTEM INFORMATION BLOCK TYPE5

Information Element	Value/remark
PRACH system information list	
- AICH info	
- STTD Indicator	TRUE
Secondary CCPCH system information	
- PICH info	
- STTD Indicator	TRUE
- Secondary CCPCH info	
- STTD Indicator	TRUE
Primary CCPCH info	
- CHOICE mode	FDD
- TX Diversity indicator	TRUE

#### RRC CONNECTION SETUP for Closed loop mode1

Information Element	Value/remark
Downlink information common for all radio links	
- CHOICE mode	FDD
- TX Diversity Mode	Closed loop mode1
Downlink DPCH info for each RL	
- CHOICE mode	FDD
- Downlink DPCH info for each RL	
<ul> <li>Closed loop timing adjustment mode</li> </ul>	1

#### RADIO BEARER SETUP for Closed loop mode1

Information Element	Value/remark	
Downlink information common for all radio links		
- CHOICE mode	FDD	
- TX Diversity Mode	Closed loop mode1	
Downlink DPCH info for each RL		
- CHOICE mode	FDD	
- Downlink DPCH info for each RL		
<ul> <li>Closed loop timing adjustment mode</li> </ul>	1	

#### 9.2.3.4.2 Procedure

- 1. Set up a HSDPA connection according to the generic HSDPA set-up procedure specified in TS 34.108 [3].
- 2. Start transmitting HSDPA Data.
- 3. The information bit data shall be pseudo random and not repeated before 10 different information bit payload blocks are processed. (e.g. Fixed reference Channel Definition H-set 1 (16 QAM): The information bit payload block is 4664 bits long. Hence the PRBS must be at least 4664 \* 10 bits long [26]. )
- 4. Count the number of NACK, ACK and <u>stat</u>DTX on the UL HS-DPCCH during the test interval and decide pass or fail according to Annex F.6.3 <u>tables F.6.3.5.4.1, F.6.3.5.4.2, F.6.3.5.4.3</u> and F.6.3.5.4.4. ACK is counted as a pass. NACK and <u>stat</u>DTX are counted as a failure.

## 9.2.3.54.3 Test Requirements

The parameters and requirements are specified in tabless 9.2.3.11 to 9.2.3.17. The pass / fail decision for throughput is done according to Annex F.6.3.

Baramotor	Unit	Tost 1	Tost 2	Tost 2
Farailleter	Onit	Test I		1651.5
Phase reference			P-CPICH	
$I_{oc}$	dBm/3.84 MHz		-60	
DPCH frame offset	Chin		0	
( $ au_{DPCH,n}$ )	Chip	0		
Redundancy and				
constellation version coding		{0.2.5.6}		
sequence				
Maximum number of HARQ			4	
transmission			4	
Feedback Error Rate	%		4	
Closed loop timing		1		
adjustment mode				

#### Table 9.2.3.11: Test Parameters for Testing QPSK FRCs H-Set 1/H-Set 2/H-Set 3

Table 9.2.3.12: Minimum	Test requirement	<b>QPSK</b> , Fixed	<b>Reference Char</b>	nnel (FRC) H-Set 1/2/3

Test	Propagation	Reference value					
Number	Conditions	HS-PDSCH	T-put R (kbps) *	T-put R (kbps) *			
		$E_c / I_{or}$ (dB)	$\dot{P}_{or} / I_{oc} = 0 \text{ dB}$	$\dot{P}_{or} / I_{oc} = 10 \text{ dB}$			
1	DA3	-6	118	399			
1	1 40	-3	225	458			
2	DB2	-6	50	199			
2	F D3	-3	173	301			
2	\// 20	-6	47	204			
3	VASU	-3	172	305			
* Notes:	1) The reference	value R is for the Fixed Re	eference Channel (FRC) H-	Set 1			
	2) For Fixed Refe	rence Channel (FRC) H-S	et 2 the reference values for	or R should be scaled			
	(multiplied by 1.5	and rounding to the neare	st integer t-put in kbps, whe	ere values of i+1/2 are			
	rounded up to i+1	, i integers)					
	3) For Fixed Reference Channel (FRC) H-Set 3 the reference values for R should be scaled						
	(multiplied by 3 ar	nd rounding to the nearest	integer t-put in kbps, where	e values of i+1/2 are			
	rounded up to i+1, i integer)						

## Table 9.2.3.13: Test Parameters for Testing 16-QAM FRCs H-Set 1/H-Set 2/H-Set 3

Parameter	Unit	Test 1	Test 2	Test 3
Phase reference			P-CPICH	
$I_{oc}$	dBm/3.84 MHz		-60	
DPCH frame offset	Chin		0	
(T <sub>DPCH,n</sub> )	Chip	0		
Redundancy and				
constellation version coding		{6,2,1,5}		
sequence				
Maximum number of HARQ			4	
transmission			•	
Feedback Error Rate	%		4	
Closed loop timing			1	
adjustment mode			I	

## Table 9.2.3.14 Minimum Test requirement 16QAM, Fixed Reference Channel (FRC) H-Set 1/2/3

Test	Propagation		Reference value
Number	Conditions	HS-PDSCH	T-put R (kbps) *
		$E_c / I_{or}$ (dB)	$\dot{P}_{or}$ / $I_{oc}$ = 10 dB
1	DV3	-6	361
I	FAJ	-3	500
0	DB2	-6	74
2	FD3	-3	255
2	VA30	-6	84
5		-3	254
* Notes:	1)The reference	value R is for the Fixed F	Reference Channel (FRC) H-Set 1
	2) For Fixed Refe	erence Channel (FRC) H	-Set 2 the reference values for R
:	should be scaled	(multiplied by 1.5 and ro	ounding to the nearest integer t-put in
	kbps, where valu	es of i+1/2 are rounded	up to i+1, i integer)
:	3) For Fixed Refe	erence Channel (FRC) H	-Set 3 the reference values for R
:	should be scaled	(multiplied by 3 and rou	nding to the nearest integer t-put in
	kbps, where valu	es of i+1/2 are rounded	up to i+1, i integer)

Parameter	Unit	Test 1	Test 2	Test 3
Phase reference			P-CPICH	
I <sub>oc</sub>	dBm/3.84 MHz		-60	
DPCH frame offset	Chin			
$( au_{DPCH,n})$	Chip	0		
Redundancy and				
constellation version		{0,2,5,6}		
coding sequence				
Maximum number of			1	
HARQ transmission			7	
Feedback Error Rate	%		4	
Closed loop timing			1	
adjustment mode			I	

## Table 9.2.3.15: Test Parameters for Testing QPSK FRCs H-Set 4/H-Set 5

## Table 9.2.3.16: Minimum Test requirement QPSK, Fixed Reference Channel (FRC) H-Set 4

Test	Propagation	Reference value			
Number	Conditions	HS-PDSCH	T-put R (kbps) *	T-put $R$ (kbps) *	
		$E_c / I_{or}$ (dB)	$\dot{P}_{or} / I_{oc} = 0  \mathbf{dB}$	$\dot{P}_{or} / I_{oc} = 10 \text{ dB}$	
4		-6	114	398	
I	FAS	-3	223	457	
0	PB3	-6	43	196	
2		-3	167	292	
2	1/4.20	-6	40	199	
3	VA30	-3	170	305	
* Notes: 1) The reference value B is for the Fixed Beference Channel (FBC) H-Set 4					

## Table 9.2.3.17: Minimum-Test requirement QPSK, Fixed Reference Channel (FRC) H-Set 5

Test	Propagation	Reference value				
Number	Conditions	HS-PDSCH	T-put R (kbps) *	T-put R (kbps) *		
		$E_c/I_{or}$ (dB)	$\hat{P}_{or} / I_{oc} = 0  \mathbf{dB}$	$\hat{P}_{or} / I_{oc} = 10 \text{ dB}$		
- 1		-6	177	599		
1	FAJ	-3	338	687		
0	2 PB3	-6	75	299		
2		-3	260	452		
2	3 VA30	-6	71	306		
3		-3	258	458		
* Notes:	1) The reference value R is for the Fixed Reference Channel (FRC) H-Set 5					

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

# Annex A (informative): Connection Diagrams

#### Definition of Terms

**System Simulator or SS** ñ A device or system, that is capable of generating simulated Node B signalling and analysing UE signalling responses on one or more RF channels, in order to create the required test environment for the UE under test. It will also include the following capabilities:

- 1. Measurement and control of the UE Tx output power through TPC commands
- 2. Measurement of Rx BLER and BER
- 3. Measurement of signalling timing and delays
- 4. Ability to simulate UTRAN and/or GERAN signalling

**Test System** ñ A combination of devices brought together into a system for the purpose of making one or more measurements on a UE in accordance with the test case requirements. A test system may include one or more System Simulators if additional signalling is required for the test case. The following diagrams are all examples of Test Systems.

Note: The above terms are logical definitions to be used to describe the test methods used in this document (TS34.121), in practice, real devices called 'System Simulators' may also include additional measurement capabilities or may only support those features required for the test cases they are designed to perform.



Figure A.1: Connection for Basic TX Test



Figure A.2: Connection for TX Intermodulation Test



Figure A.3: Connection for Basic RX Test



Figure A.4: Connection for RX Test with Interference



Figure A.5: Connection for RX Test with Interference or additional CW



Figure A.6: Connection for RX Test with additional CW



Figure A.7: Connection for RX Test with both Interference and additional CW



Figure A.8: Connection for Spurious Emission Test



Figure A.9: Connection for Static Propagation Test



Figure A.10: Connection for Multi-path Fading Propagation Test



Figure A.11: Connection for Inter-Cell Soft Handover Test



Figure A.12: Connection for Demodulation of DCH in open and closed loop transmit diversity modes



Figure A.13: Connection for Combining of TPC commands in Soft Handover Test 1



Figure A.14: Connection for cell reselection single carrier multi cell



Figure A.15: Connection for cell reselection multi carrier multi cell







## Figure A.18: Connection for Combining of reliable TPC commands in Soft Handover Test 1



Figure A.19: Connection setup for HSDPA open and closed loop diversity

## F.6.3 Statistical Testing of HSDPA Receiver Performance

## F.6.3.1 Definition

Information Bit Throughput R:

The measured information bit throughput R is defined as the sum (in kilobits) of the information bit payloads (excluding the 24-bit HS-DSCH CRC) successfully received during the test interval, divided by the duration of the test interval (in seconds).

## F.6.3.2 Mapping throughput to block error ratio

a) In measurement practice the UE indicates successfully received information bit payload by signalling an ACK to the SS.

If payload is received, but damaged and cannot be decoded, the UE signals a NACK.

b) Only the ACK and NACK signals, not the data bits received, are accessible to the SS. The number of bits is known in the SS from knowledge of what payload was sent.

c) For fixed reference channel the number of bits in a TTI is fixed during one test.

- d) The time in the measurement interval is composed of successful TTIs (ACK), unsuccessful TTIs (NACK) and DTX-TTIs.
- e) DTX-TTIs occur regularly according to the H-set. (regDTX). In real live this is the time when other UEs are served. regDTX vary from test to test but are fixed within the test.

 f) Additional DTX-TTIs occur statistically when the UE is not responding ACK or NACK where it should. (statDTX)
 This may happen when the UE was not expecting data or decided that the data were not intended for it.

The pass fail decision is done by observing the number of NACKs number of ACKs and number of statDTXs (regDTX is implicitly known to the SS) The ratio: (NACK + statDTX) / (NACK+ statDTX +ACK) is the Bock Error Ratio BLER. Taking into account the time, consumed by the ACK-, NACK-, and DTX-TTIs (regular and statistical), BLER can be mapped unambiguously to throughput for any single FRC test.

## F.6.3.3 Bad DUT factor

Note: Data throughput in a communication system is of statistical nature and must be measured and decided pass or fail. The specified limit of throughput related to the ideal throughput in different throughput tests is in the range of a few % to near 100%. To make it comparable with BER, we define the complement of the relative throughput: BLER as defined above. Complementary this is in the range of near 100% down to a few % For e.g. BLER = 1%, the currently in BER BLER used Bad DUT factor M=1.5 is highly meaningful. For e.g. BLER = 99%, the currently used M=1.5 obviously meaningless.

An appropriate definition of the bad DUT factor is illustrated in figure F.6.3.3: constant and variable Bad DUT factor.

It illustrates how to find the Bad BLER when the nominal BLER is given.

1) In the range 0% < nominal BLER>10% the Bad DUT factor is constant 1.5

2) In the range 90% < bad BLER > 100% it decreases to 1. (symmetrical to (1))

3) The range in between is interpolated by an arc section.

The example shows: nominal BLER=35,6%  $\rightarrow$  bad BLER=47.67.5%  $\rightarrow$  M=1.34

(blue mapping)



Figure F.6.3.3: constant and variable Bad DUT factor

Formula: For 
$$0 < BLER \le 0.1$$
:  $M = 1.5$ 

For 0.1 

$$M(BLER) := \frac{\sqrt{r^2 - (BLER - 2.35)^2}}{BLER} - \frac{1.35}{BLER}$$

With BLER: nominal Block Error Ratio (0<BLER<1) With r = 2.70415 (Radius of the arc)

#### F.6.3.3.1 Bad DUT factor, range of applicability

Inaccuracy is one practical reason to avoid the grey shaded area of figure F.6.3.3: constant and variable Bad DUT factor. For BLER near 1 the Bad DUT factor M is near 1. For M=1, exactly, the pass and fail criteria do not intersect. The test never is finalised.

For M near 1 the pass and fail criteria exhibit a very smooth intersection. In addition the binomial distribution and its inverse are of discrete nature. Therefore the test limit and the number of samples is calculable only very ambiguous.

It is proposed to apply the bad DUT factor only in the not shaded area of figure F.6.3.3.

This is done by the following:

BLER mode:

Use BLER as defined above in the range of 0 to 50%, use M >1 as defined above.

The Test Limit will be > the Test Requirement in the table F.6.3.5. below.

Relative Throughput mode:

If BLER is in the range 50 to 100%, use 1-BLER instead. Use m<1 instead of M.

1-BLER is the relative throughput with respect to the ideal throughput.

As a consequence, the Test Limit < Test Requirement

Formula for m: For 0 < (1-BLER) <= 0.15: m = 1/1.5

For 0.15 <(1-BLER) <.85: 
$$m := \frac{2.35 - \sqrt{r^2 - [(1 - BLER) + 1.35]^2}}{(1 - BLER)}$$

In the figure F.6.3.3: this is represented by the red mapping.

The tables F.6.3.5. below distinguishe between m and M.

## F.6.3.4 Minimum Test time

Same as with BER BLER there is a minimum test time is necessary for multipath fading profiles with the same justification:

profile	Minimum Test time
PA3, PB3	164s

VA30	16.4s
VA 120	4.1s

F.6.3.5 Applicability and characteristics of the Tables F.6.3.5.

The purpose of tables F.6.3.5.1 to F.6.3.5.4 is to decide throughput pass or fail.

(the Ior/Ioc levels are only for reference)

Meaning of a decision:

A passed DUT is not worse than a Bad DUT with 95% confidence level.

A failed DUT is not better than a Limit DUT with 95% confidence level.

The minimum Test Time is

1) the minimum test time due to statistical reasons

(To ensure the confidence level, the test must be continued until a certain number of samples (NACK+ statDTX +ACK) is reached.)

2) the minimum test time due to multipath fading.

The longer test time applies. It is marked in table F.6.3.5. which one applies.

Statistical independence:

If a process works within an incremental redundancy sequence, the samples are not independent. The incremental redundancy sequence for every process must be finalised, successfully or unsuccessfully, on or beyond the minimum test time.

Then the BLER (or 1-BLER) is compared with the Test Limit to decide pass or fail.

Note: It is FFS, if correlation within groups of retransmissions may influence the confidence level of the test.

#### Formula:

The theory, to derive the minimum number of samples and the Test Limit, takes into consideration that BLER is in the range of near 0% to near 100%. Hence it is based on the binomial distribution and its inverse cumulative function: qbinom:

For the BLER test mode:

 $ne_{low}=qbinom(D,ns,M*BLER_{limit})$ (1)  $ne_{high}=qbinom(1-D,ns,BLER_{limit})$ (2)

given: 1-D: confidence level= 95%

BLER<sub>limit</sub>=Block error ratio at the limit

#### M: Bad DUT factor >1

Input: ns: number of samples (NACK+ statDTX + ACK) Output ne: number of events (NACK+ statDTX)

The intersection of (1) and (2) is the Test Limit with the coordinates: ns and ne

(3)

For the Relative Throughput test mode: ne<sub>low</sub>=qbinom(D,ns,1-BLER<sub>limit</sub>)

 $ne_{high}=qbinom(1-D,ns,m*(1-BLER_{limit}))$  (4)

given: 1-D: confidence level= 95%

1-BLER<sub>limit</sub>= Relative Throughtput at the limit

m: Bad DUT factor <1

Input: ns: number of samples (NACK+ statDTX + ACK)

Output ne: number of events (ACK)

The intersection of (3) and (4) is the Test Limit with the coordinates: ns and ne

Note:In contrast to BER BLER test, this approach does not contain any test time optimisation.

(early pass, early fail)

## Nomenclature used in the tables F.6.3.5Ö below:

NACK+ statDTX + ACK is summarised as No of samples NACK+ statDTX is summarised as No of errors ACK is summarised as No of successes In the BLER test mode the ratio: No of errors/ No of samples is recorded. In this mode a pass is below the test limit In the Relative Throughput test mode (1-BLER) the ratio: No of successes/ No of samples is recorded. In this mode a pass is above the test limit The test mode, used, is indicated in the rightmost column with BL or RT The transition from the BL to the RT test mode can also be seen in the column relative test requirement: BLER%  $\rightarrow$  (1-BLER%) The generic term for No of errors (BLER mode) or No of successes (Relative Throughput mode) is No of events. This is used in the table column Test Limit.

Table F.0.3	Table F.0.3.3.1 Maximum input Leven of H3-FD3CH Reception (TogAM)								
Maximum		Relative test	Test limit	Min No of	Test time in s	BL			
Input Level		requirement	expressed as No of	samples		/			
for HS-		(normalized to	events/min No of		Mandatory if	RT			
PDSCH	Absolute Test	ideal=777 kbps)	samples	(number of	fading				
Reception	requirement			events to pass)					
(16QAM)	(kbps)	No of events/No of	(Bad DUT factor)		Informative				
16 OAM		samples in %		Mandatory if	and approx. if				
H_Set 1				applicable	statistical				
11-0611									
	700	10%	58/467	467	2.8s (stat)	BL			
	700		(M=1.5)	(≤58)					

## Table F.6.3.5.1 Maximum Input Level for HS-PDSCH Reception (16QAM)

## Table Table F.6.3.5.2.1 Single link performance for test case 9.2.1 demodulation of HS-DSCH

Single link	Absolute		Relative Test	Test limit	Min No of	Test time in s	В
performance	Test requirement		requirement	expressed as No of	samples		Ļ
			(	events / min No of			/   D
	(kbps)		(normalized to	samples			к Т
	(nops)		ideal=554k0ps)		( number		1
					( 1101110 01	Mandatory if	
OPSK	_			(Bad DUT factor)	of events to pass)	fading,	
QISK			No of events / No of				
H-Set 1,2,3			samples				
			in 0/		Mandatory if	Informative and	
			111 %		applicable	approx. if	
						statistical	
Test1	PA3	65	87,82%→	60/595	N.A.	164s (fading)	
(Jor/Joa-0dP)			(12, 190%)	(m - 1/15)			R
(101/10C=00B)			(12.18%)	(m = 1 / 1.3)			Т
							R
							Т
	PB3	23	95.69% → (4.31%)	64/1796	N.A	164s (fading)	
							R
				(m = 1/1.5)			Т
		129	74 140/ >	59/769	N A	164s(fading)	
		130	/4.14%	30/200	IN.A.	1048(lauling)	P
			(25.86%)	(m = 0.682)			T
			, ,				1
	VA30	22	95.9%→	64/1888	N.A.	16.4s(fading)	
							R
			(4.1%)	(1/1.5)			Т
		140	72 40/ ->	50/264	N A	$16 A_{\alpha}(f_{\alpha} \downarrow := =)$	_
		142	/3.4%7	39/204	IN.A.	10.4s(lading)	D
			(26.6%)	(m = 0.684)			

	VA120	13	97.564% → (2.436%)	63/3224 (m = 1/1.5)	3224 (≥63)	H-set 1: 19.5s(stat) H-set 2:	R T
						13s (stat) H-set 3:	
		140	(73.77)→ 26.23%	59/268 (m = 0.683)	N.A.	4.1s(fading)	R T
	Absolute requireme (kbps)	Test ent	Relative Test requirement (normalized to ideal=534kbps) No of events / No of samples	Test limit expressed as No of events / min No of samples ( Bad DUT factor)	Min No of samples ( number of events to pass)	Test time in s Mandatory if fading,	
			in %		Mandatory, if applicable	Informative and approx. if statistical	
Test1 (Ior/Ioc=10dB)	PA3	309	42.1%	83/171 (M = 1.295)	N.A.	164s (fading)	B L
		423	20.74%	60/237 (M = 1.445)	N.A.	164s (fading)	B L
	PB3	181	66.1%→ (33.9%)	62/215 (m = 0.703)	N.A	164s (fading)	R T
		287	46.22% → (53,78%)	84/176 (m = 0.77)	N.A.	164s(fading)	R T
	VA30	190	64.4%→ (35.6%)	64/211 (m = 0.708)	N.A.	16.4s(fading)	R T
		295	44.72% → 55.28%	85/173 (m = 0.775)	N.A.	16.4s(fading)	R T
	VA120	181	(66.1%)→ 33.9%	62/215 (m = 0.703)	N.A.	4.1s(fading)	R T
		275	(48.5%)→ 51.5%	79/174 (m = 0.761)	N.A.	4.1s(fading)	R T

## Table F.6.3.5-.2.2 Single link performance for test case 9.2.1 demodulation of HS-DSCH

Single link performance 16 QAM H-Set 1,2,3	Absolute requireme (kbps)	Test ent	Relative Test requirement (normalized to ideal=777 kbps) No of events / No of samples in %	Test limit expressed as No of events / min No of samples ( Bad DUT factor)	Min No of samples ( number of events to pass) Mandatory, if applicable	Test time in s Mandatory if fading, Informative and approx. if statistical	BL / RT
Test1 (Ior/Ioc=10dB)	PA3	198	74.53% → (25.47%)	58/272 (m=0.681)	N.A.	164s (fading)	RT
		368	52.66% → (47.34%)	74/179 m=0.746	N.A.	164s(fading)	RT
	PB3	34	95.626% →(4.374%)	64/1770 (m=1/1.5)	N.A.	164s (fading)	RT
		219	71.83% →(28,17%)	58/240 (m=0.687)	N.A.	164s (fading)	RT
	VA30	47	93.95% →(6.05%)	63/1259 (m=1/1.5)	N.A.	16.4s (fading)	RT
		214	72.47% →(27.53%)	59/255 (m=0.686)	N.A.	16.4s (fading)	RT
	VA120	28	96.4% →(3.6%)	64/2150 (m=1/1.5)	2150 (≥64)	12.9s H-set1 8.6s H-set2 4.3s Hset3 (stat)	RT
		267	64.5% <b>→</b> (35.5%)	57/319 (m=0.673)	N.A.	4.1s (fading)	RT

## Table F.6.3.5.2-.3 Single link performance for test case 9.2.1 demodulation of HS-DSCH

Single link	Absolute Test requirement (kbps)		Relative Test	Test limit	Min No of	Test time in s	B
performance			(normalized to	expressed as No of events / min No of samples	samples		L / R
			ideal=534 kbps)		( number	Mandatory if	Т
QPSK H-Set 4			No of events / No of samples	( Bad DUT factor)	of events to pass)	fadıng,	
			in %		Mandatory, if applicable	Informative and approx. if statistical	
Test1	PA3	72	86.5% →(13.5%)	59/528 (m=1/1.5)	N.A.	164s (fading)	R T
(101/100=00B)							
	PB3	24	95.5% →(4.5%)	63/1695 (m=1/1.5)	N.A.	164s (fading)	R T
		142	73.4% → (26.6%)	59/264 (m=0.684)	N.A.	164s (fading)	R T
	VA30	19	96.44% →(3.56%)	64/2176 (m=1/1.5)	N.A.	16.4s (fading)	R T
		148	72.27% →(27.73%)	59/253 (m=0.686)	N.A.	16.4s (fading)	R T
	VA120	11	98% →(2%)	65/3746 (m=1/1.5)	3746 (≥65)	22.5s (stat)	R T
		144	73% →(27%)	58/256 (m=0.684)	N.A.	4.1s (fading)	R T

Single link performance						
QPSK H-Set 4						
Single link performance	Absolute Test requirement (kbps)	Relative Test requirement (normalized to ideal=534 kbps) No of events / No of	Test limit expressed as No of events / min No of samples ( Bad DUT factor)	Min No of samples ( number of events to pass)	Test time in s Mandatory if fading,	BL / RT

QPSK H-Set 4			samples in %		Mandatory, if applicable	Informative and approx. if statistical	
Test1 (Ior/Ioc=10dB)	PA3	340	36.29%	75/177 (M=1.334)	N.A.	164s (fading)	BL
		439	17.74%	58/266 (M=1.468)	N.A.	164s (fading)	BL
	PB3	186	65.15% <b>→</b> (34.85%)	62/209 (m=0.705)	N.A.	164s (fading)	RT
		299	44%	87/174 (m=0.778)	N.A.	164s(fading)	RT
	VA30	183	65.7% <b>→</b> (34.3%)	63/216 (m=0.704)	N.A.	16.4s (fading)	RT
		306	42.66%	86/176 (M=1.291)	N.A.	16.4s (faging)	BL
	VA120	170	68,14% →(31.86%)	61/226 (m=697)	N.A.	4.1s (fading)	RT
		284	46.78% →(53.22%)	81/172 (m = 0.767)	N.A.	4.1s (fading)	RT
## Table F.6.3.5.2.4 Single link performance for test case 9.2.1 demodulation of HS-DSCH

Single link performance QPSK H-Set 5	Absolute requirem (kbps)	Test ent	Relative Test requirement (normalized to ideal=801 kbps) No of events / No of samples in %	Test limit expressed as No of events / min No of samples ( Bad DUT factor )	Min No of samples ( number of events to pass) Mandatory, if applicable	Test time in s Mandatory if fading, Informative and approx. if statistical	BL / RT
Test1 (Ior/Ioc=0dB)	PA3	98	87.76% →(12.24%)	59/583 (m=1/1.5)	N.A.	164s (fading)	RT
		221	72.4% →(27.6%)	58/250 (m=0.686	N.A.	164s (fading)	RT
	PB3	35	95.63% →(4.37%)	63/1746 (m=1/1.5)	N.A.	164s (fading)	RT
		207	74.14% →(25.86%)	58/268 (m=0.682)	N.A.	164s (fading)	RT
	VA30	33	95.88% →(4.12%)	64/1879 (m=1/1.5)	N.A.	16.4s (fading)	RT
		213	73.4% →(26.6%)	59/264% (m=0.684)	N.A.	16.2s (fading)	RT
	VA120	20	97.5% →(2.5%)	64/3101 (m=1/1.5)	3101 (≥64)	12.4s (stat)	RT
		210	73.77% →(26.23%)	59/268 (m=0.683)	N.A.	4.1s (fading)	RT

Single link	Absolute 7	Гest	Relative Test	Test limit	Min No of	Test time in s	BL
performance	requirement	nt	requirement	expressed as No of	samples		/
QPSK H-Set 5	(kbps)		(normalized to ideal=801 kbps) No of events / No of samples	events / min No of samples ( Bad DUT factor)	( number of events to pass)	Mandatory if fading,	RT
			in %		Mandatory, if applicable	Informative and approx. if statistical	
Test1	PA3	464	42%	84/174	N.A.	164s (fading)	
(Ior/Ioc=10dB)				(M=1.295)			BL

	635	20.67%	59/234 (M=1.446)	N.A.	164s (fading)	BL
PB3	272	66.02% <b>→</b> (33.98%)	63/218 (m=0.703)	N.A.	164s (fading)	
	431	46.16% →(53.84)	84/176 (m=0.77)	N.A.	164s(fading)	RT
VA30	285	64.4% <b>→</b> (35.6%)	64/211 (m=0.708)	N.A.	16.4s (fading)	RT
	443	44.7% →(55.3%)	85/173 (m=0.775)	N.A.	16.4s(fading)	RT
VA120	272	66.02% <b>→</b> (33.98%)	63/218 (m=0.703)	N.A.	4.1s (fading)	RT
	413	48.4% →(51.6%)	81/176 (m=0.761)	N.A.	4.1s(fading)	RT

# Table F.6.3.5.3.1 Open Loop Diversity Performance for test case 9.2.2 demodulation of HS DSCH

Open Loop Diversity			Relative test	Test limit	Min No of	Test time in s	BL /
Performance			(normalized to	events/min No of	Samples	Mandatory if	в́т
QPSK	Absolute Test requirement		ideal=534 kbps)	samples	(number of	fading	
H-Set 1/2/3	require	ement			events to pass)		
	۲) ۲	(ops)	No of events/No of	(Bad DUT factor)	1 /	Informative	
Test number			samples in %	,	Mandatory if	and approx. if	
					applicable	statistical	
1		77	85.57%→(14.43%)	58/486	N.A.	164s (fading)	RT
$(\hat{\mathbf{a}}) = 0$	DAG			(m=1/1.5)			
$(T_{or}/T_{oc} = 0$	1 73	180	66.27%→(33.73%)	62/216	N.A.	164s (fading)	RT
aB)				(m=0.702)			
2		20	96.25%→ (3.75%)	64/2065	N.A.	164s (fading)	RT
$(\dot{\mathbf{k}}/I = 0$	PB3			(m=1/1.5)			
$(1_{or}, 1_{oc} = 0$	1 00	154	71.14%→ (28,86%)	59/243	N.A.	164s (fading)	RT
aB)				(m=0.689)			
		15	97.19% → (2.81%)	64/2758	H-Set 1:	H-Set 2,3:	RT
3				(m=1/1.5)	2758	16.4s (fading)	
$(\dot{P} / I = 0)$	VA30				(≥64)	H-Set 1:	
	17100					16.6s(stat.)	
ub)		162	69.64% → (30.36%)	60/235	N.A.	16.4s (fading)	RT
				(m=0.693)			
1		375	29.7%	68/192	N.A.	164s (fading)	BL
$(\hat{I}^{\hat{n}} / I) = 10$	PA3			(M=1.38)			
		475	11%	58/425	N.A.	164s (fading)	BL
ub)				(M=1.499)			
2		183	65.7% → (34.3%)	63/216	N.A.	164s (fading)	RT
$(\dot{P} / I = 10)$	PB3			(m=0.704)			
		274	48.7% →(51.3%)	80/177	N.A.	164s (fading)	RT
ubj				(m=0.76)			
3		187	65% → (35%)	62/208	N.A.	16.4s (fading)	RT
$(\dot{P}_{m}/I_{m} = 10)$	VA30			(m=0.706)			
		284	46.8% →(53.2%)	82/174	N.A.	16.4s (fading)	RT
ubj				(m=0.767)			

 Table F.6.3.5.3.2 Open Loop Diversity Performance for test case 9.2.2 demodulation of HS 

 DSCH

Open Loop Diversity			Relative test	Test limit expressed as No of	Min No of samples	Test time in s	BL /
Performance	Absolute Test		(normalized to	events/min No of	campico	Mandatory if	ŔT
16 QAM	ADSOIU	ite Test ment	ideal=777 kbps)	samples	(number of	fading	
H-Set 1/2/3	//	(hns)			events to pass)		
	(,	(590)	No of events/No of	(Bad DUT factor)		Informative	
Test number			samples in %		Mandatory if applicable	and approx. if statistical	
1		295	62% →(38%)	66/203	N.A.	164s (fading)	RT
$(\hat{h})/I = 10$	PΔ3			(m=0.715)			
$(T_{or}/T_{oc} = 10$	1 73	463	40.4%	82/176	N.A.	164s (fading)	BL
aB)				(M=1.306)			
2		24	96.9% →(3.1%)	64/2500	N.A.	164s (fading)	RT
$(\dot{R} / I = 10)$	PB3			(m=1/1.5)			
	1 00	243	68.7% →(31.3%)	60/227	N.A.	164s (fading)	RT
иБ)				(m=0.695)			
3		35	95.5% →(4.5%)	63/1695	N.A.	16.4s (fading)	RT
$(\dot{P} / I = 10)$	VA30			(m=1/1.5)			
	1,100	251	67.7% →(32.3%)	61/223	N.A.	16.4s (fading)	RT
uB)				(m=0.698)			

# Table F.6.3.5.3.3 Open Loop Diversity Performance for test case 9.2.2 demodulation of HS DSCH

Open Loop			Relative test	Test limit	Min No of	Test time in s	BL
Diversity			requirement	expressed as No of	samples		/
Performance	Abaalu	to Toot	(normalized to	events/min No of	•	Mandatory if	RT
QPSK	requirement		ideal=534 kbps)	samples	(number of	fading	
H-Set 4	require	ment	,		events to pass)	0	
	(к	(ops)	No of events/No of	(Bad DUT factor)	. ,	Informative	
Test number			samples in %	( ,	Mandatory if	and approx. if	
			· · ·		applicable	statistical	
1		70	86.9% →(13.1%)	59/544	N.A.	164s (fading)	RT
				(m=1/1.5)		( 0)	
$\left( P_{or} / I_{oc} = 0 \right)$	PA3	171	68% →(32%)	61/225	N.A.	164s (fading)	RT
dB)				(m=0.697)		( 3)	
2		14	97.4% →(2.6%)	64/2982	N.A.	164s (fading)	RT
				(m=1/1.5)		( 0,	
$\left( P_{or} / I_{oc} = 0 \right)$	PB3	150	71.9% →(28.1%)	59/250	N.A.	164s (fading)	RT
dB)				(m=0.687)		( 0)	
3		11	97.04% →(2.06%)	65/3819	3819	23s (stat)	RT
$(\hat{n})/I = 0$	1/420			(m=1/1.5)	(≥65)		
$(P_{or}/I_{oc}=0)$	VASU	156	70.8% →(29.2%)	60/243	N.A.	16.4s (fading)	RT
dB)				(m=0.69)			
1		369	30.9%	69/188	N.A.	164s (fading)	BL
(À / I 10				(M=1.372)		( C)	
$(P_{or}/I_{oc} = 10$	FAJ	471	11.7%	58/400	N.A.	164s (fading)	BL
dB)				(M=1.497)			
2		180	66.3% →(33.7%)	63/220	N.A.	164s (fading)	RT
$(\dot{a}) = 10$	DB3			(m=0.702)			
$(\Gamma_{or}/\Gamma_{oc} = 10$	FDO	276	48.3% →(51.7%)	79/173	N.A.	164s (fading)	RT
dB)				(m=0.762)			
3		184	65.5% →(34.5%)	62/211	N.A.	16.4s (fading)	RT
$(\hat{k} / I = 10)$	VA30			(m=0.704)			
$(I_{or}^{\prime}, I_{oc}^{\prime} = 10)$	v 730	285	46.6% →(53.4%)	81/171	N.A.	16.4s (fading)	RT
dB)				(m=0.768)			

 Table F.6.3.5.3.4 Open Loop Diversity Performance for test case 9.2.2 demodulation of HS 

 DSCH

Open Loop			Relative test	Test limit	Min No of	Test time in s	BL
Diversity			requirement,	expressed as No of	samples		/
Performance	Absolu	to Tost	normalized to	events/min No of		Mandatory if	RT
QPSK	requirement		ideal=801 kbps	samples	(number of	fading	
H-Set 5	/L	(hne)			events to pass)		
	(r	(ops)	No of events/No of	(Bad DUT factor)		Informative	
Test number			samples in %		Mandatory if	and approx. if	
					applicable	statistical	
1			85.5% →(14.5%)	59/492	N.A.	164s (fading)	RT
$(\dot{\mathbf{a}}) = 0$	DV3	116		(m=0.667)			
$(T_{or}/T_{oc} = 0)$	FAS		66.27% →(33.73%)	62/216	N.A.	164s (fading)	RT
dB)		270		(m=0.702)			
2			96.25% →(3.75%)	65/2100	N.A.	164s (fading)	RT
$(\dot{h})/I = 0$	DB3	30		(m=1/1.5)			
$(T_{or}/T_{oc} = 0)$	FDS		71.14% →(28.86%)	58/243	N.A.	164s (fading)	RT
dB)		231		(m=0.689)			
3			97.13% →(2.87%)	64/2741	N.A.	16.4s (fading)	RT
$(\hat{\mathbf{k}}) = 0$	VA30	23		(m=1/1.5)			
$(I_{or}/I_{oc} = 0)$	V7.00		69.64% →(30.36%)	60/234	N.A.	16.4s (fading)	RT
dB)		243		(m=0.693)			
1			29.67%	68/194	N.A.	164s (fading)	BL
$(\hat{\mathbf{k}} / I = 10)$	DA3	563		(M=1.381)			
$(T_{or}/T_{oc} = 10$	1 73		10.93%	58/428	N.A.	164s (fading)	BL
dB)		713		(M=1.499)			
2			65.65% →(34.35%)	64/212	N.A.	164s (fading)	RT
$(\hat{\mathbf{k}} / I = 10)$	DB3	275		(m=0.704)			
$(T_{or}/T_{oc} = 10$	1 00		48.66% →(51.34%)	77/170	N.A.	164s (fading)	RT
dB)		411		(m=0.76)			
3			64.9% →(35.1%)	63/211	N.A.	16.4s (fading)	RT
$(\hat{\mathbf{k}} / I = 10)$	1/430	281		(m=0.706)			
$(I_{or}^{*}/I_{oc}^{*} = 10)$	VA30		46.78% →(53.22%)	81/172	N.A.	16.4s (fading)	RT
dB)		426		(m=0.767)			

# Table F.6.3.5.34.1 Closed Loop Diversity Performance for test case 9.2.3 demodulation of HS-DSCH

Closed Loop			Relative test	Test limit	Min No of	Test time in s	BL
Diversity			requirement	expressed as No of	samples		/
Performance	Abaalu	4. T	(normalized to	events/min No of		Mandatory if	RT
QPSK	Absolute Test requirement		ideal=534 kbps)	samples	(number of	fading	
H-Set 1/2/3	require	ment	,		events to pass)	U U	
	(к	lops)	No of events/No of	(Bad DUT factor)	. ,	Informative	
Test number			samples in %	, ,	Mandatory if	and approx. if	
					applicable	statistical	
1		118	77.89% →(22.11%)	58/315	N.A.	164s (fading)	RT
$(\dot{P} / I = 0)$	PA3			(m=0.674)			
dB)		225	57.84% →(42.16%)	69/189(m=0.728)	N.A.	164s (fading)	RT
2		50	90.63% →(9.37%)	61/787	N.A.	164s (fading)	RT
	DDO			(m=1/1.5)		( 3/	
$\left( P_{or} / I_{oc} = 0 \right)$	PB3	173	67.58% →(32.42%)	61/222	N.A.	164s (fading)	RT
dB)			, , ,	(m=0.698)		( 0)	
3		47	91.2% →(8.8%)	62/852	N.A.	16.4s (fading)	RT
$(\hat{\mathbf{h}})/\mathbf{I} = 0$	1/420			(m=1/1.5)			
$(\Gamma_{or}/\Gamma_{oc}=0$	VASU	172	67.77% →(32.23%)	61/223	N.A.	16.4s (fading)	RT
dB)				(m=0.698)			
1		399	25.23%	63/207	N.A.	164s (fading)	BL
$(\hat{\mathbf{k}}) = 10$	PΔ3			(M=1.413)			
$(I_{or}, I_{oc} = 10$	170	458	14.18%	57/325	N.A.	164s (fading)	BL
aB)				(M=1.487)			
2		199	62.71% →(37.29%)	65/204	N.A.	164s (fading)	RT
$(\hat{P} / I = 10)$	PB3			(m=0.713)			
	. 50	301	43.6%	88/180	N.A.	164s (fading)	BL
иБ)				(M=1.285)			
3		204	61.77% →(38.23%)	65/198	N.A.	16.4s (fading)	RT
$(\hat{I}^{\hat{a}} / I) = 10$	VA30			(m=0.716)			
		305	42.85%	85/173	N.A.	16.4s (fading)	BL
ubj				(M=1.29)			

# Table F.6.3.5.34.2 Closed Loop Diversity Performance for test case 9.2.3 demodulation of HS-DSCH

Closed Loop Diversity	Absolute Test		Relative test requirement	Test limit expressed as No of	Min No of samples	Test time in s	BL /
Performance	Absolu	te Test	(normalized to	events/min No of	(accessible and a f	Mandatory if	КI
	require	ement	ideal=777 kbps)	samples	(number of	tading	
H-Set 1/2/3	. (k	(bps)	No of events/No of		events to pass)	luctor was atticed	
<b>-</b>		. ,	No of events/No of	(Bad DUT factor)	Manalatawiif	Informative	
Test number			samples in %		Mandatory If	and approx. If	
					applicable	statistical	
1		361	53.56% →(46.44%)	73/180	N.A.	164s (fading)	RT
$(\dot{R} / I = 10)$	PA3			(m=0.743)			
$(I_{or}, I_{oc} = 10)$	170	500	35.68%	74/177	N.A.	164s (fading)	BL
dB)				(M=1.338)			
2		74	90.48% → (9.52%)	62/788	N.A.	164s (fading)	RT
(À / I 10	DDO		, , ,	(m=1/1.5)			
$(P_{or}/I_{oc} = 10$	PD3	255	67.2% →(32.8%)	61/219	N.A.	164s (fading)	RT
dB)			, ,	(m=0.7)		( 0)	
3		84	89.2% →(10.8%)	61/683	N.A.	16.4s (fading)	RT
$(\hat{a})/I = 10$	VA30			(m=1/1.5)			
$(\mathbf{r}_{or} / \mathbf{I}_{oc} = 10)$	VA30	254	67.32% →(32.68%)	61/220	N.A.	16.4s (fading)	RT
dB)			, , ,	(m=0.699)		,	

# Table F.6.3.5.34.43 Closed Loop Diversity Performance for test case 9.2.3 demodulation of HS-DSCH

Closed Loop			Relative test	Test limit	Min No of	Test time in s	BL
Diversity			requirement	expressed as No of	samples		/
Performance	Abcolu	to Tost	(normalized to	events/min No of		Mandatory if	RT
QPSK	requirement		ideal=534 kbps)	samples	(number of	fading	
H-Set 4	require	(hpo)	. ,		events to pass)	_	
	(۴	ups)	No of events/No of	(Bad DUT factor)		Informative	
Test number			samples in %		Mandatory if	and approx. if	
					applicable	statistical	
1		114	78.64% →(21.36%)	58/327	N.A.	164s (fading)	RT
$(\dot{n})/L = 0$				(m=0.673)			
$(P_{or}/I_{oc} = 0)$	FAJ	223	58.21% →(41.79%)	69/191	N.A.	164s (fading)	RT
dB)				(m=0.727)			
2		43	91.94% →(8.06%)	62/930	N.A.	164s (fading)	RT
$(\dot{n})/L = 0$	002			(m=1/1.5)			
$(T_{or}/T_{oc} = 0$	FDS	167	68.71% →(31.29%)	60/227	N.A.	164s (fading)	RT
dB)				(m=0.695)			
3		40	92.5% →(7.5%)	63/1017	N.A.	16.4s (fading)	RT
$(\hat{\mathbf{a}}) = 0$	1/430			(m=1/1.5)			
$(T_{or}/T_{oc} = 0$	VA30	170	68.14% →(31.86%)	61/226	N.A.	16.4s (fading)	RT
dB)				(m=0.697)			
1		398	25.42%	63/206	N.A.	164s (fading)	BL
$(\hat{\mathbf{k}}) = 10$	DAG			(M=1.412)			
$(T_{or}/T_{oc} = 10$	1 73	457	14.37%	57/321	N.A.	164s (fading)	BL
dB)				(M=1.486)			
2		196	63.27 →(36.73%)	64/204	N.A.	164s (fading)	RT
$(\hat{\mathbf{k}}) = 10$	PB3			(m=0.711)			
$(I_{or}, I_{oc} = 10$	1 00	292	45.28% →(54.72%)	85/175	N.A.	164s (fading)	RT
dB)				(m=0.773)			
3		199	62.71% →(37.29%)	65/204	N.A.	16.4s (fading)	RT
$(\dot{R})/I = 10$	VA30			(m=0.713)			
	•700	305	42.85%	85/173	N.A.	16.4s (fading)	BL
aB)				(M=1.29)			

 Table F.6.3.5.34.4 Closed Loop Diversity Performance for test case 9.2.3 demodulation of HS-DSCH

Closed Loop			Relative test	Test limit	Min No of	Test time in s	BL
Diversity			requirement	expressed as No of	samples		/
Performance	Abcolu	to Tost	(normalized to	events/min No of		Mandatory if	RT
QPSK	requirement		ideal=801 kbps)	samples	(number of	fading	
H-Set 5	require /L	(hpc)			events to pass)		
	(r	ups)	No of events/No of	(Bad DUT factor)		Informative	
Test number			samples in %		Mandatory if	and approx. if	
					applicable	statistical	
1			77.89% →(22.11%)	58/315	N.A.	164s (fading)	RT
$(\hat{\mathbf{k}}) = 0$	DA3	177		(m=0.674)			
$(T_{or}/T_{oc} = 0$	1 73		57.78% →(42.22%)	68/186	N.A.	164s (fading)	RT
dB)		338		(m=0.728)			
2			90.63% →(9.37%)	61/787	N.A.	164s (fading)	RT
$(\hat{\mathbf{k}}) = 0$	DB3	75		(m=1/1.5)			
$(T_{or}/T_{oc} = 0)$	FDS		67.52% →(32.48%)	62/225	N.A.	164s (fading)	RT
dB)		260		(m=0.699)			
3			91.13% →(8.87%)	62/846	N.A.	16.4s (fading)	RT
$(\hat{\mathbf{A}})/I = 0$	VA30	71		(m=1/1.5)			
$(I_{or}/I_{oc} = 0)$	V7.00		67.77% →(32.23%)	61/223	N.A.	16.4s (fading)	RT
dB)		258		(m=0.698)			
1			25.17%	64/211	N.A.	164s (fading)	BL
$(\dot{h})/I = 10$	DV3	599		(M=1.413)			
$(\Gamma_{or}/\Gamma_{oc} - 10)$	FAS		14.18%	57/325	N.A.	164s (fading)	BL
dB)		687		(M=1.487)			
2			62.65% →(37.35%)	64/200	N.A.	164s (fading)	RT
$(\dot{h})/I = 10$	DB3	299		(m=0.713)			
$(T_{or}/T_{oc} - 10)$	FDS		43.54%	87/174	N.A.	164s (fading)	BL
dB)		452		(M=1.285)			
3			61.77% →(38.23%)	65/198	N.A.	16.4s (fading)	RT
$(\dot{h}) = 10$	1/420	306		(m=0.716)			
$(\mathbf{r}_{or} / \mathbf{I}_{oc} = 10$	VASU		42.79%	86/175	N.A.	16.4s (fading)	BL
dB)		458		(M=1.29)			

	CHA	NGE REQUEST	-	CR-Form-v7
æ	34.121 CR 472	жrev <mark>-</mark> <sup>ж</sup>	Current versi	ion: <b>5.5.0</b> <sup>#</sup>
For <u>HELP</u> o	n using this form, see bottom	of this page or look at th	ne pop-up text	over the <mark></mark> symbols.
Proposed chang	e affects: UICC apps <mark>#</mark>	ME X Radio A	Access Networ	k Core Network
Title:	육 Addition of UMTS-850 E	Band V to chapter 6		
Source:	육 Nokia			
Work item code	æ TEI		Date: 🔀	16/10/2004
Category:	<ul> <li>F</li> <li>Use <u>one</u> of the following cat</li> <li>F (correction)</li> <li>A (corresponds to a co</li> <li>B (addition of feature),</li> <li>C (functional modification</li> <li>D (editorial modification</li> <li>Detailed explanations of the</li> <li>be found in 3GPP <u>TR 21.90</u></li> </ul>	tegories: prrection in an earlier releas tion of feature) on) above categories can <u>0</u> .	Release: Use <u>one</u> of a 2 e) R96 R97 R98 R99 Rel-4 Rel-5 Rel-6	R5 the following releases: (GSM Phase 2) (Release 1996) (Release 1997) (Release 1998) (Release 1999) (Release 4) (Release 5) (Release 6)

Reason for change: #	Band V (UMTS 850) is missing in 34.121 chapter 6
Summary of change: #	This CR will introduce UMTS-850 band to chapter 6 (Receiver characteristics).
Consequences if 🛛 🕅	34.121 chapter 6 tests cannot be performed in Band V.
not approved:	
Clauses affected:	6.2, 6.5, 6.7, 6.8
	YN

		Y	Ν	
Other specs	ж		Χ	Other core specifications #
affected:			Χ	Test specifications
			Χ	O&M Specifications
Other comments:	ж	Т	his	CR is to be treated as release independent.

#### 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.

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.

3)

## 6.2 Reference Sensitivity Level

## 6.2.1 Definition and applicability

The reference sensitivity level <REFSENS> is the minimum mean power received at the UE antenna port at which the Bit Error Ratio (BER) shall not exceed a specific value

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

## 6.2.2 Minimum Requirements

The BER shall not exceed 0,001 for the parameters specified in table 6.2.1.

Operating Band	Unit	DPCH_Ec <refsens></refsens>	<refqe></refqe>	
I, VI	dBm/3.84 MHz	-117	-106.7	
II	dBm/3.84 MHz	-115	-104.7	
Ш	dBm/3.84 MHz	-114	-103.7	
V	<u>dBm/3.84 MHz</u>	<u>-115</u>	<u>-104.7</u>	
1. For Power class 3 this shall be at the maximum output power				

Table 6.2.1: Test parameters for Reference Sensitivity Level

The normative reference for this requirement is TS 25.101 [23] clause 7.3.1.

## 6.2.3 Test purpose

To verify that the UE BER shall not exceed 0,001 for the parameters specified in table 6.2.1.

The lack of the reception sensitivity decreases the coverage area at the far side from Node B.

## 6.2.4 Method of test

#### 6.2.4.1 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: low range, mid range, high range; see clause G.2.4.

- 1) Connect the SS to the UE antenna connector as shown in figure A.3.
- 2) Channel conditions are initially set up with received CPICH\_RSCP >-85 dBm. The relative power level of downlink physical channels to Ior are set up according to clause E.2.1. The parameter settings of the cell are set up according to TS 34.108, clause 6.1.5 for i Default settings for a serving cell in a single cell environmentî.
- 3) Switch on the phone.
- 4) A call is set up according to the Generic call setup procedure in [3] clause 7.3.1.
- 5) The RF parameters are set up according to table 6.2.2.
- 6) Enter the UE into loopback test mode and start the loopback test.

See TS 34.109 [4] for details regarding loopback test.

#### 6.2.4.2 Procedure

- 1) Set and send continuously Up power control commands to the UE until the UE output power shall be maximum level.
- 2) Measure the BER of DCH received from the UE at the SS.

## 6.2.5 Test requirements

The measured BER, derived in step 2), shall not exceed 0,001.

Operating Band	Unit	DPCH_Ec <refsens></refsens>	<refqe></refqe>
I, VI	dBm/3.84 MHz	-116.3	-106
II	dBm/3.84 MHz	-114.3	-104
III	dBm/3.84 MHz	-113.3	-103
V	<u>dBm/3.84 MHz</u>	<u>-114.3</u>	<u>-104</u>
<ol> <li>For Power class 3 this shall be at the maximum output power</li> <li>For Power class 4 this shall be at the maximum output power</li> </ol>			

 Table 6.2.2: Test parameters for Reference Sensitivity Level

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.

#### NEXT MODIFIED SECTION

## 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<sub>1</sub>-or band III or Band V.

## 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.

Parameter	Unit	Level		
DPCH_Ec	dBm/3.84 MHz	<refsens>+3 dB</refsens>		
Œ	dBm/3.84 MHz	<refœ;> + 3 dB</refœ;>		
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 6.5.1: Test parameters for In-band blocking characteristics

## 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		
DPCH_Ec	dBm/3.84 MHz	<refsens>+3 dB</refsens>	<refsens>+3 dB</refsens>	<refsens>+3 dB</refsens>		
G₽	dBm/3.84 MHz	<refq≣> + 3 dB</refq≣>	<refq⊋> + 3 dB</refq⊋>	<refq≣> + 3 dB</refq≣>		
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<>		
<u>F<sub>uw</sub> (Band V</u> operation)	<u>MHz</u>	<u>809&lt; f &lt;854</u> 909< f <954	<u>784&lt; f &lt;809</u> 954< f < 979	<u>1&lt; f &lt;784</u> 979 <f<12750< td=""></f<12750<>		
F <sub>uw</sub> (Band VI operation)	MHz	815 < f < 860 900 < f < 945	790 < f < 815 945 < f < 970	1 < f < 790 970 < 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="" 6.4.2="" 6.5.2="" 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="" 6.4.2="" 6.5.2="" 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<1805 1880<f<1895="" 6.4.2="" 6.5.2="" adjacent="" and="" applied.<="" appropriate="" be="" blocking="" channel="" clause="" in="" in-band="" mhz="" mhz,="" or="" selectivity="" shall="" td="" the=""></f<1805>					
Band V operation	For 854 <f<869 channel selectiv</f<869 	For 854 <f<869 6.4.2="" 6.5.2="" 894<f<909="" adjacent="" and="" applied.<="" appropriate="" be="" blocking="" channel="" in="" in-band="" mhz="" mhz,="" or="" selectivity="" shall="" subclause="" td="" the=""></f<869>				
Band VI operation	For 860 <f<875 6.4.2="" 6.5.2="" 885<f<900="" adjacent="" and="" applied<="" appropriate="" be="" blocking="" channel="" clause="" in="" in-band="" mhz="" mhz,="" or="" selectivity="" shall="" td="" the=""></f<875>					

#### 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 III-or, band III or band V.

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

Parameter	Unit	Band II and Band V	Band III
DPCH Ec	dBm/3.84 MHz	<refsens> + 10 dB</refsens>	<refsens> + 10 dB</refsens>
<b>G</b> ₽	dBm/3.84 MHz	<ref0 ==""> + 10 dB</ref0>	<refq=> + 10 dB</refq=>
Iblocking (GMSK)	dBm	-57	-56
F <sub>uw</sub> (offset)	MHz	2.7	2.8
UE transmitted mean	dPm	20 (for Power class 3)	
power	udili	18 (for Power class 4)	

Table 6.5.3: Test	parameters for	narrow band	blocking
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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 specified in TS34.108[3] 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.
- 4) 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.
- 4) 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>		
Œ	dBm/3.84 MHz	<refœ> + 3 dB</refœ>		
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

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>	
G₽	dBm/3.84 MHz	<refqę> + 3 dB</refqę>	<refq≣> + 3 dB</refq≣>	<refœ;⇒ +="" 3="" db<="" td=""></refœ;⇒>	
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<>	
<u>F<sub>uw</sub> (Band V</u> operation)	<u>MHz</u>	<u>809&lt; f &lt;854</u> 909< f <954	<u>784&lt; f &lt;809</u> 954< f < 979	<u>1&lt; f &lt;784</u> 979 <f<12750< td=""></f<12750<>	
F <sub>uw</sub> (Band VI operation)	MHz	815 < f < 860 900 < f < 945	790 < f < 815 945 < f < 970	1 < f < 790 970 < 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="" 6.4.2="" 6.5.2="" 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="" 6.4.2="" 6.5.2="" 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<1805 1880<f<1895="" 6.4.2="" 6.5.2="" adjacent="" and="" applied.<="" appropriate="" be="" blocking="" channel="" clause="" in="" in-band="" mhz="" mhz,="" or="" selectivity="" shall="" td="" the=""></f<1805>				
Band V operation	For 854 <f<869 channel selectiv</f<869 	For 854 <f<869 6.4.2="" 6.5.2="" 894<f<909="" adjacent="" and="" applied.<="" appropriate="" be="" blocking="" channel="" in="" in-band="" mhz="" mhz,="" or="" selectivity="" shall="" subclause="" td="" the=""></f<869>			
Band VI operation	For 860 <f<875 channel selectiv</f<875 	MHz and 885 <f<900 mi<br="">vity in subclause 6.5.2 a</f<900>	Hz, the appropriate in-band subclause 6.4.2 shal	and blocking or adjacent I be applied	

 Table 6.5.5: Test parameters for Out of band blocking characteristics

 Table 6.5.6: Test parameters for narrow band blocking

Parameter	Unit	Band II and Band V	Band III
DPCH_Ec	dBm/3.84 MHz	<refsens> + 10 dB</refsens>	<refsens> + 10 dB</refsens>
G <u>∓</u>	dBm/3.84 MHz	<ref0=> + 10 dB</ref0=>	<refq=> + 10 dB</refq=>
Iblocking (GMSK)	dBm	-57	-56
F <sub>uw</sub> (offset)	MHz	2.7	2.8
UE transmitted mean	dBm	20 (for Power class 3)	
power	uDIII	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.

#### NEXT MODIFIED SECTION

## 6.7 Intermodulation Characteristics

## 6.7.1 Definition and applicability

1

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<sub>1</sub>-and Band III or Band V.

## 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:  $I_{ouw2}$  (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.

Table 6.7.1: Test parameters for Intermodulation Characteristics

Parameter	Level		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
<b>G</b> <sub>ℓ</sub>	<refq=> +3 dB</refq=>		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)	

Parameter	Unit	Band II and Band V		Band III	
DPCH_Ec	DBm/3.84 MHz	<refsens< td=""><td>S&gt;+ 10 dB</td><td><refsen< td=""><td>IS&gt;+ 10 dB</td></refsen<></td></refsens<>	S>+ 10 dB	<refsen< td=""><td>IS&gt;+ 10 dB</td></refsen<>	IS>+ 10 dB
G₽	DBm/3.84 MHz	<refq=></refq=>	+ 10 dB	[ <refq< td=""><td>⊳ +10 dB</td></refq<>	⊳ +10 dB
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 power	dBm		20 (for Pov 18 (for Pov	ver class 3) ver class 4)	

NOTE:  $I_{ouw2}$  (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) RF parameters are set up according to table 6.7.3 and table 6.7.4.
- 3) A call is set up according to the Generic call setup procedure specified in TS 34.108 [3] 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.

4) 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

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.

#### 6.7.4.2 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.
- 2) 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.

Parameter	Level		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
দ্ধি	<refq< td=""><td>&gt; +3 dB</td><td>dBm / 3.84 MHz</td></refq<>	> +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 18 (for Pov	ver class 3) ver class 4)	dBm

#### Table 6.7.3: Test parameters for Intermodulation Characteristics

Parameter	Unit	Band II <u> and Band V</u>		Band III	
DPCH_Ec	DdBm/3.84 MHz	<refsens>+ 10 dB</refsens>		<refsens>+ 10 dB</refsens>	
Œ	DdBm/3.84 MHz <refq=> + 10 dB</refq=>		[ <refœ;⇒ +10="" db<="" td=""></refœ;⇒>		
I <sub>ouw1</sub> (CW)	dBm	-44		-43	
I <sub>ouw2</sub> (GMSK)	dBm	-4	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 Pov 18 (for Pov	ver class 3) ver 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.

## 6.8 Spurious Emissions

## 6.8.1 Definition and applicability

The spurious emissions power is the power of emissions generated or amplified in a receiver that appear at the UE antenna connector.

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

## 6.8.2 Minimum Requirements

The power of any narrow band CW spurious emission shall not exceed the maximum level specified in table 6.8.1 and table 6.8.2.

Frequency Band	Measurement Bandwidth	Maximum level	Note
30 MHz ≤ f < 1 GHz	100 kHz	-57 dBm	
1 GHz $\leq$ f $\leq$ 12,75 GHz	1 MHz	-47 dBm	

Table 6.8.1: General r	receiver spurious	emission	requirements
------------------------	-------------------	----------	--------------

Operating band	Frequency Band	Measurement	Maximum level	Note
		Bandwidth		
I	1 920 MHz $\leq$ f $\leq$ 1 980 MHz	3,84 MHz	-60 dBm	UE transmit band in
				URA PCH. Cell PCH
				and idle state
F	0.110 M = < f < 0.170 M =	2 04 MU-	60 dBm	
			-00 0011	
11	1850 MHz ≤ f ≤ 1910 MHz	3.84 MHz	-60 dBm	UE transmit band in
				URA_PCH, Cell_PCH
				and idle state
	1930 MHz $\leq$ f $\leq$ 1990 MHz	3.84 MHz	-60 dBm	UE receive band
111	1710 MHz $\leq$ f $\leq$ 1785 MHz	3.84 MHz	-60 dBm	UE transmit band in
				URA PCH. Cell PCH
				and idle state
-	1805 MHz < f < 1880 MHz	3 84 MHz	-60 dBm	UE receive band
<u>v</u>	<u>824 MHZ ≤ t ≤ 849 MHZ</u>	<u>3.84 MHZ</u>	<u>-60 abm</u>	
				URA_PCH, Cell_PCH
				and idle state
	<u>869 MHz ≤ f &lt; 894 MHz</u>	<u>3.84 MHz</u>	<u>-60 dBm</u>	UE receive band
VI	830 MHz ≤ f ≤ 840 MHz	3.84 MHz	-60 dBm	UE transmit band in
				URA PCH, Cell PCH
				and idle state
	875 MHz $\leq$ f $\leq$ 885 MHz	3.84 MHz	-60 dBm	UE receive band
	2110 MHz $\leq$ f $\leq$ 2170 MHz	3.84 MHz	-60 dBm	

#### Table 6.8.2: Additional receiver spurious emission requirements

The reference for this requirement is TS 25.101 [1] clause 7.9.1.

## 6.8.3 Test purpose

To verify that the UE spurious emission meets the specifications described in clause 6.8.2.

Excess spurious emissions increase the interference to other systems.

## 6.8.4 Method of test

#### 6.8.4.1 Initial conditions

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

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

- 1) Connect a spectrum analyzer (or other suitable test equipment) to the UE antenna connector as shown in figure A.8.
- 2) RF parameters are setup according to table E.3.2.2. Settings for the serving cell are defined in table 6.8.2A.
- 3) A call is set up according to the setup procedure specified in TS34.108 [3] sub clause 7.3.5, with the following exceptions for information elements in System Information Block type3.

SIB 3 Information Element	Value/Remark
- Cell selection and re-selection info	
- CHOICE mode	FDD
- Sintrasearch	0 dB
- Sintersearch	0 dB
- RAT List	This parameter is not present
- Maximum allowed UL TX power	Power level where Pcompensation=0

The exceptions for SIB1 are defined in TS 34.108 [3] clause 7.3.5.2.

NOTE: The setup procedure (3) sets the UE into the CELL\_FACH state. With this state and the SS level (2) it is ensured that UE continuously monitors the S-CCPCH and no cell reselections are performed [see 3GPP TS 25.304, clauses 5.2.3.and 5.2.6]. The UE will not be transmitting, and therefore will not interfere with the measurement.

#### Table 6.8.2A: Settings for the serving cell during the measurement of Rx Spurious Emissions

Parameter	Unit	Cell 1	
Cell type		Serving cell	
UTRA RF Channel Number		As defined in clause 6.8.4.1	
Qqualmin	dB	-24	
Qrxlevmin	dBm	-115	
UE_TXPWR_MAX_RACH	dBm	+21	
CPICH Ec (see notes 1 and 2)	dBm/3.84	As defined in table E.3.2.2	
	MHz		
NOTE 1: The power level is specified in terms of CPICH_Ec instead of CPICH_RSCP as RSCP			
is a receiver measurement and only CPICH_Ec can be directly controlled by the SS.			
NOTE 2: The cell fulfils TS 25.304, 5.2.3.1.2.			

#### 6.8.4.2 Procedure

1) Sweep the spectrum analyzer (or equivalent equipment) over a frequency range and measure the average power of spurious emission.

### 6.8.5 Test requirements

It shall be verified that the RRC connection release at the end of the procedure described in 34.108 [3] clause 7.3.5.3 shall be completed successfully indicating that the UE has stayed in CELL\_FACH state during the measurement of the spurious emissions.

The measured spurious emissions, derived in step 1), shall not exceed the maximum level specified in table 6.8.3 and table 6.8.4.

Table 6.8.3: General receiver spurious emission requirements

Operating Band	Frequency Band	Measurement Bandwidth	Maximum level	Note
I	1 920 MHz ≤ f ≤ 1 980 MHz	3,84 MHz	-60 dBm	UE transmit band
	2 110 MHz $\leq$ f $\leq$ 2 170 MHz	3,84 MHz	-60 dBm	UE receive band
II	1850 MHz $\leq$ f $\leq$ 1910 MHz	3.84 MHz	-60 dBm	UE transmit band
	1930 MHz $\leq$ f $\leq$ 1990 MHz	3.84 MHz	-60 dBm	UE receive band
III	1710 MHz $\leq$ f $\leq$ 1785 MHz	3.84 MHz	-60 dBm	UE transmit band
	1805 MHz $\leq$ f $\leq$ 1880 MHz	3.84 MHz	-60 dBm	UE receive band
<u>V</u>	<u>824 MHz ≤ f ≤ 849 MHz</u>	<u>3.84 MHz</u>	<u>-60 dBm</u>	UE transmit band
	<u>869 MHz ≤ f &lt; 894 MHz</u>	<u>3.84 MHz</u>	<u>-60 dBm</u>	UE receive band
VI	830 MHz $\leq$ f $\leq$ 840 MHz	3.84 MHz	-60 dBm	UE transmit band
	875 MHz $\leq$ f $\leq$ 885 MHz	3.84 MHz	-60 dBm	UE receive band
	2110 MHz $\leq$ f $\leq$ 2170 MHz	3.84 MHz	-60 dBm	

Table 6.8.4: Additional receiver spurious emission requirements

- NOTE 1: 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.
- NOTE 2: The Test Requirements are measured in the CELL\_FACH state instead of in the UE states defined in the Minimum Requirement because the CELL\_FACH state ensures that the UE receiver is continuously on and the UE transmitter is off whilst the spectrum analyser searches for spurious emissions. The UE states defined in the Minimum Requirement allow the UE receiver to be in discontinuous reception, and using those UE states during the measurement would have resulted in a complicated and significantly lengthened test procedure since the UE receiver would be allowed to be switched off part of the time.

	CHANGE REQUEST								
æ	<b>34.121</b> CR <sup>474</sup> <b># rev</b> - <sup>#</sup>	Current version: <b>5.5.0</b> <sup>B</sup>							
For <u>HELP</u> of	n using this form, see bottom of this page or look at t	the pop-up text over the <mark>೫</mark> symbols.							
Proposed chang	<b>ge affects:</b> UICC apps <mark>#</mark> ME X Radio	Access Network Core Network							
Title:	CR to 34.121: Changing the BLER target for the	e DCCH in test 7.8							
Source:	# Intel, QUALCOMM Inc., Spirent Communicatio	ns							
Work item code	EI	<b>Date: <mark>₩</mark>02/11/2004</b>							
Category:	<ul> <li>D</li> <li>Use <u>one</u> of the following categories:</li> <li>F (correction)</li> <li>A (corresponds to a correction in an earlier releated between the second sec</li></ul>	Release:#Rel-5Use oneof the following releases:Ph2(GSM Phase 2)ase)R96(Release 1996)R97(Release 1997)R98(Release 1998)R99(Release 1999)Rel-4(Release 4)Rel-5(Release 5)Rel-6(Release 7)							

Reason for change: 🔀	<ol> <li>The definition of the test needs to be clarified to explicitly state that the bler- quality target for the DCCH should be set low enough so that it does not dominate the one for the DTCH.</li> <li>Initial Conditions and the Test Procedure are not clear.</li> </ol>
Summary of change: <mark></mark> #	<ol> <li>Added a note to section 7.8 to explicitly state that the bler-quality target for the DCCH should be set low enough so that it does not dominate the one for the DTCH.</li> <li>Introduced a new table 7.8.1.3A to reflect the change in The RRC CONNECTION SETUP message to set the DCCH bler-quality target to 0 (100% BLER).</li> <li>The steps in the Initial conditions and test procedures were modified to make the test clearer.</li> </ol>
Consequences if 🛛 🔀	Test case will not produce consistent results since the BLER setting for the
not approved:	DCCH might interfere with the one for the DTCH.
Clauses affected: #	7.8, 7.8.1, 7.8.2, 7.8.3, Annex I
Other specs % affected:	Y       N         X       Other core specifications         X       Test specifications         X       O&M Specifications
Other comments: 🛛 🕷	This CR is applicable to UEis supporting Rel-99 or later.

#### 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.

## 7.8 Power control in downlink

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

Note: The above implies that the BLER target for the DCCH should be set low enough so that it does not dominate the one for the DTCH.

## 7.8.1 Power control in the downlink, constant BLER target

## 7.8.1.1 Definition and applicability

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

### 7.8.1.2 Minimum requirements

For the parameters specified in table 7.8.1.1 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 7.8.1.2 more than 90% of the time. BLER shall be as shown in table 7.8.1.2. Power control in downlink is ON during the test.

Parameter	Test 1	Test 2	Unit	
$\dot{P}_{or}/I_{oc}$	9	-1	dB	
I <sub>oc</sub>	-60		dBm / 3,84 MHz	
Information Data Rate	12	2,2	kbps	
Target quality on DTCH	0,01		BLER	
Propagation condition	Case 4			
Maximum_DL_Power (note)	7		dB	
Minimum_DL_Power (note)	-18		dB	
DL Power Control step size, $\Delta_{\text{TPC}}$	1		dB	
Limited Power Increase	"Not	used"	-	
NOTE: Power is compared to P-CPICH as specified in [9].				

#### Table 7.8.1.1: Test parameter for downlink power control, constant BLER target

Table 7.8.1.2: Requirements in downlink power control, constant BLER target

Parameter	Test 1	Test 2	Unit
$\frac{DPCH\_E_c}{I_{or}}$	-16,0	-9,0	dB
Measured quality on DTCH	0,01 ± 30 %	0,01 ± 30 %	BLER

The reference for this requirement is TS 25.101 [1] clause 8.8.1.1.

### 7.8.1.3 Test purpose

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

#### 7.8.1.4 Method of test

#### 7.8.1.4.1 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 <u>specified in TS 34.108 [3] clause 7.3.2</u>, with the <u>exception of the information element of the RRC CONNECTION SETUP message listed in Annex I. With this exception, the outer loop is based on DTCH and not on DCCH.</u>
- 3) RF parameters are set up according to table 7.8.1.3.
- 4) Enter the UE into loopback test mode and start the loopback test.
- 5) SS signals to UE target quality value on DTCH as specified in table 7.8.1.3. SS will vary the physical channel power in downlink according to the TPC commands from UE. Downlink power control mode (DPC\_MODE) 0 shall be used. At the same time BLER is measured. This is continued until the target quality value on DTCH, specified in Table 7.8.1.1 is met, within the minimum accuracy requirement, specified in Table 7.8.1.2.

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

#### 7.8.1.4.2 Procedure

1) After the target quality on DTCH is met, BLER is measured. Simultaneously the downlink  $\frac{DPCH_{-}E_{c}}{I_{or}}$  power

ratio averaged over one slot is measured. This is repeated until adequate amount of measurements is done to reach the required confidence level.

2) The measured quality on DTCH (BLER) and the measured downlink  $\frac{DPCH_{-}E_{c}}{I_{or}}$  power ratio values

averaged over one slot are compared to limits in table 7.8.1.2.

### 7.8.1.5 Test Requirements

The test parameters are specified in table 7.8.1.3.

#### Table 7.8.1.3: Test parameter for downlink power control, constant BLER target

Parameter	Test 1	Test 2	Unit	
$\dot{P}_{or}/I_{oc}$	9,6	-0,4	dB	
I <sub>oc</sub>	-60		dBm / 3,84 MHz	
Information Data Rate	12	2,2	kbps	
Target quality on DTCH	0,01		BLER	
Propagation condition	Case 4			
Maximum_DL_Power (note)	7		dB	
Minimum_DL_Power (note)	-18		dB	
DL Power Control step size,	-		dD	
$\Delta_{TPC}$	1		uВ	
Limited Power Increase	"Not	used"	-	
NOTE: Power is compared to P-CPICH as specified in [9].				

a) The measured quality on DTCH does not exceed the values in table 7.8.1.4.

Parameter	Test 1	Test 2	Unit
$\frac{DPCH\_E_c}{I_{or}}$	-15,9	-8,9	dB
Measured quality on DTCH	0,01 ± 30 %	0,01 ± 30 %	BLER

#### Table 7.8.1.4: Requirements in downlink power control, constant BLER target

## 7.8.2 Power control in the downlink, initial convergence

#### 7.8.2.1 Definition and applicability

This requirement verifies that DL power control works properly during the first seconds after DPCH connection is established. The requirements and this test apply to all types of UTRA for the FDD UE.

#### 7.8.2.2 Minimum requirements

For the parameters specified in table 7.8.2.1 the downlink DPCH\_Ec/Ior power ratio measured values, which are averaged over 50 ms, shall be within the range specified in table 7.8.2.2 more than 90 % of the time. T1 equals to 500 ms and it starts 10 ms after the uplink DPDCH physical channel is considered established. T2 equals to 500 ms and it starts when T1 has expired. Power control is ON during the test.

The first 10 ms shall not be used for averaging, i.e. the first sample to be input to the averaging filter is at the beginning of T1. The averaging shall be performed with a sliding rectangular window averaging filter. The window size of the averaging filter is linearly increased from 0 up to 50 ms during the first 50 ms of T1, and then kept equal to 50ms.

Parameter	Test 1	Test 2	Test 3	Test 4	Unit	
Target quality value on	0,01	0,01	0,1	0,1	BLER	
DTCH						
Initial DPCH_Ec/lor	-5,9	-25,9	-3	-22,8	dB	
Information Data Rate	12,2	12,2	64	64	kbps	
$\dot{P}_{or}/I_{oc}$			-1		dB	
I <sub>oc</sub>		-	60		dBm/3,84 MHz	
Propagation condition		St	atic			
Maximum_DL_Power (note)		dB				
Minimum_DL_Power (note)		-18				
DL Power Control step size,		dB				
$\Delta_{ extsf{TPC}}$						
Limited Power Increase "Not used"						
NOTE: Power is compared to P-CPICH as specified in [9].						

Table 7.8.2.1: Test parameters for downlink power control, initial convergence

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.

Parameter	Test 1 and Test 2	Test 3 and Test 4	Unit
$\frac{DPCH \_ E_c}{I_{or}} \text{ during T1}$	$-18,9 \leq DPCH_Ec/lor \leq -11,9$	$-15,1 \le DPCH\_Ec/lor \le -8,1$	dB
$\frac{DPCH\_E_c}{I_{or}} \text{ during T2}$	$-18,9 \le DPCH\_Ec/lor \le -14,9$	$-15,1 \leq \text{DPCH}_\text{Ec/lor} \leq -11,1$	dB

Table 7.8.2.2: Requirements in downlink power control, initial convergence

The reference for this requirement is TS 25.101 [1] clause 8.8.2.1.

#### 7.8.2.3 Test purpose

To verify that DL power control works properly during the first seconds after DPCH connection is established.

#### 7.8.2.4 Method of test

#### 7.8.2.4.1 Initial conditions

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

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

- 1) Connect SS, multipath fading simulator and an AWGN source to the UE antenna connector as shown in figure A.10.
- 2) Set up a call according to the Generic call setup procedure specified in TS 34.108 [3] clause 7.3.2, with the exception of the information element of the RRC CONNECTION SETUP message listed in Annex I. With this exception, the outer loop is based on DTCH and not on DCCH.
- 3) RF parameters are set up according to table 7.8.2.3.

#### 7.8.2.4.2 Procedure

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

Set up call using test parameters according to table 7.8.2.1.

- 2) SS signals to UE target quality value on DTCH as specified in table 7.8.2.3. SS will vary the physical channel power in downlink according to the TPC commands from UE. Downlink power control mode (DPC\_MODE) 0 shall be used.
- 3) Measure  $\frac{DPCH_{-}E_{c}}{I_{or}}$  power ratio averaged over 50 ms during T1. T1 starts 10 ms after the uplink DPDCH

physical channel is considered established and T1 equals to 500 ms. The first 10 ms shall not be used for averaging, i.e. the first sample to be input to the averaging filter is at the beginning of T1. The averaging shall be performed with a sliding rectangular window averaging filter. The window size of the averaging filter is linearly increased from 0 up to 50 ms during the first 50 ms of T1, and then kept equal to 50ms.

4) Measure  $\frac{DPCH_{-}E_{c}}{I_{or}}$  power ratio averaged over 50 ms during T2. T2 starts, when T1 has expired and T2 equals

to 500 ms.

#### 7.8.2.5 Test Requirements

The test parameters are specified in table 7.8.2.3.

Parameter	Test 1	Test 2	Test 3	Test 4	Unit
Target quality value on	0,01	0,01	0,1	0,1	BLER
DTCH					
Initial DPCH_Ec/lor	-5,9	-25,9	-3	-22,8	dB
Information Data Rate	12,2	12,2	64	64	kbps
$\dot{P}_{or}/I_{oc}$		dB			
I <sub>oc</sub>		dBm/3,84 MHz			
Propagation condition	Static				
Maximum_DL_Power (note)		dB			
Minimum_DL_Power (note)		dB			
DL Power Control step size,	1				dP
$\Delta_{TPC}$		uБ			
Limited Power Increase	"Not used"				
NOTE: Power is compared to P-CPICH as specified in [9].					

Table 7.8.2.3: Test parameters for downlink power control, initial convergence

- a) The downlink  $\frac{DPCH_{-}E_{c}}{I_{or}}$  power ratio values shall be within the range specified in table 7.8.2.4 during T1 more than 90 % of the time.
- b) The downlink  $\frac{DPCH_{-}E_{c}}{I_{or}}$  power ratio values shall be within the range specified in table 7.8.2.4 during T2 more

than 90 % of the time.

Parameter	Test 1 and Test 2	Test 3 and Test 4	Unit
$\frac{DPCH\_E_c}{I_{or}}$ during T1	-18,8 ≤ DPCH_Ec/lor ≤ -11,8	$-15,0 \le DPCH\_Ec/lor \le -8,0$	dB
$\frac{DPCH\_E_c}{I_{or}}$ during T2	$-18,8 \leq DPCH\_Ec/lor \leq -14,8$	$-15,0 \le DPCH\_Ec/lor \le -11,0$	dB

#### Table 7.8.2.4: Requirements in downlink power control, initial convergence

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.

#### 7.8.3 Power control in the downlink, wind up effects

#### 7.8.3.1 Definition and applicability

This requirement verifies that, after the downlink maximum power is limited in the UTRAN and it has been released again, the downlink power control in the UE does not have a wind up effect, i.e. the required DL power has increased during time period the DL power was limited. The requirements and this test apply to all types of UTRA for the FDD UE.

#### 7.8.3.2 Minimum requirements

This test is run in three stages where stage 1 is for convergence of the power control loop, in stage two the maximum downlink power for the dedicated channel is limited not to be higher than the parameter specified in table 7.8.3.1. All parameters used in the three stages are specified in table 7.8.3.1. The downlink  $\underline{DPCH_{-E_c}}_{I_{ar}}$  power ratio measured values,

which are averaged over one slot, during stage 3 shall be lower than the value specified in table 7.8.3.2 more than 90 % of the time. Power control of the UE is ON during the test.

Parameter	Test 1			Unit
	Stage 1	Stage 2	Stage 3	
Time in each stage	>15	5	0,5	S
$\dot{P}_{or}/I_{oc}$		5		dB
I <sub>oc</sub>		-60		dBm/3,84 MHz
Information Data Rate		12,2		kbps
Quality target on DTCH		0,01		BLER
Propagation condition	Case 4			
Maximum_DL_Power (note)	7	-6,2	7	dB
Minimum_DL_Power (note)		-18		dB
DL Power Control step size, $\Delta_{\text{TPC}}$	1		dB	
Limited Power Increase	"Not used"			-
NOTE: Power is compared to P-CPICH as specified in [9].				

Table 7.8.3.1: Test parameter for downlink power control, wind-up effects

Tuble 1.0.0.2. Requirements in domining power control, whild up checks
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Parameter	Test 1, stage 3	Unit
$\frac{DPCH\_E_c}{I_{or}}$	-13,3	dB

The reference for this requirement is TS 25.101 [1] clause 8.8.3.1.

#### 7.8.3.3 Test purpose

To verify that the UE downlink power control does not require too high downlink power during a period after the downlink power is limited by the UTRAN.

#### 7.8.3.4 Method of test

7.8.3.4.1 Initial conditions

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

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

- 1) Connect SS, multipath fading simulator and an AWGN source to the UE antenna connector as shown in figure A.10.
- 2) Set up a call according to the Generic call setup procedure. <u>specified in TS 34.108 [3] clause 7.3.2</u>, with the exception of the information element of the RRC CONNECTION SETUP message listed in Annex I. With this exception, the outer loop is based on DTCH and not on DCCH.
- 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.

#### 7.8.3.4.2 Procedure

- 1) RF parameters are set up according to table 7.8.3.3. Stage 1 is used for the power control to converge and during Stage 2 the maximum downlink power is limited by UTRAN.
- 2) SS signals to UE target quality value on DTCH as specified in table 7.8.3.1. SS will vary the physical channel power in downlink according to the TPC commands from UE during stages 1, 2, and 3. Downlink power control mode (DPC\_MODE) 0 shall be used.
- 3) Measure  $\frac{DPCH_{-}E_{c}}{I_{or}}$  power ratio during stage 3 according to table 7.8.3.3.
- 4) Repeat steps 1 ñ 3 328 times.
- Note: The number of repetitions (328) is derived from minimum testing time for 3 km/h fading channels (Table F.6.1.6.2; 164 seconds).

#### 7.8.3.5 Test Requirements

The test parameters are specified in table 7.8.3.3.

#### Test 1 Unit Parameter Stage 2 Stage 1 Stage 3 Time in each stage >15 5 0,5 s 5,6 dB $\dot{P}_{or}/I_{oc}$ $I_{oc}$ -60 dBm/3,84 MHz Information Data Rate 12,2 kbps Quality target on DTCH 0,01 BLER Propagation condition Case 4 Maximum DL Power (note) 7 -6,2 7 dB Minimum\_DL\_Power (note) -18 dB DL Power Control step size, 1 dB $\Delta TPC$ Limited Power Increase "Not used" -Power is compared to P-CPICH as specified in [9] NOTE:

#### Table 7.8.3.3: Test parameter for downlink power control, wind-up effects

The downlink  $\underline{DPCH \_ E_c}$  power ratio values, which are averaged over one slot, shall be lower than the level specified in  $I_{or}$ 

table 7.8.3.4 during stage 3 more than 90 % of the time.

Table 7.8.3.4: Requirements in downlink power control, wind-up effects

Parameter	Test 1, stage 3	Unit
$DPCH \_E_c$	-13,2	dB
I <sub>or</sub>		

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.

## 

## Annex I (normative): Default Message Contents

This Annex contains the default values of common messages, other than those described in TS 34.108. The messages are primarily concerning the RRM test cases in clause 8 and unless indicated otherwise in specific test cases, shall be transmitted and checked by the system simulator. The necessary messages are listed in alphabetical order.

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

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Measurement identity	1
Measured Results	
<ul> <li>Intra-frequency measured results list</li> </ul>	
- Cell measured results	
- Cell Identity	Not present
<ul> <li>Cell synchronisation information</li> </ul>	
- Tm	Checked that this IE is present
- OFF	Checked that this IE is present
- CHOICE mode	FDD
- Primary CPICH info	Checked that this IE is present
<ul> <li>Primary scrambling code</li> </ul>	150
- CPICH Ec/N0	If reporting of iCPICH Ec/N0i measurement is configured then checkChecked that this IE is present
- CPICH RSCP	If reporting of iCPICH Ec/N0i measurement is configured then checkChecked that this IE is present
- Pathloss	If reporting of iCPICH Ec/N0i measurement is configured then checkChecked that this IE is present
Measured results on RACH	Checked that this IE is absent
Additional measured results	Checked that this IE is absent
Event results	Checked that this IE is absent

## Contents of MEASUREMENT REPORT message for Inter frequency test cases

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Measurement identity	1
Measured Results	
<ul> <li>Inter-frequency measured results list</li> </ul>	
- UTRA Carrier RSSI	If reporting of iCPICH Ec/N0i measurement is configured then checkChecked that this IE is present
<ul> <li>Inter-frequency cell measurement results</li> </ul>	
- Cell measured results	
- Cell Identity	Not present
- Cell synchronisation information	
-Tm	Checked that this IE is present
- OFF	Checked that this IE is present
- CHOICE mode	FDD
- Primary CPICH info	Checked that this IE is present
<ul> <li>Primary scrambling code</li> </ul>	150
- CPICH Ec/N0	If reporting of iCPICH Ec/N0i measurement is configured
	then checkChecked that this IE is present
- CPICH RSCP	If reporting of iCPICH Ec/N0i measurement is configured
	then checkChecked that this IE is present
- Pathloss	If reporting of iCPICH Ec/N0i measurement is configured
	then checkChecked that this IE is present
Measured results on RACH	Checked that this IE is absent
Additional measured results	Checked that this IE is absent
Event results	Checked that this IE is absent

#### Contents of MEASUREMENT REPORT message for inter ñ RAT test cases

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Measurement identity	1
Measured Results	
<ul> <li>Inter-RAT measured results list</li> </ul>	
- CHOICE system - GSM	GSM
- Measured GSM cells	Checked that this IE is present
- GSM carrier RSSI	If reporting of iGSM carrier RSSIi measurement is configured then checkChecked that this IE is present
- CHOICE BSIC	Non verified BSIC
- Non verified BSIC	
- BCCH ARFCN	Checked that this IE is present
- Observed time difference to GSM cell	If reporting of iObserved time difference to GSM celli measurement configured then checkChecked that this IE is present
Measured results on RACH	Checked that this IE is absent
Additional measured results	Checked that this IE is absent
Event results	Checked that this IE is absent

#### Contents of RRC CONNECTION SETUP message: UM (Transition to CELL DCH)

The following information element is exception of TS34.108 for test cases 7.8.1, 7.8.2, and 7.8.3.

Information Element	Value/remark
Added or Reconfigured DL TrCH information	
- DCH quality target	
- BLER Quality value	<u>0.0</u>

Contents of Master Information Block PLMN type is the case of GSM-MAP

The following information element is exception of TS34.108 based on monitorlist size for 8.3.4, 8.4.1.1, 8.4.1.2, 8.6.1.1, 8.6.1.2, 8.6.1.3, 8.6.1.4, 8.6.2.1 test cases.

Information Element	Value/Remark
- SIB_POS	1
- SIB_POS offset info	Not Present
- SIB and SB type	Scheduling Block 1
- SIB_REP	128
- SIB_POS	11
- SIB_POS offset info	Not Presen
- SIB and SB type	System Information Type 1
- SIB_REP	128
- SIB_POS	11
- SIB_POS offset info	Not Present
- SIB and SB type	System Information Type 2
- SIB_REP	128
- SIB_POS	10
- SIB_POS offset info	Not Present
- SIB and SB type	System Information Type 3
- SIB_REP	128
- SIB_POS	26
- SIB_POS offset info	Not Present
- SIB and SB type	System Information Type 4
- SIB_REP	128
- SIB_POS	19
- SIB_POS offset info	3
- SIB and SB type	System Information Type 5

Contents of Scheduling Block 1 (FDD) size

The following information element is exception of TS34.108 based on monitorlist size for 8.4.1.1,8.4.1.2,8.6.1.1,8.6.1.4 test cases.

Information Element	Value/Remark
- References to other system information blocks	
- SIB_REP	128
- SIB_POS	3
- SIB_POS offset info	3
- SIB type SIBs only	System Information Type 6
- SIB_POS	2
- SIB type SIBs only	System Information Type 7
- SEG_COUNT	4
- SIB REP	128
- SIB_POS	27
- SIB_POS offset info	3
- SIB OFF	4
- SIB type SIBs only	System Information Type 11
- SIB REP	128
- SIB_POS	13
- SIB_POS offset info	2
- SIB type SIBs only	System Information Type 12
- CHOICE Value tag	Cell Value tag
- Cell Value tag	1
- SIB REP	128
- SIB_POS	18
- SIB type SIBs only	System Information Type 18

Contents of System Information Block type 11 (FDD)

The following information element is exception of TS34.108 based on monitorlist size for 8.4.1.1,8.4.1.2,8.6.1.1,8.6.1.4

Information Element	Value/Remark
<ul> <li>Intra-frequency measurement system</li> </ul>	
information	
<ul> <li>New intra-frequency cells</li> </ul>	24
- Intra-frequency cell id	9+n (n=0 to 18)
- Cell info	Same content as specified for Intra-frequency cell id=2 with the exception that value for Primary scrambling code shall not be overlaped values.
<ul> <li>Inter-frequency measurement system</li> </ul>	Not Present
information	
<ul> <li>Inter-RAT measurement system information</li> </ul>	Not Present
### Contents of Scheduling Block 1 (FDD)

The following information element is exception of TS34.108 based on monitorlist size for 8.3.4, 8.6.1.2, 8.6.1.3.

Information Element	Value/Remark
- References to other system information blocks	
- SIB REP	128
- SIB POS	3
- SIB POS offset info	3
- SIB type SIBs only	System Information Type 6
- SIB_POS	2
- SIB type SIBs only	System Information Type 7
- SEG_COUNT	5
- SIB REP	128
- SIB_POS	27
- SIB_POS offset info	4
- SIB OFF	4
- SIB_OFF	2
- SIB_OFF	2
- SIB_OFF	8
- SIB type SIBs only	System Information Type 11
- SIB REP	128
- SIB_POS	13
- SIB_POS offset info	2
- SIB type SIBs only	System Information Type 12
- CHOICE Value tag	Cell Value tag
- SIB_REP	128
- SIB_POS	18
- SIB type SIBs only	System Information Type 18

### Contents of System Information Block type 11 (FDD)

The following information element is exception of TS34.108 based on monitorlist size for 8.3.4.

Information Element	Value/Remark
- Intra-frequency measurement system	
information	
<ul> <li>New intra-frequency cells</li> </ul>	24
<ul> <li>Intra-frequency cell id</li> </ul>	9+n (n=0 to 18)
- Cell info	Same content as specified for Intra-frequency cell id=2
	with the exception that value for Primary scrambling
	code shall not be overlaped values.
<ul> <li>Inter-frequency measurement system</li> </ul>	Not present
information	
<ul> <li>Inter-RAT measurement system information</li> </ul>	
- Inter-RAT cell info list	
- Inter-RAT cell id	11+n ( n=0 to 3)
<ul> <li>CHOICE Radio Access Technology</li> </ul>	GSM
- GSM	
<ul> <li>Cell individual offset</li> </ul>	0
<ul> <li>Cell selection and re-selection info</li> </ul>	Not Present
- BSIC	
<ul> <li>Base transceiver Station Identity Code</li> </ul>	Note:Any values depend on UEs.
(BSIC)	
- Band indicator	According to PICS/PIXIT
- BCCH ARFCN	Note:Any values that depend on UEs.

Contents of System Information Block type 11 (FDD)

The following information element is exception of TS34.108 based on monitorlist size for 8.6.1.2,8.6.1.3.

Information Element	Value/Remark
<ul> <li>Intra-frequency measurement system</li> </ul>	
information	
<ul> <li>New intra-frequency cells</li> </ul>	32
- Intra-frequency cell id	9+n( n=0 to 22)
- Cell info	Same content as specified for Intra-frequency cell id=2 with the exception that value for Primary scrambling code shall not be overlaped values.
- Intra-frequency cell id	0
- Cell info	Same content as specified for Intra-frequency cell id=2 with the exception that value for Primary scrambling code shall not be overlaped values.
<ul> <li>Inter-frequency measurement system</li> </ul>	Not Present
information	
<ul> <li>Inter-RAT measurement system information</li> </ul>	Not Present

## Contents of Scheduling Block 1 (FDD)

The following information element is exception of TS34.108 based on monitorlist size for 8.6.2.1 test case.

Information Element	Value/Remark
- References to other system information blocks	
- SIB REP	128
- SIB POS	3
- SIB POS offset info	3
- SIB type SIBs only	System Information Type 6
- SIB_POS	2
- SIB type SIBs only	System Information Type 7
- SEG_COUNT	6
- SIB_REP	128
- SIB_POS	27
- SIB_POS offset info	5
- SIB_OFF	4
- SIB_OFF	2
- SIB_OFF	2
- SIB_OFF	8
- SIB_OFF	4
- SIB type SIBs only	System Information Type 11
- SIB_REP	128
- SIB_POS	13
- SIB_POS offset info	5
- SIB_OFF	2
- SIB_OFF	8
- SIB_OFF	4
- SIB_OFF	2
- SIB_OFF	2
- SIB type SIBs only	System Information Type 12
- CHOICE Value tag	Cell Value tag
- Cell Value tag	1
- SEG_COUNT	1
- SIB_REP	128
- SIB_POS	18
- SIB type SIBs only	System Information Type 18

Contents of System Information Block type 11 (FDD)

The following information element is exception of TS34.108 based on monitorlist size for 8.6.2.1.

Information Element	Value/Remark
<ul> <li>New intra-frequency cells</li> </ul>	24
- Intra-frequency cell id	9+n(n=0 to18)
- Cell info	Same content as specified for Intra-frequency cell id=2 with the exception that value for Primary scrambling code shall not be overlaped values.
<ul> <li>Inter-frequency measurement system information</li> </ul>	
<ul> <li>New inter-frequency cells</li> </ul>	16
- Inter frequency cell id	7+n (n =0 to 12)
- Frequency info	Not Present
	Absence of this IE is equivalent to value of the previous "frequency info" in the list.
- Cell info	Same content as specified for Inter-frequency cell id=4 with the exception that value for Primary scrambling
	code shall not be overlaped values.
<ul> <li>Inter-RAT measurement system information</li> </ul>	Not Present

	CHANGE REQUEST								R-Form-v7.1	
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Reason for change: 🕷	a) Value of SIB_POS in Annex I is expressed differently than in 34.108.
	b) SIB 11 descriptions are not compatible with the default SIB11 in 34.108.
	c) Missing SIB11 description for TC 8.6.2.2.
	d) Scheduling Block 1 description for test case 8.6.2.1 incorrect.
	e) Missing references to Annex I.
Summary of change: 8	a) SIB_POS value expressed in multiples of frames rather than multiple of two
	Trames in Annex I. b) Coll ID range for the monitored Colle made compatible with SIB11
	description in 34 108 in Annex I
	c) Added SIB11 description for TC 8.6.2.2 into Annex I.
	d) Corrected Scheduling Block 1 description for test case 8.6.2.1 from Annex I.
	e) Added missing test case numbers in Annex I.
	f) Added references to Annex I for some test cases which were missing it.
	g) Minor editorial corrections.
Consequences if <b>#</b>	The System information messages will be incorrect for test cases referring to
not approved:	Annex I for system information messages.

Clauses affected: # 8.6.1.1.A, 8.6.1.2.A, Annex I

Other specs affected:	æ	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.

# 8.6.1.1 A Event triggered reporting in AWGN propagation conditions (Rel-4 and later)

### 8.6.1.1 A.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 Rel-4 and later FDD UE.

### 8.6.1.1 A.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  $Ec/Io \ge -20$  dB,  $SCH\_Ec/Io \ge -20$  dB for at least one channel tap 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.

$$Y_{\text{measurement intra}} = Floor \left\{ X_{\text{basic measurement FDD}} \cdot \frac{T_{\text{Intra}}}{T_{\text{Measurement Period, Intra}}} \right\} \text{ cells}$$

where

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

 $T_{Measurement\_Period Intra} = 200$  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.

 $T_{basic\_identify\_FDD, intra} = 800 \text{ ms.}$  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 <sub>identify intra</sub> 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 A.3 Test purpose

To verify that the UE meets the minimum requirements.

### 8.6.1.1 A.4 Method of test

8.6.1.1 A.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 tables 8.6.1.1 A.1 to 8.6.1.1 A.3 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 A.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 C.3.1 and C.2.1
		Measurement 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		24	NOTE: See Annex I for cell information
T1	S	5	
T2	S	5	
ТЗ	S	5	

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 Ec/lor	dB		-1.049			-0.941			
$\dot{P}_{or}/I_{oc}$	dB	0	6.97	0	-Infinity	5.97	-Infinity		
Er (Note 1)	dBm	-70	-63.03	-70	-Infinity	-64.03	-Infinity		
I <sub>oc</sub>	dBm/3.84 MHz	-70							
CPICH Ec/lo	dB	-13	-13	-13	-Infinity	-14	-Infinity		
Propagation Condition		AWGN							
Note 1: The nomin	nal Ober values,	although not	explicitly def	ined in 25.133	are added here	since they are	implied and		

## Table 8.6.1.1 A.2: Cell specific test parameters for Event triggered reporting in AWGN propagation conditions

Note 1: The nominal Obra values, although not explicitly defined in 25.133 are added here since they are implied and need to be identified so that the test equipment can be configured.

### 8.6.1.1 A.4.2 Procedure

- 1. The RF parameters are set up according to T1 in table 8.6.1.1 A.3.
- 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 in table 8.6.1.1 A.3.
- 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 880 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 successful tests is increased by one.
- 7. After 5 seconds from the beginning of T2, the SS shall switch the power settings from T2 to T3 in table 8.6.1.1 A.3.
- 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 280 ms. If the reporting delay for this event is within the required limit, the number of successful tests is increased by one.
- 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 according to Annex F.6.2 Table 6.2.8.

### 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:

MEASUREMENT CONTROL message:

Information Element/Group name	Value/Remark
Message Type (10.2.17)	
UF information elements	
-BBC transaction identifier	0
-Integrity check info	0
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IF. The first/
	leftmost bit of the bit string contains the
	most significant bit of the MAC-I
-BBC message sequence number	SS provides the value of this IF from its
	internal counter.
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)	
-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	FALSE
-Reporting quantities for monitored set cells (10.3.7.5)	
-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	FALSE
-Reporting quantities for detected set cells (10.3.7.5)	Not Present
-Reporting cell status (10.3.7.61)	Not Present
-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	
-Intra-frequency event identity	Event 1A
- I riggering condition 2	Monitored set cells
-Reporting Range Constant	3 dB
-Cells forbidden to affect Reporting Range	Not Present
-VV	
-Hysteresis	
- i nresnola usea trequency	Not Present
-Reporting deactivation threshold	U Net Dresent
-replacement activation threshold	
- I ime to trigger	U IIIS
-Amount of reporting	Not present
-reporting interval	Ums (Note 2)
-neporting cell status	
-intra-frequency event identity	Event 1B Active act calls and maniferral act calls
- Inggering condition I	Active set cells and monitored set cells
-neporting Range Constant	S UD Not Propert
-mysteresis	U OB

Information Element/Group name	Value/Remark					
-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 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 report	ing					

### 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 A.5 Test requirements

For the test to pass, the total number of successful tests shall be at least 90%, of the cases with a confidence level of 95%. 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.

Table 8.6.1.1 A.3: Test requirements for Event triggered reporting in AWGN propagation
conditions

Parameter	Unit	Cell 1		Unit Cell 1			Cell 2		
		T1	T2	Т3	T1	T2	T3		
CPICH_Ec/lor	dB		-9.3		-9.3				
PCCPCH_Ec/lor	dB		-11.3		-11.3				
SCH_Ec/lor	dB		-11.3			-11.3			
PICH_Ec/lor	dB		-14.3			-14.3			
DPCH_Ec/lor	dB		-16.3		N/A				
OCNS			-1.26			-1.26 -1.13			
$\dot{P}_{or}/I_{oc}$ (Note 1)	dB	0	7.0	0	-Infinity	6.0	-Infinity		
Œ	dBm	-70	-63.0	-70	-Infinity	-64.0	-Infinity		
I <sub>oc</sub>	dBm/3.84 MHz	-70							
CPICH_Ec/lo	dB	-12.3	-12.3	-12.3	-Infinity	-13.3	-Infinity		
(Note 1)									
Propagation		AWGN							
Condition									
Note 1: These parameters are not directly settable, but are derived by calculation from the settable parameters									

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.

{Unchanged Sections are clipped here}

# 8.6.1.2A Event triggered reporting of multiple neighbours in AWGN propagation condition (Rel-4 and later)

### 8.6.1.2A.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 Rel-4 and later FDD UE.

### 8.6.1.2A.2 Minimum requirements

The requirements are the same as in sub clause 8.6.1.1A.2.

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

### 8.6.1.2A.3 Test purpose

To verify that the UE meets the minimum requirements.

### 8.6.1.2A.4 Method of test

### 8.6.1.2A.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 8.6.1.2A.1.

### Table 8.6.1.2A.1: Cell specific initial test parameters for Event triggered reporting of multiple neighbours in AWGN propagation conditions

Parameter	Unit	Cell 1	Cell3		
		Т0	Т0	Т0	
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_Ec/lor	dB	-1.049	-0.941	-0.941	
$\dot{P}_{or}/I_{oc}$	dB	0	-Inf	-Inf	
I <sub>oc</sub>	dBm/ 3.84 MHz	-85			
CPICH_Ec/lo	dB	-13	-Inf	-Inf	
Propagation Condition		AWGN			

The test parameters are given in table 8.6.1.2A.2 and 8.6.1.2A.3. 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.A2.2: 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 Channel 12.2 kbps	As specified in C.3.1 and C.2.1
Power Control		On	
Active cell		Cell 1	
Reporting range	dB	3	Applicable for event 1A and 1B
Hysteresis	dB	0	
W		1	Applicable for event 1A and 1B
Replacement activation threshold		0	Applicable for event 1C
Reporting deactivation threshold		0	Applicable for event 1A
Time to Trigger	ms	0	
Filter coefficient		0	
Monitored cell list size		32	NOTE: See Annex I for cell information
T1	S	10	
T2	S	10	
T3	S	5	
T4	S	10	

### Table 8.6.1.2A.3: 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	Т3	T4
CPICH_Ec/lor	dB		-10			-10				-10			
PCCPCH_Ec/	dB		-12		-12		-12						
lor				-									
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.(	049		-0.941				-0.941			
$\dot{P}_{or}/I_{oc}$	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											

### 8.6.1.2A.4.2 Procedure

- 1) The RF parameters are set up according to T0.
- 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.
- 6) 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 880 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) 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.
- 8) After 10 seconds from the beginning of T1, the SS shall switch the power settings from T1 to T2.
- 9) 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 880 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.
- 10) 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 880 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.
- 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.
- 12) After 10 seconds from the beginning of T2, the SS shall switch the power settings from T2 to T3.
- 13) 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 280 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.
- 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) After 5 seconds from the beginning of T3, the SS shall switch the power settings from T3 to T4.
- 16) 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 280 ms. If the reporting delay for this event is within the required limit, the number of succesfull tests is increased by one.
- 17) 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.
- 18) 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.
- 19) After 10 seconds from the beginning of T4, the UE is switched off.
- 20) Repeat steps 1-19 until the confidence level according to annex F.6.2 is achieved.

### 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:

MEASUREMENT CONTROL message:

Information Flomant/Oracum name	Value/Demerik
	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 Benorting Mode (10.3.7.49)	weary
Measurement Reporting Mode (10.0.7.40)	
- Measurement nepon transier Mode	Awinet
-Periodical Reporting / Event Trigger Reporting Mode	Event trigger
	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	
Intro frequency reporting quantity (10.2.7.41)	
-intra-irequency reporting quantity (10.3.7.41)	
-Reporting quantities for active set cells (10.3.7.5)	
-Cell synchronisation information reporting indicator	TRUE (Note 1)
-Cell Identity reporting indicator	TRUE
-CHOICE mode	FDD
-CPICH Ec/N0 reporting indicator	TRUE
-CPICH BSCP reporting indicator	TRUE
Bathless reporting indicator	
-Paulioss reporting indicator	FALSE
-Reporting quantities for monitored set cells (10.3.7.5)	
-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	FALSE
-Benorting quantities for detected set cells (10.3.7.5)	Not Present
Penerting cell status (10.2.7.61)	Not Present
-Reporting cell status (10.3.7.01)	Not Present
-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
-Triggering condition 2	Monitored set cells
-Benorting Bange Constant	3 dB
-neporting hange constant	Not Droppert
-Cells forbidden to affect Reporting Range	Not Present
-vv	1.0
-Hysteresis	0 aB
-Threshold used frequency	Not Present
-Reporting deactivation threshold	0
-Replacement activation threshold	Not Present
-Time to trigger	0 ms
-Amount of reporting	Not Present
-Benorting interval	0  ms (Note  2)
	Not Drocont
-Intra-trequency event identity	Event 1B
- I riggering condition 1	Active set cells and monitored set cells
-Reporting Range Constant	3 dB
-Cells forbidden to affect Reporting Range	Not Present
-W	1.0
-Hvsteresis	0 dB
-Threshold used frequency	Not Present
-Beporting deactivation threshold	Not Present
-nepoting deactivation threshold	Not Present
- i ime to trigger	Ums
-Amount of reporting	Not Present
-Reporting interval	0 ms (Note 2)

Information Element/Group name	Value/Remark			
-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			
-Cells forbidden to affect Reporting Range	Not Present			
-W	Not present			
-Hysteresis	0 dB			
-Threshold used frequency	Not Present			
-Reporting deactivation threshold	Not present			
-Replacement activation threshold	0			
-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 information				
reporting indicator" in IE "Cell reporting quantities" TS 25.331, clause 10.3.7.5 is set to TI				
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.

### 8.6.1.2A.5 Test requirements

For the test to pass, the total number of successful tests shall be at least 90%, of the cases with a confidence level of 95%. 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.

### {Unchanged Sections are clipped here}

## Annex I (normative): Default Message Contents

This Annex contains the default values of common messages, other than those described in TS 34.108. The messages are primarily concerning the RRM test cases in clause 8 and unless indicated otherwise in specific test cases, shall be transmitted and checked by the system simulator. The necessary messages are listed in alphabetical order.

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

Contents of MEASUREMENT REPORT message for Intra frequency test cases

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Measurement identity	1
Measured Results	
<ul> <li>Intra-frequency measured results list</li> </ul>	
- Cell measured results	
- Cell Identity	Not present
<ul> <li>Cell synchronisation information</li> </ul>	
- Tm	Checked that this IE is present
- OFF	Checked that this IE is present
- CHOICE mode	FDD
- Primary CPICH info	Checked that this IE is present
<ul> <li>Primary scrambling code</li> </ul>	150
- CPICH Ec/N0	If reporting of iCPICH Ec/N0i measurement is configured then checkChecked that this IE is present
- CPICH RSCP	If reporting of iCPICH Ec/N0i measurement is configured then checkChecked that this IE is present
- Pathloss	If reporting of iCPICH Ec/N0i measurement is configured then checkChecked that this IE is present
Measured results on RACH	Checked that this IE is absent
Additional measured results	Checked that this IE is absent
Event results	Checked that this IE is absent

Contents of MEASUREMENT REPORT message for Inter frequency test cases

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Measurement identity	1
Measured Results	
<ul> <li>Inter-frequency measured results list</li> </ul>	
- UTRA Carrier RSSI	If reporting of iCPICH Ec/N0i measurement is configured then checkChecked that this IE is present
<ul> <li>Inter-frequency cell measurement results</li> </ul>	
<ul> <li>Cell measured results</li> </ul>	
- Cell Identity	Not present
<ul> <li>Cell synchronisation information</li> </ul>	
-Tm	Checked that this IE is present
- OFF	Checked that this IE is present
- CHOICE mode	FDD
- Primary CPICH info	Checked that this IE is present
<ul> <li>Primary scrambling code</li> </ul>	150
- CPICH Ec/N0	If reporting of iCPICH Ec/N0i measurement is configured
	then checkChecked that this IE is present
- CPICH RSCP	If reporting of iCPICH Ec/N0i measurement is configured
	then checkChecked that this IE is present
- Pathloss	If reporting of iCPICH Ec/N0i measurement is configured
	then checkChecked that this IE is present
Measured results on RACH	Checked that this IE is absent
Additional measured results	Checked that this IE is absent
Event results	Checked that this IE is absent

Contents of MEASUREMENT REPORT message for inter ñ RAT test cases

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Measurement identity	1
Measured Results	
<ul> <li>Inter-RAT measured results list</li> </ul>	
- CHOICE system - GSM	GSM
- Measured GSM cells	Checked that this IE is present
- GSM carrier RSSI	If reporting of iGSM carrier RSSIi measurement is configured then checkChecked that this IE is present
- CHOICE BSIC	Non verified BSIC
- Non verified BSIC	
- BCCH ARFCN	Checked that this IE is present
- Observed time difference to GSM cell	If reporting of iObserved time difference to GSM celli measurement configured then checkChecked that this IE is present
Measured results on RACH	Checked that this IE is absent
Additional measured results	Checked that this IE is absent
Event results	Checked that this IE is absent

Contents of Master Information Block PLMN type is the case of GSM-MAP

The following information element is exception of TS34.108 based on monitorlist size for 8.3.4, <u>8.3.5.3</u>, 8.4.1.1, 8.4.1.2, 8.6.1.1, <u>8.6.1.1A</u>, 8.6.1.2, <u>8.6.1.2A</u>, 8.6.1.3, 8.6.1.4, 8.6.2.1, <u>8.6.2.2, 8.6.4.1</u> test cases.

[	Information Element	Value/Remark
	- SIB_POS	<u>+2</u>
	- SIB_POS offset info	Not Present
	- SIB and SB type	Scheduling Block 1
	- SIB_REP	128
	- SIB_POS	<u>1122</u>
	- SIB_POS offset info	Not Presen <u>t</u>
	- SIB and SB type	System Information Type 1
	- SIB_REP	128
	- SIB_POS	<u>1122</u>
	- SIB_POS offset info	Not Present
	- SIB and SB type	System Information Type 2
	- SIB_REP	128
	- SIB_POS	<del>10<u>20</u></del>
	- SIB_POS offset info	Not Present
	- SIB and SB type	System Information Type 3
	- SIB_REP	128
	- SIB_POS	<u>2652</u>
	- SIB_POS offset info	Not Present
	- SIB and SB type	System Information Type 4
	- SIB_REP	128
	- SIB_POS	<del>19<u>38</u></del>
	- SIB_POS offset info	3
	- SIB and SB type	System Information Type 5

Contents of Scheduling Block 1 (FDD)-size

The following information element is exception of TS34.108 based on monitorlist size for  $8.4.1.1, 8.4.1.2, 8.6.1.1, \underline{8.6.1.1A}, 8.6.1.4, \underline{8.6.2.2}$  test cases.

Information Element	Value/Remark
- References to other system information blocks	
- SIB REP	128
- SIB_POS	3 <u>6</u>
- SIB_POS offset info	3
- SIB type SIBs only	System Information Type 6
- SIB_POS	<u>24</u>
- SIB type SIBs only	System Information Type 7
- SEG_COUNT	4
- SIB_REP	128
- SIB_POS	<u>2754</u>
- SIB_POS offset info	3
- SIB_OFF	4
<u>- SIB_OFF</u>	2
<u>- SIB_OFF</u>	2
- SIB type SIBs only	System Information Type 11
- SIB_REP	128
- SIB_POS	<del>13<u>26</u></del>
<ul> <li>SIB_POS offset info</li> </ul>	2
- SIB type SIBs only	System Information Type 12
- CHOICE Value tag	Cell Value tag
- Cell Value tag	1
- SIB_REP	128
- SIB_POS	<del>18<u>36</u></del>
- SIB type SIBs only	System Information Type 18

### Contents of System Information Block type 11 (FDD)

I

1

The following information element is exception of TS34.108 based on monitorlist size for 8.4.1.1,8.4.1.2,8.6.1.1,8.6.1.1A.8.6.1.4.

Information Element	Value/Remark
- Intra-frequency measurement system	
information	
<ul> <li>New intra-frequency cells</li> </ul>	24
- Intra-frequency cell id	<del>912</del> +n (n=0 to 1 <del>8</del> 7)
- Cell info	Same content as specified for Intra-frequency cell id=2 with the exception that value for Primary scrambling code shall not be overlapped values.
- Inter-frequency measurement system	Not Present
Information	Not Propert
- Inter-NAT measurement system information	Not Flesent

### Contents of System Information Block type 11 (FDD)

The following information element is exception of TS34.108 based on monitorlist size for 8.6.2.2.

Information Element	Value/Remark
- New intra-frequency cells	<u>16</u>
- Intra-frequency cell id	<u>12+n (n=0 to 3)</u>
- Cell info	Same content as specified for Intra-frequency cell id=2
	with the exception that value for Primary scrambling
	code shall not be overlapped values.
- Inter-frequency measurement system	
information	
- New inter-frequency cells	8
- Inter frequency cell id	7+n (n = 0 to 4)
- Frequency info	Not Present
	Absence of this IE is equivalent to value of the
	previous "frequency info" in the list.
<u> </u>	Same content as specified for Inter-frequency cell id=4
	with the exception that value for Primary scrambling
	code shall not be overlapped values.
- Inter-RAT measurement system information	Not Present

Contents of Scheduling Block 1 (FDD)

The following information element is exception of TS34.108 based on monitorlist size for 8.3.4, <u>8.3.5.3</u>, 8.6.1.2, <u>8.6.1.2A</u>, 8.6.1.3, <u>8.6.4.1</u>.

Information Element	Value/Remark
- References to other system information blocks	
- SIB REP	128
- SIB_POS	3 <u>6</u>
- SIB POS offset info	3
- SIB type SIBs only	System Information Type 6
- SIB_POS	2 <u>4</u>
- SIB type SIBs only	System Information Type 7
- SEG_COUNT	5
- SIB_REP	128
- SIB_POS	<u>2754</u>
- SIB_POS offset info	4
- SIB_OFF	4
- SIB_OFF	2
- SIB_OFF	2
- SIB_OFF	8
- SIB type SIBs only	System Information Type 11
- SIB_REP	128
- SIB_POS	<del>13<u>26</u></del>
- SIB_POS offset info	2
- SIB type SIBs only	System Information Type 12
- CHOICE Value tag	Cell Value tag
- SIB_REP	128
- SIB_POS	<del>18<u>36</u></del>
- SIB type SIBs only	System Information Type 18

Contents of System Information Block type 11 (FDD)

1

I

The following information element is exception of TS34.108 based on monitorlist size for 8.3.4. 8.3.5.3. 8.6.4.1-

Information Element	Value/Remark
- Intra-frequency measurement system	
information	
<ul> <li>New intra-frequency cells</li> </ul>	24
- Intra-frequency cell id	<mark>912</mark> +n (n=0 to 1 <mark>8</mark> 7)
- Cell info	Same content as specified for Intra-frequency cell id=2
	with the exception that value for Primary scrambling
	code shall not be overlapped values.
- Inter-frequency measurement system	Not present
information	
- Inter-RAT measurement system information	
- Inter-RAT cell info list	
- Inter-RAT cell id	11+n ( n=0 to 3)
- CHOICE Radio Access Technology	GSM
- GSM	
- Cell individual offset	0
- Cell selection and re-selection info	Not Present
- BSIC	
- Base transceiver Station Identity Code	Note:Any values depend on UEs.
(BSIC)	
- Band indicator	According to PICS/PIXIT
- BCCH ARFCN	Note:Any values that depend on UEs.

### Contents of System Information Block type 11 (FDD)

I

The following information element is exception of TS34.108 based on monitorlist size for 8.6.1.2, 8.6.1.2A, 8.6.1.3.

Information Element	Value/Remark
- Intra-frequency measurement system	
information	
- New intra-frequency cells	32
- Intra-frequency cell id	<del>9+</del> n( n=0 <u>, 4, 5, 6, 9, 10 and 12 to <del>22</del>31</u> )
- Cell info	Same content as specified for Intra-frequency cell id=2 with the exception that value for Primary scrambling code shall not be overlapped values.
Intra-frequency cell id	θ
	Same content as specified for Intra frequency cell id=2 with the exception that value for Primary scrambling code shall not be overlaped values.
- Inter-frequency measurement system information	Not Present
- Inter-RAT measurement system information	Not Present

### Contents of Scheduling Block 1 (FDD)

The following information element is exception of TS34.108 based on monitorlist size for 8.6.2.1 test case.

	Information Element	Value/Remark
	- References to other system information blocks	
	- SIB REP	128
	- SIB_POS	<u>36</u>
	- SIB_POS offset info	3
	- SIB type SIBs only	System Information Type 6
	- SIB POS	24
	- SIB type SIBs only	System Information Type 7
	- SEG COUNT	6
	- SIB REP	128
	- SIB_POS	<del>27</del> 54
•	- SIB_POS offset info	5
	- SIB OFF	4
	- SIB OFF	2
	- SIB OFF	2
	- SIB <sup>-</sup> OFF	8
	- SIB OFF	4
	- SIB type SIBs only	System Information Type 11
	- SIB_REP	128
	- SIB POS	<del>13</del> 26
	- SIB_POS offset info	5 <u>2</u>
		2
		8
	SIB_OFF	4
		2
		2
	- SIB type SIBs only	System Information Type 12
	- CHOICE Value tag	Cell Value tag
	- Cell Value tag	1
	- SEG_COUNT	1
	- SIB_REP	128
1	- SIB_POS	<del>18<u>36</u></del>
	- SIB type SIBs only	System Information Type 18

### Contents of System Information Block type 11 (FDD)

The following information element is exception of TS34.108 based on monitorlist size for 8.6.2.1.

Information Element	Value/Remark
- New intra-frequency cells	24
- Intra-frequency cell id	<mark>912</mark> +n(n=0 to <del>18</del> 17)
- Cell info	Same content as specified for Intra-frequency cell id=2
	with the exception that value for Primary scrambling
	code shall not be overlapped values.
<ul> <li>Inter-frequency measurement system</li> </ul>	
information	
<ul> <li>New inter-frequency cells</li> </ul>	16
- Inter frequency cell id	7+n (n =0 to 12)
- Frequency info	Not Present
	Absence of this IE is equivalent to value of the
	previous "frequency info" in the list.
- Cell info	Same content as specified for Inter-frequency cell id=4
	with the exception that value for Primary scrambling
	code shall not be overlapped values.
- Inter-RAT measurement system information	Not Present

1

3GPP TSG-1 St Paul's Ba	Ր1 Meeting #25 y, Malta, 1 <sup>st</sup> - 5 <sup>th</sup> November 2004	Tdoc 😠 T1-041882					
CHANGE REQUEST							
æ	<b>34.121</b> CR <sup>476</sup> <b># rev</b> <sup>-</sup> <b>#</b>	Current version: <b>5.5.0</b> <sup>#</sup>					
For <u>HELP</u>	on using this form, see bottom of this page or look at th	e pop-up text over the $\frac{1}{8}$ symbols.					
Proposed cha	nge affects: UICC apps <mark>#</mark> ME X Radio A	ccess Network Core Network					
Title:	Introduction of UMTS-850 MHz band V						
Source:	₩ Motorola						
Work item cod	de: <mark>¤</mark> TEI	Date: <mark># 29/09/2004</mark>					
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 an earlier releas</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:Rel-5Use oneof the following releases:2(GSM Phase 2)e)R96(Release 1996)R97(Release 1997)R98(Release 1998)R99(Release 1999)Rel-4(Release 4)Rel-5(Release 5)Rel-6(Release 6)					
Reason for ch	ange: 🕱 The introduction of UMTS-850 MHz band V to	o the specification					
Summary of c	hange: 🕱 Operating Band V is added to the appropriate	RRM test cases.					
Consequence	sif #						

not approved:	The feature UMTS-850 MHz band V would not be tested.
Clauses affected:	<b>#</b> 8.7.1, 8.7.2, 8.7.3
Other specs affected:	Y       N         X       Other core specifications       X         X       Test specifications       X         X       O&M Specifications       X
Other comments:	# This CR is applicable for UEis supporting this release independent feature

### 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.

3

## 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 $|_{dBm} \ge -114 \text{ dBm for Bands I and VI}$ ,

CPICH RSCP1 $_{dBm} \ge -112 \text{ dBm for Bands II and V}$ ,

CPICH\_RSCP1 $|_{dBm} \ge -111 \text{ dBm for Band III.}$ 

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

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

Parameter		Accuracy [dB]		<b>Conditions</b>			
	<u>Unit</u>	Normal	Extromo	Band I and VI	Band II and V	Band III	
		condition	condition	lo [dBm/3.84	<u>lo [dBm/3.84</u>	lo [dBm/3.84	
				<u>MHz]</u>	<u>MHz]</u>	MHz]	
	<u>dBm</u>	<u>± 6</u>	<u>± 9</u>	<u>-9470</u>	<u>-92Ö -70</u>	<u>-91Ö -70</u>	
UFICH_NOUP	<u>dBm</u>	<u>± 8</u>	<u>± 11</u>	-7050	<u>-70Ö -50</u>	<u>-70Ö -70</u>	

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

— <u>CPICH\_RSCP1|<sub>dBm</sub> ≥ 114 dBm for Band I.</u>

 $-\frac{\text{CPICH}_{\text{RSCP1}}}{\text{dBm}} \geq -112 \text{ dBm for Band II},$ 

<u>-CPICH\_RSCP1|<sub>dBm</sub> ≥ 111dBm for Band III.</u>

$$-\underbrace{I_o}_{\left(\overrightarrow{P}_{or}\right)_{in \ dB}} - \underbrace{\left(\begin{array}{c} CPICH \ \underline{E_c} \\ I_{or} \end{array}\right)_{in \ dB}}_{in \ dB} \leq 20 dB$$

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

	Accurac		<del>cy [dB]</del>	<b>Conditions</b>		
Parameter	Unit	Normal-	Extreme	<del>lo [dBm/3.84 MHz]</del>		
	condition		condition	Band I	Band II	Band III
	<del>dBm</del>	±6-	<del>±9</del>	<del>-9470</del>	<del>-9270</del>	<del>-9170</del>
GEIGH_ROUP	dBm	<del>±8</del> -	±11	<del>-7050</del>	<del>-7050</del>	<del>-7050</del>

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

Error! No text of specified style in document.

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### 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
- 8.7.1.1.1.4.1 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.

Paramatar		Unit	Tes	st 1	Test 2		Test 3	
Parar	neter	Unit	Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2
UTRA RF Chan	nel number		Chan	nel 1	Chan	inel 1	Chan	nel 1
CPICH_Ec/lor		dB	-1	0	-1	0	-1	0
PCCPCH_Ec/lo	r	dB	-1	2	-1	2	-1	2
SCH_Ec/lor		dB	-1	2	-1	2	-1	2
PICH_Ec/lor		dB	-1	5	-1	5	-1	5
DPCH Ec/lor		dB	-15	-	-15	-	-15	-
OCNS_Ec/lor		dB	-1.11	-0.94	-1.11	-0.94	-1.11	-0.94
	Band I		-75.54		-59.98		-97.47	
loc	Band II	dBm/ 3.84 MHz					-95.47	
	Band III						-94.47	
O∰r/loc		dB	4	0	9	0	0	-6.53
	Band I		-81.5	-85.5	-60.98	-69.88	-107.47	-114.0
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	Band II	dBm					-105.47	-112.0
			-104.47	-111.0				
	Band I		-69		-50		-94	
lo, Note 1	Band II	dBm/3.84 MHz					-92	
	Band III						-91	
Propagation cor	ndition	-	AW	GN	AW	/GN AWGN		GN
NOTE 1: CPIC	NOTE 1: CPICH RSCP and lo levels have been calculated from other parameters for information purposes. They							
are n	ot settable paran	neters themselves.						

Table 8.7.1.1.1.2: CPICH RSCP Intra frequency 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.

### 8.7.1.1.1.4.2 Procedure

- 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 8.7.1.1.1.4.
- 2) SS shall transmit MEASUREMENT CONTROL message.
- 3) UE shall transmit periodically MEASUREMENT REPORT messages.
- SS shall check CPICH\_RSCP value in MEASUREMENT REPORT messages. CPICH RSCP power of Cell 1 r and Cell 2 eported by UE is compared to actual CPICH RSCP power for each MEASUREMENT REPORT message.
- 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 8.7.1.1.1.4 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. Then, step 4) above is repeated. After further 1000 MEASUREMENT REPORT messages have been received from UE, the RF parameters are set up according to table 8.7.1.1.1.4 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. Then, step 4) above is 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], with the following exceptions:

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

Information Element	Value/Remark
	Value/Relliark
Message Type	
UE information elements	
-RRC transaction identifier	0
-Integrity check info	
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IE. The first/
	leftmost bit of the bit string contains the most
	significant bit of the MAC-I.
-RRC message sequence number	SS provides the value of this IE, from its
	internal counter.
Measurement Information elements	
-Measurement Identity	5
-Measurement Command	SETUP
-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
-Intra-frequency measurement	Net Dresset
- Intra-frequency measurement objects list	Not Present
-Intra-frequency measurement quantity	
-Measurement quantity	CPICH RSCP
-Intra-frequency reporting quantity	
-Reporting quantities for active set cells	
-Cell Synchronisation mormation reporting	TOUE
Coll Identity reporting indicator	TDUE
-CPICH Ec/NO reporting indicator	TBUE
-CPICH BSCP reporting indicator	TRUE
-Pathloss reporting indicator	FALSE
-Reporting quantities for monitored set cells	
-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	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	Infinity
-Reporting interval	250 ms
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

		Accuracy [dB]			Conditions		
Parameter	Unit	Unit Normal Extreme		lo	o [dBm/3.84 MH	z]	
		condition	condition	Band I	Band II	Band III	
	dBm	±7.4	±10.4	-9470	-9270	-9170	
	dBm	±9.4	±12.4	-7050	-7050	-7050	

### Table 8.7.1.1.1.3: CPICH\_RSCP Intra frequency absolute accuracy, test requirement

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### Table 8.7.1.1.1.4: CPICH RSCP Intra frequency test parameters

Parameter		Unit	Tes	Test 1		Test 2		Test 3	
		Onic	Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2	
UTRA RF Char	nel number		Char	inel 1	Char	nnel 1	Channel 1		
CPICH_Ec/lor		dB	-1	0	-1	0	-1	0	
PCCPCH_Ec/lo	or	dB	-1	2	-1	2	-1	2	
SCH_Ec/lor		dB	-1	2	-1	2	-1	2	
PICH_Ec/lor		dB	-1	5	-1	15	-1	5	
DPCH_Ec/lor		dB	-15	-	-15	-	-15	-	
OCNS_Ec/lor		dB	-1.11	-0.94	-1.11	-0.94	-1.11	-0.94	
	Band I						-96	.47	
loc	Band II	dBm/ 3.84 MHz	-74.54		-61,6		-94.47		
	Band III						-93.47		
Ober/loc		dB	4.3	0.3	9.3	0.3	0.3	-6.23	
СЫСП	Band I						-106.17	-112.7	
BSCD Note 1	Band II	dBm	-80.2	-84.2	-62.3	-71.3	-104.17	-110.7	
	Band III						-103.17	-109.7	
	Band I						-92	2,8	
lo, Note 1	Band II	dBm / 3.84 MHz	-6	7.8	-5	1,4	-90	0.8	
	Band III						-89.8		
Propagation co	ndition	-	AW	'GN	AW	'GN	AW	'GN	
NOTE 1: CPIC	CH RSCP and lo	levels have been calc	ulated fron	n other par	ameters fo	or informati	on purpose	es. They	
are r	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 UE does not loose the Cell 2 in between the tests.

The reported values for the absolut intra frequency CPICH RSCP measurement shall meet the requirements in table 8.7.1.1.1.5.

	Test 1	Test 2	Test 3 (Band I)	Test 3 (Band II)	Test 3 (Band III)
Normal Conditions					
Lowest reported	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_
value (Cell 1)	26	44	2	4	5
Highest reported	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_
value (Cell 1)	45	63	17	19	20
Lowest reported	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_
value (Cell 2)	22	35	0	0	0
Highest reported	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_
value (Cell 2)	41	54	10	12	13
Extreme Conditions					
Lowest reported	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_
value (Cell 1)	23	41	0	1	2
Highest reported	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_
value (Cell 1)	48	66	20	22	23
Lowest reported	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_
value (Cell 2)	19	32	0	0	0
Highest reported	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_	CPICH_RSCP_
value (Cell 2)	44	57	13	15	16

## Table 8.7.1.1.1.5: CPICH\_RSCP Intra frequency absolute accuracy requirements for the reported values

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:

<u>— CPICH\_RSCP1,2|<sub>dBm</sub> ≥ 114 dBm for Band I,</u>.

<u>— CPICH\_RSCP1,2|<sub>dBm</sub> ≥ 112 dBm for Band II,</u>

$$\frac{|CPICH \_RSCP1|_{in \, dBm} - CPICH \_RSCP2|_{in \, dBm}| \le 20 dB}{|I_{or}|_{in \, dB} - (CPICH \_E_{c})|_{in \, dB}} \le 20 dB$$

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

		Accura	<del>cy [dB]</del>	Conditions			
Parameter	Unit	Normal	Extreme	lo [dBm/3.84 MHz]			
		condition	condition	Band I	Band II	Band III	
CPICH_RSCP	<del>dBm</del>	±3	±3	<del>-94 50</del>	<del>-92 50</del>	<del>-91 50</del>	

<u>CPICH\_RSCP1,2 $_{dBm} \ge -114 \text{ dBm}$  for Bands I and VI,</u>

MHz]

<u>-92Ö -50</u>

Band III

lo [dBm/3.84

<u>MHz]</u>

<u>-91Ö -50</u>

	CPICH_	RSCP1,2	<sub>dBm</sub> ≥ -112 dBm	n for Bands II and	<u>V,</u>			
	CPICH	RSCP1,2	l <sub>dBm</sub> ≥-111 dBm	<u>ı for Band III.</u>				
		H_RSC	$P1\Big _{indBm}-CPA$	$ICH \_RSCP2 _{ii}$	$  dBm   \leq 20 dB$			
	$\frac{I_{o}}{\left(\mathbf{\hat{P}}_{or}\right)}\Big _{in\ dB} - \left(\frac{CPICH\_E_{c}}{I_{or}}\right)\Big _{in\ dB} \le 20dB$							
	Table 8.7.1.1.2.1: CPICH RSCP Intra frequency relative accuracy							
I			Accura	acy [dB]		<b>Conditions</b>		
	Parameter	Unit	Normal	Extreme	Band I and VI	Band II and V		
	<u>r arameter</u>	<u>nieter</u> <u>ont</u> <u>norm</u>	condition	condition	<u>lo [dBm/3.84</u>	<u>lo [dBm/3.84</u>		
			<u>contaition</u>	<u>condition</u>	MHz]	MHz]		

± 3

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

± 3

### 8.7.1.1.2.3 Test purpose

dBm

CPICH RSCP

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.

<u>-94...-50</u>

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.

#### 8.7.1.1.2.4.2 Procedure

- 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 8.7.1.1.2.3.
- 2) SS shall transmit MEASUREMENT CONTROL message.
- 3) UE shall transmit periodically MEASUREMENT REPORT messages.
- 4) 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.
- 5) The result of step 3) is compared to actual power level difference of CPICH RSCP of Cell 1 and Cell 2.
- 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 8.7.1.1.2.3 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 4) and 5) above are repeated. After further 1000 MEASUREMENT REPORT messages have been received from UE, the RF parameters are set up according to table 8.7.1.1.2.3 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 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], 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

### Table 8.7.1.1.2.2: CPICH\_RSCP Intra frequency relative accuracy, test requirements

		Accura	cy [dB]		Conditions		
Parameter	Unit	Normal	Extreme	lo [dBm/3.84 MHz]			
		condition	condition	Band I	Band II	Band III	
CPICH_RSCP	dBm	±3.8	±3.8	-9450	-9250	-9150	

### Table 8.7.1.1.2.3: CPICH RSCP Intra frequency test parameters

Parameter		Unit	Tes	st 1	Test 2		Test 3	
		Unit	Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2
UTRA RF Char	nnel number		Char	nel 1	Char	Channel 1 Channel 1		nel 1
CPICH Ec/lor		dB	-1	10	-1	0	-1	0
PCCPCH Ec/lo	or	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	5
DPCH_Ec/lor		dB	-15	-	-15	-	-15	-
OCNS_Ec/lor		dB	-1.11	-0.94	-1.11	-0.94	-1.11	-0.94
	Band I						-96	j.47
loc	Band II	dBm/ 3.84 MHz	-74.54		-61,6		-94.47	
	Band III	]						.47
Cober/loc		dB	4.3	0.3	9.3	0.3	0.3	-6.23
	Band I					-71.3	-106.17	-112.7
BSCP Note 1	Band II	dBm	-80.2	-84.2	-62.3		-104.17	-110.7
	Band III						-103.17	-109.7
	Band I						-92	2,8
Io, Note 1	Band II	dBm/ 3.84 MHz	-6	7.8	-51,4		-90	0.8
	Band III						-89	9.8
Propagation condition		-	AW	/GN	AW	'GN	AW	'GN
NOTE 1: CPIC	CH RSCP and lo	levels have been calc	ulated fron	n other par	ameters fo	or informat	ion purpose	əs. They
are r	not settable para	meters themselves.						
Tests shall be o	done sequentially	I. Test 1 shall be done	first. After	test 1 has	been exec	uted test	parameters	for tests
2 and 3 shall be	2 and 3 shall be set within 5 seconds so that UE does not loose the Cell 2 in between the tests.							

The reported values for the relative intra frequency CPICH RSCP measurement shall meet the requirements in table 8.7.1.1.2.4.

# Table 8.7.1.1.2.4: CPICH\_RSCP Intra frequency relative accuracy requirements for the reported values

Test 1		Test 2	Test 3			
Normal Conditions						
Lowest reported value cell 2	CPICH_RSCP_(x - 8)	CPICH_RSCP_(x - 13)	CPICH_RSCP_(x - 11)			
Highest reported value cell 2	CPICH_RSCP_x	CPICH_RSCP_(x - 5)	CPICH_RSCP_(x - 3)			
Extreme Conditions						
Lowest reported value cell2	CPICH_RSCP_(x - 8)	CPICH_RSCP_(x - 13)	CPICH_RSCP_(x - 11)			
Highest reported value cell2	CPICH_RSCP_x	CPICH_RSCP_(x - 5)	CPICH_RSCP_(x - 3)			
CPICH RSCP x is the reported value of 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.

### 8.7.1.2 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:

<u>— CPICH\_RSCP1,2|<sub>dBm</sub> ≥ 114 dBm for Band I.</u>

- CPICH\_RSCP1,2|<sub>dBm</sub> ≥ -112 dBm for Band II,

<u>— CPICH\_RSCP1,2|<sub>dBm</sub> ≥ 111 dBm for Band III.</u>

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

$$\underbrace{\begin{array}{c|c} I_{o} \\ \hline (P_{or}) \\ in \ dB \end{array}}_{in \ dB} - \underbrace{\begin{array}{c} CPICH \_E_{c} \\ I_{or} \end{array}}_{in \ dB} \leq 20 dB .$$

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

		Accuracy [dB]		Conditions			
Parameter	Unit	Normal condition	Extreme	lo [dBm/3.84 MHz]			
			condition	Band I	Band II	Band III	
CPICH_RSCP	<del>dBm</del>	<del>±6</del>	<del>±6</del>	<del>-94 50</del>	<del>-9250</del>	<del>-91 50</del>	

<u>CPICH\_RSCP1,2<sub>|dBm</sub> ≥ -114 dBm for Bands I and VI,</u>

<u>CPICH RSCP1,2</u> $|_{dBm} \ge -112 \text{ dBm for Bands II and V,}$ 

<u>CPICH\_RSCP1,2 $|_{dBm} \ge -111 \text{ dBm}$  for Band III.</u>
Error! No text of specified style in document.

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

| Channel 1\_Io|<sub>dBm/3.84 MHz</sub> -Channel 2\_Io|<sub>dBm/3.84 MHz</sub> |  $\leq$  20 dB.

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

# Table 8.7.1.2.1.1: CPICH\_RSCP Inter frequency relative accuracy

		Accuracy [dB]		Conditions			
Parameter	Unit	Normal	Extromo	Band I and VI	Band II and V	Band III	
	<u>01111</u>	condition	condition	lo [dBm/3.84	lo [dBm/3.84	<u>lo [dBm/3.84</u>	
		condition	condition	MHz]	MHz]	MHz]	
CPICH_RSCP	<u>dBm</u>	<u>± 6</u>	<u>± 6</u>	<u>-9450</u>	<u>-92Ö -50</u>	<u>-91Ö -50</u>	

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 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.

Parameter		l Init	Tes	st 1	Test 2			
		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	-1	0		
PCCPCH Ec/lor		dB	-1	2	-1	2		
SCH_Ec/lor		dB	-1	2	-1	2		
PICH_Ec/lor		dB	-1	5	-1	5		
DPCH_Ec/lor		dB	-15	-	-15	-		
OCNS_Ec/lor		dB	-1.11	-0.94	-1.11	-0.94		
	Band I		-60.00	-60.00	-84.00	-94.46		
loc	Band II	авт/ 3.84 МН-			-82.00	-92.46		
	Band III	INITIZ			-81.00	-91.46		
@fr/loc		dB	9.54	9.54	0	-9.54		
	Band I		-60.46		-94.0	-114.0		
Noto 1	Band II	dBm		-60.46	-92.0	-112.0		
NOLE I	Band III				-91.0	-111.0		
	Band I	dPm/2.94			-81.0	-94.0		
lo, Note 1	Band II	UDI1/3.04 MH7	-50.00	-50.00	-79.0	-92.0		
	Band III				-78.0	-91.0		
Propagation condition -			AWGN AWGN			'GN		
NOTE 1: CPICI	HRSCP and lo	o levels have bee	en calculated fro	m other parame	ters for informa	tion		
purpo	ses. They are	not settable para	ameters themsel	ves.				
Tests shall be do	one sequential	ly. Test 1 shall b	e done first. Afte	r test 1 has bee	n executed test	parameters		
for test 2 shall be	for test 2 shall be set within 5 seconds so that LIE does not loose the Cell 2 in between the tests							

#### Table 8.7.1.2.1.2: CPICH RSCP Inter frequency parameters

#### 8.7.1.2.1.4.2 Procedure

- 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 8.7.1.2.1.4.
- 2) SS shall transmit PHYSICAL CHANNEL RECONFIGURATION message.
- 3) UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message.
- 4) SS shall transmit MEASUREMENT CONTROL message for intra frequency measurement and transmit MEASUREMENT CONTROL message for inter frequency measurement.
- 5) UE shall transmit periodically MEASUREMENT REPORT messages.
- 6) 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.
- 7) The result of step 5) is compared to actual power level difference of CPICH RSCP of Cell 1 and Cell 2.
- 8) 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 8.7.1.2.1.4 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. Then, steps 6) and 7) above are repeated.
- 9) After further 1000 MEASUREMENT REPORT messages have been received from UE, the SS shall transmit RRC CONNECTION RELEASE message.
- 10) 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], with the following exceptions:

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

Information Element	Value/Remark
Message Type	
LIE Information Elements	
-BBC transaction identifier	0
-Integrity check info	0
-message authentication code	SS calculates the value of MAC-I for this
-message admentication code	mossage and writes to this IE. The first/
	leftmost bit of the bit string contains the most
	significant bit of the MAC I
PPC magazara agguaras number	Significant bit of the WAC-1.
-nno message sequence number	internal counter
Integrity protection mode info	Net Dresent
Cinhoring mode info	Not Present
Activation time	Not Present
	Not Present
	Not Present
-New O-RNTT PPC State Indicator	
LITRAN DRY cycle length coefficient	Not Present
CN Information Elements	Not i resent
CN Information info	Net Dresent
LITRAN mobility information elements	Not Flesent
UTRAN mobility mormation elements	Net Dresent
-ORA Identity	Not Fresent
RB information elements	Net Dresent
-Downlink counter synchronisation into	Not Present
PhyCH information elements	Net Descent
-Frequency info	Not Present
Uplink radio resources	
-Maximum allowed UL TX power	Not Present
	Not Present
Downlink radio resources	
	FUD
-Downlink PDSCH information	Not Present
-Downlink information common for all radio links	
-Downlink DPCH into common for all RL	Not Present
-CHUICE mode	FDD
-DPCH compressed mode into	
- Transmission gap pattern sequence	
-TGPSI TCDS Status Flag	
-TGPS Status Flag	Activate
-IGUEN	(Current CFN + (256 n TTI/T0msec)) mod 256
Transmission can pattern assurance	
- mansmission gap pattern sequence	
	EDD maggurament
	FDD medsurement
TGL1	4
	/ Not Procent
	3
	Not Present
	Mode 0
_ITP	Mode 0
-CHOICE UI /DL mode	III and DI
-Downlink compressed mode method	SE/2
-Uplink compressed mode method	SF/2
-Downlink frame type	B
-DeltaSIB1	30
-DeltaSIBafter1	3.0
-DeltaSIB2	Not Present
-DeltaSIBafter2	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	Set to value Default DPCH Offset Value ( as
	currently stored in SS) mod 38400
-Secondary CPICH info	Not Present
-DL channelisation code	
-Secondary scrambling code	Not Present
-Spreading factor	128
-Code number	96
-Scrambling code change	No code change
-TPC combination index	0
-SSDT Cell Identity	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/Remark			
Message Type				
LIE information elements				
BBC transaction identifier	0			
Integrity check info	0			
-integrity check into	SS calculates the value of MAC I for this			
-message aumentication code	mossage and writes to this IE. The first/			
	Intessage and whites to this IE. The first			
	significant bit of the MAC I			
PPC magazara agguaras number	Significant bit of the MAC-1.			
-nno message sequence number	internal counter			
Measurement Information elements				
-Measurement Identity	1			
-Measurement Command	Modify			
-Measurement Benorting Mode	Wouldy			
- Measurement Report Transfer Mode	Acknowledged mode BLC			
- Periodical Reporting / Event Trigger Reporting	Periodical reporting			
Mode	1 chould reporting			
-Additional measurement list	Not Present			
-CHOICE Measurement Type	Intra-frequency measurement			
-Intra-frequency measurement	initia nequency measurement			
- Intra-frequency measurement objects list				
-Intra-frequency cell info list	Not Present			
-Intra-frequency measurement quantity				
-Filter coefficient	0			
-CHOICE mode	FDD			
-Measurement quantity	CPICH RSCP			
-Intra-frequency reporting quantity				
-Reporting quantities for active set cells				
-Cell synchronisation information reporting				
indicator				
-Cell Identity reporting indicator	TRUE			
-CHOICE mode	TRUE			
-CPICH Ec/N0 reporting indicator	FDD			
-CPICH RSCP reporting indicator	TRUE			
-Pathloss reporting indicator	FALSE			
<ul> <li>Reporting quantities for monitored set cells</li> </ul>	FALSE			
-Cell synchronisation information reporting				
indicator				
-Cell Identity reporting indicator	FALSE			
-CHOICE mode				
-CPICH Ec/N0 reporting indicator	TRUE			
-CPICH RSCP reporting indicator	FDD			
-Pathloss reporting indicator	FALSE			
-Reporting quantities for detected set cells	IRUE			
-Reporting cell status	FALSE			
-CHOICE reported cell	Not Present			
-Maximum number of reported cells	Benort all active set cells ± cells within			
-Measurement validity	monitored set on used frequency			
-CHOICE report criteria	Virtual/active set cells + 2			
-Amount of reporting	Not Present			
-Reporting interval	Periodical reporting criteria			
	Infinity			
	250 ms			
Physical channel information elements	1			
-DPCH compressed mode status info	Not Present			

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

Message Type         UE information elements           -RRC transaction identifier         0           -Integrity check info         0           -message authentication code         SS calculates the value of MAC-I for this message and writes to this IE. The first/ leftmost bit of the MAC-I.           -RRC message sequence number         SS provides the value of this IE, from its internal counter.           -RRC message sequence number         SS provides the value of this IE, from its internal counter.           Measurement Information elements         2           -Measurement Command         Setup           -Measurement Report Transfer Mode         -           - Periodical Reporting / Event Trigger Reporting         Not Present           -OHOICE Inter-frequency cells         -           -CHOICE Inter-frequency cells         Not Present           -Devel Carrier RSSI         -           -Inter-frequency measurement quantity         O           -Inter-frequency reporting quantity         O           -Inter-frequency reporting indicator         O           -Cell for measurement quantity for frequency quality         -           -Inter-frequency reporting indicator         -           -Cell Grow reporting indicator         -           -Cell Identity reporting indicator         -           -Cell Identity r	Information Element	Value/Remark
UE information elements -RRC transaction identifier -Integrity check info       0         -Integrity check info       0         -message authentication code       SS calculates the value of MAC-I for this message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.         -RRC message sequence number       SS provides the value of this IE, from its internal counter.         -Measurement Information elements -Measurement Report Transfer Mode - Periodical Reporting / Event Trigger Reporting Mode -Additional measurement list -CHOICE Inter-frequency cell removal -Nate inter-frequency cell removal -New inter-frequency cell removal -Net Present -Inter-frequency reporting criteria -Filter coefficient -CHOICE mode -CHOICE reporting indicator -CHOICE reportentel -Maximum number of reported cells -Maxim	Message Type	
-RRC transaction identifier       0         -Integrity check info       SS calculates the value of MAC-I for this message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.         -RRC message sequence number       SS provides the value of this IE, from its internal counter.         -Measurement Identity       2         -Measurement Report Transfer Mode       -         - Periodical Reporting / Event Trigger Reporting       Acknowledged mode RLC         - Periodical Reporting / Event Trigger Reporting       Not Present         -CHOICE Measurement Type       Inter-frequency measurement object list         -CHOICE Inter-frequency cells       Not Present         -CHOICE measurement       Not Present         -Inter-frequency measurement quantity       -CHOICE reporting criteria         -Filter coefficient       0         -CHOICE mode       Ford         -Measurement reporting indicator       FOD         -OPICH Ec/N0 reporting indicator       FOD         -OPICH Ec/N0 reporting indicator       FALSE         -Parbitos reporting indicator       FALSE         -OHOICE reporting indicator       FALSE         -OHOICE mode       FOD         -OHOICE mode       FOD         -OPICH Ec/N0 reporting indicator       FALSE	UE information elements	
-Integrity check info       SS calculates the value of MAC-I for this         -message authentication code       SS calculates the value of MAC-I for this         -RRC message sequence number       SS provides the value of this IE. The first/         -RRC message sequence number       SS provides the value of this IE. from its         -Measurement Information elements       2         -Measurement Reporting Mode       Setup         -Measurement Report Transfer Mode       Acknowledged mode RLC         - Periodical Reporting / Event Trigger Reporting       Not Present         -Additional measurement bigt       Inter-frequency measurement opic tist         -CHOICE Inter-frequency cells       Not Present         -Additional measurement quantity       CHOICE reporting criteria         -Inter-frequency measurement quantity       CHOICE mode         -CHOICE mode       FDD         -CHOICE mode       FDD         -Inter-frequency reporting indicator       FUE         -CHOICE mode       TRUE         -Inter-frequency reporting indicator       FALSE         -CHOICE mode       FDD         -OPICH RSCP reporting indicator       FALSE         -CHOICE mode       FALSE         -CHOICE mode       FALSE         -Non frequency related cell reporting quantities       FALSE </td <td>-RRC transaction identifier</td> <td>0</td>	-RRC transaction identifier	0
-message authentication code         SS calculates the value of MAC-1 for this message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-1.           -RRC message sequence number         SS provides the value of MAC-1.           -Measurement Information elements         -           -Measurement Reporting Mode         2           - Measurement Reporting Mode         -           - Periodical Reporting / Event Trigger Reporting Mode         -           -Additional measurement list -CHOICE Measurement Type         -           -Inter-frequency measurement object list -CHOICE Inter-frequency cells         Not Present           -Inter-frequency measurement quantity -CHOICE mode         Not Present           -Inter-frequency measurement quantity -CHOICE mode         Not Present           -Inter-frequency reasurement quantity for frequency quality estimate         -           -Inter-frequency reporting criteria -Filter coefficient         -           -Cell Identity reporting indicator         FDD           -CPICH RSCP moditig indicator         FDD           -CPICH RSCP reporting indicator         FALSE           -CPICH RSCP reporting indicator         FALSE           -Coll Identity reporting indicator         FALSE           -CPICH RSCP reporting indicator         FALSE           -Pathloss reporting indicator	-Integrity check info	
-RRC message sequence number       message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-1. SS provides the value of this IE, from its internal counter.         Measurement Information elements       2         -Measurement Command       2         -Measurement Reporting Mode       2         -Measurement Reporting Mode       2         -Measurement Reporting / Event Trigger Reporting Mode       2         -Additional measurement list       Not Present         -CHOICE measurement Type       Inter-frequency cells         -Inter-frequency cells       Not Present         -CHOICE reporting criteria       0         -Filter coefficient       0         -Ford Carrier RSSI       TRUE         -Traquency quality estimate       TRUE         -Non frequency reporting indicator       FDD         -CHOICE mode       FDD         -Non frequency related cell reporting quantitis       TRUE         -CHOICE mode       TRUE         -CHOICE reporting indicator       FDD         -CHOICE reporting indicator       FDD         -CHOICE mode       FDD         -CHOICE mode       FALSE         -CHOICE reporting indicator       FALSE         -CHOICE reporting indicator       FDD <td>-message authentication code</td> <td>SS calculates the value of MAC-I for this</td>	-message authentication code	SS calculates the value of MAC-I for this
-RRC message sequence number       leftmost bit of the bit string contains the most significant bit of the MAC-1. SS provides the value of this IE, from its internal counter.         Measurement Information elements       .         -Measurement Reporting Mode       2         -Measurement Report Transfer Mode       2         -Periodical Reporting / Event Trigger Reporting       Acknowledged mode RLC         Periodical reporting / Event Trigger Reporting       Acknowledged mode RLC         -CHOICE Measurement Type       Inter-frequency measurement object list         -CHOICE Inter-frequency cells       Not Present         -CHOICE Inter-frequency cells       Cell 2 information is included         -New inter-frequency measurement quantity       Not Present         -Ther-frequency reporting criteria       0         -Filter coefficient       0         -CHOICE mode       FDD         -Measurement quantity for frequency quality       TRUE         -Inter-frequency reporting quantities       Cell I componenting functator         -CHOICE mode       TRUE         -Inter-frequency reporting indicator       FDD         -Maximum number of reporting indicator       FDD         -CHOICE mode       TRUE         -POICH Ec/NO reporting indicator       FALSE         -Reporting eli status       FALSE		message and writes to this IE. The first/
-RRC message sequence number       significant bit of the MAC-I. SS provides the value of this IE, from its internal counter.         Measurement Information elements -Measurement Reporting Mode       2 Setup         Measurement Reporting Mode       2 Setup         - Measurement Reporting Mode       - Periodical Reporting / Event Trigger Reporting Mode         - Additional measurement list - CHOICE Inter-frequency measurement object list - CHOICE Inter-frequency cell removal - New inter-frequency measurement quantity - CHOICE reporting criteria - Filter coefficient - CHOICE reporting quantity - CHOICE mode - Measurement quantity for frequency quality estimate - Inter-frequency reporting quantities - Cell synchronisation information reporting indicator       Not Present         - Cell Synchronisation information reporting indicator       TRUE FDD         - CHOICE mode - CPICH BSCP reporting indicator - CPICH RSCP reporting		leftmost bit of the bit string contains the most
-RRC message sequence number       SŠ provides the value of this IE, from its internal counter.         Measurement Information elements		significant bit of the MAC-I.
Internal counter.           Measurement Information elements         .           Measurement Command         .           Measurement Reporting Mode         .           - Measurement Report Transfer Mode         .           - Periodical Reporting / Event Trigger Reporting Mode         .           - Additional measurement list         .           - CHOICE Inter-frequency measurement object list         .           - CHOICE Inter-frequency measurement quantity         .           - Choice Inter-frequency measurement quantity         .           - CHOICE Inter-frequency measurement quantity         .           - CHOICE mode         .           - Filter coefficient         .           - CHOICE mode         .           - Inter-frequency reporting quantity         .           - CHOICE mode         .           - Frequency quality estimate         .           - Non frequency reporting indicator         .           - Cell Identity reporting indicator         .           - OPICH RSCP reporting right cator         .           - Pathloss reporting indicator         .           - Adaximum number of reported cells         .           - Maximum number of reported cells         .           - Measurement validity	-RRC message sequence number	SS provides the value of this IE, from its
Measurement Identity       2         Measurement Reporting Mode       Setup         -Measurement Reporting / Event Trigger Reporting       Acknowledged mode RLC         - Periodical Reporting / Event Trigger Reporting       Periodical reporting         Mode       -Additional measurement list       Not Present         -CHOICE Measurement Type       Inter-frequency cell removal       Not Present         -CHOICE Inter-frequency cells       Cell 2 information is included       Not Present         -New inter-frequency cells       Cell 2 information is included       Not Present         -Inter-frequency measurement quantity       Cell 2 information is included       Not Present         -CHOICE mode       FDD       CPICH RSCP         -Measurement quantity for frequency quality       TRUE         -Inter-frequency reporting quantities       Cell synchronisation information reporting         -OHOICE mode       FDD         -OHOICH Ec/No reporting indicator       TRUE        -OPICH Ec/No reporting indicator       TRUE         -CHOICE reported cell       FALSE         -Reporting cell status       FALSE         -CHOICE reported cell       Report cells within monitored set on non-used frequency         -OPICH Ec/No reporting indicator       FALSE         -Reporting cell status       FALSE<		internal counter.
-Measurement Identity       2         -Measurement Reporting Mode       Setup         -Measurement Report Transfer Mode       Acknowledged mode RLC         - Periodical Reporting / Event Trigger Reporting       Periodical reporting         Mode       Acknowledged mode RLC         -Additional measurement list       -CHOICE Inter-frequency cell removal         -Ther-frequency measurement object list       Not Present         -CHOICE Inter-frequency cell removal       Not Present         -New inter-frequency measurement quantity       Cell for measurement quantity for frequency quality         -CHOICE mode       FDD         -Measurement quantity for frequency quality       FDD         -Trequency reporting quantities       Cell CH Reporting indicator         -CHOICE mode       TRUE         -Measurement quantity for frequency quality       TRUE         -Trequency quality estimate       TRUE         -Non frequency related cell reporting quantities       Cell Identity reporting indicator         -CHOICE mode       TRUE         -CHOICE mode       TRUE         -CHOICE mode       FALSE         -CHOICE mode       TRUE         -CHOICE mode       FALSE         -CHOICE mode       FALSE         -Parathosa reporting indicator	Measurement Information elements	
-Measurement Command       Setup         -Measurement Report Transfer Mode       Acknowledged mode RLC         - Periodical Reporting / Event Trigger Reporting       Acknowledged mode RLC         - Periodical Reporting / Event Trigger Reporting       Periodical reporting         - Additional measurement list       Not Present         - CHOICE Inter-frequency cell removal       Not Present         - ChoicE reporting criteria       Not Present         - Priter cedificient       0         - CHOICE mode       FDD         - Measurement quantity for frequency quality       FDD         - Filter cedificient       0         - Measurement quantity for frequency quality       FDD         - Frequency reporting quantities       Cell of antion is included         - Not frequency reporting quantities       Cell center frequency reporting criteria         - Non frequency reporting indicator       TRUE         - CHICE mode       TRUE         - CHICE mode       TRUE         - CHICE mode       TRUE         - CHOICE mode       FALSE         - CHICH Ec/N0 reporting indicator       FALSE         - CHICH Ec/N0 reporting indicator       FALSE         - Pathloss reporting indicator       FALSE         - Preporting cell status       FALSE <td>-Measurement Identity</td> <td>2</td>	-Measurement Identity	2
-Measurement Reporting Mode       Acknowledged mode RLC         - Periodical Reporting / Event Trigger Reporting       Acknowledged mode RLC         -Additional measurement list       Periodical reporting         -CHOICE Measurement Type       Inter-frequency measurement object list         -CHOICE Inter-frequency cells       Cell 2 information is included         -New inter-frequency measurement       Not Present         -Inter-frequency measurement quantity       Cell 2 information is included         -CHOICE reporting criteria       Inter-frequency reporting criteria         -Filter coefficient       0         -CHOICE mode       FDD         -Measurement quantity for frequency quality       FDD         -Inter-frequency reporting quantities       CPICH RSCP         -Non frequency related cell reporting quantities       Cell lentity reporting indicator         -Cell lentity reporting indicator       FDD         -CHOICE mode       TRUE         -CHOICE mode       FDD         -CHOICE mode       TRUE         -CHOICE mode       FDD         -CHOICE mode       FDD         -CHOICE mode       FDD         -CHOICE mode       FLSE         -CHOICE mode       FLSE         -CHOICE mode       FALSE	-Measurement Command	Setup
- 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 object list       Not Present         -CHOICE Inter-frequency cells       Not Present       Cell 2 information is included         -CHOICE reporting criteria       Inter-frequency reporting criteria       Not Present         -Filter coefficient       0       Pilter-frequency reporting criteria         -Filter coefficient       0       Pilter-frequency reporting quantity         -CHOICE mode       FDD       CPICH RSCP         -Inter-frequency reporting quantity       TRUE       TRUE         -Frequency reporting indicator       Cell synchronisation information reporting       TRUE         -Cell Identity reporting indicator       FDD       TRUE         -CHOICE mode       TRUE       FALSE         -Cell Identity reporting indicator       FALSE       FALSE         -CHOICE mode       FDD       FUE         -CHOICE mode       FDD       FALSE         -CHOICE mode       FALSE       FALSE         -CHOICE mode       FALSE       FALSE         -Reporting cell st	-Measurement Reporting Mode	
- Periodical Reporting / Event Trigger Reporting Mode       Periodical reporting         -Additional measurement list       Not Present         -CHOICE Measurement Type       Inter-frequency measurement object list         -CHOICE Inter-frequency cells       Not Present         -Registrate       Not Present         -Inter-frequency measurement quantity       Cell 2 information is included         -CHOICE mode       Not Present         -Filter coefficient       0         -CHOICE mode       FDD         -Inter-frequency reporting quantity       CPICH RSCP         -Inter-frequency reporting quantity       TRUE         -UTRA Carrier RSSI       TRUE         -Cell Identity reporting indicator       TRUE         -Cell Identity reporting indicator       FDD         -CHOICE mode       FDD         -Non frequency relating indicator       TRUE         -CHOICE mode       FDD         -CHOICE reporting indicator       FALSE	- Measurement Report Transfer Mode	Acknowledged mode RLC
Mode       -Additional measurement list       Not Present         -CHOICE Measurement Type       Inter-frequency measurement object list         -CHOICE Inter-frequency cell removal       Not Present         -New inter-frequency cells       Cell 2 information is included         -Cell for measurement       Not Present         -Inter-frequency measurement quantity       Cell 2 information is included         -CHOICE reporting criteria       Inter-frequency reporting criteria         -Filter coefficient       0         -CHOICE mode       FDD         -Measurement quantity for frequency quality       CPICH RSCP         estimate       -Inter-frequency reporting quantities         -Inter-frequency reporting quantity       TRUE         -Frequency quality estimate       TRUE         -Non frequency related cell reporting quantities       Cell dentity reporting indicator         -CHOICE mode       TRUE         -CHOICE mode       TRUE         -CHOICE mode       TRUE         -CHOICE mode       FDD         -CPICH Ec/NO reporting indicator       FALSE         -Pathloss reporting indicator       FALSE         -Report cells within monitored set on non-used       frequency         -Maximum number of reported cells       Not Present	- Periodical Reporting / Event Trigger Reporting	Periodical reporting
-Additional measurement list       Not Present         -CHOICE Measurement Type       Inter-frequency measurement object list         -CHOICE Inter-frequency cell removal       Not Present         -Cell for measurement duantity       Cell 2 information is included         -Cell for measurement quantity       Not Present         -CHOICE reporting criteria       Inter-frequency reporting criteria         -Filter coefficient       0         -CHOICE mode       FDD         -CHOICE mode       FDD         -Measurement quantity for frequency quality       CPICH RSCP         estimate       TRUE         -Inter-frequency reporting quantities       CPICH RSCP         -Inter-frequency reporting quantities       CPICH RSCP         -Non frequency reporting indicator       TRUE         -Cell synchronisation information reporting       TRUE         -CPICH Ec/N0 reporting indicator       FDD         -CPICH RSCP reporting indicator       FALSE         -CHOICE reported cell       FALSE         -Maximum number of reported cells       Report cells within monitored set on non-used         -Maximum number of reported cells       Not Present         -Maximum number of reported cells       Not Present         -Maximum number of reported cells       Not Present	Mode	
-CHOICE Measurement Type       Inter-frequency measurement object list         -CHOICE Inter-frequency cells       Not Present         -New inter-frequency cells       Cell 2 information is included         -CHOICE Inter-frequency measurement quantity       Not Present         -Inter-frequency measurement quantity       Inter-frequency reporting criteria         -Inter-frequency measurement quantity       Inter-frequency reporting criteria         -Filter coefficient       0         -CHOICE mode       FDD         -Measurement quantity for frequency quality       CPICH RSCP         estimate       Inter-frequency reporting quantities         -Cell Identity reporting indicator       TRUE         -CHOICE mode       FDD         -Non frequency related cell reporting quantities       TRUE         -Cell Identity reporting indicator       FDD         -CHOICE mode       TRUE         -CPICH Ec/N0 reporting indicator       FALSE         -CHOICE reported cell       FALSE         -CHOICE report criteria       Report cells within monitored set on non-used frequency         -Maximum number of reported cells       Not Present         -Maximum number of reported cells       Not Present         -Measurement validity       2         -Inter-frequency set update       Not	-Additional measurement list	Not Present
-Inter-frequency measurement object list       Not Present         -New inter-frequency cells       Cell 2 information is included         -Cell for measurement       Not Present         -Inter-frequency measurement quantity       Inter-frequency reporting criteria         -Filter coefficient       0         -CHOICE mode       FDD         -Measurement quantity for frequency quality       CPICH RSCP         estimate       -Inter-frequency reporting quantities         -Inter-frequency related cell reporting quantities       TRUE         -Cell Identity reporting indicator       TRUE         -CHOICE mode       TRUE         -Non frequency related cell reporting quantities       TRUE         -Cell Identity reporting indicator       FDD         -CHOICE mode       TRUE         -CPICH Ec/No reporting indicator       FDD         -Pathloss reporting indicator       FALSE         -Reporting cell status       FALSE         -CHOICE report criteria       Not Present         -Maximum number of reported cells       Report cells within monitored set on non-used frequency         -Maximum number of reported cells       Not Present         -Amount of reporting       Not Present         -Amount of reporting       Periodical reporting criteria	-CHOICE Measurement Type	Inter-frequency measurement
-CHOICE Inter-frequency cells       Not Present         -New inter-frequency cells       Cell 2 information is included         -Cell for measurement       Not Present         -Inter-frequency measurement quantity       Inter-frequency 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       -Cell dentity reporting indicator         -CHOICE mode       TRUE         -Cell Identity reporting indicator       TRUE         -CPICH RSCP reporting indicator       FDD         -CPICH RSCP reporting indicator       FDD         -CPICH RSCP reporting indicator       FDD         -CPICH RSCP reporting indicator       FALSE         -Reporting cell status       FALSE         -CHOICE report e cell       Report cells within monitored set on non-used         -Maximum number of reported cells       frequency         -Maximum number of reported cells       Not Present         -Maximum number of reported cells       Not Present         -Maximum numbe	-Inter-frequency measurement object list	
-New inter-frequency cells       Cell 2 information is included         -Cell for measurement       Not Present         -Inter-frequency measurement quantity       Inter-frequency reporting criteria         -Filter coefficient       0         -CHOICE mode       FDD         -Measurement quantity for frequency quality       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       -Cell Identity reporting indicator         -Cell Identity reporting indicator       TRUE         -CHOICE mode       TRUE         -CPICH RSCP reporting indicator       FALSE         -Pathloss reporting indicator       FALSE         -Pathloss reporting indicator       FALSE         -CHOICE report cell       Report cells within monitored set on non-used         -Measurement validity       2         -Measurement validity       2         -Measurement validity       2         -Measurement validity       2         -Report cells within monitored set on non-used         frequency       2         -Measurement validity	-CHOICE Inter-frequency cell removal	Not Present
-Cell for measurementNot Present-Inter-frequency measurement quantityInter-frequency reporting criteria-CHOICE reporting criteria0-CHOICE modeFDD-Measurement quantity for frequency qualityCPICH RSCPestimate-Inter-frequency reporting quantity-Inter-frequency reporting quantityTRUE-Frequency quality estimateTRUE-Non frequency related cell reporting quantitiesTRUE-Cell ldentity reporting indicatorTRUE-CHOICE modeTRUE-COICH Ec/NO reporting indicatorTRUE-CPICH Ec/NO reporting indicatorFDD-CPICH RSCP reporting indicatorFALSE-CPICH RSCP reporting indicatorFALSE-CPICH RSCP reporting indicatorFALSE-CHOICE modeTRUE-CHOICE report cellReport cells within monitored set on non-used-Maximum number of reported cellsNot Present-Maximum number of reported cellsPeriodical reporting criteria-Amount of reportingPeriodical reporting criteria-Reporting intervalInfinity500 msPDPCH compressed mode status info	-New inter-frequency cells	Cell 2 information is included
-Inter-frequency measurement quantity       Inter-frequency reporting criteria         -Filter coefficient       0         -CHOICE mode       FDD         -Measurement quantity for frequency quality       CPICH RSCP         estimate       TRUE         -Inter-frequency reporting quantity       TRUE         -Inter-frequency reporting quantity       TRUE         -Non frequency related cell reporting quantities       TRUE         -Cell Identity reporting indicator       TRUE         -CHOICE mode       TRUE         -Cell Identity reporting indicator       TRUE         -CPICH RSCP reporting indicator       FDD         -CPICH RSCP reporting indicator       FDD         -CPICH RSCP reporting indicator       FALSE         -Reporting cell status       FALSE         -CHOICE report cell       Report cells within monitored set on non-used         frequency       2         -Inter-frequency st update       Not Present         -CHOICE report criteria       Not Present         -Measurement validity       2         -Inter-frequency set update       Not Present         -CHOICE report criteria       Not Present         -Amount of reporting       Periodical reporting criteria         -Reporting interval	-Cell for measurement	Not Present
-CHOICE reporting criteria       Inter-frequency reporting criteria         -Filter coefficient       0         -CHOICE mode       FDD         -Measurement quantity for frequency quality       CPICH RSCP         estimate       -Inter-frequency reporting quantity         -Inter-frequency reporting quantity       TRUE         -Frequency quality estimate       TRUE         -Non frequency related cell reporting quantities       TRUE         -Cell synchronisation information reporting       TRUE         -Cell Identity reporting indicator       FDD         -CHOICE mode       TRUE         -CPICH Ec/N0 reporting indicator       FDD         -CPICH RSCP reporting indicator       FALSE         -Reporting cell status       FALSE         -CHOICE reported cell       Report cells within monitored set on non-used         -Maximum number of reported cells       frequency         -Measurement validity       2         -Inter-frequency set update       Not Present         -CHOICE report criteria       Not Present         -Amount of reporting       Periodical reporting criteria         -Amount of reporting       Periodical reporting criteria         -Reporting interval       Infinity         -Physical channel information elements       D	-Inter-frequency measurement quantity	
-Filter coefficient       0         -CHOICE mode       FDD         -Measurement quantity for frequency quality       CPICH RSCP         estimate       -Inter-frequency reporting quantity         -Inter-frequency reporting quantity       TRUE         -Prequency quality estimate       TRUE         -Non frequency related cell reporting quantities       TRUE         -Cell synchronisation information reporting       TRUE         indicator       TRUE         -CHOICE mode       TRUE         -CHOICE mode       TRUE         -CHOICE mode       TRUE         -CHOICE mode       TRUE         -CPICH Ec/N0 reporting indicator       FDD         -CPICH RSCP reporting indicator       FALSE         -Pathloss reporting indicator       FALSE         -Reporting cell status       FALSE         -CHOICE reported cell       Report cells within monitored set on non-used frequency         -Maximum number of reported cells       Not Present         -Measurement validity       2         -Inter-frequency set update       Not Present         -CHOICE report criteria       Not Present         -Amount of reporting       Periodical reporting criteria         -Amount of reporting       S00 ms	-CHOICE reporting criteria	Inter-frequency reporting criteria
-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       TRUE         -Cell synchronisation information reporting       TRUE         -Cell Identity reporting indicator       TRUE         -CHOICE mode       TRUE         -CPICH RSCP reporting indicator       FDD         -CPICH RSCP reporting indicator       FDL         -Pathloss reporting indicator       FALSE         -Reporting cell status       FALSE         -CHOICE reported cell       Report cells within monitored set on non-used         -Maximum number of reported cells       Not Present         -CHOICE report criteria       Not Present         -Amount of reporting       Periodical reporting criteria         -Amount of reporting       Periodical reporting criteria         -Amount of reporting       Periodical reporting criteria         -Amount of reporting <td>-Filter coefficient</td> <td>0</td>	-Filter coefficient	0
-Measurement quantity for frequency quality estimate -Inter-frequency reporting quantity -UTRA Carrier RSSI -Frequency quality estimate -Non frequency related cell reporting quantities -Cell synchronisation information reporting indicator -Cell Identity reporting indicator -CHOICE mode -CPICH Ec/N0 reporting indicator -CPICH RSCP reporting indicator -CPICH RSCP reporting indicator -Pathloss reporting indicator -Reporting cell status -CHOICE reported cell -Maximum number of reported cells -Measurement validity -Inter-frequency set update -CHOICE report criteria -Amount of reporting -Reporting interval -Measurement validity -DPCH compressed mode status info Physical channel information elements -DPCH compressed mode status info -Measurement status info -Measurement valie information elements -DPCH compressed mode status info	-CHOICE mode	FDD
estimate         -Inter-frequency reporting quantity         -UTRA Carrier RSSI         -Frequency quality estimate         -Non frequency related cell reporting quantities         -Cell synchronisation information reporting         indicator       TRUE         -Cell ldentity reporting indicator         -CHOICE mode       TRUE         -CPICH Ec/N0 reporting indicator       FDD         -CPICH RSCP reporting indicator       FALSE         -Reporting cell status       FALSE         -CHOICE reported cell       Report cells within monitored set on non-used         -Maximum number of reported cells       frequency         -Measurement validity       2         -Inter-frequency set update       Not Present         -CHOICE report criteria       Not Present         -Amount of reporting       Periodical reporting criteria         -Reporting interval       Infinity         -Reporting interval       S00 ms	-Measurement quantity for frequency quality	CPICH RSCP
-Inter-frequency reporting quantity -UTRA Carrier RSSI TRUE -Frequency quality estimate TRUE -Non frequency related cell reporting quantities -Cell synchronisation information reporting indicator TRUE -Cell Identity reporting indicator -CHOICE mode TRUE -CPICH Ec/N0 reporting indicator FDD -CPICH RSCP reporting indicator FALSE -Reporting cell status FALSE -CHOICE reported cell Report cells within monitored set on non-used frequency -Maximum number of reported cells -Maximum number of reported cells -Measurement validity 2 -Inter-frequency set update -CHOICE report criteria -Amount of reporting -Reporting interval Infinity 500 ms	estimate	
-UTRA Carrier RSSI       TRUE         -Frequency quality estimate       TRUE         -Non frequency related cell reporting quantities       TRUE         -Cell synchronisation information reporting       TRUE         indicator       TRUE         -Cell Identity reporting indicator       TRUE         -CHOICE mode       TRUE         -CPICH Ec/N0 reporting indicator       FDD         -CPICH RSCP reporting indicator       FALSE         -Pathloss reporting indicator       FALSE         -Reporting cell status       FALSE         -CHOICE reported cell       Report cells within monitored set on non-used         -Maximum number of reported cells       frequency         -Measurement validity       2         -Inter-frequency set update       Not Present         -CHOICE report criteria       Not Present         -Amount of reporting       Periodical reporting criteria         -Reporting interval       S00 ms         Physical channel information elements       Not Present         -DPCH compressed mode status info       Not Present	-Inter-frequency reporting quantity	
-Frequency quanty estimate information reporting quantities -Non frequency related cell reporting quantities -Cell synchronisation information reporting indicator TRUE -Cell Identity reporting indicator -CHOICE mode TRUE -CPICH Ec/N0 reporting indicator FDD -CPICH RSCP reporting indicator FALSE -Pathloss reporting indicator FALSE -Reporting cell status FALSE -CHOICE reported cell Report cells within monitored set on non-used -Maximum number of reported cells frequency -Measurement validity 2 -Inter-frequency set update Not Present -CHOICE report criteria Not Present -Amount of reporting -Reporting interval Infinity -Report compressed mode status info Not Present	-UTRA Carrier RSSI	TRUE
-Norh frequency related cell reporting quantities -Cell synchronisation information reporting indicator TRUE -Cell Identity reporting indicator -CHOICE mode TRUE -CPICH Ec/N0 reporting indicator FDD -CPICH RSCP reporting indicator FALSE -Reporting cell status FALSE -Reporting cell status FALSE -CHOICE reported cell Report cells within monitored set on non-used -Maximum number of reported cells frequency -Measurement validity 2 -Inter-frequency set update Not Present -CHOICE reporting -Amount of reporting -Reporting interval Infinity -Reporting interval Infinity 500 ms	-Frequency quality estimate	IRUE
-Cell synchronisation information reporting         indicator       TRUE         -Cell Identity reporting indicator       TRUE         -CHOICE mode       TRUE         -CPICH Ec/N0 reporting indicator       FDD         -CPICH RSCP reporting indicator       TRUE         -Pathloss reporting indicator       FALSE         -Reporting cell status       FALSE         -CHOICE reported cell       Report cells within monitored set on non-used         -Maximum number of reported cells       frequency         -Measurement validity       2         -Inter-frequency set update       Not Present         -CHOICE reporting       Periodical reporting criteria         -Amount of reporting       Periodical reporting criteria         -Reporting interval       Infinity         500 ms       Physical channel information elements         -DPCH compressed mode status info       Not Present	-Non frequency related cell reporting quantities	
IndicatorTRUE-Cell Identity reporting indicatorTRUE-CHOICE modeTRUE-CPICH Ec/N0 reporting indicatorFDD-CPICH RSCP reporting indicatorTRUE-Pathloss reporting indicatorFALSE-Reporting cell statusFALSE-CHOICE reported cellReport cells within monitored set on non-used-Maximum number of reported cellsfrequency-Measurement validity2-Inter-frequency set updateNot Present-CHOICE report criteriaNot Present-Amount of reportingPeriodical reporting criteria-Reporting intervalInfinity 500 ms	-Cell synchronisation mormation reporting	
-CHOICE mode       TRUE         -CPICH Ec/N0 reporting indicator       FDD         -CPICH RSCP reporting indicator       TRUE         -Pathloss reporting indicator       FALSE         -Pathloss reporting cell status       FALSE         -CHOICE reported cell       FALSE         -Maximum number of reported cells       Report cells within monitored set on non-used         -Measurement validity       2         -Inter-frequency set update       Not Present         -CHOICE reporting       Periodical reporting criteria         -Amount of reporting       Periodical reporting criteria         -Reporting interval       Infinity         500 ms       Physical channel information elements         -DPCH compressed mode status info       Not Present	Cell Identity reporting indicator	THOE
-CPICH Ec/N0 reporting indicator -CPICH RSCP reporting indicator -Pathloss reporting indicator -Reporting cell status -CHOICE reported cell -Maximum number of reported cells -Measurement validity -Inter-frequency set update -CHOICE report criteria -CHOICE report criteria -Amount of reporting -Reporting interval -Amount of reporting -Reporting interval 	-CHOICE mode	TRUF
-CPICH RSCP reporting indicator -Pathloss reporting indicator -Reporting cell status -CHOICE reported cell -Maximum number of reported cells -Measurement validity -Inter-frequency set update -CHOICE report criteria -CHOICE report criteria -CHOICE report criteria -Amount of reporting -Reporting interval Physical channel information elements -DPCH compressed mode status info -CHOICE report criteria -Amount of reporting -Reporting interval -Amount of reporting elements -DPCH compressed mode status info -Amount of reporting -Reporting interval -Amount of reporting elements -DPCH compressed mode status info -Amount of reporting -Reporting interval -Amount of reporting elements -DPCH compressed mode status info 	-CPICH Ec/NO reporting indicator	FDD
-Pathloss reporting indicator -Pathloss reporting indicator -Reporting cell status -CHOICE reported cell -Maximum number of reported cells -Measurement validity -Inter-frequency set update -CHOICE report criteria -CHOICE report criteria -Amount of reporting -Reporting interval Physical channel information elements -DPCH compressed mode status info -Pathloss reporting indicator FALSE FALSE FALSE Report cells within monitored set on non-used frequency 2 Not Present Not Present -DPCH compressed mode status info Not Present Not Present		TBUE
-Reporting cell status       FALSE         -Reporting cell status       FALSE         -CHOICE reported cell       Report cells within monitored set on non-used         -Maximum number of reported cells       frequency         -Measurement validity       2         -Inter-frequency set update       Not Present         -CHOICE report criteria       Not Present         -CHOICE reporting interval       Periodical reporting criteria         -Amount of reporting       Infinity         -Reporting interval       500 ms	-Pathloss reporting indicator	FALSE
-CHOICE reported cell -Maximum number of reported cells -Measurement validity -Inter-frequency set update -CHOICE report criteria -CHOICE report criteria -CHOICE report criteria -Amount of reporting -Reporting interval Physical channel information elements -DPCH compressed mode status info	-Benorting cell status	FALSE
-Maximum number of reported cells       Report cells within monitored set on non-used         -Maximum number of reported cells       frequency         -Measurement validity       2         -Inter-frequency set update       Not Present         -CHOICE report criteria       Not Present         -Amount of reporting       Periodical reporting criteria         -Reporting interval       Infinity         500 ms       Physical channel information elements         -DPCH compressed mode status info       Not Present	-CHOICE reported cell	
-Maximum number of reported cells       frequency         -Measurement validity       2         -Inter-frequency set update       Not Present         -CHOICE report criteria       Not Present         -Amount of reporting       Periodical reporting criteria         -Reporting interval       Infinity         500 ms       500 ms		Report cells within monitored set on non-used
-Measurement validity     2       -Inter-frequency set update     Not Present       -CHOICE report criteria     Not Present       -Amount of reporting     Periodical reporting criteria       -Reporting interval     Infinity       500 ms     500 ms	-Maximum number of reported cells	frequency
-Inter-frequency set update Not Present -CHOICE report criteria Not Present -Amount of reporting Periodical reporting criteria -Reporting interval Infinity 500 ms Physical channel information elements -DPCH compressed mode status info Not Present	-Measurement validity	2
-CHOICE report criteria       Not Present         -Amount of reporting       Periodical reporting criteria         -Reporting interval       Infinity         500 ms       Solo ms         Physical channel information elements       Not Present         -DPCH compressed mode status info       Not Present	-Inter-frequency set update	– Not Present
-Amount of reporting -Reporting interval Periodical reporting criteria Infinity 500 ms Physical channel information elements -DPCH compressed mode status info Not Present	-CHOICE report criteria	Not Present
-Reporting interval Infinity 500 ms -DPCH compressed mode status info Not Present	-Amount of reporting	Periodical reporting criteria
500 ms       Physical channel information elements       -DPCH compressed mode status info   Not Present	-Reporting interval	Infinity
Physical channel information elements -DPCH compressed mode status info Not Present		500 ms
-DPCH compressed mode status info Not Present	Physical channel information elements	
	-DPCH compressed mode status info	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

		Accuracy [dB]		Conditions		
Parameter	Unit	Normal Extreme		lo [dBm/3.84 MHz]		z]
		condition	condition	Band I	Band II	Band III
CPICH_RSCP	dBm	±7.1	±7.1	-9450	-9250	-9150

Table 8.7.1.2.1.3: CPICH	<b>RSCP</b> Inter free	uency relative a	accuracy, test re	auirements
		activy relative c	100uru0y, 100t r	yun emento

# Table 8.7.1.2.1.4: CPICH RSCP Inter frequency tests parameters

Parameter		Unit	Tes	Test 1		Test 2	
		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	-1	10	
PCCPCH_Ec/lo	•	dB	-1	2	-1	12	
SCH_Ec/lor		dB	-1	2	-1	12	
PICH_Ec/lor		dB	-1	5	-1	15	
DPCH_Ec/lor		dB	-15	-	-15	-	
OCNS Ec/lor		dB	-1.11	-0.94	-1.11	-0.94	
	Band I	dDres / 0, 0.4			-83.00	-93.46	
loc	Band II	авт/ 3.84 мн <del>.</del>	-61.6	-61.6	-81.00	-91.46	
	Band III	INITIZ			-80.00	-90.46	
Obr/loc		dB	9.84	9.84	0.3	-9.24	
	Band I		-61.8	-61.8	-92.7	-112.7	
Noto 1	Band II	dBm			-90.7	-110.7	
Note 1	Band III				-89.7	-109.7	
	Band I	dDm /0_04			-79.8	-93.0	
lo, Note 1	Band II	UDI1//3.04	-51.3	-51.3	-77.8	-91.0	
	Band III				-76.8	-90.0	
Propagation con	dition	-	AWGN		AWGN		
NOTE 1: CPICH RSCP and lo levels have been calculated from other parameters for information							
purpo	ses. They are	not settable para	ameters themsel	ves.			
Tests shall be do	one sequentiall	y. Test 1 shall b	e done first. Afte	er test 1 has bee	n executed test	parameters	
for test 2 shall be	e set within 5 s	econds so that l	JE does not loos	se the Cell 2 in b	etween the test	ts.	

The reported values for the relative inter frequency CPICH RSCP measurement shall meet the requirements in table 8.7.1.2.1.5.

# Table 8.7.1.2.1.5: CPICH\_RSCP Inter frequency relative accuracy requirements for the reported values

	Test 1	Test 2			
Normal Conditions					
Lowest reported value cell 2	CPICH_RSCP_(x - 8)	CPICH_RSCP_(x - 28)			
Highest reported value cell 2	CPICH_Ec/No_(x + 8)	CPICH_Ec/No_(x - 12)			
Extreme Conditions					
Lowest reported value cell2	CPICH_RSCP_(x - 8)	CPICH_RSCP_(x - 28)			
Highest reported value cell2	CPICH_Ec/No_(x + 8)	CPICH_Ec/No_(x - 12)			
CPICH RSCP x is the reported value of 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.

# 8.7.2 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:

 $--\frac{\text{CPICH}_{\text{RSCP1}}_{\text{dBm}} \geq -114 \text{ dBm for Band I.}}{114 \text{ dBm for Band I.}}$ 

- CPICH\_RSCP1|<sub>dBm</sub> ≥ -112 dBm for Band II,

— CPICH\_RSCP1|<sub>dBm</sub> ≥ 111 dBm for Band III.

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

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

Parameter Unit Normal condition		Accuracy [dB]	curacy [dB]		<b>Conditions</b>		
		Normal condition	Extreme	<del>lo [dBm/3.84 MHz]</del>			
		Normal condition	condition	Band I	Band II	Band III	
		<u>±1,5 for -14 ≤ CPICH Ec/lo</u>					
CPICH_Ec/lo	dB	<u>±2 for 16 ≤ CPICH Ec/lo &lt; 14</u>	<del>±3</del>	<del>-9450</del>	<del>-9250</del>	<del>-9150</del>	
		<u>±3 for -20 ≤ CPICH Ec/lo &lt; -16</u>					

<u>CPICH RSCP1|<sub>dBm</sub>  $\geq$  -114 dBm for Bands I and VI,</u>

<u>CPICH\_RSCP1|<sub>dBm</sub>  $\geq$  -112 dBm for Bands II and V,</u>

 $CPICH_RSCP1|_{dBm} \ge -111 \text{ dBm for Band III.}$ 

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

		Accuracy [dB]		Conditions		
Paramotor	Unit		Extromo	Band I and VI	Band II and V	Band III
rarameter	<u>om</u>	Normal condition	condition	<u>lo [dBm/3.84</u> MHz]	<u>lo</u> [dBm/3.84	<u>lo [dBm/3.84</u> MHz]
					MHz]	
<u>CPICH_Ec/lo</u>	<u>dB</u>	$\frac{\pm 1.5 \text{ for } -14 \leq \text{CPICH Ec/lo}}{\pm 2 \text{ for } -16 \leq \text{CPICH Ec/lo} < -14}$ $\frac{\pm 3 \text{ for } -20 \leq \text{CPICH Ec/lo} < -16}{\pm 3 \text{ for } -20 \leq \text{CPICH Ec/lo} < -16}$	<u>± 3</u>	<u>-9450</u>	<u>-92Ö -50</u>	<u>-91Ö -50</u>

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

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.

Table 8.7.2.1.1.2: CPICH	Ec/lo Intra free	uency parameters

_			Te	st 1	Tes	st 2	Tes	st 3
Parameter		Unit	Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2
UTRA RF Cha	nnel number		Char	nel 1	Channel 1		Channel 1	
CPICH Ec/lor		dB	-1	0	-1	0	-10	
PCCPCH Ec/l	or	dB	-1	2	-1	2	-12	
SCH Ec/lor		dB	-1	2	-1	2	-1	2
PICH Ec/lor		dB	-1	5	-1	15	-1	5
DPCH Ec/lor		dB	-15	-	-15	-	-6	-
OCNS_Ec/lor		dB	-1.11	-0.94	-1.11	-0.94	-2.56	-0.94
	Band I		m/ 3.84 MHz -56.98		-89.07		-94.98	
loc	Band II	dBm/ 3.84 MHz			-87.07		-92.98	
	Band III				-86.07		-91.98	
@br/loc		dB	3.0	3.0	-2.9	-2.9	-9.0	-9.0
CPICH Ec/lo, N	Note 1	dBm	-14.0	-14.0	-16.0	-16.0	-20.0	-20.0
Io, Note 1	Band I				-86		-94	
	Band II	dBm/3.84 MHz	-5	50	-84		-92	
	Band III				-8	33	-9	<b>)</b> 1
Propagation condition		-	AW	'GN	AWGN		AW	GN
NOTE 1: CPICH Ec/lo and lo levels have been calculated from other parameters for information purposes. They					s. They			
are not settable parameters themselves.								
Tests shall be	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.								

#### 8.7.2.1.1.4.2 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 for Test 1 are set up according to table 8.7.2.1.1.5.
- 2) SS shall transmit MEASUREMENT CONTROL message.

- 3) UE shall transmit periodically MEASUREMENT REPORT messages.
- 4) 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.
- 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 8.7.2.1.1.5 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 4) above is repeated. After further 1000 MEASUREMENT REPORT messages have been received from UE, the RF parameters are set up according to table 8.7.2.1.1.5 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 4) above is 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.

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
Ö	Ö	Ö
CPICH_Ec/No _47	-1 ≤ CPICH Ec/lo < -0.5	dB
CPICH_Ec/No _48	$-0.5 \leq \text{CPICH Ec/lo} < 0$	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], 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	
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IE. The first/
	leftmost bit of the bit string contains the most
	significant bit of the MAC-I.
-RRC message sequence number	SS provides the value of this IE, from its
	internal counter.
Measurement Information elements	
-Measurement Identity	
-Measurement Command	Modify
-Measurement Reporting Mode	Acknowledged mode RLC
- Measurement Report Transfer Mode	Periodical reporting
- Periodical Reporting / Event mgger Reporting	Not Propert
Additional measurement list	Intra frequency measurement
-CHOICE Measurement Type	inita-frequency measurement
-Intra-frequency measurement	
- Intra-frequency measurement objects list	Not Present
-Intra-frequency measurement quantity	
-Filter coefficient	0
-CHOICE mode	FDD
-Measurement quantity	CPICH RSCP
-Intra-frequency reporting quantity	
-Reporting quantities for active set cells	
-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	FALSE
-Reporting quantities for monitored set cells	
-Cell synchronisation information reporting	
Cell Identity reporting indicator	FALSE
	FALSE
-CPICH Ec/N0 reporting indicator	FDD
-CPICH BSCP reporting indicator	TBUE
-Pathloss reporting indicator	FALSE
-Reporting quantities for detected set cells	FALSE
-Reporting cell status	Not Present
-CHOICE reported cell	
	Report all active set cells + cells within
-Maximum number of reported cells	monitored set on used frequency
-Measurement validity	Virtual/active set cells + 2
-CHOICE report criteria	Not Present
-Amount of reporting	Periodical reporting criteria
-Reporting interval	Infinity
-	250 ms
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.

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# 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 (ñ99 dBm, -97 dBm, -96 dBm for Frequency Band I, II and III respectively) 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.

		Accuracy [dB]	Conditions			
Parameter	Unit	Normal condition	Extreme	lo [dBm/3.84 MHz]		
		Normal condition	condition	Band I	Band II	Band III
CPICH_Ec/ Io	dB	-3.1Ö 1.9 for -14 ≤ CPICH Ec/lo ñ3.6Ö 2.4 for -16 ≤ CPICH Ec/lo < -14 ñ4.6Ö 3.4 for -20 ≤ CPICH Ec/lo < -16	-4.6Ö 3.4	-9487	-9285	-9184
		$\pm$ 1.95 for -14 $\leq$ CPICH Ec/lo $\pm$ 2.4 for -16 $\leq$ CPICH Ec/lo < -14 $\pm$ 3.4 for -20 $\leq$ CPICH Ec/lo < -16	± 3.4	-8750	-8550	-8450

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

# Table 8.7.2.1.1.5: CPICH\_Ec/lo Intra frequency tests parameters

Para	motor	Unit	Te	st 1	Te	st 2	Test 3	
Parameter		Unit	Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2
UTRA RF Char	nnel number		Char	nel 1	Char	nnel 1	Channel 1	
CPICH_Ec/lor		dB	-9	.7	-9	.8	-9.9	
PCCPCH_Ec/le	or	dB	-1	1.7	-1	1.8	-11	1.9
SCH_Ec/lor		dB	-1	1.7	-1	1.8	-11	1.9
PICH_Ec/lor		dB	-1-	4.7	-14	4.8	-14	4.9
DPCH_Ec/lor		dB	-14.7	-	-14.8	-	-5.9	-
OCNS_Ec/lor		dB	-1.2	-1.02	-1.17	-0.99	-2.64	-0.97
	Band I		-58.5		-89.07		-93.98	
loc	Band II	dBm/ 3.84 MHz			-87.07		-91.98	
	Band III				-86.07		-90.98	
Ober/loc		dB	3.3	3.3	-2.6	-2.6	-8.7	-8.7
CPICH Ec/lo, N	lote 1	dBm	-13.6	-13.6	-15.6	-15.6	-19.6	-19.6
	Band I				-85.85		-92	2.9
Io, Note 1	Band II	dBm / 3.84 MHz	-5	1.3	-83	8.85	-9(	0.9
	Band III				-82.85		-89	9.9
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								
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.

The reported values for the absolute intra frequency CPICH Ec/Io measurement shall meet the requirements in table 8.7.2.1.1.6.

# Table 8.7.2.1.1.6: CPICH\_Ec/lo Intra frequency absolute accuracy requirements for the reported values

	Test 1	Test 2	Test 3
Normal Conditions	10011	10012	10010
Lowest reported value	CPICH Ec/No 17	CPICH Ec/No 12	CPICH Ec/No 0
Highest reported value	CPICH Ec/No 25	CPICH Ec/No 22	CPICH Ec/No 16
Extreme Conditions			
Lowest reported value	CPICH_Ec/No_14	CPICH_Ec/No_10	CPICH_Ec/No_0
Highest reported value	CPICH_Ec/No_28	CPICH_Ec/No_24	CPICH_Ec/No_16

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:

- <u>CPICH\_RSCP1,2</u>|<sub>dBm</sub> ≥ 114 dBm for Band I.
- CPICH\_RSCP1,2|<sub>dBm</sub> ≥ -112 dBm for Band II,
- CPICH\_RSCP1,2 $|_{dBm} \ge -111 \text{ dBm for Band III.}$

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

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

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

	Unit	Accuracy [dB]	Conditions			
Parameter		Normal condition	Extreme	<del>lo [dBm/3.84 MHz]</del>		
			condition	Band I	Band II	Band III
	dB	<del>±1,5 for 14 ≤ CPICH Ec/lo</del>				
CPICH_Ec/lo		<u>±2 for -16 ≤ CPICH Ec/lo &lt; -14</u>	<del>±3</del>	<del>-94 50</del>	<del>-9250</del>	<del>-9150</del>
		<u>±3 for 20 ≤ CPICH Ec/lo &lt; 16</u>				

<u>CPICH\_RSCP1,2</u><sub>dBm</sub>  $\geq$  -114 dBm for Bands I and VI

<u>CPICH\_RSCP1,2|\_{dBm}  $\geq$  -112 dBm for Bands II and V,</u>

CPICH RSCP1,2 $_{dBm} \ge -111 \text{ dBm for Band III.}$ 

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

$$-\frac{I_o}{\left(\mathbf{\hat{P}}_{or}\right)}\Big|_{in\ dB} \quad - \quad \left(\frac{CPICH\_E_c}{I_{or}}\right)\Big|_{in\ dB} \leq 20dB$$

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

		Accuracy [dB]		Conditions		
Parameter				Band I	Band II	Band III
	Unit		Extreme	and VI	and V	
	<u></u>	Normal condition		lo	lo	lo
			contantion	[dBm/3.84	[dBm/3.84	[dBm/3.84
				MHz]	MHz]	MHz]
The lower of the		<u>± 1.5 for -14 ≤ CPICH Ec/lo</u>				
CPICH_Ec/lo from	<u>dB</u>	$\pm$ 2 for -16 $\leq$ CPICH Ec/lo < -14	<u>± 3</u>	<u>-9450</u>	<u>-92Ö -50</u>	<u>-91Ö -50</u>
cell1 and cell2		$\pm$ 3 for -20 $\leq$ 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.

#### 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.

#### 8.7.2.1.2.4.2 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 for Test 1 are set up according to table 8.7.2.1.2.3.
- 2) SS shall transmit MEASUREMENT CONTROL message.
- 3) UE shall transmit periodically MEASUREMENT REPORT messages.
- 4) 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.
- 5) The result of step 3) is compared to actual power level difference of CPICH\_Ec/Io of Cell 1 and Cell 2.
- 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 8.7.2.1.2.3 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 4) and 5) above are repeated. After further 1000 MEASUREMENT REPORT messages have been received from UE, the RF parameters are set up according to table 8.7.2.1.2.3 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 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], 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

Parameter		Accuracy [dB]	Conditions			
	Unit	Normal condition	Extreme	lo [dBm / 3.84 MHz]		
		Normal condition	condition	Band I	Band II	Band III
CPICH_Ec/lo	dB	$\pm 2.3$ for -14 $\leq$ CPICH Ec/lo				
		$\pm 2.8$ for -16 $\leq$ CPICH Ec/lo < -14	±3.8	-9450	-9250	-9150
		$\pm$ 3.8 for -20 $\leq$ CPICH Ec/lo < -16				

Table 8.7.2.1.2.2: CPICH\_Ec/lo Intra frequency relative accuracy

# Table 8.7.2.1.2.3: CPICH\_Ec/lo Intra frequency tests parameters

Parameter		Unit	Te	st 1	Test 2		Test 3	
		Unit	Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2
UTRA RF Char	nnel number		Char	nnel 1	Char	inel 1	Channel 1	
CPICH_Ec/lor		dB	-9	).7	-9	.8	-9	.9
PCCPCH_Ec/le	or	dB	-1	1.7	-11	1.8	-1	1.9
SCH_Ec/lor		dB	-1	1.7	-11	1.8	-1	1.9
PICH_Ec/lor		dB	-1-	4.7	-14	4.8	-14	4.9
DPCH_Ec/lor		dB	-14.7	-	-14.8	-	-5.9	-
OCNS_Ec/lor		dB	-1.2	- 1.02	-1.17	-0.99	-2.64	-0.97
	Band I		-58.5		-89.07		-93.98	
loc	Band II	dBm/ 3.84 MHz			-87.07		-91.98	
	Band III				-86.07		-90.98	
Ober/loc		dB	3.3	3.3	-2.6	-2.6	-8.7	-8.7
CPICH Ec/lo, N	Note 1	dBm	-13.6	-13.6	-15.6	-15.6	-19.6	-19.6
	Band I		-51,3		-85.85		-92.9	
lo, Note 1	Band II	dBm / 3.84 MHz			-83.85		-90.9	
	Band III				-82	.85	-89	9.9
Propagation condition		-	AW	/GN	AWGN		AW	GN
NOTE 1: CPIC	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 o	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	e set within 5 sec	onds so that UE does	not loose	the Cell 2 i	n between	the tests.		

The reported values for the relative intra frequency CPICH Ec/Io measurement shall meet the requirements in table 8.7.2.1.2.4.

Table 8.7.2.1.2.4: CPICH\_Ec/lo Intra frequency relative accuracy requirements for the reported values

	Test 1	Test 2	Test 3				
Normal Conditions							
Lowest reported value cell 2	CPICH_Ec/No_(x - 5)	CPICH_Ec/No_(x - 6)	CPICH_Ec/No_(x - 8)				
Highest reported value cell 2	CPICH_Ec/No_(x+ 5)	CPICH_Ec/No_(x + 6)	CPICH_Ec/No_(x+ 8)				
Extreme Conditions							
Lowest reported value cell2	CPICH_Ec/No_(x - 8)	CPICH_Ec/No_(x - 8)	CPICH_Ec/No_(x - 8)				
Highest reported value cell2	CPICH_Ec/No_(x + 8)	CPICH_Ec/No_(x+ 8)	CPICH_Ec/No_(x+ 8)				
CPICH Ec/No x is the reported value of 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.

# 8.7.2.2 Inter frequency measurement accuracy

- 8.7.2.2.1 Absolute accuracy requirement
- Void

#### 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:

- <u>CPICH\_RSCP1,2|<sub>dBm</sub> ≥ 114 dBm for Band I.</u>
- CPICH\_RSCP1,2|<sub>dBm</sub> ≥ -112 dBm for Band II,
- CPICH\_RSCP1,2 $|_{dBm} \ge -111 \text{ dBm for Band III.}$

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

$$\begin{array}{c|c} I_{o} \\ \hline (\dot{P}_{or}) \\ I_{in \ dB} \end{array} = \begin{array}{c} \left( CPICH \_ E_{c} \\ I_{or} \end{array} \right) \\ I_{in \ dB} \le 20 dB. \end{array}$$

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

Parameter	Unit	Accuracy [dB]	Conditions			
		Normal condition	Extreme	<del>lo [dBm/3.84 MHz]</del>		
			condition	Band I	Band II	Band III
CPICH_Ec/lo	dB	<u>±1.5 for -14 ≤ CPICH Ec/lo</u>				
		<u>±2 for 16 ≤ CPICH Ec/lo &lt; 14</u>	<del>±3</del>	<del>-9450</del>	<del>- 92 50</del>	<del>-9150</del>
		<u>±3 for -20 ≤ CPICH Ec/lo &lt; -16</u>				

CPICH\_RSCP1,2 $_{dBm} \ge -114 \text{ dBm for Bands I and VI}$ 

<u>CPICH\_RSCP1,2 $_{dBm} \ge -112$  dBm for Bands II and V,</u>

<u>CPICH\_RSCP1,2 $_{dBm} \ge -111 \text{ dBm for Band III.</u>}$ </u>

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

| Channel 1\_Io|<sub>dBm/3.84 MHz</sub> -Channel 2\_Io|<sub>dBm/3.84 MHz</sub> |  $\leq$  20 dB.

$$-\frac{I_o}{\left(\overset{\bullet}{\boldsymbol{P}}_{or}\right)}\Big|_{in\ dB} - \left(\frac{CPICH\_E_c}{I_{or}}\right)\Big|_{in\ dB} \le 20dB$$

Parameter	<u>Unit</u>	Accuracy [dB]		Conditions		
			Extromo	<u>Band I and</u> <u>VI</u>	Band II and V	Band III
		Normal condition	condition	<u>lo</u> [dBm/3.84 MHz]	<u>lo</u> [dBm/3.84 MHz]	<u>lo</u> [ <u>dBm/3.84</u> <u>MHz]</u>
<u>The lower of the</u> <u>CPICH_Ec/lo from</u> <u>cell1 and cell2</u>	<u>dB</u>	$\frac{\pm 1.5 \text{ for } -14 \leq \text{CPICH Ec/lo}}{\pm 2 \text{ for } -16 \leq \text{CPICH Ec/lo} < -14}$ $\frac{\pm 3 \text{ for } -20 \leq \text{CPICH Ec/lo} < -16}{\pm 3 \text{ for } -20 \leq \text{CPICH Ec/lo} < -16}$	<u>± 3</u>	<u>-9450</u>	<u>-92Ö -50</u>	<u>-91Ö -50</u>

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

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 8.7.2.2.2.2. 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 except for TGRRC and TGCFN. TGPRC and TGCFN shall set to "Infinity" and "(Current CFN + (256 ñ TTI/10msec))mod 256". CPICH Ec/Io inter frequency relative accuracy requirements are tested by using test parameters in table 8.7.2.2.2.2.

Parameter		Unit	Test 1		Test 2		Test 3	
		Onit	Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2
UTRA RF	Channel		Channel 1	Channel 2	Channel 1	Channel 9	Channel 1	Channel Q
number			Channel 1	Channel 2	Channel 1	Channel 2	Channel I	Channel 2
CPICH_Ec	/lor	dB	-1	10		10	-1	10
PCCPCH	Ec/lor	dB	-1	12		12	-1	12
SCH_Ec/lo	or	dB	-1	12		12	-1	12
PICH Ec/I	or	dB	-1	15	-	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	Band I	dBm/ 3.84 MHz	-52.22		-87.27	-87.27	-94.46	-94.46
	Band II			-52.22	-85.27	-85.27	-92.46	-92.46
	Band III				-84.27	-84.27	-91.46	-91.46
@Er/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
	Band I	dBm/2.04			-86	-86	-94	-94
Io, Note 1	Band II	UDIII/3.84 M니구	-50	-50	-84	-84	-92	-92
	Band III				-83	-83	-91	-91
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								

2 and 3 shall be set within 5 seconds so that UE does not loose the Cell 2 in between the tests.

#### 8.7.2.2.2.4.2 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 for Test 1 are set up according to table 8.7.2.2.2.4.
- 2) SS shall transmit PHYSICAL CHANNEL RECONFIGURATION message.

- 3) UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message.
- 4) SS shall transmit a MEASUREMENT CONTROL message for intra frequency measurement and transmit another MEASUREMENT CONTROL message for inter frequency measurement.
- 5) UE shall transmit periodically MEASUREMENT REPORT messages.
- 6) 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.
- 7) The result of step 6) is compared to actual power level difference of CPICH\_Ec/Io of Cell 1 and Cell 2.
- 8) 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 8.7.2.2.2.4 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. Then, steps 6) and 7) above are repeated. After further 1000 MEASUREMENT REPORT messages have been received from UE, the RF parameters are set up according to table 8.7.2.2.2.4 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 from UE are ignored. SS shall wait for additional 1s and ignore the MEASUREMENT REPORT messages during this period. Then, steps 6) and 7) above are repeated.
- 9) After 1000 MEASUREMENT REPORT messages have been received from UE, the SS shall transmit RRC CONNECTION RELEASE message.
- 10) 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], 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	0
-Integrity check info	
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IE. The first/
	lettmost bit of the bit string contains the most
PPC massage sequence number	Significant bit of the MAC-I.
-RRC message sequence number	internal counter
-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	Not Present
LITBAN mobility information elements	Not Tresent
-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	
-Downlink DPCH info common for all RL	Not Present
-CHOICE mode	FDD
-DPCH compressed mode info	
-Transmission gap pattern sequence	
-IGPSI TOPS Status Flag	1 Activisto
-TGCEN	Current CEN + (256 ñ TTI/10msec))mod 256
-Transmission gap pattern sequence	
configuration parameters	
-TGMP	FDD measurement
-TGPRC	Infinity
-IGSN	4
-IGL1	/ Not Dropont
-TGD	not Flesent
-TGPI 1	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	
-Downlink frame type -DeltaSIR1	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 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	Set to value Default DPCH Offset Value ( as
	currently stored in SS) mod 38400
-Secondary CPICH info	Not Present
-DL channelisation code	
-Secondary scrambling code	Not Present
-Spreading factor	128
-Code number	96
-Scrambling code change	No code change
-TPC combination index	0
-SSDT Cell Identity	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/Remark
Message Type	Value/Keinark
UE information elements	
-RRC transaction identifier	0
-Integrity check into	
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IE. The first/
	significant bit of the MAC I
BBC message sequence number	SS provides the value of this IE from its
- The message sequence number	internal counter
Measurement Information elements	
-Measurement Identity	1
-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
-Intra-frequency measurement	
<ul> <li>Intra-frequency measurement objects list</li> </ul>	
-Intra-frequency cell info list	Not Present
-Intra-frequency measurement quantity	
-Filter coefficient	0
-CHOICE mode	
-Measurement quantity	CPICH RSCP
-Intra-frequency reporting quantity	
-Reporting quantities for active set cells	
indicator	
-Cell Identity reporting indicator	TRUE
-CHOICE mode	TRUE
-CPICH Ec/N0 reporting indicator	FDD
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	FALSE
-Reporting quantities for monitored set cells	FALSE
-Cell synchronisation information reporting	
indicator	
-Cell Identity reporting indicator	FALSE
-CHOICE mode	
-CPICH Ec/N0 reporting indicator	TRUE
-CPICH RSCP reporting indicator	FDD
-Pathloss reporting indicator	FALSE
-Reporting quantities for detected set cells	
-Reporting cell status	FALSE Not Dresent
-CHOICE reported cell	Not Present
-Maximum number of reported cells	Benort all active set cells + cells within
-Measurement validity	monitored set on used frequency
-CHOICE report criteria	Virtual/active set cells + 2
-Amount of reporting	Not Present
-Reporting interval	Periodical reporting criteria
	Infinity
	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	
UF information elements	
-RRC transaction identifier	0
-Integrity check info	
-message authentication code	SS calculates the value of MAC-I for this
mooduge dumentiodaen oode	message and writes to this IF. The first/
	leftmost bit of the bit string contains the most
	significant bit of the MAC-I
-BBC message sequence number	SS provides the value of this IF from its
	internal counter.
Measurement Information elements	
-Measurement Identity	2
-Measurement Command	Setup
-Measurement Reporting Mode	
- Measurement Report Transfer Mode	Acknowledged mode BI C
- 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
-New inter-frequency cells	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	
-Inter-frequency reporting quantity	
-UTRA Carrier RSSI	TRUE
-Frequency quality estimate	TRUE
-Non frequency related cell reporting quantities	
-Cell synchronisation information reporting	
indicator	TRUE
-Cell Identity reporting indicator	
-CHOICE mode	TRUE
-CPICH Ec/N0 reporting indicator	FDD
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	FALSE
-Reporting cell status	FALSE
-CHOICE reported cell	
	Report cells within monitored set on non-used
-Maximum number of reported cells	frequency
-Measurement validity	2
-Inter-trequency set update	Not Present
-CHOICE report criteria	Not Present
-Amount of reporting	Periodical reporting criteria
-Reporting interval	Infinity
	500 ms
Physical channel information elements	
-DPGH compressed mode status into	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 effect of assumed thermal noise and noise generated in the receiver (ñ99 dBm, -97 dBm, -96 dBm for Frequency Band I, II and III respectively) 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.

Parameter	Unit	Normal condition	Extreme	lo [dBm/3.84 MHz]		
			condition	Band I	Band II	Band III
CPICH_Ec/lo	dB	$\pm 3.5$ for -14 $\leq$ CPICH Ec/lo $\pm 4$ for -16 $\leq$ CPICH Ec/lo $<$ -14 $\pm 5$ for -20 $\leq$ CPICH Ec/lo $<$ -16	± 5	-9487	-9285	-9184
		$\pm 2.3$ for -14 $\leq$ CPICH Ec/lo $\pm 2.8$ for -16 $\leq$ CPICH Ec/lo $<$ -14 $\pm 3.8$ for -20 $\leq$ CPICH Ec/lo $<$ -16	± 3.8	-8750	-8550	-8450

Table 8.7.2.2.2.3: CPICH\_Ec/lo Inter frequency relative accuracy, test requirements

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

#### Table 8.7.2.2.2.4: CPICH Ec/lo Inter frequency tests parameters

Parameter		Unit	Test 1		Test 2		Test 3	
		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	0	-1	10	-1	0
PCCPCH	Ec/lor	dB	-1	2	-1	12	-1	2
SCH_Ec/lo	or	dB	-1	2	-1	12	-1	2
PICH_Ec/I	or	dB	-1	5	-1	15	-1	5
DPCH Ec	/lor	dB	-15	-	-6	-	-6	-
OCNS_Ec	/lor	dB	-1.12	-0.95	-2.55	-0.94	-2.55	-0.94
	Band I	dBm/2.04			-86.27	-86.27	-93.46	-93.46
loc	Band II	UDIII/ 3.84 M니코	-53.5	-53.5	-84.27	-84.27	-91.46	-91.46
	Band III				-83.27	-83.27	-90.46	-90.46
Obr/loc		dB	-1.45	-1.45	-4.4	-4.4	-9.24	-9.24
CPICH Ec,	/Io, Note 1	dBm	-13.8	-13.8	-15.7	-15.7	-19.7	-19.7
	Band I	dBm /3.84			-84.9	-84.9	-93	-93
Io, Note 1	Band II	MH <sub>7</sub>	-51.15	-51.15	-82.9	-82.9	-91	-91
	Band III				-81.9	-81.9	-90	-90
Propagation condition -			AW	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.								

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.

The reported values for the relative inter frequency CPICH Ec/Io measurement shall meet the requirements in table 8.7.2.2.2.5.

	Test 1	Test 2	Test 3			
Normal Conditions						
Lowest reported value cell 2	CPICH_Ec/No_(x -5)	CPICH_Ec/No_(x - 6)	CPICH_Ec/No_(x - 10)			
Highest reported value cell 2	CPICH_Ec/No_(x+5)	CPICH_Ec/No_(x + 6)	CPICH_Ec/No_(x +10)			
Extreme Conditions						
Lowest reported value cell2	CPICH_Ec/No_(x - 8)	CPICH_Ec/No_(x - 8)	CPICH_Ec/No_(x - 10)			
Highest reported value cell2	CPICH_Ec/No_(x + 8)	CPICH_Ec/No_(x + 8)	CPICH_Ec/No_(x + 10)			
CPICH Ec/No x is the reported value of cell 1						

# 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

		Accuracy [dB]		Conditions			
Parameter	Unit	Normal-	Extreme	e lo [dBm/3.84 Mł		<del>iz]</del>	
		condition	condition	Band I	Band II	Band III	
UTRA Carrier	dBm	<del>± 4</del>	<del>± 7</del>	<del>-9170</del>	<del>-9270</del>	<del>-9170</del>	
RSSI	<del>dBm</del>	<del>±6</del>	<del>± 9</del>	<del>-70 50</del>	<del>-70 50</del>	<del>-70 50</del>	

		Accura	<u>cy [dB]</u>	Conditions		
				Band I and VI	Band II and	Band III
Parameter	Unit	Normal	Extreme		V	
<u>r arameter</u>	<u>01111</u>	condition	condition	lo [dBm/3.84	lo [dBm/3.84	lo
		condition	condition	MHz]	MHz]	[dBm/3.84
						MHz]
UTRA Carrier	dBm	<u>± 4</u>	<u>± 7</u>	<u>-9470</u>	<u>-92Ö -70</u>	<u>-91Ö -70</u>
<u>RSSI</u>	<u>dBm</u>	<u>± 6</u>	<u>+ 9</u>	<u>-7050</u>	<u>-70Ö -50</u>	<u>-70Ö -50</u>

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 except for TGRRC and TGCFN. TGPRC and TGCFN shall set to "Infinity" and "(Current CFN + (256 ñ 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	Test 2		Test 3	
		Unit	Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2
UTRA RF (	Channel		Channol 1	Channel 2	Channol 1	Channel 2	Channel 1	Channel 2
number			Onanner	Onamier 2	Onanner	Onamiei 2	Onanner	
CPICH_Ec	/lor	dB	-1	0	-1	0	-1	0
PCCPCH_	Ec/lor	dB	-1	2	-1	2	-1	2
SCH_Ec/Ic	or	dB	-1	2	-1	2	-1	2
PICH Ec/le	or	dB	-1	5	-1	5	-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
	Band I	dBm/2.04					-94.46	-94.46
loc	Band II	UDIII/ 3.64 MH구	-52.22	-52.22	-70.27	-70.27	-92.46	-92.46
	Band III						-91.46	-91.46
Ob⊡r/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
	Band I	dBm/2.94					-94	-94
lo, Note 1	Band II	MH-	-50	-50	-69	-69	-92	-92
	Band III	IVITIZ					-91	-91
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 settal	ole parameters	themselves.					-
Tests shall	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.

#### 8.7.3.1.4.2 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 for Test 1 are set up according to table 8.7.3.1.2.
- 2) SS shall transmit PHYSICAL CHANNEL RECONFIGURATION message.
- 3) UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message.
- 4) SS shall transmit MEASUREMENT CONTROL message.
- 5) UE shall transmit periodically MEASUREMENT REPORT messages.
- 6) 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.
- 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, step 6) 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 6) above is 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], with the following exceptions:

PHYSICAL CHANNEL RECONFIGURATION message for Inter frequency measurement (step 2):

Information Element	Value/Remark
	Value/Keinark
UE Information Elements	
-RRC transaction identifier	0
-Integrity check info	
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IE. The first/
	leftmost bit of the bit string contains the most
	Significant bit of the MAC-I.
-RRC message sequence number	ss provides the value of this IE, from its
Cinboring mode info	Not Procent
	Not Present
-New LI-BNTI	Not Present
-New C-BNTI	Not Present
-BBC State Indicator	Not Present
-UTRAN DRX cvcle length coefficient	CELL DCH
- · · · · · · · · · · · · · · · · · · ·	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	Not Propert
-Frequency into	
-Maximum allowed LIL 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	
- I GPS Status Flag	
-IGCFN	(Current CFN + (256 n 111/10msec))mod 256
-Transmission gap pattern sequence	
configuration parameters	
-TGMP	FDD measurement
-TGPRC	Infinity
-TGSN	4
-TGL1	7
-TGL2	Not Present
-TGD	0
-TGPL1	3
-IGPL2	Not Present
	Mode U Mede 0
-UF -CHOICE UI /DL mode	
-Downlink compressed mode method	SE/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
- I X 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	
-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	Set to value Default DPCH Offset Value ( as
	currently stored in SS) mod 38400
-Secondary CPICH info	Not Present
-DL channelisation code	
-DE chaimeisation code	Net Dresent
-Secondary scrambling code	Not Present
-Spreading factor	128
-Code number	96
-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 for Inter frequency measurement (step 4):

Information Element	Value/Romark
	Value/Reillark
Message Type	
UE information elements	
-RRC transaction identifier	0
-Integrity check info	
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IE. The first/
	leftmost bit of the bit string contains the most
	significant bit of the MAC-I.
-RRC message sequence number	SS provides the value of this IE, from its
	internal counter.
Measurement Information elements	
-Measurement Identity	2
-Measurement Command	Setup
-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	Net Dresent
-CHOICE Inter-frequency cell removal	Not Present
-New Inter-frequency cells	Cell 2 Information is included.
-Cell for measurement quantity	Not Present
	Inter frequency reporting criteria
-CHOICE reporting chiena	
-Measurement quantity for frequency quality	CPICH RSCP
estimate	
-Inter-frequency reporting quantity	
-UTBA Carrier BSSI	TRUE
-Frequency quality estimate	TRUE
-Non frequency related cell reporting quantities	
-Cell synchronisation information reporting	
indicator	TRUE
-Cell Identity reporting indicator	
-CHOICE mode	TRUE
-CPICH Ec/N0 reporting indicator	FDD
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	FALSE
-Reporting cell status	FALSE
-CHOICE reported cell	
	Report cells within monitored set on non-used
-Maximum number of reported cells	frequency
-Measurement validity	2
-Inter-frequency set update	Not Present
-CHOICE report criteria	Not Present
-Amount of reporting	Periodical reporting criteria
-Reporting interval	Infinity
	500 ms
Physical channel information elements	
-DPCH compressed mode status info	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 (ñ99 dBm, -97 dBm, -96 dBm for Frequency Band I, II and III respectively) shall be added into the required accuracy defined in subclause 8.7.3.1.2 as shown in table 8.7.3.1.3.

#### Table 8.7.3.1.3: UTRA Carrier RSSI absolute accuracy

		Accuracy [dB]					
Parameter Unit		Normal condition			Extreme condition		
		Test 1	Test 2	Test 3	Test 1	Test 2	Test 3
UTRA Carrier RSSI	dBm	± 7.15	± 5.1	-5Ö 5.8	± 10.15	± 8.1	-8Ö 8.8

The normative reference for this requirement is TS 25.133 [2] clause A.9.1.3.2.

Parameter		Unit	Test 1		Test 2		Test 3	
Faiai	neter	Unit	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			Onanner	Onamier 2	Onanner	Onamier 2	Onanner i	
CPICH_Ec/	/lor	dB	-1	10	-1	0	-1	0
PCCPCH_I	Ec/lor	dB	-1	12	-1	2	-1	2
SCH_Ec/lo	r	dB	-1	12	-1	2	-1	2
PICH_Ec/lo	or	dB	-1	15	-1	5	-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
	Band I	dBm/2.04					-93.46	-93.46
loc	Band II	dBm/ 3.84 MHz	-53.5	-53.5	-69.27	-69.27	-91.46	-91.46
	Band III						-90.46	-90.46
Obr/loc		dB	-1.45	-1.45	-4.4	-4.4	-9.24	-9.24
CPICH Ec/	lo, Note 1	dBm	-13.8	-13.8	-15.7	-15.7	-19.7	-19.7
	Band I	dPm/2.94					-93	-93
lo, Note 1	Band II	UDIII/3.04 M니구	-51.15	-51.15	-67.9	-67.9	-91	-91
	Band III	IVITIZ					-90	-90
Propagation condition - AWGN AWGN AWGN						'GN		
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 paramete	ers for tests
2 and 3 sha	2 and 3 shall be set within 5 seconds so that UE does not loose the Cell 2 in between the tests.							

## Table 8.7.3.1.4: UTRA Carrier RSSI Inter frequency test parameters

The reported values for the UTRA Carrier RSSI absolute measurement shall meet the requirements in table 8.7.3.1.5.

# Table 8.7.3.1.5: UTRA Carrier RSSI absolute accuracy requirements for the reported values

	Test 1 Test 2		Test 3		
Normal Conditions	;				
Lowest reported	UTRA_carrier_RSSI_LEV_	UTRA_carrier_RSSI_LEV_	UTRA_carrier_RSSI_LEV_		
value (Cell 2)	42	27	02		
Highest reported	UTRA_carrier_RSSI_LEV_	UTRA_carrier_RSSI_LEV_	UTRA_carrier_RSSI_LEV_		
value (Cell 2)	57	38	13		
Extreme Conditions					
Lowest reported	UTRA_carrier_RSSI_LEV_	UTRA_carrier_RSSI_LEV_	UTRA_carrier_RSSI_LEV_		
value (Cell 2)	39	24	00		
Highest reported	UTRA_carrier_RSSI_LEV_	UTRA_carrier_RSSI_LEV_	UTRA_carrier_RSSI_LEV_		
value (Cell 2)	60 – –	41	16 – –		

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 $|_{dBm/3.84 \text{ MHz}}$  -Channel 2\_Io $|_{dBm/3.84 \text{ MHz}}$  | < 20 dB.

#### Table 8.7.3.2.1: UTRA Carrier RSSI Inter frequency relative accuracy

		Accuracy [dB]		Conditions			
Parameter	Unit	Normal	Extreme	lo [dBm/3.84 MHz]		<del>z]</del>	
		condition	condition	Band I	Band II	Band III	
UTRA Carrier RSSI	<del>dBm</del>	<del>± 7</del>	<del>± 11</del>	<del>-9470</del>	<del>-9270</del>	<del>-9170</del>	

		Accura	<u>cy [dB]</u>		<b>Conditions</b>			
				Band I and Band II and E				
Parameter	Unit	Init Normal Extrem		<u>VI</u>	<u>v</u>			
rarameter	<u></u>	condition	condition	lo [dBm/3.84	lo [dBm/3.84	<u>lo</u>		
		condition	condition	MHz]	MHz]	[dBm/3.84		
						<u>MHz]</u>		
UTRA Carrier	<u>dBm</u>	+ 7	± 11	<u>-9470</u>	<u>-92Ö -70</u>	<u>-91Ö -70</u>		
<u>RSSI</u>		<u>± /</u>	<u> </u>					

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 except for TGRRC and TGCFN. TGPRC and TGCFN shall set to "Infinity" and "(Current CFN + (256 ñ TTI/10msec))mod 256". UTRA Carrier RSSI relative accuracy requirements are tested by using test parameters in table 8.7.3.1.2.

#### 8.7.3.2.4.2 Procedure

- 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 3 are set up according to table 8.7.3.2.3.
- 2) SS shall transmit PHYSICAL CHANNEL RECONFIGURATION message.
- 3) UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message.
- 4) SS shall transmit MEASUREMENT CONTROL message.
- 5) UE shall transmit periodically MEASUREMENT REPORT messages.
- 6) 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.
- 7) The result of step 6) is compared to actual power level difference of UTRA Carrier RSSI of Channel 1 and Channel 2.
- 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], 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 ñ 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 (ñ99 dBm, -97 dBm, -96 dBm for Frequency Band I, II and III respectively) shall be added into the required accuracy defined in clause 8.7.3.2.2 as shown in table 8.7.3.2.2.

		Accuracy [dB]				
Parameter	Unit	Normal condition	Extreme condition			
		Test 3	Test 3			
UTRA Carrier RSSI	dBm	±7.4	± 11.4			

Table 8.7.3.2.2: UTRA	Carrier RSS	l relative	accuracy
-----------------------	-------------	------------	----------

The normative reference for this requirement is TS 25.133 [2] clause A.9.1.3.2.

Р	oromotor	Unit	Tes	st 3	
Parameter		Unit	Cell 1	Cell 2	
UTRA RF Channel number			Channel 1	Channel 2	
CPICH_Ec/	lor	dB	-1	0	
PCCPCH_E	Ec/lor	dB	-1	2	
SCH_Ec/lor		dB	-1	2	
PICH_Ec/lo	r	dB	-1	5	
DPCH_Ec/I	DPCH Ec/lor		-6	-	
OCNS Ec/lor		dB	-2.56	-0.94	
loc	Band I	dBm/ 2.04	-93.46	-93.46	
	Band II	0DIII/ 3.84 MH7	-91.46	-91.46	
	Band III		-90.46	-90.46	
O∰r/loc		dB	-9.24	-9.24	
CPICH Ec/I	o, Note 1	dBm	-19.7	-19.7	
	Band I	dPm/2.94	-93	-93	
lo, Note 1	Band II	UDIII/3.04 MU-	-91	-91	
	Band III	IVITIZ	-90	-90	
Propagation condition		-	AWGN		
NOTE 1: C	PICH Ec/lo and lo le	evels have been	calculated from othe	er parameters for	
information purposes. They are not settable parameters themselves.					

Table 8.7.3.2.3: UTRA Carrier RSSI Inter frequency test parameters

The reported values for the UTRA Carrier RSSI relative measurement shall meet the requirements in table 8.7.3.2.4.

Table 8.7.3.2.4: UTRA Carrier RSSI relative accuracy requirements for the reported values

	Test 3							
Normal Conditions								
Lowest reported value (Cell 2)	UTRA_carrier_RSSI_LEV_(x ñ 8)							
Highest reported value (Cell 2)	UTRA_carrier_RSSI_LEV_(x + 8)							
Extreme Conditions								
Lowest reported value (Cell 2)	UTRA_carrier_RSSI_LEV(x ñ 12)							
Highest reported value (Cell 2)	UTRA_carrier_RSSI_LEV(x + 12)							
UTRA carrier RSSI LEV x is the	UTRA carrier RSSI LEV x is the reported value of 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.

CHANGE REQUEST									
<b>æ</b>	34.121	CR <mark>431</mark>	жrev	<b>–</b> <sup>#</sup>	Current versi	<sup>ion:</sup> <b>5.5.0</b>	æ		
For <u>HELP</u> o	n using this for	rm, see bottom of	this page or	look at th	e pop-up text	over the <mark></mark> sy	mbols.		
Proposed chang	ge affects:	JICC apps <mark>#</mark>	ME	] Radio A	ccess Networ	k 🔜 Core Ne	etwork		
Title:	器 Introducti AWGN pr	on of Test Tolera opagation conditi	nces to Even on (Rel-4 and	t triggered d later), te	d reporting of est 8.6.1.2A	multiple neighl	bours in		
Source:	<mark>೫ Racal Ins</mark>	truments Wireles	s Solutions						
Work item code	: <mark>#</mark>				Date: 🔀	06/10/2004			
Category:	₭ F Use <u>one</u> of F (con A (cor B (add C (fun D (edi Detailed exp be found in	the following categorection) responds to a corre dition of feature), ctional modification torial modification) blanations of the ab 3GPP <u>TR 21.900</u> .	ories: ection in an ear of feature) ove categories	<i>lier releas</i> a s can	Release: ℜ Use <u>one</u> of t 2 e) R96 R97 R98 R99 Rel-4 Rel-5 Rel-6	Rel-5 the following rel (GSM Phase 2) (Release 1996) (Release 1998) (Release 1999) (Release 4) (Release 5) (Release 6)	eases:		

 Reason for change:
 #
 The Test requirements do not allow for the effects of test system uncertainties.

 Summary of change:
 #
 a) Introduction of tables 8.6.1.2A.4, 8.6.1.2A.5 giving correct RF condtions for Rel-4 and later test.

 b) Revision of tables 8.6.1.2A.1, 8.6.1.2A.3 giving correct RF condtions for Rel-4 and later test.
 b) Revision of Annex F.1.5 table F.1.5 to define Test System Uncertainty.

 d) Revision of Annex F.2 table F2.4 to define Test Tolerances.
 e) Revision of Annex F.4 table F4.4 to refer to derivation of test requirements.

 Consequences if not approved:
 #
 A Test system may incorrectly fail a good UE.

Clauses affected:	8.6.1.2A and Annex F.
Other specs affected:	Y     N       X     ✓       Other core specifications     X       ✓     Test specifications
	✓ O&M Specifications
Other comments:	<ul> <li>The ìR99î version of the test, 8.6.1.2, already includes Test Tolerances.</li> <li>A new section has been added in TR34.902 for this test.</li> </ul>

# 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.

# 8.6.1.2A Event triggered reporting of multiple neighbours in AWGN propagation condition (Rel-4 and later)

# 8.6.1.2A.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 Rel-4 and later FDD UE.

# 8.6.1.2A.2 Minimum requirements

The requirements are the same as in sub clause 8.6.1.1A.2.

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

# 8.6.1.2A.3 Test purpose

To verify that the UE meets the minimum requirements.

# 8.6.1.2A.4 Method of test

8.6.1.2A.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 8.6.1.2A.44.

# Table 8.6.1.2A.1: Cell specific initial test parameters for Event triggered reporting of multiple neighbours in AWGN propagation conditions

Parameter	Unit	Cell 1	Cell3						
		Т0	Т0	Т0					
CPICH_Ec/lor	dB	-10	-10	-10					
PCCPCH_Ec/lor	dB	-12	-12 -12 -						
SCH_Ec/lor	dB	-12	-12						
PICH_Ec/lor	dB	-15	-15						
DPCH_Ec/lor	dB	-17	-17 N/A N/A						
OCNS_Ec/lor	dB	-1.049	-0.941	-0.941					
$\dot{P}_{or}/I_{oc}$	dB	0	-Inf						
$\underline{\mathbf{G}}_{r(Note 1)}$	<u>dBm</u>	<u>-85</u> <u>-Inf</u> <u>-Inf</u>							
I <sub>oc</sub>	dBm/ 3.84 MHz	dBm/ 3.84 -85 MHz							
CPICH Ec/lo	dB	-13	-Inf	-Inf					
Propagation Condition	AWGN								
Note 1: The nominal @r values, although not explicitly defined in 25.133 are added here since they are implied and need to be identified so that the test equipment can be configured.									

The test parameters are given in table 8.6.1.2A.2 and 8.6.1.2A.3. 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 8.6.1.2A<sup>2</sup>.2: 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.2.1
		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
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 8.6.1.2A.3: 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	-10					-1	0			-1	0	
PCCPCH_Ec/ lor	dB	-12			-12			-12					
SCH_Ec/lor	dB		-1	2			-1	2			-1	2	
PICH_Ec/lor	dB	-15				-1	5			-1	5		
DPCH_Ec/lor	dB	-17					N/A			N/A			
OCNS_Ec/lor	dB		-1.0	049			-0.941			-0.941			
$\dot{P}_{or}/I_{oc}$	dB	6.97	6.93	5.97	6.12	-Inf	9.43	6.97	7.62	5.97	6.93	-Inf	5.62
<u>Gr (Note 1)</u>	<u>dBm</u>	<u>-</u> <u>78.03</u>	<u>-</u> 78.07	<u>-</u> 79.03	<u>-</u> <u>78.88</u>	<u>-Inf</u>	<u>-</u> 75.57	<u>-</u> 78.03	<u>-</u> 77.38	<u>-</u> <u>79.03</u>	<u>-</u> 78.07	<u>-Inf</u>	<u>-</u> 79.38
I <sub>oc</sub>	dBm/ 3.84 MHz		-85										
CPICH_Ec/lo	dB	-13	-16	-14	-15.5	-Inf	-13.5	-13	-14	-14	-16	-Inf	-16
Propagation Condition		AWGN											
Note 1: The r	The nominal Or values, although not explicitly defined in 25.133 are added here since they are implied and												

need to be identified so that the test equipment can be configured.

#### 8.6.1.2A.4.2 Procedure

- 1) The RF parameters are set up according to T0 in table 8.6.1.2A.4.
- 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 in table 8.6.1.2A.5.
- 6) 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 880 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) 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.
- 8) After 10 seconds from the beginning of T1, the SS shall switch the power settings from T1 to T2 in table 8.6.1.2A.5.
- 9) 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 880 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.
- 10) 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 880 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 successful tests is increased by one.
- 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.
- 12) After 10 seconds from the beginning of T2, the SS shall switch the power settings from T2 to T3 in table 8.6.1.2A.5.
- 13) 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 280 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 successful 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) After 5 seconds from the beginning of T3, the SS shall switch the power settings from T3 to T4<u>in table</u> <u>8.6.1.2A.5</u>.
- 16) 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 280 ms. If the reporting delay for this event is within the required limit, the number of successful tests is increased by one.
- 17) 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.
- 18) 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.
- 19) After 10 seconds from the beginning of T4, the UE is switched off.
- 20) Repeat steps 1-19 until the confidence level according to annex F.6.2 is achieved.

#### 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:

MEASUREMENT CONTROL message:

Information Element/Group name	Value/Pemark
	Value/Itemark
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
	Intra-frequency measurement
Intra-frequency measurement (10.3.7.36)	mild frequency medodrement
Intra-frequency measurement objects list (10.3.7.33)	Not Present
Intra-frequency measurement quantity (10.2.7.30)	Not riesent
Filter coefficient (10.0.7.0)	0
-Filler coefficient (10.3.7.9)	
-Measurement quantity	CPICH_EC/N0
-Intra-frequency reporting quantity (10.3.7.41)	
-Reporting quantities for active set cells (10.3.7.5)	
<ul> <li>Cell synchronisation information reporting indicator</li> </ul>	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	FALSE
-Reporting quantities for monitored set cells (10.3.7.5)	
-Cell synchronisation information reporting indicator	TRUE (Note 1)
-Cell Identity reporting indicator	TBUE
	FDD
CPICH Ec/NO reporting indicator	TDUE
-OFICH EC/NO reporting indicator	
-CPICH RSCP reporting indicator	
-Pathioss reporting indicator	FALSE
-Reporting quantities for detected set cells (10.3.7.5)	Not Present
-Reporting cell status (10.3.7.61)	Not Present
-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
-Triagering condition 2	Monitored set cells
-Reporting Range Constant	3 dB
-Cells forbidden to affect Reporting Bange	Not Present
	10
Hystoresis	0 dB
Throshold used frequency	Not Procent
Poperting deactivation threshold	
-nepoting deactivation threshold	U Net Dresent
-Replacement activation threshold	
- 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 1B
-Triggering condition 1	Active set cells and monitored set cells
-Reporting Range Constant	3 dB
-Cells forbidden to affect Reporting Range	Not Present
-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
-Benorting interval	0 ms (Note 2)

Information Element/Group name	Value/Remark			
-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			
-Cells forbidden to affect Reporting Range	Not Present			
-W	Not present			
-Hysteresis	0 dB			
-Threshold used frequency	Not Present			
-Reporting deactivation threshold	Not present			
-Replacement activation threshold	0			
-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	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.				
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.

#### 8.6.1.2A.5 Test requirements

For the test to pass, the total number of successful tests shall be at least 90%, of the cases with a confidence level of 95%. 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.

#### Table 8.6.1.2A.4: Initial test requirements for Event triggered reporting of multiple neighbours in AWGN propagation conditions

Parameter	Unit	Cell 1	Cell 2	Cell3				
		<u>T0</u>	<u>T0</u>	<u>T0</u>				
CPICH_Ec/lor	<u>dB</u>	<u>-9.3</u>	<u>-9.3</u>	<u>-9.3</u>				
PCCPCH Ec/lor	<u>dB</u>	<u>-11.3</u>	<u>-11.3</u>					
SCH_Ec/lor	<u>dB</u>	<u>-11.3</u>	<u>-11.3</u>					
PICH Ec/lor	<u>dB</u>	<u>-14.3</u>	<u>-14.3</u>					
DPCH Ec/lor	<u>dB</u>	<u>-16.3</u>	<u>N/A</u>					
OCNS Ec/lor	<u>dB</u>	<u>-1.26</u>	<u>-1.13</u>	<u>-1.13</u>				
$\dot{P}_{or}/I_{oc}$	<u>dB</u>	<u>0</u>	<u>-Inf</u>	<u>-Inf</u>				
<u>G</u>	<u>dBm</u>	<u>-85</u>	<u>-Inf</u>	<u>-Inf</u>				
	<u>dBm/</u> <u>3.84</u> <u>MHz</u>	<u>-85</u>						
CPICH_Ec/lo(Note 1)	<u>dB</u>	<u>-12.3</u>	<u>-Inf</u>	<u>-Inf</u>				
Propagation Condition	AWGN							
Note 1: These parameters are not directly settable, but are derived by calculation from the settable parameters.								

propagation condition														
Parameter	Unit		Се	ll 1			Cell 2				Cell3			
		<u>T1</u>	<u>T2</u>	<u>T3</u>	<u>T4</u>	<u>T1</u>	<u>T2</u>	<u>T3</u>	<u>T4</u>	<u>T1</u>	<u>T2</u>	<u>T3</u>	<u>T4</u>	
CPICH_Ec/lor	<u>dB</u>		<u>-9</u>	) <u>.3</u>			-9.3				-9	<u>.3</u>		
PCCPCH_Ec/ lor	<u>dB</u>	<u>-11.3</u>					<u>-11.3</u>				<u>-11.3</u>			
SCH Ec/lor	<u>dB</u>	<u>-11.3</u>					-11	1. <u>3</u>		<u>-11.3</u>				
PICH Ec/lor	<u>dB</u>		-14	4. <u>3</u>			-14	4. <u>3</u>			<u>-14.3</u>			
DPCH_Ec/lor	<u>dB</u>		<u>-1</u>	<u>6.3</u>			<u>N</u>	<u>/A</u>			<u>N</u> /	<u>/A</u>		
OCNS Ec/lor	<u>dB</u>		<u>-1.</u>	.26		<u>-1.13</u>				<u>-1.13</u>				
$\frac{\hat{P}_{or}/I_{oc}}{1}$	<u>dB</u>	<u>7.0</u>	<u>6.9</u>	<u>6.0</u>	<u>6.1</u>	<u>-Inf</u>	<u>9.4</u>	<u>7.0</u>	<u>7.6</u>	<u>6.0</u>	<u>6.9</u>	<u>-Inf</u>	<u>5.6</u>	
<u></u>	<u>dBm</u>	<u>-78.0</u>	<u>-78.1</u>	<u>-79.0</u>	<u>-78.9</u>	<u>-Inf</u>	<u>-75.6</u>	<u>-78.0</u>	<u>-77.4</u>	<u>-79.0</u>	<u>-78.1</u>	<u>-Inf</u>	<u>-79.4</u>	
	<u>dBm/</u> <u>3.84</u> <u>MHz</u>		<u></u>											
<u>CPICH_Ec/lo</u> ( <u>Note 1)</u>	<u>dB</u>	<u>-12.3</u>	<u>-15.3</u>	<u>-13.3</u>	<u>-14.8</u>	<u>-Inf</u>	<u>-12.8</u>	<u>-12.3</u>	<u>-13.3</u>	<u>-13.3</u>	<u>-15.3</u>	<u>-Inf</u>	<u>-15.3</u>	
Propagation Condition							AWGN							
Note 1: Thes	e parame	eters are	not dire	ctly sett	able, but	are der	ived by	calculati	on from	the setta	ble para	meters.		

# Table 8.6.1.2A.5: Test requirements for Event triggered reporting of multiple neighbours in AWGN propagation condition

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.

# 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.1.5 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			
8.6.1.2 Event triggered reporting of multiple neighbours in AWGN propagation condition (R99)	$\frac{\text{During T0 to T6:}}{I_{or}} \pm 0.1 \text{ dB}$ $\frac{I_{or}(1) \pm 0.7 \text{ dB}}{I_{oc}} \pm 1.0 \text{ dB}$ $\frac{I_{oc}(1) \pm 1.0 \text{ dB}}{I_{oc}} \pm 1.0 \text{ dB}$ $\frac{\text{During T1/T2, T3 and T6:}}{I_{or}(3) \text{ relative to } I_{or}(1) \pm 0.3 \text{ dB}}$ $\frac{\text{During T3, T4/T5 and T6:}}{I_{or}(2) \text{ relative to } I_{or}(1) \pm 0.3 \text{ dB}}$				
	<ul> <li><i>I</i><sub>or</sub> (2) relative to <i>I</i><sub>or</sub> (1) ±0.3 dB</li> <li>Assumptions: <ul> <li>a) The contributing uncertainties for lor(n), channel power ratio, and loc are derived according to ETR 273-1-2 [4], with a coverage factor of k=2.</li> <li>b) Within each cell, the uncertainty for lor(n), and channel power ratio are uncorrelated to each other.</li> <li>c) The relative uncertainties for lor(n) across different cells may have any amount of positive correlation from zero (uncorrelated) to one (fully correlated).</li> <li>d) Across different cells, the channel power ratio uncertainties may have any amount of positive correlation from zero (uncorrelated) to one (fully correlated).</li> <li>e) The uncertainty for loc and lor(1) may have any amount of positive correlated) to one (fully correlated).</li> <li>f) The absolute uncertainty of lor(1) and the relative uncertainty of lor(2, 3),</li> </ul> </li> </ul>				
8.6.1.2A Event triggered reporting of multiple neighbours in AWGN propagation condition (Rel-4 and later)	$\begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} $				

# 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.2.4 Requirements for support of RRM

Table E O A.	Test		<b>f</b>		Decession	Management	Teste
i able F.Z.4:	Test I	olerances	TOL	Radio	Resource	management	rests

Clause	Test Tolerance
8.6.1.2 Event triggered reporting of	During T0 to T6:
multiple neighbours in AWGN	+0.70 dB for all Cell 1 Ec/lor ratios
propagation condition (R99)	+0.70 dB for all Cell 2 Ec/lor ratios
	+0.70 dB for all Cell 3 Ec/lor ratios TBD
8.6.1.2A Event triggered reporting of	During T0 to T4:
multiple neighbours in AWGN	+0.70 dB for all Cell 1 Ec/lor ratios
propagation condition (Rel-4 and later)	+0.70 dB for all Cell 2 Ec/lor ratios
	+0.70 dB for all Cell 3 Ec/lor ratios TBD

# 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	Test Parameters in	Test Tolerance	Test Requirement in TS 34.121							
8.6.1.2 Event triggered reporting of multiple	Because the relationships between the Test system uncertainties and the Test Tolerance are complex, it is not possible to give a simple derivation of the Test Requirement in this									
neighbours in AWGN	document. The analysis is recorded in 3GPP TR 34 902 [24].									
propagation condition (R99)	During T0 to T6:	During T0 to T6:	During T0 to T6:							
	Cell 1, Cell 2 and Cell 3:									
	CPICH_Ec/lor = -10 dB	+0.70 dB	Ec/lor ratio + TT							
	PCCPCH_Ec/lor = -12 dB	+0.70 dB	Ec/lor ratio + TT							
	SCH_Ec/lor = -12 dB	+0.70 dB	Ec/lor ratio + TT							
	PICH_Ec/lor = -15 dB	+0.70 dB	Ec/lor ratio + TT							
8.6.1.2A Event	Because the relationships be	tween the Test system	uncertainties and the Test Tolerances							
triggered reporting of	are complex, it is not possible	e to give a simple deriva	ation of the Test Requirement in this							
multiple neighbours in	document. The analysis is re-	corded in 3GPP TR 34	<u>902 [24].</u>							
AWGN propagation	During T0 to T4:	During T0 to T4:	During T0 to T4:							
condition (Rel-4 and										
later)	Cell 1, Cell 2 and Cell 3:									
	$\frac{\text{CPICH} \text{Ec/lor} = -10 \text{ dB}}{\text{DOODOUL} \text{Fe/lerry 10 ell}}$	+0.70 dB	$\frac{\text{Ec/lor ratio} + 11}{\text{Ec/lor ratio} - TT}$							
	$\frac{PCCPCH_Ec/lor = -12 \text{ dB}}{2CU}$	<u>+0.70 dB</u>	Ec/lor ratio + 11							
	$\frac{30 - 20}{10} = -12 \text{ dB}$	+0.70 dB	$\frac{EC/101 \text{ ratio} + 11}{EC/101 \text{ ratio} + TT}$							
	TBD	TBD								

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

#### 1

Image: Source:       Image	CHANGE REQ 21 CR 434 <b>x rev</b> 5 form, see bottom of this page or UICC apps <b>x</b> ME X 21 xion of the FDD/FDD Soft Hando	CR-Form-v7
Image: Source:   Image	21 CR <sup>434</sup> <b>x rev</b> form, see bottom of this page or UICC apps <mark>x ME x</mark> xtion of the FDD/FDD Soft Hando	Current version: <b>5.5.0</b> r look at the pop-up text over the <b>x</b> symbols.     Radio Access Network Core Network
For <u>HELP</u> on using this Proposed change affects: Title: % Correc Source: % NEC Work item code: % TEI Category: % F Use one F (c A	s form, see bottom of this page or	r look at the pop-up text over the 🕱 symbols.
Proposed change affects: Title: % Correc Source: % NEC Work item code: % TEI Category: % F Use one F (( A (	UICC apps <mark>#</mark> ME X	Radio Access Network Core Network
Title:       X       Correct         Source:       X       NEC         Work item code:       X       TEI         Category:       X       F         Use one       F       (A	ction of the FDD/FDD Soft Hando	
Source: X NEC Work item code: X TEI Category: X F Use <u>one</u> F ((		over test parameters
Work item code: <sup>3</sup> TEI Category: <sup>3</sup> F <sup>Use <u>one</u> F (( A (</sup>		
Category: <mark>೫ F</mark> Use <u>one</u> F ( A (		Date: <sup>₩</sup> 06/11/2004
B ( C ( D ( Detailed be found	e of the following categories: 'correction) (corresponds to a correction in an eau (addition of feature), (functional modification of feature) (editorial modification) I explanations of the above categories d in 3GPP <u>TR 21.900</u> .	Release: Rel-5Use one of the following releases: 22(GSM Phase 2)arlier release)R96R97(Release 1996)R97(Release 1997)R98(Release 1998)R99(Release 1999)es canRel-4Rel-5(Release 4)Rel-6(Release 6)
Reason for change: 第 To set The cre	t to iActive set cells and monitore changes are compatible with Re ate Release dependent versions	ur of R99 UE when triggering conditions are ed set cells". Rel-4 and later terminals, so there is no need to s of this test case.
Summary of change: <mark>೫ Co</mark>	prrection of the SHO test case:	
8.3 from Accurs and res pur spe 8.3 ìAc ver usi eve	3.1.4.2: Changed Triggering cond m iActive set cells and monitored cording to R99 version of TS 25.3 specified when using a triggering d monitored set cells" for the intra solves the unspecified behaviour rpose/result of test and remains in ecifications (25.133 and 25.331). 3.1.4.2: Changed Triggering cond ctive set cells and monitored set of rsion of TS 25.331 section 10.3.7 ing a triggering condition other the ent 1b.	dition 2 in MEASURMENT CONTROL message d set cellsî to iMonitored set cellsî. 331 section 10.3.7.39 the UE behaviour is g condition "Active set cells" or "Active set cells a-frequency event 1a. The proposed solution of the UE while it doesnít change the in line with all versions of the core dition 1 in Measurement Control message from cellsî to iActive set cellsî. According to R99 7.39 the UE behaviour is unspecified when han "Active set cells" for the intra-frequency g to the ACTIVE SET UPDATE message have
Consequences if <b>X</b> Go	e information Elements belonging	

Clauses affected:	<b>#</b> 8.3.1.4.2
Other specs affected:	Y       N         X       Other core specifications         X       Test specifications         X       O&M Specifications
Other comments:	#       This CR is applicable for UEis supporting R99 or later.

#### 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.

### 8.3.1 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 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.

If the UE have radio links in the active set that it can not use for data detection (due to low signal level), the UE shall at least every 150 ms search for the radio link.

The normative reference for this requirement is TS 25.133 [2] clauses 5.1.2 and A.5.1.1. The active set update delay shall be less than 60 ms in CELL\_DCH state when using test parameters as given in table 8.3.1.1.

#### 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 8.3.1.1.1 and 8.3.1.1.2 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 six successive time periods, with a time duration of T1, T2, T3, T4, T5 and T6 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

Para	meter	Unit	Value	Comment
DCH parameters			DL and UL Reference Measurement Channel 12.2 kbps	As specified in clause C.3.1 and C.2.1
Power Control			On	
Target quality value on DTCH		BLER	0.01	
Initial	Active cell		Cell 1	
conditions	litions Neighbouring Cell 2 cell		Cell 2	
Final condition	Active cell		Cell 2	
Reporting range		dB	3	Applicable for event 1A and 1B
Hysteresis		dB	0	
W			1	Applicable for event 1A and 1B
Reporting dea threshold	ctivation		0	Applicable for event 1A
Time to Trigge	er	ms	0	
Filter coefficier	nt		0	
T1		S	5	
T2		S	3	
T3		S	0.5	
T4		ms	60	This is the requirement on active set update delay, see clause 8.3.1.2, where KC=1 and OC=0.
T5		S	10	
T6		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	<b>T</b> 6	T1	T2	T3	T4	Т	Т	
												5	6	
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	Note1		N/ A	N/ A	N/A	N/A	Note3	Note3 Note1 N		:e1	
OCNS_Ec/lor	dB	Note2	Note2	Note2		- 0.9 4	- 0.9 4	-0.94	-0.94	Note2	Note2	2 Note2		
$\hat{P}_{or}/I_{oc}$	dB	0	2.91	2.	91	2.9 1	2.9 1	-Inf	2.91	2.91	2.91	2.9	1	
I <sub>oc</sub>	dBm/3. 84 MHz		-70											
CPICH_Ec/lo	dB	-13	-14	-1	14	-14	-14	-Inf	-14	-14	-14	-1	14	
Propagation Condition							A	WGN						
Relative delay of paths received from cell 2 with respect to cell 1	chips		{-148 Ö 148} Note 4											
Note 1: The DPCH level	el is contro	lled by the	power conti	rol loop	ro tho to	tol nou	or from		he equal to I					

inel that is added sha III make the total power from the cell to be e ower of the OCNS ch : ine

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.

Note 4: The relative delay of the path from cell 2 with respect to cell 1 shall always be within ±148 chip.

#### 8.3.1.4.2 Procedure

1) The RF parameters are set up according to T1 in table 8.3.1.1.3.

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.
- 4) SS shall transmit a MEASUREMENT CONTROL message.
- 5) 5 seconds after step4 has completed, 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 T6.
- 11)5 seconds after step10 has completed, the UE is switched off. Any timing information of cell 2 is deleted in the UE.
- 12) BLER is measured during concatenated time periods T6.Repeat step 1-11 until the confidence level for BLER is achieved. This is defined in annex F.6.1.10

#### 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:

#### 6

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	
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IE. The first/
	leftmost bit of the bit string contains the
	most significant bit of the MAC-I.
-RRC message sequence number	SS provides the value of this IE, from its
- ·	internal counter.
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-trequency measurement (10.3.7.36)	Net Dresent
-intra-frequency measurement objects list (10.3.7.33)	INOL Present
-initia-frequency measurement quantity (10.3.7.38)	0
-Filter Coefficient (10.3.7.9)	
-Measurement quantity	
-Intra-frequency reporting quantity (10.3.7.41)	
-Reporting quantities for active set cells (10.3.7.5)	
-Cell synchronisation information reporting indicator	TRUF (Note 1)
-Cell Identity reporting indicator	TRUE
-CHOICE mode	FDD
-CPICH Ec/N0 reporting indicator	TRUE
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	FALSE
-Reporting quantities for monitored set cells (10.3.7.5)	
-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	
-Pathloss reporting indicator	FALSE
-Reporting quantities for detected set cells (10.3.7.5)	Not Present
-Reporting cell status (10.3.7.61)	Not Present
-ivieasurement validity (10.3.7.51)	INOT Present
	oritoria
-Intra-frequency measurement reporting criteria (10.3.7.20)	Cillena
-Parameters required for each event	2
-Intra-frequency event identity	Event 1A
-Triagering condition 2	Active set cells and mMonitored set cells
-Reporting Range Constant	3 dB
-Cells forbidden to affect Reporting Range	Not Present
-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	Infinity
-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
-W	1.0
-Hysteresis	0 dB

Information Element/Group name	Value/Remark		
-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 in the IE "Cell synchronisation information ", TS 25.33 8.6.7.7, this IE is included in MEASUREMENT REPO reporting indicator" in IE "Cell reporting quantities" TS MEASUREMENT CONTROL.	from the OFF and Tm parameters contained 31, clause 10.3.7.6. According to TS 25.331, RT if IE "Cell synchronisation information 5 25.331, clause 10.3.7.5 is set to TRUE in		
Note 2: Reporting interval = 0 ms means no periodical report	ng		

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

1

Information Element/Group name	Type and reference	Value/Remark
Message Type	Message Type	
UE information elements		
-RRC transaction identifier	RRC transaction identifier	0
	10.3.3.36	
-Integrity check info	Integrity check info 10.3.3.16	
-message authentication code		SS calculates the value of MAC- I for this message and writes to this IE. The first/ leftmost bit of the bit string contains the most
-RRC message sequence number		SS provides the value of this IE, from its internal counter.
-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
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 10.3.6.68	Radio link addition information required for each RL to add
<u>-Primary CPICH info</u> >Radio link addition information	Primary CPICH info 10.3.6.60 Radio link addition- information 10.3.6.68	Same as defined in cell2

#### 8

Information Element/Group name	Type and reference	Value/Remark
-Downlink DPCH info for each RL	Downlink DPCH info for each	
	<u>RL 10.3.6.21</u>	
-CHOICE mode		
<u>-FDD</u>		
-Primary CPICH usage for channel	Primary CPICH usage for	Primary CPICH may be used
estimation	channel estimation 10.3.6.62	
-DPCH frame offset	Integer(038144 by step of	This should be reflected by the
	<u>256)</u>	IE" Cell synchronisation
		Information" in received
		MEASUREMENT REPORT
-Secondary CPICH info	Secondary CPICH info	Not Present
	10.3.6.73	
-DL channelisation code	10.0.0.10	
-Secondary scrambling code	Secondary scrambling code	Not Present
	10.3.6.74	
-Spreading factor	Integer(4, 8, 16, 32, 64, 128,	128
	<u>256, 512)</u>	
-Code number	Integer(0Spreading factor - 1)	<u>96</u>
<ul> <li>Scrambling code change</li> </ul>	Enumerated (code change, no	No code change
	<u>code change)</u>	
-TPC combination index	TPC combination index	<u>0</u>
	<u>10.3.6.85</u>	
-SSDT Cell Identity	SSDT Cell Identity 10.3.6.76	Not Present
-Closed loop timing adjustment mode	Integer(1, 2)	Not Present
- IFCI compining indicator	10.2.6.91	FALSE
SCCPCH Information for EACH	SCCPCH Information for	Not Present
	EACH	NOLFIESEIIL
	10.3.6.70	
-Radio link removal information		Radio link removal information
		required for each RL to remove
->Radio link removal information	Radio link removal information	Not Present
	10.3.6.69	
<u>-</u> 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	Need	Multi	Type and	Value/Remark
name			reference	
Primary CPICH info	MP		Primary	Same as defined in cell2
			CPICH info	
			<del>10.3.6.60</del>	
Downlink DPCH info for each RL	MP		Downlink	See below
			DPCH info	
			for each RL	
			<del>10.3.6.21</del>	
TFCI combining indicator	MP		TECL	FALSE
			combining-	
			indicator	
			<del>10.3.6.81</del>	
SCCPCH Information for FACH	<del>OP</del>		SCCPCH	Not Present
			Information	
			for FACH	
			<del>10.3.6.70</del>	

#### Downlink DPCH info for each RL

Information Element/Group name	Type and reference	Value/Remark
CHOICE mode		
<del>&gt;FDD</del>		
>>Primary CPICH usage for channel	Primary CPICH usage for	Primary CPICH may be used
estimation	channel estimation	

Information Element/Group name	Type and reference	Value/Remark
	<del>10.3.6.62</del>	
→>DPCH frame offset	Integer(038144 by step of 256)	This should be reflected 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	Integer(4, 8, 16, 32, 64, 128, 256, 512)	<del>128</del>
>>>Code number	Integer(0Spreading factor 1)	<del>96</del>
>>>Scrambling code change-	Enumerated (code change, no code change)	<del>No code change</del>
>>TPC combination index	TPC combination index 10.3.6.85	0
>>SSDT Cell Identity	SSDT Cell Identity 10.3.6.76	Not Present
>>Closed loop timing adjustment mode	Integer(1, 2)	Not Present

#### 8.3.1.5 Test requirements

#### Table 8.3.1.1.3: Cell specific test parameters for Soft handover

Parameter	Unit	Cell 1							Cell 2	2			
		T1 T2 T3 T4 T5 T6					T1	T2	T3	T4	T5	T6	
CPICH_Ec/lor	dB			-9.3	3					-9.3			
PCCPCH_Ec/lor	dB			-11.	3					-11.3	1		
SCH_Ec/lor	dB			-11.	3					-11.3	1		
PICH_Ec/lor	dB			-14.	3	-	-		-	-14.3			
DPCH_Ec/lor	dB	Note1	Note1	No	te1	N/A	N/A	N/A	N/A	Note3	Note1	Note1	
OCNS		Note2	Note2	No	te2	-1.13	-1.13	-1.13	-1.13	Note2	Note2	Note2	
$\dot{P}_{or}/I_{oc}$	dB	0	2.91	2.	91	2.91	2.91	-Inf	2.91	2.91	2.91	2.91	
I <sub>oc</sub>	dBm/ 3.84 MHz		-70										
CPICH_Ec/lo	dB	-12.3	-13.3	-10	3.3	-13.3	-13.3	-Inf	-13.3	-13.3	-13.3	-13	3.3
Propagation Condition							AW	/GN					
Relative delay of	chips						{-147.5 (	Ö 147.5}					
paths received from			Note 4										
cell 2 with respect to cell 1													
Note 1: The DPCH lev	Note 1: The DPCH level is controlled by the power control loop												
Note 2: The power of t	he OCNS	S channel	that is add	ed shall	make tl	ne total p	ower froi	m the cell	to be equ	ial to I <sub>or</sub>			
Note 3: The DPCH lev	el is cont	rolled by t	he power o	control lo	oop. The	e initial po	ower sha	ll be set e	equal to th	e DPCH_E	Ec/lor of C	ell 1 at	the
end of T2.													

Note 4: The relative delay of the path from cell 2 with respect to cell 1 shall always be within ñ147.5 Ö 147.5 chip.

The average measured quality on the DTCH of the UE downlink during T6 shall be BLER = $0.01\pm30\%$ . (The final BLER shall be achieved by integrating over a number of repetitions of procedure step 10).

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.

# Tdoc **#**T1-041667

			CH	ANGE R	EQ	UE	ST			(	CR-Form-v7.
æ		<mark>34.121</mark>	CR 442	ж	rev	-	ж	Current ver	sion:	5.5.0	ж
For <u>HELP</u> or	n us	sing this fo	rm, see bott	om of this pa	ge or	look	at the	e pop-up tex	t over	r the <mark>ສ</mark> syl	mbols.
Proposed chang	e a	affects:	UICC apps <mark>8</mark>	ŧ <mark></mark> I	ME <mark>X</mark>	Rac	lio A	ccess Netwo	ork 📃	Core No	etwork
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Reason for change: 🖁	The start of T2 is not an instant, minimum requirements are referred to. Currently T2 controlls the instant of the Active Set Update Command. This is difficult for implementation and useless for test purpose.
	It is the same with T5
Summary of change: #	The Active Set Update command is sent prior to the beginning of T2.
0	Difficulty for OO for the second state of the last of
not approved:	Difficult for SS implementation and useless for test purpose.

Clauses affected: Other specs affected:	<b>¥</b> 8.6.1.2 <b>¥ X X</b> Other core specifications <b>X</b> Test specifications <b>X</b> O&M Specifications
Other comments:	¥

# 8.6.1.2 Event triggered reporting of multiple neighbours in AWGN propagation condition (R99)

#### 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 Release 99 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 8.6.1.2.4.

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

Parameter	r Unit		Cell 1	Cell 2	Cell3			
			Т0	Т0	TO			
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_Ec/lor	dB		-1.049	-0.941	-0.941			
$\dot{P}_{or}/I_{oc}$	dB		0	-Inf	-Inf			
(Note 1)	·	dBm	-85	-Inf	-Inf			
I <sub>oc</sub>	·	dBm/ 3.84 MHz		-1	35			
CPICH Ec/lo	dB		-13	-Inf				
Propag Conditi	ation on		AWGN					
1 i	Note 1: The not mplied and nee	ominal Obr ed to be id	r values, althoug dentified so that	h not explicitly define the test equipment ca	d in 25.133 are added here sinc an be configured.	ce they are		

The test parameters are given in table 8.6.1.2.2 and 8.6.1.2.5. 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 CPICH Ec/Io and SFN-CFN observed time difference shall be reported together with Event 1A. The test consists of six successive time periods, with a time duration of T1, T2, T3, T4, T5 and T6 respectively. In the initial condition before the time T1, defined as T0, only Cell 1 is active.

#### Table 8.6.1.2.2: 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 Channel 12.2 kbps	As specified in C.3.1 and C.2.1
Power Control		On	
Active cell		Cell 1	
Reporting range	dB	3	Applicable for event 1A and 1B
Hysteresis	dB	0	
W		0	Applicable for event 1A and 1B
Replacement activation threshold		0	Applicable for event 1C
Reporting deactivation threshold		0	Applicable for event 1A
Time to Trigger	ms	0	
Filter coefficient		0	
Monitored cell list		32	NOTE: See Annex I for cell information.
size			
T1	s	10	
T2	S	1	
T3	S	10	
T4	S	5	
T5	S	1	
T6	S	10	

#### Table 8.6.1.2.3: Cell specific test parameters for Event triggered reporting of multiple neighbours in AWGN propagation condition

Paramet	ter	Unit			Ce	ell 1		Cell 2 Cell3												
			T1	T2	Т3	Т 4	Т5	Т6	T1	T2	Т3	Т 4	Т5	Т6	T1	T2	Т3	T4	Т5	Т6
CPICH_E /lor	ic	dB			-10					-10			•			-1	0			
PCCPCH Ec/lor	-	dB			-12					-12						-1	2			
SCH_Ec/l r	lo	dB			-1	2					-12						-1	2		
PICH_Ec/ or	/I	dB			-1	5					-15						-1	5		
DPCH_Eo	c/	dB			Not	e 1					N/A				N/A		Note 1		N/	۹.
OC NS Ec/		dB			Not	e 2					-0.94	1			- 0.94 Note 2 -0.94 1			41		
$\hat{P}_{or}/I_{oc}$	,	dB	6.9	7	6.9 3	5.9	97	6.1 2	-11	nf	9.4 3	6.	97	7.6 2	5.9	97	6.9 3	-lı	nf	5.62
Œ (Note	3)	lBm	-78.0	03	- 78. 07	-79.	03	- 78. 88	-lı	nf	- 75. 57	-78	.03	- 77. 38	-79.	.03	- 78. 07	-lı	nf	- 79.3 8
	Ioc	dBm/ 3	3.84 MH	lz									-85	5						
CPICH_E /lo	ic	dB	-13	3	-16	-14	1	- 15. 5	-Ir	nf	- 13. 5	-1	3	-14	-14	4	-16	-Ir	nf	-16
	Propagation n Condition			1	I					I	AV	VGN					1		I	
	Note 1: Th Note 2 : Note 3 : the test ec	e DPCH le The power The nomina juipment ca	of the C al Ober va an be co	ontro DCNS alues, onfigu	lled by S chan , althou ured.	the po nel tha ıgh not	ower c it is ac t expli	ontrol ded sł citly de	loop nall ma fined ir	ke the n 25.13	total po 33 are a	wer fr dded	om the here s	e cell t ince th	o be eq ney are	ual to implie	I <sub>or</sub> d and r	need to	be ide	entified

#### 8.6.1.2.4.2 Procedure

1) The RF parameters are set up according to T0 in table 8.6.1.2.4.

- 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 in table 8.6.1.2.5.
- 6) 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 880 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) During the time period T1, the SS shall after the Event 1A triggered measurement is reported send an Active Set Update command with activation time i start of T2î adding cell 3 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 least the RRC procedure delay prior to the beginning of T2.
- 8) 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.
- 9) After 11 seconds from the beginning of T1, the SS shall switch the power settings from T1 to T3 in table 8.6.1.2.5.
- 10) UE shall transmit a MEASUREMENT REPORT message for Cell 2 triggered by event 1C. The measurement reporting delay from the beginning of T3 shall be less than 880 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 successful tests is increased by one.
- 11) UE shall transmit a MEASUREMENT REPORT message for Cell 2 triggered by event 1A. The measurement reporting delay from the beginning of T3 shall be less than 880 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 successful tests is increased by one.

12) Void.

- 13) After 10 seconds from the beginning of T3, the SS shall switch the power settings from T3 to T4 in table 8.6.1.2.5.
- 14)UE shall transmit a MEASUREMENT REPORT message for Cell 3 triggered by event 1B. The measurement reporting delay from the beginning of T4 shall be less than 280 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 successful tests is increased by one.
- 15) During the time period T4, SS shall after the Event 1B triggered measurement is reported send an Active Set Update command with activation time i start of T5î removing cell 3 from 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 least the RRC procedure delay prior to the beginning of T5
- 16) 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.
- 17) After 6 seconds from the beginning of T4, the SS shall switch the power settings from T5 to T6 in table 8.6.1.2.5.
- 18) UE shall transmit a MEASUREMENT REPORT message for Cell 3 triggered by event 1A. The measurement reporting delay from the beginning of T6 shall be less than 280 ms. If the reporting delay for this event is within the required limit, the number of successful tests is increased by one.
- 19) 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.
- 20)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.
- 21) After 10 seconds from the beginning of T6, the UE is switched off.

22)Repeat steps 1-21 until the confidence level according to annex F.6.2 is achieved.

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Proposed change affects: UICC apps <sup>38</sup> ME X Radio Access Network Core Network								
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Reason for change: 🕷	TS 34.121 currently only reference to the R99 GSM core specifications for 05.05 and 05.08. From Rel-4 05.05 and 05.08 have been renumbered to 45.005 and 45.008 respectively.
Summary of change: 🕱	1. Added 45.005 and 45.008 to list of refernces (section 2)
	2. References to 05.05 have been updated to also reference to 45.005 for Rel-4 and later releases
	3. References to 05.08 have been updated to also reference to 45.008 for Rel-4 and later releases
Consequences if <b>#</b> not approved:	Incorrect references to GSM core specifications for Rel-4 and later releases.

Clauses affected:	
Other specs affected:	X     Other core specifications     X       X     Test specifications     X       X     O&M Specifications
Other comments:	# Affects Rel4 and Rel5 UEs.

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#### <Start of first modified section>

## 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

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- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document.
- For a Release 1999 UE, references to 3GPP documents are to version 3.x.y.
- For a Release 4 UE, references to 3GPP documents are to version 4.x.y.
- For a Release 5 UE, references to 3GPP documents are to version 5.x.y.
- [1] 3GPP TS 25.101 "UE Radio transmission and reception (FDD)".
- [2] 3GPP TS 25.133 "Requirements for Support of Radio Resource Management (FDD)".
- [3] 3GPP TS 34.108 "Common Test Environments for User Equipment (UE) Conformance Testing".
- [4] 3GPP TS 34.109 "Terminal logical test interface; Special conformance testing functions".
- [5] 3GPP TS 25.214 "Physical layer procedures (FDD)".
- [6] 3GPP TR 21.905 "Vocabulary for 3GPP Specifications".
- [7] 3GPP TR 25.990 "Vocabulary".
- [8] 3GPP TS 25.331: "Radio Resource Control (RRC); Protocol Specification".
- [9] 3GPP TS 25.433 "UTRAN lub Interface NBAP Signalling".
- [10] ITU-R Recommendation SM.329: "Spurious emissions".
- [11] 3GPP TS 25.304: "UE Procedures in Idle Mode and Procedures for Cell Reselection in Connected Mode".
- [12] 3GPP TS 25.303: "Interlayer Procedures in Connected Mode".
- [13] 3GPP TS 25.321: "Medium Access Control (MAC) protocol specification".
- [14] 3GPP TS 25.213: "Spreading and modulation (FDD)".
- [15] 3GPP TS 25.223: "Spreading and modulation (TDD)".
- [16] ETSI ETR 273-1-2: "Improvement of radiated methods of measurement (using test sites) and evaluation of the corresponding measurement uncertainties; Part 1: Uncertainties in the measuremement of mobile radio equipment characteristics; Sub-part 2: Examples and annexes".
- [17] 3GPP TR 25.926: "UE Radio Access Capabilities".
- [18] 3GPP TR 21.904: "UE capability requirements".
- [19] 3GPP TS 25.211: "Physical channels and mapping of transport channels onto physical channels (FDD)".
- [20] 3GPP TS 05.08 (R99): "Technical Specification Group GSM/EDGE Radio Access Network; Radio subsystem link control".

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[21]	3GPP TS 34.123-1: "User Equipment (UE) Conformance Specification; Part 1: Protocol Conformance Specification".
[22]	3GPP TS 25.215: "Physical Layer ñ Measurements (FDD)".
[23]	3GPP TS 25.101 "UE Radio transmission and reception (FDD), Release 5".
[24]	3GPP TR 34.902 " Derivation of test tolerances for multi-cell Radio Resource Management (RRM) conformance tests ".
[25]	3GPP TS 51.010-1: "Mobile Station (MS) conformance specification; Part 1: Conformance specification ".
[26]	3GPP TS 25.307 "Requirements on UEs supporting a release independent frequency band".
[27]	ITU-T recommendation O.153: "Basic parameters for the measurement of error performance at bit rates below the primary rate".
[28]	3GPP TS 05.05 (R99): "Technical Specification Group GSM/EDGE Radio Access Network; Radio transmission and reception".
[29]	3GPP TS 45.005 (Rel-4 and later releases): "Technical Specification Group GSM/EDGE Radio Access Network; Radio transmission and reception".
[30]	3GPP TS 45.008 (Rel-4 and later releases): "Technical Specification Group GSM/EDGE Radio Access Network; Radio subsystem link control".

#### <End of modified section>

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### 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 s +  $T_{BCCH}$ , where TBCCH is the maximum time allowed to read BCCH data from GSM cell, see TS 05.08 [20] for R99 and TS 45.008 [30] for Rel-4 and later releases.

The rate of correct cell reselections observed during repeated tests shall be at least 90% with a confidence level of 95 %.

NOTE: The cell re-selection delay can be expressed as:  $4 \text{ * } T_{\text{measureGSM}} + T_{\text{BCCH}}$ , where:

- $T_{measureGSM}$  See table 4.1 in TS 25.133 [2] clause 4.2.2.
- TBCCHMaximum time allowed to read BCCH data from GSM cell, see TS 05.08 [20] for R99and TS 45.008 [30] for Rel-4 or later releases.According to [20] and [30], the maximum time allowed to read the BCCH data, whenbeing 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, as given in tables 8.2.3.1.1 to 8.2.3.1.5. 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: Scenario 1: General test parameters for UTRAN to GSM Cell Re-selection

Pa	arameter	Unit	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	45	
T2		S	35	

Parameter	Unit	Cell 1 (l	JTRA)
		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	
$\dot{P}_{or}/I_{oc}$	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	
Treselection	S	0	
Ssearch <sub>RAT</sub>	DB	not sent	

Table 8.2.3.1.2: Scenario 1: Test parameters for Cell re-selection UTRAN to GSM cell case (cell 1)

#### Table 8.2.3.1.3: Scenario 1: Test parameters for Cell re-selection UTRAN to GSM cell case (cell 2)

Paramotor	Unit	Cell 2 (GSM)			
Faranielei	Onic	T1	T2		
Absolute RF Channel Number		ARFCN <sup>-</sup>	1		
RXLEV	DBm	-90	-75		
RXLEV_ACCESS_MIN	DBm	-1(	)4		
MS_TXPWR_MAX_CCH	DBm	33	3		

#### 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) 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.
- 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 35 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) until the confidence level according to annex F.6.2 is achieved.

#### 8.2.3.1.5 Test requirements

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

Parameter	Unit	Cell 1	(UTRA)
		T1	T2
UTRA RF Channel Number		Channel <sup>•</sup>	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
$\dot{P}_{or}/I_{oc}$	dB	0.3	-5.3
I <sub>oc</sub>	dBm/3.84 MHz	-70	
CPICH_Ec/lo (Note 1)	dB	-12.8	-16.5
CPICH_RSCP (Note1)	dBm	-79.6	-85.4
Propagation Condition		AWGN	
Cell_selection_and_ reselection_quality_measure		CPICH E	c/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	
Treselection	S	0	
Ssearch <sub>RAT</sub>	dB	not sent	

#### Table 8.2.3.1.5: Scenario 1: Cell re-selection UTRAN to GSM cell case (cell 2), test requirements

Baramotor	Unit	Cell 2 (GSM)			
Faidilielei	Onit	T1	T2		
Absolute RF Channel Number		ARFCN 1	l		
RXLEV	dBm	-90.3	-74.7		
RXLEV_ACCESS_MIN	dBm	-1(	04		
MS_TXPWR_MAX_CCH	dBm	3	3		

NOTE 1: 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 95 %.

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.

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#### 8.2.3.2.2 Minimum requirement

The cell re-selection delay shall be less than 7.7 s +  $T_{BCCH}$ , where TBCCH is the maximum time allowed to read BCCH data from GSM cell, see TS 05.08 [20] for R99 and TS 45.008 [30] for Rel-4 and later releases.

The rate of correct cell reselections observed during repeated tests shall be at least 90% with a confidence level of 95 %.

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 <u>, see</u> TS 05.08 [20] for R99 and TS 45.008 [30] for Rel-4 and later releases. According to [20] and [30], 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 7.68 s +  $T_{BCCH}$ , allow 7.7 s +  $T_{BCCH}$  in the test case.

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

#### <End of modified section>

#### <Start of next modified section>

#### 8.3.5.3 Cell Reselection to GSM

#### 8.3.5.3.1 Definition and applicability

The cell re-reselection delay is defined as the time from the beginning of time period T2, to the moment when the UE starts to transmit the random access in Cell 2 (the GSM cell).

This requirements and this test apply to UE supporting FDD PS and GSM GPRS.

#### 8.3.5.3.2 Minimum requirements

The cell re-selection delay shall be less than  $5.5 + T_{RA}$  s.

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

NOTE: The cell re-selection delay can be expressed

$$T_{\text{reselection, GSM}} = T_{\text{identify,GSM}} + T_{\text{measurement, GSM}} + 40 + T_{\text{BCCH}} + T_{\text{RA}} \text{ ms}$$

where:

$T_{identify,GSM}$	Specified in TS 25.133 [2] clause 8.4.2.5.2.1, here it is 2880 ms
T <sub>measurement, GSM</sub>	Specified in TS 25.133 [2] clause 5.5.2.1.4, here it is 640 ms
T <sub>BCCH</sub>	According to TS 05.08 [20] for R99 and TS 45.008 [30] for Rel-4 and later releases, the maximum time allowed to read the BCCH data, when being synchronized to a BCCH carrier, is 1.9 s.
T <sub>RA</sub>	The additional delay caused by the random access procedure in the GSM cell, is 10 ms (2 GSM radio frames).

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 5.5.2.1.4 and A.5.5.3.

#### <End of modified section>

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### 8.7.3A GSM Carrier RSSI

#### 8.7.3A.1 Definition and applicability

The GSM carrier RSSI measurement is used for handover between UTRAN and GSM.

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

#### 8.7.3A.2 Minimum Requirements

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

The absolute accuracy shall be as follows:

The R.M.S received signal level at the receiver input shall be measured by the UE and the BSS over the full range of -110 dBm to -48 dBm with an absolute accuracy of  $\pm 4$  dB from -110 dBm to -70 dBm under normal conditions and  $\pm 6$  dB over the full range under both normal and extreme conditions. The R.M.S received signal level at the receiver input shall be measured by the UE above -48 dBm up to -38 dBm with an absolute accuracy of  $\pm 9$  dB under both normal and extreme conditions.

If the received signal level falls below the reference sensitivity level for the type of UE or BSS, then the measured level shall be within the range allowing for the absolute accuracy specified above. In case the upper limit of this range is below the reference sensitivity level for the type of UE or BSS, then the upper limit shall be considered as equal to the reference sensitivity level.

The relative accuracy shall be as follows:

If signals of level x1 and x2 dBm are received (where  $x1 \le x2$ ) and levels y1 and y2 dBm respectively are measured, if x2 - x1 < 20 dB and x1 is not below the reference sensitivity level, then y1 and y2 shall be such that:

 $(x_2 - x_1) - a \le y_2 - y_1 \le (x_2 - x_1 + b)$  if the measurements are on the same or on different RF channel within the same frequency band;

and

 $(x^2 - x^1) - c \le y^2 - y^1 \le (x^2 - x^1 + d)$  if the measurements are on different frequency bands:

a, b, c and d are in dB and depend on the value of x1 as follows:

For single band MS or BTS and measurements between ARFCN in the same band for a multiband

MS or BTS;

s = reference sensitivity level as specified in 3GPP TS 05.05 [28] for R99 and in 3GPP TS 45.005 [29] for Rel-4 and later releases.

For measurements between ARFCN in different bands;

s = the reference sensitivity level as specified in  $\frac{3GPP TS 05.05}{28}$  [28] and [29] for the band including x1.

At extreme temperature conditions an extra 2 dB shall be added to c and d in above table.

The selectivity of the received signal level measurement shall be as follows:

- for adjacent (200 kHz) channel  $\geq$  16 dB;

- for adjacent (400 kHz) channel  $\geq$  48 dB;
- for adjacent (600 kHz) channel  $\geq$  56 dB.

The selectivity shall be met using random, continuous, GSM-modulated signals with the wanted signal at the level 20 dB above the reference sensitivity level.

The reporting range and mapping specified for RXLEV in TS 05.08[20] for R99 and in TS 45.008 [30] for Rel-4 and later releases shall apply.

The normative reference for this requirement is:

For R99: TS 25.133 [2] clause 8.1.2.5 and 9.1.4 and TS 05.08 [20] clause 8.1.2.

For Rel-4 and later releases: TS 25.133 [2] clause 8.1.2.5 and 9.1.4 and TS 45.008 [30] clause 8.1.2.

#### 8.7.3A.3 Test purpose

The purpose of this test is to verify that the GSM Carrier RSSI measurement accuracy in CELL\_DCH state, for UE that needs compressed mode to perform GSM measurements, is within the specified limits. This measurement is for UTRAN to GSM handover evaluation.

#### 8.7.3A.4 Method of test

#### 8.7.3A.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 the test in Cell\_DCH state compressed mode with purpose i GSM Carrier RSSI Measurementî is applied to measure on GSM. The gap length is 7, detailed definition is in clause C.5, Set 2 of table C.5.2 except for TGPRC and TGCFN. TGPRC and TGCFN shall set to "Infinity" and "(Current CFN + (256 ñ TTI/10msec))mod 256". Table 8.7.3A.1 defines the limits of signal strengths and code powers on the UMTS FDD cell, where the requirement is applicable. In the measurement control information it is indicated to the UE that periodic reporting of the GSM RSSI measurement.

Parameter	Unit	Value	Comment			
DCH parameters		DL Reference Measurement Channel	As specified in section C.3.1			
		12.2 kbps				
Power Control		On				
Target quality value on DTCH	BLER	0.01				
Compressed mode		Compressed mode reference pattern 2	As specified in table C.5.2 section C.5			
patterns		Set 2				
<ul> <li>GSM carrier RSSI</li> </ul>						
measurement						
Inter-RAT measurement		GSM Carrier RSSI				
quantity						
BSIC verification		Not required				
required						
Monitored cell list size		6 GSM neighbours	Measurement control information is sent before the compressed mode patterns starts.			

#### Table 8.7.3A.1: General GSM Carrier RSSI test parameters

Parameter	Unit	Cell 1			
UTRA RF Channel number	-	Channel 1			
Obr/loc	DB	-1			
loc	dBm/ 3.84 MHz	-70			
Propagation condition	-	AWGN			

#### Table 8.7.3A.2: Cell specific GSM Carrier RSSI test parameters

- 1) The SS is set to produce the BCCHs of 6 surrounding cells at 28 dBµVemf(). The fading profile for the BCCHs of the surrounding cells will be set to static, see 51.010-1 [25]. The limits of the GSM test parameters are defined in TS 05.08 [20] for R99 and in TS 45.008 [30] for Rel-4 and latere releases.
- 2) After 30 seconds 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 Cell 1 is set up according to table 8.7.3A.1 and 8.7.3A.2.

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Proposed change affects: UICC apps 8 ME X Radio Access Network Core Network								
Title:	<b>#</b> Clarification	n of HS-PDSCH a	nd HS-SCCH s	ignal struc	cture			
Source:	Rohde &	Schwarz						
Work item code:	¥				Date: 🔀	26/10/2004		
Category:	ж F				Roloaso <sup>,</sup> ¥	B5		
	Use <u>one</u> of F (cor A (cor B (add C (fun D (edi Detailed ex be found in	the following categ rection) rresponds to a corre dition of feature), nctional modification itorial modification) planations of the at 3GPP <u>TR 21.900</u> .	ories: ection in an ear n of feature) pove categories	<i>lier releas</i> s can	Use <u>one</u> of 2 e) R96 R97 R98 R99 Rel-4 Rel-5 Rel-6	the following re (GSM Phase 2 (Release 1996 (Release 1997 (Release 1998 (Release 1999 (Release 4) (Release 5) (Release 6)	leases: ) ) ) )	

Reason for change: 🔀	1) In some places HS-PDSCH shall be transmitted continuously					
	In some places HS-PDSCH shall be part time DTXed					
	In some places nothing is mentioned					
	2) The HS-SCCH signal structure, where it does not address the UE under test, is					
	undefined.					
Summary of change: 🕷	1) It is clarified that HS-PDSCH is transmitted with constant power continuously and					
	test specifically allocated or not allocated to the UE					
	2) It is clarified, that HS-SCCH_1 is transmitted with constant power continuously					
	and test specifically allocated or not allocated to the UE. If HS-SCCH_2,3,4 are not					
	DTXed, they are transmitted with constant power continuously.					
Consequences if 🛛 🕷	Confusion where nothing is mentioned. Unnecessary functionality in the tester, as					
not approved:	DIX is not relevant for the test					
Clauses affected: 🛛 🔀	9.3, 9.4, C.8, E.5					
	YN					
Other specs 🛛 🖁	X Other core specifications #					
affected:	X Test specifications					
	X O&M Specifications					
Other comments: #	25.101 clarified the same in R4-040526 and 527 with respect to (1)					

# 9.3 Reporting of Channel Quality Indicator

### 9.3.1 AWGN Propagation Conditions

#### 9.3.1.1 Definition and applicability

The reporting accuracy of channel quality indicator (CQI) under AWGN environments is determined by the reporting variance and the BLER performance using the transport format indicated by the reported CQI median.

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

The requirements and this test apply to all types of UTRA for the FDD UE for Release 5 and later releases that support HSDPA.

#### 9.3.1.2 Minimum requirements

For the parameters specified in Table 9.3.1.1 and 9.3.1.2, the the reported CQI value shall be in the range of +/-2 of the reported median more than 90% of the time. If the HS-PDSCH BLER using transport format indicated by median CQI is less than 0.1, BLER using transport format indicated by (median CQI +2) shall be larger than 0.1. If the HS-PDSCH BLER using transport format indicated by median CQI is larger than 0.1, BLER using transport format indicated by median CQI is larger than 0.1, BLER using transport format indicated by median CQI is larger than 0.1, BLER using transport format indicated by median CQI is larger than 0.1, BLER using transport format indicated by median CQI is larger than 0.1, BLER using transport format indicated by median CQI is larger than 0.1, BLER using transport format indicated by median CQI is larger than 0.1, BLER using transport format indicated by (median CQI -1) shall be less than 0.1.

Parameter		Unit	Tes	st 1	Test	2 Test 3		est 3		
	₽ <sub>or</sub> / I <sub>oc</sub>			dE	3	0 5				10
		I <sub>oc</sub>	d	lBm/3.8			-6	0		
	F	Phase reference				P-CPICH				
	HS	S-PDSCH <i>E<sub>c</sub></i> / <i>I<sub>or</sub></i> (*)		dE	3			-3	3	
	HS	S-SCCH_1 $E_c / I_{or}$		dE	3			-1	0	
		DPCH $E_c / I_{or}$		dE	3			-1	0	
	Ma H-J	aximum number of ARQ transmission		-				1		
	Num	ber of HS-SCCH s to be monitored	et	-		1				
	C	QI feedback cycle		ms	6	2				
	CC	QI repetition factor		-		1				
	HS-	DSCH transmissio pattern	n	-		iXOOXOOXî to incorporate inter-TTI= UEs, where iXî indicates TTI in which H PDSCH is allocated to the UE, and iC indicates TTI, in which HS-PDSCH is r allocated to the UE. <u>The HS-DSCH sh</u> <u>be transmitted continuously with consta</u> power.				e inter-TTI=3 T in which HS- UE, and ìOî PDSCH is not <u>S-DSCH shall</u> with constant
	Note1	1: Measuremen	t powe	ower offset $i\Gamma\hat{i}$ is configured by RRC accordingly and as defined						
	Note2: TF for HS-PDSCH is configured according to the reported CQI statistics. TF based on median CQI, median CQI -1, median CQI+2 are used. Other physi channel parameters are configured according to the CQI mapping table described in TS25.214							atistics. TF Other physical I table		

Table 9.3.1.1: Test Parameter for CQI: categories 1-6

Parameter	U	Init	Test 1	est 1 Tes		t 2 Test 3						
	<b>À</b> <sub>or</sub> /	I <sub>oc</sub>	dB			0		5	10			
	Io	с	dBm/3.84 l	MHz		-6						
	Phase re	Phase reference - P-CP					PICH					
	HS-PDSCH	$E_{c} / I_{or}$ (*)	dB					-3				
	HS-SCCH	<b>1</b> $E_c / I_{or}$	dB				-	10	)			
	DPCH	$E_c / I_{or}$	dB				-	10				
	Maximum r H-ARQ trai	number of nsmission	-					1				
	Number of set to be n	HS-SCCH nonitored	-		1							
	CQI feedb	ack cycle	ms		2							
	CQI repetit	tion factor	-		1							
	HS-DSCH tr patte	ansmission ern	sion					licates TTI in ated to the n which HS- the UE. <u>The</u> <u>asmitted</u> nt power.				
	<ul> <li>Note1: Measurement power offset ìΓî is configured by RRC accordingly and as defined in [8].</li> <li>Note2: TF for HS-PDSCH is configured according to the reported CQI statistics. TF based on median CQI, median CQI -1, median CQI+2 are used. Other physical channel parameters are configured according to the CQI mapping table described in TS25.214</li> </ul>							and as				
								atistics. TF Other mapping				

Table 9.3.1.2: Test Parameter for CQI: categories 11,12

The reference for this requirement is TS 25.101 [1] clauses 9.3.1.1 and 9.3.1.2.

#### 9.3.1.3 Test purpose

To verify the UE receiver is capable of reporting the channel quality indicator (CQI) under AWGN by the reporting variance and the BLER performance using the transport format indicated by the reported CQI median such that CQI reported by the UE falls within the acceptable range.

#### 9.3.1.4 Method of test

#### 9.3.1.4.1 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.

- 1. Connect SS and an AWGN noise source to the UE antenna connector as shown in figure A.10.
- 2. Set Ack/Nack handling at the SS such that regardless of the response from the UE (Ack, Nack or DTX) new data is sent each time, this is because HARQ transmissions are set to one, i.e. no re-transmission of failed blocks.

#### 9.3.1.4.2 Procedure

- 1) Set up an HSDPA call according to TS 34.108 [3] clause 7.3.6.3. Set test conditions according to test 1 according table 9.3.2.1 (Category 1-6) or 9.3.2.3 (Category 11,12).
- 2) Set test conditions according to test 1 according table 9.3.1.1
- Note: the following part of the procedure will test, if the UE reports a limited range of CQI values under the predefined channel conditions.
- 3) The SS shall send TF according to CQI value [16] and keep it regardless of the CQI value, sent by the UE. For any HSDPA block, transmitted by the SS, record the received CQI value. Continue transmission and CQI collection up to [2000]
- 4) Set up a relative frequency distribution for the CQI-values, reported. Calculate the median value (Median CQI is the CQI that is at or crosses 50% distribution). This CQI-value is declared as Median CQI value,
- 5) If [1800] or more of the CQI values are in the range (Median CQI 2)  $\leq$  Median CQI  $\leq$  (Median CQI + 2) then continue with step(7), otherwise fail the UE.
- Note: the following part of the procedure will test, if BLER versus CQI has the correct sense.
- 6) The SS shall transmit the TF according to the median-CQI value and shall not react on the UEís CQI value. For any HSDPA block, transmitted by the SS, record ACK, NACK or DTX

Upon a transmissio	on:
ACK received	$\rightarrow$ record a success,
NACK received	$\rightarrow$ record a fail
DTX received	$\rightarrow$ record a fail

Continue transmission and ACK, NACK and DTX collection up to [1000] times

If the ratio (No of fails / No of fails + successes) < 0.1 then goto (7), otherwise goto (8)

7) The SS shall transmit the TF according to the median-CQI+2 value and shall not react on the UEís CQI value. For any HSDPA block, transmitted by the SS, record ACK, NACK or DTX

Upon a transmissio	n:
ACK received	$\rightarrow$ record a success,
NACK received	$\rightarrow$ record a fail
DTX received	$\rightarrow$ record a fail

. .

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• •

Continue transmission and ACK, NACK and DTX collection up to [1000] times

If the ratio (No of fails / No of fails + successes) > 0.1

then pass the UE, otherwise fail the UE

8) The SS shall transmit the TF according to the median-CQI-1 value and shall not react on the UEís CQI value. For any HSDPA block, transmitted by the SS, record ACK, NACK or DTX

Upon a transmission	n:
ACK received	$\rightarrow$ record a success,
NACK received	$\rightarrow$ record a fail
DTX received	$\rightarrow$ record a fail

Continue transmission and ACK, NACK and DTX collection up to [1000] times

If the ratio (No of fails / No of fails + successes) < 0.1

then pass the UE, otherwise fail the UE.

Note: The statistical selectivity based on [1000] samples is not sufficient to distinguish between BLER < 0.1 and > 0.1. However, it is assumed that the following differences

[true BLER on Median CQI - true BLER on (Median CQI + 2)] and [true BLER on Median CQI - true BLER on (Median CQI - 1)]

are large enough to exceed the statistical uncertainty and hence the measurement can indicate the correct sense of BLER.

9) Repeat the same procedure (3 to 8) with test conditions according to the table 9.3.1.1 and table 9.3.1.2 for the other tests:

Category 1-6: Test 2 and Test 3 Category 11,12: Test 1 and Test 2

#### 9.3.1.5 Test Requirements

The pass fail decision is already described in the test procedure 9.3.1.4.2. No setting test tolerances are applied to the test parameters.

## 9.3.2 Fading Propagation Conditions

#### 9.3.2.1 Definition and applicability

The reporting accuracy of the channel quality indicator (CQI) under fading environments is determined by the BLER performance using the transport format indicated by the reported CQI median.

In calculating BLER, for an HARQ process, if an odd number of consecutive DTXs are reported, the corresponding packets and one subsequent packet shall be discarded from BLER calculation. If an even number of consecutive DTXs are reported, the corresponding packets shall be discarded from BLER calculation.

The requirements and the test case apply to all types of UTRA for the FDD UE that supports HSDPA.

#### 9.3.2.2 Minimum requirements

For the parameters specified in Table 9.3.2.1, the requirements are specified in terms of maximum BLERs at particular reported CQIs when transmitting a fixed transport format given by the CQI median as shown in Table 9.3.2.2.. The BLER at a particular reported CQI is obtained by associating a particular CQI reference measurement period with HS-PDSCH subframe overlapping with the end of this CQI reference measurement period and calculating the fraction of erroneous HS-PDSCH subframes.

Parameter	Unit		Test 1	Test 2		
	HS-PDSCH $E_c / I_{or}$ (*)		dB	-8	-4	
	$\dot{P}_{or} / I_{oc}$		dB	0	5	
	I <sub>oc</sub>		dBm/3.84 MHz	-	60	
	Phase reference		-	P-C	PICH	
	HS-SCCH_1 $E_c/I_{or}$		dB	-4	3.5	
	DPCH $E_c / I_{or}$		dB		-6	
	Maximum number of H-ARQ transmission	:	-		1	
	Number of HS-SCCH s to be monitored	set	-		1	
	CQI feedback cycle		ms		2	
	CQI repetition factor		-		1	
	HS-DSCH transmissio pattern	'n	-	iÖ.XOOXOOXÖ.î to incorporate inter-TTI=3 UEs, where iXî indicate TTI in which HS-PDSCH is allocate to the UE, and iOî indicates TTI in which HS-PDSCH is not allocated to the UE. <u>The HS-DSCH shall be</u> <u>transmitted continuously with</u> <u>constant power</u>		
	Propagation Channel			Case 8		
	Note1: Measuremer defined in [7] Note2: TF for HS-PE TF based on configured at	nt po DSC mea	Nower offset $\Gamma \Gamma$ is configured by RRC accordingly and as CH is configured according to the reported CQI statistics. edian CQI is used. Other physical channel parameters are			
	Note2: TF for HS-PE TF based on configured a	DSC mea	H is configured according to the reported CQI statistics. dian CQI is used. Other physical channel parameters are ding to the CQI maping table described in TS25.214			

Table 9.3.2.1:	Test	Parameters for	or C	CQI test	in	fading:	categories	1-6
	1000	i urumeters it				ruunig.	outegoines	

Penarted COI	Maximu	Maximum BLER		
Reported Cal	Test 1	Test2		
	CQI median	60%	60%	
	CQI median + 3	15%	15%	

l

Table 9.3.2.2: Minimum requirement for CQI test in fading for categories 1-6

For the parameters specified in Table 9.3.2.3, the requirements are specified in terms of BLERs at particular reported CQIs when a fixed transport format given by CQI median as shown in Table 9.3.2.4. The BLER at a particular reported CQI is obtained by associating a particular CQI reference measurement period with HS-PDSCH subframe overlapping with the end of this CQI reference measurement period and calculating the fraction of erroneous HS-PDSCH subframes.

Table 9.3.2.3: Test Parameters for CQI test in fading: categories 11-12

Parameter	Unit	-	Test 1	Test 2	2	
	HS-PDSCH $E_c / I_{or}$	(*)	d	В	-8	-4
	$\check{P}_{or} / I_{oc}$		d	В	0	5
	I <sub>oc</sub>		dBm/3.	84 MHz	-6	60
	Phase reference	)		-	P-CF	PICH
	HS-SCCH_1 $E_c/$	or	d	В	-8	.5
	DPCH $E_c / I_{or}$		d	В	-	6
	Maximum number H-ARQ transmiss	of on	-	-	-	I
	Number of HS-SCC to be monitored	H set		-	-	I
	CQI feedback cyc	le	r	IS	2	2
	CQI repetition fac	or		-		
	HS-DSCH transmis pattern	sion		-	iÖ.XOOXO incorporate UEs, wl indicates T HS-PDSCH to the UE indicates E which the H is not alloc UE. The H shall be tr continuo constant	DOXÖ .î to inter-TTI=3 nere ìXî TI in which is allocated and ìOî DTX_TTI, in IS-PDSCH ated to the IS-DSCH ansmitted usly with power.
	Propagation Chan	nel			Cas	se 8
	Note1: Measuren according Note2: TF for HS	ent po y and PDSC	power offset ì Γî is configured by RRC d as defined in [7] SCH is configured according to the reported			IRC reported
	CQI statis physical c CQI mapir	CQI statistics. TF based on median CQI is used. Other physical channel parameters are configured according to the CQI maping table described in TS25.214				

Table 9.3.2.4: Minimum requirement for CQI test in fading for categories 11-12

Boportod COI	Maximum BLER			
Reported CQI	Test 1	Test 2		
CQI median	60%	60%		
CQI median + 3	15%	15%		

The reference for this requirement is TS 25.101 [1] clauses 9.3.2.1 and 9.3.2.2.

#### 9.3.2.3 Test purpose

To verify that the UE receiver is capable of reporting the channel quality indicator (CQI) under fading propagation conditions. When using the transport format indicated by the reported CQI median BLER shall meet the test requirements specified in tables 9.3.2.2 and 9.3.2.4.

#### 9.3.2.4 Method of test

#### 9.3.2.4.1 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.

- 1) Connect SS, multipath fading simulator and an AWGN noise source to the UE antenna connector as shown in figure A.10.
- 2) Set Ack/Nack handling at the SS such that regardless of the response from the UE (Ack, Nack or DTX) new data is sent each time, this is because HARQ transmissions are set to one, i.e. no re-transmission of failed blocks.

#### 9.3.2.4.2 Procedure

- 1) Set up an HSDPA call according to TS 34.108 [3] clause 7.3.6.3. Set test conditions according to test 1 according table 9.3.2.1 (Category 1-6) or 9.3.2.3 (Category 11,12).
- 2) For an HSDPA block, transmitted by the SS, record the equivalent CQI value. SS shall not react on UEís reported CQI value, only record the reported CQI value.
- 3) Repeat step 2 up to [2000] times.
- 4) Set up a relative frequency distribution for the CQI-values, reported. Calculate the median value (Median CQI is the CQI that is at or crosses 50% distribution). This CQI-value is declared as Median CQI value,
- 5) The SS shall transmit the TF according to the median-CQI value and shall not react on the UEís reported CQI value.
- 6) Measure BLER as described below. Continue measuring BLER until [1000] events (ACK or NACK discarded DTXs not included) has occurred for each R1 and R2.

In the test there are two BLER requirements to be tested:

R1: HSDPA block with corresponding reported CQI = Median CQI	BLER < 60%
R2: HSDPA block with corresponding reported $CQI = Median CQI + 3$	BLER < 15%

For any HSDPA block, transmitted by the SS, record ACK/NACK value (ACK, NACK or DTX) and the corresponding CQI report. These values are combined to obtain the BLER (Figure 9.3.2.1).



Figure 9.3.2.1 Combination of ACK/NACK message and the CQI report for BLER calculation

Upon a transmission:

CQI with ACK received  $\rightarrow$  record a success,

CQI with NACK received  $\rightarrow$  record a fail

In calculating BLER, for an HARQ process, if an odd number of consecutive DTXs are reported, the corresponding packets and one subsequent packet shall be discarded from BLER calculation. If an even number of consecutive DTXs are reported, the corresponding packets shall be discarded from BLER calculation

Repeat the same procedure with test conditions according to the table 9.3.2.1 and table 9.3.2.3 for the other tests:

Category 1-6: Test 2 of table 9.3.2.1

Category 11,12: Test 2 of table 9.3.2.3

#### 9.3.2.5 Test Requirements

The measured BLER shall not exceed values specified in tables 9.3.2.2 and 9.3.2.4.

No setting test tolerance is applied to the test parameters.

## 9.4 HS-SCCH Detection Performance

#### 9.4.1 Definition and applicability

The detection performance of the HS-SCCH is determined by the probability of event  $E_m$ , which is declared when the UE is signalled on HS-SCCH-1, but DTX is observed in the corresponding HS-DPCCH ACK/NACK field. The probability of event  $E_m$  is denoted  $P(E_m)$ .

The requirements and this test apply to all types of UTRA for FDD UE that support HSDPA.

## 9.4.2 Minimum requirements

For the parameters specified in Table 9.4.2, for each value of HS-SCCH-1  $E_c/I_{or}$  specified in Table 9.4.3 the measured  $P(E_m)$  shall be less than or equal to the corresponding specified value of  $P(E_m)$ .

Parameter	Unit	Test 1	Test 2	Test 3		
I <sub>oc</sub>	dBm/3.84 MHz		-60			
Phase reference	-		P-CPICH			
P-CPICH $E_c / I_{or}$ (*)	dB		-10			
HS-SCCH UE Identity		HS-SCC	H-1: 101010101	0101010		
$(x_{ue,1}, x_{ue,2}, \ddot{O}, x_{ue,16})$		(UE under test addressed solely via HS-				
		HS-SCCH-2: 0001001010101010				
		HS-SCCH-3: 0001101010101010				
		HS-SCCH-4: 0001111110101010				
HS-DSCH TF of UE1		TF c	orresponding to	CQI1		
HS-SCCH-1 TTI Transmission	-	ìÖ XOOXOO>	(Ö î, where ìXî i	ndicates TTI in		
Pattern		which HS-SCCH-1 signals the UE, and ìOî				
		indicates no signalling TTI, in which the HS-				
		SCCH_1 is not allocated to the UE. All HS-				
		SCCHis sha	II be transmitted	<u>continuously</u>		
		wi	<u>th constant pow</u>	<u>/er</u> .		

Table 9.4.2: Test parameters for HS-SCCH detection

Table 9.4.3: Test requirement for HS-SCCH detection

Test	Propagation	Reference value				
Number	Conditions	HS-SCCH-1 $E_c/I_{or}$ (dB)	$\check{P}_{or} / I_{oc}$ (dB)	$P(E_m)$		
1	PA3	-9	0	0.05		
2	PA3	-9.9	5	0.01		
3	VA30	-10	0	0.01		

The reference for this requirement is TS 25.101 [1] clause 9.4.1.

#### 9.4.2.1 Test purpose

To verify that  $P(E_m)$  does not exceed a specified limit.

#### 9.4.2.2 Method of test

#### 9.4.2.2.1 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 noise source to the UE antenna connector as shown in figure A.16.
- 2. Set the test parameters for test 1-3 as specified in table 9.4.4 and 9.4.5. Setup fading simulators as fading condition, which are described in table D.2.2.1A. Power of downlink channels is defined in table E.5.4.

#### 9.4.2.2.2 Procedure

1. The UE is switched on.

- 2. An RRC connection is set-up according to the generic HSDPA set-up procedure specified in TS 34.108 [3].
- 3. Count the number of NACK, ACK and DTX on the UL HS-DPCCH during the test interval and decide pass or fail according to Annex F.6.1. NACK and ACK are counted as a pass and DTX is counted as a failure.

#### 9.4.2.3 Test Requirements

The parameters and requirements are specified in tabless 9.4.2 and 9.4.3. The probability of event  $E_m$  denoted as  $P(E_m)$  (test procedure step 3) shall not exceed a specified value.

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.

# C.8 DL reference channel parameters for HSDPA tests

C.8.1 Fixed Reference Channel (FRC)

## C.8.1.1 Fixed Reference Channel Definition H-Set 1

#### Table C.8.1.1: Fixed Reference Channel H-Set 1

Parameter	Unit	Va	lue		
Nominal Avg. Inf. Bit Rate	kbps	534	777		
Inter-TTI Distance	TTlís	3	3		
Number of HARQ Processes	Proces	2	2		
	ses	2	2		
Information Bit Payload ( $N_{INF}$ )	Bits	3202	4664		
Number Code Blocks	Blocks	1	1		
Binary Channel Bits Per TTI	Bits	4800	7680		
Total Available SMLis in UE	SMLís	19200	19200		
Number of SMLis per HARQ Proc.	SMLís	9600	9600		
Coding Rate		0.67	0.61		
Number of Physical Channel Codes	Codes	5	4		
Modulation		QPSK	16QAM		
Note: The HS-DSCH shall be transmitted continuously with constant					
power but only every third TTI shall be all	ocated to t	ne UE und	er test		

Inf. Bit Payload	3202				
CRC Addition	3202	24 CRC			
Code Block Segmentation	3226				
Turbo-Encoding (R=1/3)			9678		12 Tail Bits
1st Rate Matching			9600		
<b>RV</b> Selection		4800		]	
Physical Channel Segmentation	960				

#### Figure C.8.1: Coding rate for Fixed reference Channel H-Set 1 (QPSK)

Inf. Bit Payload	4664	]			
CRC Addition	4664	24 CRC			
Code Block Segmentation	4688				
Turbo-Encoding (R=1/3)			14064		12 Tail Bits
1st Rate Matching			9600		
RV Selection		7680		]	
Physical Channel Segmentation	1920				

### Figure C.8.2: Coding rate for Fixed reference Channel H-Set 1 (16 QAM)

## C.8.1.2 Fixed Reference Channel Definition H-Set 2

Parameter	Unit	Va	lue
Nominal Avg. Inf. Bit Rate	kbps	801	1166
Inter-TTI Distance	TTlís	2	2
Number of HARQ Processes	Processes	3	3
Information Bit Payload ( $N_{\rm INF}$ )	Bits	3202	4664
Number Code Blocks	Blocks	1	1
Binary Channel Bits Per TTI	Bits	4800	7680
Total Available SMLis in UE	SMLís	28800	28800
Number of SMLis per HARQ Proc.	SMLís	9600	9600
Coding Rate		0.67	0.61
Number of Physical Channel Codes	Codes	5	4
Modulation		QPSK	16QAM
Note: The HS-DSCH shall be transr power but only every second TTI shal	nitted continuous	<u>sly with cor</u> the UE un	<u>nstant</u> der test

Table C.8.1.2: Fixed	Reference	Channel	H-Set 2
----------------------	-----------	---------	---------

Inf. Bit Payload	3202				
CRC Addition	3202	24 CRC			
Code Block Segmentation	3226				
Turbo-Encoding (R=1/3)			9678		12 Tail Bits
1st Rate Matching			9600		
<b>RV</b> Selection		4800		]	
Physical Channel Segmentation	960				



Inf. Bit Payload	4664	]			
CRC Addition	4664	24 CRC			
Code Block Segmentation	4688				
Turbo-Encoding (R=1/3)			14064		12 Tail Bits
1st Rate Matching			9600		
RV Selection		7680		]	
Physical Channel Segmentation	1920				

### Figure C.8.4: Coding rate for Fixed Reference Channel H-Set 2 (16QAM)

## C.8.1.3 Fixed Reference Channel Definition H-Set 3

Parameter	Unit	Va	lue
Nominal Avg. Inf. Bit Rate	kbps	1601	2332
Inter-TTI Distance	TTlís	1	1
Number of HARQ Processes	Processes	6	6
Information Bit Payload ( $N_{INF}$ )	Bits	3202	4664
Number Code Blocks	Blocks	1	1
Binary Channel Bits Per TTI	Bits	4800	7680
Total Available SMLís,in UE	SMLís	57600	57600
Number of SMLis per HARQ Proc.	SMLís	9600	9600
Coding Rate		0.67	0.61
Number of Physical Channel Codes	Codes	5	4
Modulation		QPSK	16QAM

Table C.8.1.3: Fixed Reference	<b>Channel H-Set 3</b>
--------------------------------	------------------------

Inf. Bit Payload	3202					
CRC Addition	3202	24 CRC				
Code Block Segmentation	3226					
Turbo-Encoding (R=1/3)			9678		12	Tail Bits
1st Rate Matching			9600			
RV Selection		4800		]		
Physical Channel Segmentation	960					



Inf. Bit Payload	4664	]		
CRC Addition	4664	24 CRC		
Code Block Segmentation	4688			
Turbo-Encoding (R=1/3)			14064	12 Tail Bits
1st Rate Matching			9600	
RV Selection		7680		
Physical Channel Segmentation	1920			

#### Figure C.8.6: Coding rate for Fixed reference Channel H-Set 3 (16QAM)

## C.8.1.4 Fixed Reference Channel Definition H-Set 4

	Parameter		Init	Value	
Г	Nominal Avg. Inf. Bit Bate	kbps	534	Value	
	Inter-TTI Distance	TTIís	2		
	Number of HARQ Processes	Processes	2		
	Information Bit Payload ( $N_{INF}$ )	Bits	3202		
	Number Code Blocks	Blocks	1		
	Binary Channel Bits Per TTI	Bits	4800		
	Total Available SMLís in UE	SMLís	14400		
	Number of SMLis per HARQ Proc.	SMLís	7200		
(	Coding Rate		0.67		
	Number of Physical Channel Codes	Codes	5		
	Modulation		QPSK		
Inf. Bit Payl	oad	DSCH is transm hich the HS-PDS SCH shall be trai	Inted to SCH is nsmitted		
Code Bloc	sk 3226				
Segmentati	ion				
Turbo-Encodi (R=1/3)	ing	9678			12 Tail Bits
1st Rate Match	hing 7200				
RV Selection	on 4800				
Physical Channe Segmentation	960				

#### Table C.8.1.4: Fixed Reference Channel H-Set 4



## C.8.1.5 Fixed Reference Channel Definition H-Set 5

Parameter		U	nit	Value
Nominal Avg. Inf. Bit Rate	kbp	)S	801	
Inter-TTI Distance	TTI	ís	1	
Number of HARQ Processes	Proce	sses	3	
Information Bit Payload ( $N_{\rm INF}$ )	Bit	s	3202	
Number Code Blocks	Bloc	ks	1	
Binary Channel Bits Per TTI	Bit	s	4800	
Total Available SMLís in UE	SMI	_ís	28800	
Number of SMLis per HARQ Proc.	SMI	_ís	9600	
Coding Rate			0.67	
Number of Physical Channel Codes	Cod	es	5	
Modulation			QPSK	
Note: This test case verifies the minimur	n inter-TTI	distan	ce and	
therefore HS-PDSCH transmissior Ö 00XXX000XXXÖ ,	n shall be a	as follov	vs:	
where & í marks TTI in which HS-P	DSCH is a	llocated	d to the	
UE and ė́)í marks <del>DTX<u>TTI, in whic</u></del>	h the HS-I	PDSCH	l is not	
allocated to the UE. The HS-DSCI	I shall be t	transmi	<u>tted</u>	
continuously with constant power.				

#### Table C.8.1.5: Fixed Reference Channel H-Set 5

Inf. Bit Payload	3202			
CRC Addition	3202	24 CRC		
Code Block Segmentation	3226			
Turbo-Encoding (R=1/3)			9678	12 Tail Bits
1st Rate Matching			9600	
RV Selection		4800		
Physical Channel Segmentation	960			

#### Figure C.8.8: Coding rate for Fixed Reference Channel H-Set 5

## E.5 HSDPA DL Physical channels

## E.5.1 Downlink Physical Channels connection set-up

Table E.5.1 is applicable for the measurements for tests in subclause 9.2.1 and 9.3. Table E.5.2 is applicable for the measurements for tests in subclause 9.2.2. Table E.5.3 is applicable for the measurements for tests in subclause 9.2.3. Table E.5.4 is applicable for the measurements for tests in subclause 9.4.

Table E.5.1: Downlink physical channels for HSDPA receiver testing for Single Link
performance.

Physical Channel	Parameter	Value	Note
P-CPICH	P-CPICH_Ec/lor	-10dB	
P-CCPCH	P-CCPCH_Ec/lor	-12dB	Mean power level is shared with SCH.
SCH	SCH_Ec/lor	-12dB	Mean power level is shared with P-CCPCH ñ SCH includes P- and S-SCH, with power split between both. P-SCH code is S_dl,0 as per [14] S-SCH pattern is scrambling code group 0
PICH	PICH_Ec/lor	-15dB	
DPCH	DPCH_Ec/lor	Test-specific	12.2 kbps DL reference measurement channel as defined in Annex C.3.1
HS-SCCH_1	HS-SCCH_Ec/lor	Test-specific	Specifies fraction of Node-B radiated power transmitted when TTI is active (i.e. due to minimum inter-TTI interval). <u>During TTIs, in which</u> <u>the HS-SCCH is not allocated to the UE the HS-</u> <u>SCCH shall be transmitted continuously with</u> <u>constant power.</u>
HS-SCCH_2	HS-SCCH_Ec/lor	DTXíd	No signalling scheduled, or power radiated, on this HS-SCCH, but signalled to the UE as present.
HS-SCCH_3	HS-SCCH_Ec/lor	DTXíd	As HS-SCCH_2.
HS-SCCH_4	HS-SCCH_Ec/lor	DTXíd	As HS-SCCH_2.
HS-PDSCH	HS-PDSCH_Ec/lor	Test-specific	
OCNS		Necessary power so that total transmit power spectral density of Node B (lor) adds to one	OCNS interference consists of 6 dedicated data channels as specified in table E.5.5

## Table E.5.2: Downlink physical channels for HSDPA receiver testing for Open Loop Transmit Diversity performance.

Physical Channel	Parameter	Value	Note
P-CPICH (antenna 1)	P-CPICH_Ec1/lor	-13dB	1. Total P-CPICH_Ec/lor = -10dB
P-CPICH (antenna 2)	P-CPICH_Ec2/lor	-13dB	
P-CCPCH (antenna 1)	P-CCPCH_Ec1/lor	-15dB	1. STTD applied.
P-CCPCH (antenna 2)	P-CCPCH_Ec2/lor	-15dB	2. Total P-CCPCH Ec/lor is n12dB.
SCH (antenna 1/2)	SCH_Ec/lor	-12dB	1. TSTD applied. 2. Power divided equally between primary and secondary SCH.
PICH (antenna 1)	PICH Ec1/lor	-18dB	1. STTD applied.
PICH (antenna 2)	PICH Ec2/lor	-18dB	2. Total PICH Ec/lor is ñ15dB.
DPCH	DPCH_Ec/lor	Test-specific	1. STTD applied.
HS-SCCH_1	HS-SCCH_Ec/lor	Test-specific	<ol> <li>STTD applied.</li> <li>Specifies fraction of Node-B radiated power transmitted when TTI is active (i.e. due to minimum inter-TTI interval). <u>During</u> <u>TTIs, in which the HS-SCCH_1 is not</u> <u>allocated to the UE, the HS-SCCH_1 shall</u> <u>be transmitted continuously with constant</u> <u>power.</u></li> </ol>
HS-SCCH_2	HS-SCCH_Ec/lor	DTXíd	<ol> <li>UE assumes STTD applied.</li> <li>No signalling scheduled, or power radiated, on this HS-SCCH, but signalled to the UE as present.</li> </ol>
HS-SCCH_3	HS-SCCH_Ec/lor	DTXíd	1. As HS-SCCH_2.
HS-SCCH_4	HS-SCCH_Ec/lor	DTXíd	2. As HS-SCCH_2.
HS-PDSCH	HS-PDSCH_Ec/lor	Test-specific	1. STTD applied.
OCNS		Necessary power so that total transmit power spectral density of Node B (lor) adds to one	1. STTD applied.2. Balance of power $I_{or}$ of the Node-B isassigned to OCNS.3. Power divided equally between antennas.

## Table E.5.3: Downlink physical channels for HSDPA receiver testing for Closed LoopTransmit Diversity (Mode-1) performance.

Physical Channel	Parameter	Value	Note
P-CPICH (antenna 1)	P-CPICH_Ec1/lor	-13dB	1. Total P-CPICH_Ec/lor = -10dB
P-CPICH (antenna 2)	P-CPICH_Ec2/lor	-13dB	
P-CCPCH (antenna 1)	P-CCPCH_Ec1/lor	-15dB	1. STTD applied.
P-CCPCH (antenna 2)	P-CCPCH_Ec2/lor	-15dB	2. Total P-CCPCH Ec/lor is n12dB.
SCH (antenna 1/2)	SCH_Ec/lor	-12dB	1. TSTD applied. 2. Power divided equally between primary and secondary SCH.
PICH (antenna 1)	PICH Ec1/lor	-18dB	1. STTD applied.
PICH (antenna 2)	PICH_Ec2/lor	-18dB	2. Total PICH Ec/lor is ñ15dB.
DPCH	DPCH_Ec/lor	Test-specific	1. CL1 applied.
HS-SCCH_1	HS-SCCH_Ec/lor	Test-specific	<ol> <li>[TBD] applied.</li> <li>Specifies fraction of Node-B radiated power transmitted when TTI is active (i.e. due to minimum inter-TTI interval). <u>During</u> <u>TTIs, in which the HS-SCCH_1 is not</u> <u>allocated to the UE, the HS-SCCH_1 shall</u> <u>be transmitted continuously with constant</u> <u>power.</u></li> </ol>
HS-SCCH_2	HS-SCCH_Ec/lor	DTXíd	<ol> <li>UE assumes [TBD] applied.</li> <li>No signalling scheduled, or power radiated, on this HS-SCCH, but signalled to the UE as present.</li> </ol>
HS-SCCH_3	HS-SCCH_Ec/lor	DTXíd	1. As HS-SCCH_2.
HS-SCCH_4	HS-SCCH_Ec/lor	DTXíd	2. As HS-SCCH_2.
HS-PDSCH	HS-PDSCH_Ec/lor	Test-specific	1. CL1 applied.
OCNS		Necessary power so that total transmit power spectral density of Node B (lor) adds to one	<ol> <li>STTD applied.</li> <li>Balance of power <i>I<sub>or</sub></i> of the Node-B is assigned to OCNS.</li> <li>Power divided equally between antennas.</li> </ol>

## Table E.5.4: Downlink physical channels for HSDPA receiver testing for HS-SCCH detection performance

Parameter	Units	Value	Comment
CPICH E <sub>c</sub> / I <sub>or</sub>	DB	-10	
CCPCH $E_c / I_{or}$	DB	-12	Mean power level is shared with SCH.
SCH E <sub>c</sub> / I <sub>or</sub>	DB	-12	Mean power level is shared with P- CCPCH ñ SCH includes P- and S-SCH, with power split between both. P-SCH code is S_dl,0 as per [14] S-SCH pattern is scrambling code group 0
PICH $E_c / I_{or}$	DB	-15	
HS-DSCH-1 $E_c / I_{or}$	DB	-10	HS-DSCH associated with HS-SCCH-1. <u>The HS-DSCH shall be transmitted</u> continuously with constant power.
HS-DSCH-2 $E_c / I_{or}$	DB	DTX	HS-DSCH associated with HS-SCCH-2
HS-DSCH-3 $E_c / I_{or}$	DB	DTX	HS-DSCH associated with HS-SCCH-3
HS-DSCH-4 $E_c / I_{or}$	DB	DTX	HS-DSCH associated with HS-SCCH-4
DPCH $E_c / I_{or}$	DB	-8	12.2 kbps DL reference measurement channel as defined in Annex C.3.1
HS-SCCH-1 $E_c / I_{or}$	DB	Test Specific	All HS-SCCHís allocated equal $E_c/I_{or}$ .
HS-SCCH-2 $E_c / I_{or}$	DB		Specifies $E_c / I_{or}$ when TTI is active.
HS-SCCH-3 $E_c / I_{or}$	DB		During TTIs, in which the HS-SCCHis
HS-SCCH-4 $E_c / I_{or}$	DB		SCCHis shall be transmitted continuously with constant power.
OCNS $E_c / I_{or}$	DB	Remaining power at Node-B (including HS- SCCH power allocation when HS-SCCHís inactive).	OCNS interference consists of 6 dedicated data channels as specified in table E.5.5

## E.5.2 OCNS Definition

The selected channelization codes and relative power levels for OCNS transmission during for HSDPA performance assessment are defined in Table E.5.5. The selected codes are designed to have a single length-16 parent code.

Table E.5.5: OCNS definition for HSDF	PA receiver testing
---------------------------------------	---------------------

Channelization Code at SF=128	Relative Level setting (dB)	DPCH Data
2	-6	The DPCH data for each
3	-8	channelization code shall be
4	-8	uncorrelated with each other and
5	-10	with any wanted signal over the
6	-7	period of any measurement.
7	-9	

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For <u>HELP</u> or	For <u>HELP</u> on using this form, see bottom of this page or look at the pop-up text over the $\frac{3}{8}$ symbols.							
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Reason for change: 🕷	a)	In-complete test case procedure.
	b)	Incorrect measurement control message.
	c)	Measurement release message not sent before re-sending the measurement control message.
	d)	Events in the measurement report messages not specified.
Summary of change: 🔀	a)	Clarified test procedure for event types reported in the measurement report messages.
	b)	Specified the measurement release message and corrected the procedure section for sending it.
	c)	Added PSC to Primary CPICH info in ACTIVESET UPDATE messages.
	d)	Moved 2) of Initial conditons to 1. of test procedure.
	e)	Made some editorial changes in test procedure.
Consequences if not approved:	Test ca	ase cannot be correctly implemented with the current specification.
Clauses affected: #	8.5.1	
	YN	
Other specs 🛛 🖁	X	Other core specifications 🛛 🔀
affected:	X	Test specifications

	X O&M Specifications	
Other comments:	æ	

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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.

## 8.5.1 UE Transmit Timing

#### 8.5.1.1 Definition and applicability

The UE transmit timing is defined as the timing of the uplink DPCCH/DPDCH frame relative to the first detected path (in time) of the corresponding downlink DPCCH/DPDCH frame from the reference cell. The reference point is the antenna connector of the UE.

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

#### 8.5.1.2 Minimum requirements

The UE transmission timing error shall be less than or equal to  $\pm 1.5$  chips. The reference point for the UE initial transmit timing control requirement shall be the time when the first detected path (in time) of the corresponding downlink DPCCH/DPDCH frame is received from the reference cell plus T<sub>0</sub> chips. T<sub>0</sub> is defined in TS25.211 [19].

When the UE is not in soft handover, the reference cell shall be the one the UE has in the active set. The cell, which is selected as a reference cell, shall remain as a reference cell even if other cells are added to the active set. In case that the reference cell is removed from the active set the UE shall start adjusting its transmit timing no later than the time when the whole active set update message is available at the UE taking the RRC procedure delay into account.

The UE shall be capable of changing the transmission timing according the received downlink DPCCH/DPDCH frame. The maximum amount of the timing change in one adjustment shall be ° chip.

The minimum adjustment rate shall be 233ns per second. The maximum adjustment rate shall be ° chip per 200 ms. In particular, within any given 800\*d ms period, the UE transmit timing shall not change in excess of  $\pm d$  chip from the timing at the beginning of this 800\*d ms period, where  $0 \le d \le 1/4$ .

The normative reference for this requirement is TS 25.133 [2] clause 7.1.2.

#### 8.5.1.3 Test purpose

The purpose of this test is to verify that the UE initial transmit timing accuracy, maximum amount of timing change in one adjustment, minimum and maximum adjustment rate are within the limits specified in 8.5.1.2.

#### 8.5.1.4 Method of test

8.5.1.4.1 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.

For this test, two cells on the same frequency are used.

The reporting of event 1A and event 1B is configured with SIB 11.

- 1) Connect the test system to the UE antenna connector as shown in figure A.1.
- 2) A call is set up with Cell 1 according to the Generic call setup procedure. The test parameters are set up according to table 8.5.1.1.

#### Table 8.5.1.1: Test parameters for UE Transmit Timing requirements

Parameter	Unit	Level
DPCH_Ec/ lor, Cell 1 and Cell 2	dB	-17
CPICH_Ec/ lor, Cell 1 and Cell 2	dB	-10
PCCPH_Ec/ lor, Cell 1 and Cell 2	dB	-12
SCH_Ec/ lor, Cell 1 and Cell 2	dB	-12
PICH Ec/ lor, Cell 1 and Cell 2	dB	-15
OCNS_Ec/ lor, Cell 1 and Cell 2	dB	-1.05
QĘ, Cell 1	dBm/3.84 MHz	-96
G፰, Cell 2	dBm/3.84 MHz	-99
Information data rate	Kbps	12.2
Relative delay of path received from cell	μs	+/-2
2 with respect to cell 1		
Propagation condition	A	WGN

#### 8.5.1.4.2 Procedure

1. A call is set up with Cell 1 according to the Generic call setup procedure. The test parameters are set up according to table 8.5.1.1.

a)2. After a connection is set up with cell 1, the test system shall verify that the UE transmit timing offset is within  $T_0 \pm 1.5$  chips with respect to the first detected path (in time) of the downlink DPCCH/DPDCH of cell 1.

b)3. Test system introduces cell 2 into the test system at delay +2  $\mu$ s from cell 1. UE transmits Measurement report message triggered by event 1A., and Test system transmits ACTIVESET UPDATE message (Radio link addition information).

e)4. Test system transmits Measurement Control message., and it <u>Test system</u> verifies that cell 2 is added to the active set.

d)5. Test system shall verify that the UE transmit timing offset is still within  $T_0 \pm 1.5$  chips with respect to the first detected path (in time) of the downlink DPCCH/DPDCH of cell 1.

e)6. Test system switches Tx timing of cell 2 to a delay of  $-2 \mu s$  with respect to cell 1.

<del>1</del><u>7</u>. Test system verifies cell 2 remains in the active set. <u>SS then sends a Measurement Control message(</u> <u>measurement release for measurement ID 2</u>)

<u>g)8.</u> Test system shall verify that the UE transmit timing offset is still within  $T_0 \pm 1.5$  chips with respect to the first detected path (in time) of the downlink DPCCH/DPDCH of cell 1.

<u>h)9.</u> Test system stops sending cell 1 signals.

<del>i)10.</del> Void

<u>j)11.</u> UE transmits Measurement report message triggered by event 1B, and Test system transmits ACTIVE SET UPDATE message (Radio link removal information). Test system verifies that UE transmit timing adjustment starts no later than the time when the whole active set update message is available at the UE taking the RRC procedure delay into account. The adjustment step size and the adjustment rate shall be according to the requirements in clause 8.5.1.2 until the UE transmit timing offset is within  $T_0 \pm 1.5$  chips with respect to the first detected path (in time) of the downlink DPCCH/DPDCH of cell 2.

k)12. Test system shall verify that the UE transmit timing offset stays within  $T_0 \pm 1.5$  chips with respect to the first detected path (in time) of the downlink DPCCH/DPDCH of cell 2.

1)13. Test system starts sending cell 1 signal again with its original timing. UE transmits Measurement report message triggered by event 1A., and Test system transmits ACTIVESET UPDATE message (Radio link addition information).

- m)14. Test system transmits Measurement Control message., and it Test system verifies that cell 1 is added to the active set. -SS then sends a Measurement Control message( measurement release for measurement ID 2).
- n)15. Test system verifies that the UE transmit timing is still within  $T_0 \pm 1.5$  chips with respect to the first detected path (in time) of the downlink DPCCH/DPDCH of cell 2.
- •)<u>16.</u>Test system stops sending cell 2 signals.
- <del>p)<u>17.</u>Void</del>.

- **q)**18.UE transmits Measurement report message triggered by event 1B, and Test system transmits ACTIVE SET UPDATE message (Radio link removal information). Test system verifies that UE transmit timing adjustment starts no later than the time when the whole active set update message is available at the UE taking the RRC procedure delay into account. The adjustment step size and the adjustment rate shall be according to the requirements in clause 8.5.1.2 until the UE transmit timing offset is within  $T_0 \pm 1.5$  chips with respect to the first detected path (in time) of the downlink DPCCH/DPDCH of cell 1.
- <u>+)19.</u> Test system shall verify that the UE transmit timing offset stays within  $T_0 \pm 1.5$  chips with respect to the first detected path (in time) of the downlink DPCCH/DPDCH of cell 1.

#### MEASUREMENT CONTROL message

Information Element	Value/Remark
Message Type	
LIE information elements	
-BBC transaction identifier	0
-Integrity check info	0
-message authentication code	SS calculates the value of MAC-I for this
moodage admonitoritoritoritoritoritoritoritoritoritor	message and writes to this IF. The first/
	leftmost bit of the bit string contains the most
	significant bit of the MAC-I.
-RRC message sequence number	SS provides the value of this IE, from its
	internal counter.
Measurement Information elements	
-Measurement Identity	+ <u>2</u>
-Measurement Command	Modify <u>Setup</u>
-Measurement Reporting Mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting	Periodical reporting
Additional measurement list	Not Procent
	Intra-frequency measurement
-Intra-frequency measurement	Initia-inequency measurement
- Intra-frequency measurement objects list	
-Intra-frequency cell info list	Not Present
-Intra-frequency measurement quantity	0
-Filter coefficient	FDD
-CHOICE mode	CPICH RSCP
-Measurement quantity	
-Intra-frequency reporting quantity	
-Reporting quantities for active set cells	
-Cell synchronisation information reporting	70115
-Cell Identity reporting indicator	
-CHOICE mode CRICH Ec/NO reporting indicator	
-CPICH BSCP reporting indicator	
-Pathloss reporting indicator	FALSE
-Reporting quantities for monitored set cells	
-Cell synchronisation information reporting	
indicator	FALSE
-Cell Identity reporting indicator	FALSE
-CHOICE mode	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
Maximum number of reported calls	Monitored set on used frequency
-waximum number of reported cells	Not Present
	Periodical reporting criteria
-Amount of reporting	Infinity
-Reporting interval	250 ms
Physical channel information elements	-
-DPCH compressed mode status info	Not Present

Information Element/Group name	Value/Remark
Message Type (10.2.17)	
UE information elements	
- RRC transaction identifier	0
- Integrity check info	
-message authentication code	SS calculates the value of MAC-I for this message and
-RRC message sequence number - Activation time - New U-BNTI	writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I. SS provides the value of this IE, from its internal counter. "now". Not Present
CN information elements	
- CN Information info	Not Present
Phy CH information elements	
Uplink radio resources	
- Maximum allowed UL TX power	33 dBm
Downlink radio resources	
- Radio link addition information	1
- Radio link addition information	
- Primary CPICH info	Adding Cell
- Primary scrambling code	Same as adding cell
- Downlink DPCH info for each RL	
- CHOICE mode	FDD
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	This should be refriected by the IE" Cell synchronisation
	information" in received MEASUREMENT REPORT
	message
- Secondary CPICH info	Not Present
- DL channelisation code	
<ul> <li>Secondary scrambling code</li> </ul>	Not Present
- Spreading factor	128
- Code number	96
- Scrambling code change	No code change
- TPC combination index	0
- SSDT Cell Identity	Not Present
<ul> <li>Closed loop timing adjustment mode</li> </ul>	Not Present
- TFCI combining indicator	FALSE
- SCCPCH Information for FACH	Not Present
- Radio link removal information	Not Present
- TX Diversity Mode	Not Present
- SSDT information	Not Present

ACTIVESET UPDATE message (Radio link removal information)

Information Element/Group name	Value/Remark
Message Type (10.2.17)	
UE information elements	
- BBC transaction identifier	0
- Integrity check info	Ŭ
- megny check into	SS calculates the value of MAC I for this message and
-message aumentication code	writes to this IE. The first/leftmest hit of the hit string
	contains the most significant bit of the MAC I
PPC mossage sequence number	S provides the value of this IF from its internal
-nno message sequence number	
Activation time	
	Not Dresset
	Not Present
CN information elements	
- CN Information info	Not Present
Phy CH information elements	
Uplink radio resources	
- Maximum allowed UL TX power	33 dBm
Downlink radio resources	
- Radio link addition information	Not Present
- Radio link removal information	1
- Primary CPICH info	Removing Cell
<ul> <li>Primary scrambling code</li> </ul>	Same as removing cell
- TX Diversity Mode	Not Present
- SSDT information	Not Present

#### Measurement Control message (measurement release)

Information Element/Group name	Value/Remark
Message Type (10.2.17)	
UE information elements	
- RRC transaction identifier	<u>0</u>
<ul> <li>Integrity check info</li> </ul>	
-message authentication code	SS calculates the value of MAC-I for this message and
<u>RRC message sequence number</u>	writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I. SS provides the value of this IE, from its internal counter.
Measurement Information elements	
-Measurement Identity	2
-Measurement Command	release

#### 8.5.1.5 Test requirements

- 1) In step  $\frac{a}{2}$ ,  $\frac{d}{5}$ , and  $\frac{a}{2}$ , UE transmit timing offset shall be within T<sub>0</sub> ±1.5 chips with respect to the first detected path (in time) of the downlink DPCCH/DPDCH of cell 1.
- In step j)11., the adjustment step size and the adjustment rate shall meet the requirements specified in 8.5.1.2 until the UE transmit timing offset is within T<sub>0</sub>±1.5 chips with respect to the first detected path (in time) of the downlink DPCCH/DPDCH of cell 2.
- 3) In step  $\frac{k}{12}$  and  $\frac{n}{15}$ , UE transmit timing offset shall be within  $T_0 \pm 1.5$  chips with respect to the first detected path (in time) of the downlink DPCCH/DPDCH of cell 2.
- 4) In step  $\frac{18}{9.18}$ , the adjustment step size and the adjustment rate shall meet the requirements specified in 8.5.1.2 until the UE transmit timing offset is within  $T_0 \pm 1.5$  chips with respect to the first detected path (in time) of the downlink DPCCH/DPDCH of cell 1.
- 5) In step  $\frac{r}{19}$ , UE transmit timing offset shall be within  $T_0 \pm 1.5$  chips with respect to the first detected path (in time) of the downlink DPCCH/DPDCH of cell 1.

- NOTE 1: The above Test Requirement differs from the Test Requirement of TS 25.133 [2] clause A7.1.2, from which the requirements for the test system are subtracted to give the above Test Requirement.
- NOTE 2: 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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For <u>HELP</u> or	n using this fo	rm, see bottom of	this page or	look at th	e pop-up text	over the <mark></mark> syr	mbols.
Proposed chang	ge affects:	UICC apps <mark>೫</mark>	MEX	Radio A	ccess Networ	k Core Ne	etwork
Title:	<b>#</b> Correctio	ns and additions t	to Release 5	RRM test	case 8.6.2.2		
Source:	睎 <mark>Rohde &amp;</mark>	Schwarz					
Work item code.	: <del>X</del>				Date: <mark></mark>	02/11/2004	
Category:	₭ F Use <u>one</u> of F (cor A (cor B (ad C (fur D (ed Detailed ex be found in	the following catego rection) rresponds to a corre dition of feature), actional modification itorial modification) planations of the ab 3GPP <u>TR 21.900</u> .	ories: ection in an ear of feature) nove categories	rlier release s can	Release: # Use <u>one</u> of Ph2 P) R96 R97 R98 R99 Rel-4 Rel-5 Rel-6 Rel-7	Rel-5 the following rele (GSM Phase 2) (Release 1996) (Release 1997) (Release 1998) (Release 1999) (Release 4) (Release 5) (Release 6) (Release 7)	eases:

Reason for change: #	a) Test Procedure needs to be completed and corrected
	<ul><li>b) Measurement control message is incorrect.</li><li>c) Compressed Mode Parameters are not specified.</li></ul>
Summary of change: <sup>88</sup>	<ul> <li>a) Added step 5 in the test procedure to transmit Physical Channel Configuration message to the UE containing Compressed Mode parameters.</li> <li>b) Fading is started in step 6.</li> <li>c) Description for the Physical Channel Configuration message is provided.</li> <li>d) Measurement Control Message is corrected.</li> </ul>
Consequences if not approved:	<ul> <li>In the current specification of this test case:</li> <li>a) It is unclear when fading will be started.</li> <li>b) No Compressed mode parameters are transmitted to the UE which may be required for Inter-frequency measurements.</li> <li>c) The Measurement Control message description does not comply with the ASN.1 coding, New Cell 3 is described in New Inter Frequency cells but is not configured in the test system.</li> </ul>
Clauses offended	
Clauses affected:	8.0.2.2
Other specs <b>#</b> affected:	Y       N         X       Other core specifications         X       Test specifications

	X O&M Specifications	
Other comments:	X         This CR applys to UEs for Release 5 and later releases.	

#### 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.

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

#### 8.6.2.2.1 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 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.

The requirements and this test apply to all types of UTRA for the FDD UE for Release 5 and later releases.

#### 8.6.2.2.2 Minimum requirements

The requirements are the same as in sub clause 8.6.2.1.2.

The normative reference for these requirements is TS 25.133 [2] clauses 8.1.2.3 and A.8.2.2.

#### 8.6.2.2.3 Test purpose

To verify that the UE meets the minimum requirements. The test is performed in fading propagation conditions.

#### 8.6.2.2.4 Method of test

#### 8.6.2.2.4.1 Initial conditions

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

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

The test parameters are given in table 8.6.2.2.4.1 and 8.6.2.2.4.2. In the measurement control information it is indicated to the UE that event-triggered reporting 2C shall be used. The test consists of two successive time periods, each with time duration of T1 and T2 respectively.

## Table 8.6.2.2.4.1: General test parameters for correct reporting of neighbours in fading propagation condition

Parameter	Unit	Value	Comment
DCH parameters		DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1
Power Control		On	
Compressed mode		A.22 set 2 (TGPL1=12)	As specified in TS 25.101 section A.5.
Active cell		Cell 1	
Absolute Threshold	dB	-18	
(Ec/N0) for Event 2C			
Hysteresis	dB	0	
Time to Trigger	ms	0	
Filter coefficient		0	
Monitored cell list		Total 24	NOTE: See Annex I for cell
size		8 on frequency Channel 2	information. The information is sent
			before the compressed mode pattern
			starts.
Propagation		Case 5	As specified in Annex B of TS 25.101.
Condition			
Frequency offset	ppm	+/- 0.1	Frequency offset between Cell 1 and Cell 2.
T1	S	2	
T2	S	40	

Parameter	Unit	Cell 1		Cel	12		
		T1	T2	T1	T2		
UTRA RF Channel Number		Chan	inel 1	Chanı	Channel 2		
CPICH Ec/lor	dB	-1	0	-1	0		
PCCPCH_Ec/lor	dB	-12 -1		-1:	2		
SCH_Ec/lor	dB	-12		-12 -1		-1:	2
PICH_Ec/lor	dB	-15		-15			
DPCH_Ec/lor	dB	Note 1		N/	Ά		
OCNS_Ec/lor	dB	Note 2 -0.941		941			
$\hat{P}_{or}/I_{oc}$	dB	(	)	-Infinity	-1.8		
I <sub>oc</sub>	dBm/3.84 MHz	-70 -70		0			
CPICH_Ec/lo	dB	-13		-Infinity	-14		
Propagation Condition	Case 5 as specifie	ed in Annex E	3 of TS25.10	)1			

#### Table 8.6.2.2.4.2: Cell specific test parameters for correct reporting of neighbours in fading propagation condition

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

#### 8.6.2.2.4.2 Procedure

- 1) The RF parameters are set up according to T1.
- 2) The UE is switched on.
- 3) A call is set up 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.

5) SS shall transmit PHYSICAL CHANNEL RECONFIGURATION message.

6) The fading simulator is switched on, configured with settings described in the tables above. T1 starts.

- 57) After 2 seconds-from the beginning of T1, the SS shall switch the power settings from T1 to T2.
- 68) UE shall transmit a MEASUREMENT REPORT message triggered by event 2C. The measurement reporting delay from the beginning of T2 shall be less than 36.4 s. 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 successful tests is increased by one.

 $\frac{79}{2}$  After 40 seconds from the beginning of T2, the UE is switched off.

**<u>810</u>**) Repeat steps 1-<u>79</u> according to Annex F.6.2 Table 6.2.8.

#### 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:

#### MEASUREMENT CONTROL message:

Information Element/Group name	Value/Remark
	Value/Remark
Message Type (10.2.17)	4
DE information elements	
-RRC transaction identifier	0
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IE. The first/
	leftmost bit of the bit string contains the
	most significant bit of the MAC-I.
-RRC message sequence number	SS provides the value of this IE, from its
	internal counter.
Measurement Information elements	
-Measurement Identity	2
-Measurement Command (10.3.7.46)	Setup
-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)	
- CHOICE Inter-frequency cell removal	Not Present
- New Inter frequency cells	
- Inter frequency cell id	0
- Frequency info	°
- CHOICE mode	FDD
- LIABECN uplink(Nu)	Not Present
- LIABECN downlink(Nd)	Same frequency as "Channel?" in Table
	86213
- Cell info	0.0.2.1.0
- Cell individual offset	Not Present
- Beference time difference to cell	Not Present
- Bead SEN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to Primary scrambling code of Cell23
- Primary CPICH Tx Power	Set to Primary CPICH Tx Power of Cell23
	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 Coll3
- Cell for measurement	Not Present
-Inter-frequency measurement quantity (10.3.7.18)	
	Inter-frequency reporting criteria
	inter requerey reporting entend
	Δ
	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/NO
-Inter-frequency reporting quantity (10.3.7.21)	
-LITBA Carrier BSSI	FALSE
-Frequency quality estimate	FALSE
-Non frequency related cell reporting quantities (10.3.7.5)	
-Cell synchronisation information reporting indicator	TBUE (Note 1)
-Cell Identity reporting indicator	
-CHOICE mode	
-CPICH Ec/NO reporting indicator	
-CPICH BSCP reporting indicator	TRUE
-Orior reporting indicator	
Poporting coll status (10.2.7.61)	
Moscurement validity (10.3.7.51)	Not Present
CHOICE report oritoria	Inter frequency measurement reporting
	critoria
	untena

Information Element/Group name	Value/Remark		
-Inter-frequency measurement reporting criteria (10.3.7.19)			
-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		
<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 25.331, 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.			

#### PHYSICAL CHANNEL RECONFIGURATION message for Inter frequency measurement:

Information Element	Value/Remark
Message Type	
UE Information Elements	
-RRC transaction identifier	<u>u</u>
-Integrity check into	SS coloulates the value of MAC. I for this
-message aumentication code	<u>SS calculates the value of MAC-1 for this</u>
	leftmost bit of the bit string contains the most
	significant bit of the MAC-I
-BBC message sequence number	SS provides the value of this IF from its
	internal counter.
-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	N I D
-UKA identity	Not Present
<u>RB information elements</u>	
-Downlink counter synchronisation into	Not Present
PhyCH Information elements	Net Dresent
-Frequency into	Not Present
Maximum allowed LIL 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	
<u> </u>	1
<u>-TGPS Status Flag</u>	Activate
	(Current CFN + (256 ñ TTI/10msec))mod 256
The second	
- I ransmission gap pattern sequence	
	EDD massurement
	Infinity
-TGSN	
-TGL1	
-TGL2	Not Present
-TGD	UNDEFINED
-TGPL1	12
-TGPL2	Not Present
<u>-RPP</u>	Mode 0
<u>-ITP</u>	Mode 0
<u>-CHOICE UL/DL mode</u>	UL and DL
-Downlink compressed mode method	SF/2
-uplink compressed mode method	<u>5F/2</u> P
-DeltaSIBafter1	3.0
-DeltaSIB2	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	
<u>-Choice mode</u>	FDD
-Primary CPICH info	
-Primary scrambling code	<u>100</u>
-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	Set to value Default DPCH Offset Value (as
	currently stored in SS) mod 38400
-Secondary CPICH info	Not Present
-DL channelisation code	
-Secondary scrambling code	Not Present
-Spreading factor	<u>128</u>
-Code number	<u>96</u>
-Scrambling code change	No code change
-TPC combination index	<u>0</u>
-SSDT Cell Identity	Not Present
<ul> <li>Closed loop timing adjustment mode</li> </ul>	Not Present
-SCCPCH Information for FACH	Not Present

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

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

#### 8.6.2.2.5 Test requirements

For the test to pass, the total number of successful tests shall be at least 90% of the cases with a confidence level of 95% According to annex F.6.2. 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.

## Tdoc **#**T1-041832

CHANGE REQUEST									
<b>H</b>	34.121 CR 453 <b>#</b> rev	Current versi	on: 5.5.0 <sup>第</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: UICC apps ME X Radio Access Network Core Network									
Title:	Measurement Channel for BLER measurement	in 8.3.1 FDD/FDD Sof	t Handover.						
Source:	Rohde & Schwarz								
I									
Work item code:	H	Date: 🔀	2/11/2004						
	,								
Category:	H F	Release: 🕱	R5						
	Use one of the following categories:	Use <u>one</u> of t	he following releases:						
	F (correction)	2	(GSM Phase 2)						
	A (corresponds to a correction in an earlier	r 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 categorie	an <i>Rel-4</i>	(Release 4)						
	be found in 3GPP <u>TR 21.900</u> .	Rel-5	(Release 5)						
		Rel-6	(Release 6)						
Reason for chang	ge: X Downlink BLER measurement cannot	be done accurately	with the standard						

Reason for change: 🔀	Downlink BLER measurement cannot be done accurately with the standard							
	Reference Measurement Channels.							
Summary of change: <sup>#</sup>	Changed reference to the DCH transport channels in table 8.3.1.1.1 to indicate Auxiliary measurement channels rather than Reference measurement channels. Added loopback command in procedure step 3							
Consequences if #	UE downlink BLER measurement will not be measured accurately if the current							
not approved:	DCH configuration is used.							
Clauses affected: #	8.3.1							
	YN							
Other specs	X Other core specifications #							
affected:	X Test specifications							
anecieu.	V rest specifications							
Other comments: #	This is a re-submission of T1-041363r1							

## 8.3 UTRAN Connected Mode Mobility

### 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 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.

If the UE have radio links in the active set that it can not use for data detection (due to low signal level), the UE shall at least every 150 ms search for the radio link.

The normative reference for this requirement is TS 25.133 [2] clauses 5.1.2 and A.5.1.1. The active set update delay shall be less than 60 ms in CELL\_DCH state when using test parameters as given in table 8.3.1.1.1.

#### 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 8.3.1.1.1 and 8.3.1.1.2 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 six successive time periods, with a time duration of T1, T2, T3, T4, T5 and T6 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

Parameter		Unit	Value	Comment				
DCH parameters			DL <del>-and UL</del> Reference	DL Measurement Channel Aas specified in				
			Measurement Channel 12.2	clause C.3.1 and C.2.1				
			kbps <u>and UL Auxiliary</u>	UL Auxiliary Measurement Channel as				
			Measurement Channel 12.2	specified in clause C.6.3				
			<u>kbps</u>					
Power Control			On					
Target quality	value on	BLER	0.01					
DTCH								
Initial	Active cell		Cell 1					
conditions	Neighbouring		Cell 2					
	cell							
Final	Active cell		Cell 2					
condition								
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 Trigge	er	ms	0					
Filter coefficie	nt		0					
T1		S	5					
T2		s	3					
Т3		S	0.5					
T4		ms	60	This is the requirement on active set				
				update delay, see clause 8.3.1.2, where				
				KC=1 and OC=0.				
T5		S	10					
T6		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	T6	T1	T2	Т3	T4	Т	Т	
												5	6	
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	Note1		N/ A	N/ A	N/A	N/A	Note3	Note1	Not	Note1	
OCNS_Ec/lor	dB	Note2	Note2	Note2		- 0.9 4	- 0.9 4	-0.94	-0.94	Note2	Note2	Not	Note2	
$\dot{P}_{or}/I_{oc}$	dB	0	2.91	2.91		2.9 1	2.9 1	-Inf	2.91	2.91	2.91	2.9	2.91	
I <sub>oc</sub>	dBm/3. 84 MHz	-70												
CPICH_Ec/lo	dB	-13	-14	-1	-14		-14	-Inf	-14	-14	-14	-1	14	
Propagation Condition		AWGN												
Relative delay of paths received from cell 2 with respect to cell 1	chips	{-148 Ö 148} Note 4												
Note 1: The DPCH lev Note 2: The power of t	el is contro he OCNS o	lled by the channel tha	power conti t is added s	rol loop shall mak	e the to	tal pov	/er fror	n the cell to	be equal to I	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.

Note 4: The relative delay of the path from cell 2 with respect to cell 1 shall always be within ±148 chip.
#### 8.3.1.4.2 Procedure

- 1) The RF parameters are set up according to T1 in table 8.3.1.1.3.
- 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 and test loop mode 2 is used. See TS 34.109 [4] for details regarding loopback test.
- 4) SS shall transmit a MEASUREMENT CONTROL message.
- 5) 5 seconds after step4 has completed, 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 T6.
- 11)5 seconds after step10 has completed, the UE is switched off. Any timing information of cell 2 is deleted in the UE.
- 12) BLER is measured during concatenated time periods T6.Repeat step 1-11 until the confidence level for BLER is achieved. This is defined in annex F.6.1.10

#### 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:

MEASUREMENT CONTROL message (step 4):

Information Flement/Group name	Value/Remark
Message Type (10.2.17)	t and a normality
IIF information elements	
-BBC transaction identifier	0
Integrity check info	Ŭ
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IF The first/
	leftmost hit of the hit string contains the
	most significant bit of the $M\Delta C_{-1}$
-BBC message sequence number	SS provides the value of this IF from its
	internal counter
Measurement Information elements	
-Measurement Identity	1
-Measurement Command (10.3.7.46)	Modify
-Measurement Reporting Mode (10.3.7.49)	
-Measurement Report Transfer Mode	AMBIC
-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)	
-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	FALSE
-Reporting quantities for monitored set cells (10.3.7.5)	
-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	FALSE
-Reporting quantities for detected set cells (10.3.7.5)	Not Present
-Reporting cell status (10.3.7.61)	Not Present
-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	3 dB
-Cells forbidden to affect Reporting Range	Not Present
-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	Infinity
-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
-W	1.0
-Hysteresis	0 dB

Information Element/Group name	Value/Remark			
-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 25.3	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 report	ng			

### 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	0
	10.3.3.36	
Integrity check info	Integrity check info 10.3.3.16	
message authentication code		SS calculates the value of MAC-
		I for this message and writes to
		this IE. The first/ leftmost bit of
		significant bit of the MAC I
BBC message sequence number		SS provides the value of this IF
The message sequence number		from its internal counter
Integrity protection mode info	Integrity protection mode info	Not Present
	10.3.3.19	
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
Phy CH information elements		
Uplink radio resources		
Maximum allowed UL TX power	Maximum allowed UL TX	33 dBm
	power 10.3.6.39	
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	Not Present
	10.3.6.69	
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	Need	Multi	Type and reference	Value/Remark
Primary CPICH info	MP		Primary CPICH info 10.3.6.60	Same as defined in cell2
Downlink DPCH info for each RL	MP		Downlink DPCH info	See below

Information Element/Group	Need	Multi	Type and	Value/Remark
name			reference	
			for each RL	
			10.3.6.21	
TFCI combining indicator	MP		TFCI	FALSE
			combining	
			indicator	
			10.3.6.81	
SCCPCH Information for FACH	OP		SCCPCH	Not Present
			Information	
			for FACH	
			10.3.6.70	

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 reflected 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	Integer(4, 8, 16, 32, 64, 128, 256, 512)	128
>>>Code number	Integer(0Spreading factor - 1)	96
>>>Scrambling code change	Enumerated (code change, no code change)	No code change
>>TPC combination index	TPC combination index 10.3.6.85	0
>>SSDT Cell Identity	SSDT Cell Identity 10.3.6.76	Not Present
>>Closed loop timing adjustment mode	Integer(1, 2)	Not Present

### 8.3.1.5 Test requirements

Parameter	Unit		Cell 1							Cell	2		
		T1	T1 T2 T3 T4 T5 T6					T1	T2	T3	T4	T5	T6
CPICH_Ec/lor	dB		-9.3							-9.3			
PCCPCH_Ec/lor	dB			-11.	3					-11.3	3		
SCH_Ec/lor	dB			-11.	3					-11.3	}		
PICH_Ec/lor	dB			-14.	3					-14.3	3		
DPCH_Ec/lor	dB	Note1	Note1	No	te1	N/A	N/A	N/A	N/A	Note3	Note1	Note1	
OCNS		Note2	Note2	No	te2	-1.13	-1.13	-1.13	-1.13	Note2	Note2	Note2	
$\dot{P}_{or}/I_{oc}$	dB	0	2.91	2.	91	2.91	2.91	-Inf	2.91	2.91	2.91	2.91	
I <sub>oc</sub>	dBm/ 3.84 MHz		-70										
CPICH_Ec/lo	dB	-12.3	-13.3	-1:	3.3	-13.3	-13.3	-Inf	-13.3	-13.3	-13.3	-13	3.3
Propagation Condition			AWGN										
Relative delay of	chips						{-147.5 (	Ö 147.5}					
paths received from cell 2 with respect to cell 1		Note 4											
Note 1: The DPCH level is controlled by the power control loop													
Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to $I_{or}$													
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.										_			
Note 4: The relative delay of the path from cell 2 with respect to cell 1 shall always be within ñ147.5 Ö 147.5 chip.													

### Table 8.3.1.1.3: Cell specific test parameters for Soft handover

The average measured quality on the DTCH of the UE downlink during T6 shall be BLER = $0.01\pm30\%$ . (The final BLER shall be achieved by integrating over a number of repetitions of procedure step 10).

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								
8	<mark>34.121</mark> CR <sup>460</sup> ж r	ev <mark>-</mark> 🕱 C	urrent versi	on: <b>5.5.0</b> <sup>ж</sup>				
For <u>HELP</u> on	using this form, see bottom of this pag	ge or look at the p	oop-up text	over the <mark>೫</mark> symbols.				
Proposed change	Proposed change affects: UICC apps <sup>38</sup> ME X Radio Access Network Core Network							
Title:	Corrections to HSDPA test 9.3 (CC	I reporting)						
Source:	# Agilent Technoliges <mark>, Ericsson</mark>							
Work item code:	₩ TEI		Date: 🔀	4/11/2004				
Category:	<ul> <li>F</li> <li>Use <u>one</u> of the following categories: <i>F</i> (correction) <i>A</i> (corresponds to a correction in a <i>B</i> (addition of feature), <i>C</i> (functional modification of feature), <i>D</i> (editorial modification) Detailed explanations of the above cate be found in 3GPP <u>TR 21.900</u>.     </li> </ul>	F an earlier release) re) gories can	Release: <b>#</b> Use <u>one</u> of t 2 R96 R97 R98 R99 Rel-4 Rel-5 Rel-6	Rel-5 he following releases: (GSM Phase 2) (Release 1996) (Release 1997) (Release 1998) (Release 1999) (Release 4) (Release 5) (Release 6)				

Reason for change: 🖁	Clarification of the text and correction of several incorrect references
Summary of change: #	a) Clarified the test purpose 9.3.1.3
	<ul> <li>b) Corrected the connection diagram to use for CQI in AWGN from A.10 to A 16</li> </ul>
	<ul> <li>c) Corrected the connection diagram to use for CQI in fading from A.10 to</li> <li>A 17</li> </ul>
	d) Added missing reference to E 5.1 in 0.3.1.4.2 procedure
	a) Added units to [2000] in 9.3.1.4.2 procedure step 3
	f) Added in 9.3.2.4.2 step 4 criteria for determining Median COI when the
	distribution falls exactly across two values. Onted for the lower value
	since it is probably easier to exceed 10% at CQI + 2 than it is to drop
	below 10% with CQI-1.
	a) Multiple clarifications to 9.3.1.4.2 procedure step 6. 7 and step 8
	h) Added istati to DTX in various places in 9.3.
	i) Modified step 7 of the procedure 9.3.1.4.2 from > 0.1 to $\ge$ 0.1
	i) Clarified the test purpose 9.3.2.3
	k) Corrected connection diagram from A.10 to A.16 in 9.3.2.4.1
	I) Added missing reference to E.5.1 in 9.3.2.4.2 procedure
	m) Added in 9.3.2.4.2 step 4 criteria for determining Median CQI when the
	distribution falls exactly across two values. Opted for the lower value
	since this favours passing the UE.
	n) Corrected $i < \hat{i}$ in step 6 of the procedure 9.3.2.4.2 to $i \le \hat{i}$
	o) Clarified the BLER calculation in step 6 of the procedure 9.3.2.4.2
	Merged changes from T1-041695:
	1. Section 9.3.1.2 (Minimum requirement): It is clarified that current requirement

	in Rel-5 is only applicable to UE capability categories 1-6 and 11,12.
	2. Test procedure
	a. Step 1): reference to tables 9.3.2.1 and 9.3.2.3 changed to refer to new merged table 9.3.1.1.
	<ul> <li>Step 9): The SS should repeat test 2 and test 3 independent of UE capability category.</li> </ul>
	3. Editorial changes to test requirement
Consequences if not approved:	X The test conditions will not be correct and the test may fail a good UE.
Clauses affected:	<b>第 9.3</b>

### 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.

## 9.3 Reporting of Channel Quality Indicator

### 9.3.1 AWGN Propagation Conditions

### 9.3.1.1 Definition and applicability

The reporting accuracy of channel quality indicator (CQI) under AWGN environments is determined by the reporting variance and the BLER performance using the transport format indicated by the reported CQI median.

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

The requirements and this test apply to all types of UTRA for the FDD UE for Release 5 and later releases that support HSDPA.

### 9.3.1.2 Minimum requirements

For UE capability categories 1-6 and 11, 12:

For the parameters specified in Table 9.3.1.1 and 9.3.1.2, the the reported CQI value shall be in the range of +/-2 of the reported median more than 90% of the time. If the HS-PDSCH BLER using transport format indicated by median CQI is less than 0.1, BLER using transport format indicated by (median CQI +2) shall be larger than 0.1. If the HS-PDSCH BLER using transport format indicated by median CQI is larger than 0.1, BLER using transport format indicated by (median CQI -1) shall be less than 0.1.

Parameter		Unit	Test 1	Test 2	Test 3		
$\dot{P}_{or} / I_{oc}$		dB	0	5	10		
I <sub>oc</sub>		dBm/3.84 MHz	-60				
Phase reference	Э	-		P-CPICH			
HS-PDSCH $E_c / I_{or}$	(*)	dB		-3			
HS-SCCH_1 $E_c$ /	I <sub>or</sub>	dB		-10			
DPCH $E_c/I_{or}$		dB		-10			
Maximum numbe H-ARQ transmiss	r of ion	-		1			
Number of HS-SCCH set to be monitored		-	1				
CQI feedback cy	cle	ms	2				
CQI repetition fac	tor	-		1			
HS-DSCH transmis pattern	sion	-	iXOOXOOXî to incorporate inter-TTI=3 UEs, where iXî indicates TTI in which HS- PDSCH is allocated to the UE, and iOî indicates TTI, in which HS-PDSCH is not allocated to the UE.				
Note1: Measuren in [8].	surement power offset $\Gamma \hat{\Gamma}$ is configured by RRC accordingly and as defined						
Note2: TF for HS-PDSCH is configured according to the reported CQI statistics. TF based on median CQI, median CQI -1, median CQI+2 are used. Other physical channel parameters are configured according to the CQI mapping table described in TS25.214							

Table 9.3.1.1: Test Parameter for CQI: categories 1-6

Parameter	Unit	Test 1	Test 2	Test 3	
$\dot{P}_{or} / I_{oc}$	dB	0 5		10	
I <sub>oc</sub>	dBm/3.84 MHz	-60			
Phase reference	-		P-CPICH		
HS-PDSCH $E_c / I_{or}$ (*)	dB		-3		
HS-SCCH_1 $E_c / I_{or}$	dB		-10		
DPCH $E_c / I_{or}$	dB		-10		
Maximum number of H-ARQ transmission	-		1		
Number of HS-SCCH set to be monitored	-	1			
CQI feedback cycle	ms	2			
CQI repetition factor	-	1			
HS-DSCH transmission pattern	-	iXOOXOOXî, where iXî indicates TTI which HS-PDSCH is allocated to the UE, and iOî indicates TTI, in which HS PDSCH is not allocated to the UE.			
Note1: Measurement power offset ìΓî is configured by RRC accordingly and as defined in [8].					
Note2: TF for HS-PDSCH is configured according to the reported CQI statistics. TF based on median CQI, median CQI -1, median CQI+2 are used. Other physical channel parameters are configured according to the CQI mapping table described in TS25.214					

Table 9.3.1.2: Test Parameter for CQI: categories 11,12

The reference for this requirement is TS 25.101 [1] clauses 9.3.1.1 and 9.3.1.2.

For UE capability categories 7-10:

FFS

### 9.3.1.3 Test purpose

To verify the UE receiver is capable of reporting the channel quality indicator (CQI) under AWGN by the reportingvariance and the BLER performance using the transport format indicated by the reported CQI median such that CQI reported by the UE falls within the acceptable range. To verify that the variance of the CQI reports when using TF based on CQI 16 is within the limits defined and that a BLER of 10% falls between the TF based on Median CQI-1 and the TF based on Median CQI TF or between the TF based on Median CQI+2.

### 9.3.1.4 Method of test

### 9.3.1.4.1 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.

- 1. Connect SS and an AWGN noise source to the UE antenna connector as shown in figure A.160.
- 2. Set Ack/Nack handling at the SS such that regardless of the response from the UE (Ack, Nack or DTX) new data is sent each time, this is because HARQ transmissions are set to one, i.e. no re-transmission of failed blocks.

### 9.3.1.4.2 Procedure

Set up an HSDPA call according to TS 34.108 [3] clause 7.3.6.3. Set test conditions according to test 1 according table <u>9.3.1.19.3.2.1</u> (Category 1-6) or <u>9.3.1.29.3.2.3</u> (Category 11,12).

- 2) Set test conditions according to test 1 according table 9.3.1.1. The configuration of the downlink channels is defined in table E.5.1.
- Note: the following part of the procedure will test, if the UE reports a limited range of CQI values under the predefined channel conditions.
- 3) The SS shall send TF according to CQI value <u>16[16]</u> and keep it regardless of the CQI value, sent by the UE. For any HSDPA block, transmitted by the SS, record the received CQI value. Continue transmission <u>of the HS-PDSCH</u> and CQI collection <del>up to until</del> [2000] reports have been gathered.
- 4) Set up a relative frequency distribution for the CQI-values, reported. Calculate the median value (Median CQI is the CQI that is at or crosses 50% distribution from the lower CQI side). This CQI-value is declared as Median CQI value,
- 5) If [1800] or more of the CQI values are in the range (Median CQI 2)  $\leq$  Median CQI  $\leq$  (Median CQI + 2) then continue with step <u>6)(7)</u>, otherwise fail the UE.

Note: the following part of the procedure will test, if BLER versus CQI has the correct sense.

6) The SS shall transmit the TF according to the median-CQI value and shall not react on the UEís CQI valuereports. For any HSDPA block, transmitted by the SS, record ACK, NACK or and statDTX

ACK received	— <del>→ record a success,</del>
	<del>1 → record a fail</del>
DTX received	<del>→ record a fail</del>
Continue transmis	sion and ACK, NACK and DTX collection up to [1000] times

If the ratio (No of fails NACK + statDTX / ACK + NACK + statDTX No of fails + successes) < 0.1 then goto step. 7)(7), otherwise goto step 8)(8)

7) The SS shall transmit the TF according to the median-CQI+2 value and shall not react on the UEís CQIreportsvalue. For any HSDPA block, transmitted by the SS, record ACK, NACK or <u>stat</u>DTX

— Upon a transmission:

<u>ACK received</u> → record a success, <u>NACK received</u> → record a fail <u>DTX received</u> → record a fail

Continue transmission and ACK, NACK and DTX collection up to [1000] times

If the ratio (No of fails NACK + statDTX-/ ACK + NACK + statDTX No of fails + successes)  $\geq 0.1$ 

then pass the UE, otherwise fail the UE

8) The SS shall transmit the TF according to the median-CQI-1 value and shall not react on the UEís CQI value. For any HSDPA block, transmitted by the SS, record ACK, NACK or statDTX

```
        Upon a transmission:

        ACK received
        → record a success,

        NACK received
        → record a fail

        DTX received
        → record a fail
```

Continue transmission and ACK, NACK and DTX collection up to [1000] times

If the ratio (No of fails NACK + statDTX- / ACK + NACK + statDTX No of fails + successes) < 0.1

then pass the UE, otherwise fail the UE.

Note: The statistical selectivity based on [1000] samples is not sufficient to distinguish between BLER < 0.1 and > 0.1. However, it is assumed that the following differences between

[true BLER on Median CQI- - -true BLER on (Median CQI + 2)] and

[true BLER on Median CQI- - -true BLER on (Median CQI - 1)]

- are is large enough to exceed the statistical uncertainty and hence the measurement can indicate the correct sense of BLER.
- 9) Repeat the same procedure (steps 3 to 8) with test conditions according to the table 9.3.1.1 and table 9.3.1.2 for Test 2 and Test 3, the other tests:

Category 1-6: Test 2 and Test 3 Category 11,12: Test 1 and Test 2

### 9.3.1.5 Test Requirements

The pass fail decision as specified is already described in the test procedure in 9.3.1.4.2.

No setting-test tolerances are is applied to the test parameters.

## 9.3.2 Fading Propagation Conditions

### 9.3.2.1 Definition and applicability

The reporting accuracy of the channel quality indicator (CQI) under fading environments is determined by the BLER performance using the transport format indicated by the reported CQI median.

In calculating BLER, for an HARQ process, if an odd number of consecutive <u>stat</u>DTXs are reported, the corresponding packets and one subsequent packet shall be discarded from BLER calculation. If an even number of consecutive <u>stat</u>DTXs are reported, <u>only</u> the corresponding packets shall be discarded from BLER calculation.

The requirements and the test case apply to all types of UTRA for the FDD UE that supports HSDPA.

### 9.3.2.2 Minimum requirements

For the parameters specified in Table 9.3.2.1, the requirements are specified in terms of maximum BLERs at particular reported CQIs when transmitting a fixed transport format given by the CQI median as shown in Table 9.3.2.2.. The BLER at a particular reported CQI is obtained by associating a particular CQI reference measurement period with HS-PDSCH subframe overlapping with the end of this CQI reference measurement period and calculating the fraction of erroneous HS-PDSCH subframes.

Parameter	Unit	Test 1	Test 2	
HS-PDSCH $E_c / I_{or}$ (*)	dB	-8	-4	
$\dot{P}_{or} / I_{oc}$	dB	0	5	
$I_{oc}$	dBm/3.84 MHz	-60		
Phase reference	-	P-CF	PICH	
HS-SCCH_1 $E_c/I_{or}$	dB	-8	.5	
DPCH $E_c / I_{or}$	dB	-(	6	
Maximum number of H-ARQ transmission	-	1		
Number of HS-SCCH set to be monitored	-	1		
CQI feedback cycle	ms	2		
CQI repetition factor	-	1		
ìÖ.XOOXOOXÖ.î to incorporate inter-TTI=3 UEs, where ìXî indicate TTI in which HS-PDSCH is allocate to the UE, and ìOî indicates TTI in which HS-PDSCH is not allocated t the UE.				
Propagation Channel		Cas	e 8	
<ul> <li>Note1: Measurement power offset ìΓî is configured by RRC accordingly and as defined in [7]</li> <li>Note2: TF for HS-PDSCH is configured according to the reported CQI statistics. TF based on median CQI is used. Other physical channel parameters are configured according to the CQI maning table described in TS25 214</li> </ul>				

Table 9.3.2.1: Test Parameters for CQI test in fading: categories 1-6

### Table 9.3.2.2: Minimum requirement for CQI test in fading for categories 1-6

Bonortod COI	Maximum BLER			
Reported Col	Test 1	Test2		
CQI median	60%	60%		
CQI median + 3	15%	15%		

For the parameters specified in Table 9.3.2.3, the requirements are specified in terms of BLERs at particular reported CQIs when a fixed transport format given by CQI median as shown in Table 9.3.2.4. The BLER at a particular reported CQI is obtained by associating a particular CQI reference measurement period with <u>the HS-PDSCH</u> subframe overlapping with the end of this CQI reference measurement period and calculating the fraction of erroneous HS-PDSCH subframes.

Parameter	Unit	Test 1	Test 2	
HS-PDSCH $E_c / I_{or}$ (*)	dB	-8	-4	
₽ <sub>or</sub> / I <sub>oc</sub>	dB	0	5	
I <sub>oc</sub>	dBm/3.84 MHz	-60		
Phase reference	-	P-CF	PICH	
HS-SCCH_1 $E_c / I_{or}$	dB	-8	.5	
DPCH $E_c / I_{or}$	dB	-	6	
Maximum number of H-ARQ transmission	-	-	1	
Number of HS-SCCH set to be monitored	-		1	
CQI feedback cycle	ms	2		
CQI repetition factor	-	1		
HS-DSCH transmission pattern	-	ìÖ .XOOX incorporate UEs, wi indicates T HS-PDSCH to the UE indicate	OOXÖ .î to inter-TTI=3 nere ìXî TI in which is allocated E, and ìOî es DTX	
Propagation Channel		Cas	se 8	
Note1:       Measurement power offset ì Iî is configured by RRC accordingly and as defined in [7]         Note2:       TF for HS-PDSCH is configured according to the reported configured acconfigured according to the reported configu				
physical channel parameters are configured according to the CQI maping table described in TS25.214				

### Table 9.3.2.3: Test Parameters for CQI test in fading: categories 11-12

Table 9.3.2.4. Minimum red	quirement for CQI test	in fading for categories 1	1-12
	quincincint for own toot	in rading for categories i	- 14

Reported COI	Maximum BLER			
Reported Col	Test 1	Test 2		
CQI median	60%	60%		
CQI median + 3	15%	15%		

The reference for this requirement is TS 25.101 [1] clauses 9.3.2.1 and 9.3.2.2.

### 9.3.2.3 Test purpose

To verify that the UE receiver is capable of reporting the channel quality indicator (CQI) under fading propagationconditions. When using the transport format indicated by the reported CQI median BLER shall meet the testrequirements specified in tables 9.3.2.2 and 9.3.2.4. To verify that when using the TF based on the Median CQI that the BLER for blocks associated with CQI reports of Median CQI is  $\leq 60\%$  and that the BLER for blocks associated with CQI reports of Median CQI+3 is  $\leq 15\%$ .

### 9.3.2.4 Method of test

9.3.2.4.1 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.

- Connect SS, multipath fading simulator and an AWGN noise source to the UE antenna connector as shown in figure A.160.
- 2) Set Ack/Nack handling at the SS such that regardless of the response from the UE (Ack, Nack or DTX) new data is sent each time, this is because HARQ transmissions are set to one, i.e. no re-transmission of failed blocks.

### 9.3.2.4.2 Procedure

- Set up an HSDPA call according to TS 34.108 [3] clause 7.3.6.3. Set test conditions according to test 1 according table 9.3.2.1 (Category 1-6) or 9.3.2.3 (Category 11,12). <u>The configuration of the downlink channels</u> is defined in table E.5.1.
- 2) For an HSDPA block, transmitted by the SS, record the equivalent CQI value. SS shall not react onto the UEis reported CQI value, but only record the reported CQI value.
- 3) Repeat step 2 up to [2000] times.
- Set up a relative frequency distribution for the <u>reported</u> CQI\_-values, <u>reported</u>. Calculate the median value (Median CQI is the CQI that is at or crosses 50% distribution <u>from the lower CQI side</u>). This CQI-value is declared as Median CQI value,
- 5) The SS shall transmit the TF according to the median-CQI value and shall not react on to the UE is reported CQI value.
- 6) Measure BLER as described below. Continue measuring BLER until [1000] events (ACK or NACK discarded DTXs not included) has occurred for each R1 and R2.

In the test there are two BLER requirements to be tested:

R1: HSDPA block with corresponding reported CQI = Median CQI	BLER <b>←≦</b> 60%
R2: HSDPA block with corresponding reported $CQI = Median CQI + 3$	BLER <u>←</u> 15%

For any HSDPA block, transmitted by the SS, record ACK/NACK value (ACK, NACK or <u>stat</u>DTX) and the corresponding CQI report. These values are combined to obtain the BLER (Figure 9.3.2.1).



e 9.3.2.1 Combination of ACK/NACK message and the CQI report for BLER calculation

#### Upon a transmission:

CQI with ACK received → record a success,

CQI with NACK received  $\rightarrow$  record a fail For each set of events R1 and R2 the BLER = (NACK + statDTX) / (ACK + NACK + statDTX)

In calculating BLER, for an HARQ process, if an odd number of consecutive DTXs are reported, the corresponding packets and one subsequent packet shall be discarded from BLER calculation. If an even number of consecutive DTXs are reported, <u>only</u> the corresponding packets shall be discarded from BLER calculation

Repeat the same procedure with test conditions according to the table 9.3.2.1 and table 9.3.2.3 for the other tests:

Category 1-6: Test 2 of table 9.3.2.1

Category 11,12: Test 2 of table 9.3.2.3

### 9.3.2.5 Test Requirements

The measured BLER shall not exceed values specified in tables 9.3.2.2 and 9.3.2.4.

No setting test tolerance is applied to the test parameters.

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CHANGE REQUEST			
<sup>⊯</sup> 34.121 CR <sup>465</sup> <mark>⊮ rev <sup>-</sup> <sup>⊯</sup> C</mark>	urrent versi	<sup>on:</sup> <b>5.5.0</b>	æ
For <b>HELP</b> on using this form, see bottom of this page or look at the p	op-up text o	over the <mark>೫</mark> syn	nbols.
Proposed change affects: UICC apps <sup>38</sup> ME X Radio Acce	ess Network	Core Ne	twork
Title:       # Addition of test tolerances and corrections for 8.6.2. in AWGN propagation condition (34.121)         Source:       # Motorola, Agilent, Racal Instruments Wireless Solution	1 Correct re ons	eporting of neig	ghbours
Work item code: <mark># TEI</mark>	Date: 🔀	04/11/2004	
<b>Category: F R</b> Use one of the following categories: <b>F</b> (correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (addition of feature), <b>C</b> (functional modification of feature) <b>D</b> (editorial modification)         Detailed explanations of the above categories can be found in 3GPP <u>TR 21.900</u> .	elease: ℜ Use <u>one</u> of ti 2 ( R96 ( R97 ( R98 ( R99 ( Rel-4 ( Rel-5 ( Rel-6 (	Rel-5 he following rele (GSM Phase 2) (Release 1996) (Release 1997) (Release 1999) (Release 4) (Release 5) (Release 6)	pases:

uncertainties. Summary of change: # Test tolerances are added a) Revision of Annex F.1.5 table F.1.5 to define Test System Uncertainty b) c) Revision of Annex F.2 table F.2.4 to define Test Tolerances d) Revision of Annex F.4 table F4.4 to refer to derivation of test requirements **Consequences if** X The test implementation will not match the requirements of 25.133 and may fail a not approved: good UE. Clauses affected: 8.6.2.1, Annext F ж Ν Other core specifications Other specs X ж Ħ Affected: Test specifications Х Χ **O&M** Specifications His CR is applicable for UEis supporting Rel-99 only. 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.

### 8.6.2.1 Correct reporting of neighbours in AWGN propagation condition (R99)

### 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 <u>Release 99</u> FDD UE only.

### 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  $Ec/Io \ge -20$  dB,  $SCH\_Ec/Io \ge -17$  dB for at least one channel tap 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

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

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.

 $T_{\text{basic\_measurement\_FDD inter}} = 50$  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 8.6.2.1.1

# Table 8.6.2.1.1: Cell specific initial test parameters for Correct reporting of neighbours in AWGN propagation condition

Parameter	Unit	Cell 1	Cell 2	Cell3			
		Т0	Т0	Т0			
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_Ec/lor	dB	-1.049	-1.049 -0.941 -0.94				
$\dot{P}_{or}/I_{oc}$	dB	0	-Inf				
$\mathbf{\mathcal{G}}_{\mathcal{F}(Note 1)}$	<u>dBm</u>	<u>-70</u>	<u>-Inf</u>	<u>-Inf</u>			
I <sub>oc</sub>	dBm/3 .84 MHz	-70					
CPICH_Ec/lo	dB	-13	-Inf	-Inf			
Propagation Condition	AWGN						
Note 1: The nominal Our values, although not explicitly defined in 25.133 are added here since they							

The test consists of two successive time periods, with a time duration T1 and T2. The test parameters are given in tables 8.6.2.1.2 and 8.6.2.1.3 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/IO of the best cell on the unused frequency shall be reported together with Event 2C reporting.

# Table 8.6.2.1.2: General test parameters for Correct reporting of neighbours in AWGN propagation condition

Parameter	Unit	Value	Comment
DCH parameters		DL and UL Reference Measurement Channel 12.2 kbps	As specified in C.3.1 and C.2.1
Power Control		On	
Compressed mode		C.5.2 set 1	As specified in C.5.
Active cell		Cell 1	
Threshold non used frequency	dB	-18	Absolute Ec/I0 threshold for event 2C
Reporting range	dB	4	Applicable for event 1A
Hysteresis	dB	0	
W		1	Applicable for event 1A
W non-used 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 16 on channel 2	NOTE: See Annex I for cell information.The information is sent before the compressed mode pattern starts.
T1	S	10	
T2	S	5	

# Table 8.6.2.1.3: Cell Specific parameters for Correct reporting of neighbours in AWGN propagation condition

Parameter	Unit	Ce	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	-1	0	-10		-10	
PCCPCH_Ec/lor	dB	-1	2	-12		-12	
SCH_Ec/lor	dB	-1	2	-1:	2	-1	2
PICH_Ec/lor	dB	-1	5	-15	5	-15	
DPCH_Ec/lor	dB	-1	-17 N/A		N/A		
OCNS_Ec/lor	dB	-1.0	)49	ñ0.941		ñ0.941	
$\dot{P}_{or}/I_{oc}$	dB	0	5.42	-Infinity	3.92	-1.8	-1.8
$\underline{\underline{G}}_{r(Note 1)}$	<u>dBm</u>	<u>-70</u>	<u>-64.58</u>	<u>-Infinity</u>	<u>-66.08</u>	<u>-71.80</u>	<u>-71.80</u>
I <sub>oc</sub>	dBm/3.84 MHz	-70 -70					
CPICH_Ec/lo	dB	-13	-13	-Infinity	-14.5	-14	-14
Propagation Condition	AWGN						
Note 1: The nomin	nal Obr values,	although no	ot explicitly	defined in 2	5.133 are a	added here	since they
are implied and need to be identified so that the test equipment can be configured.							

### 8.6.2.1.4.2 Procedure

- 1) The RF-parameters are set up according to T0table 8.6.2.1.2 and table 8.6.2.1.4.
- 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).
- 6) SS shall transmit PHYSICAL CHANNEL RECONFIGURATION message.

- 7) 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 according to the parameters defined in table 8.6.2.1.5.
- 9) 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. 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 successful tests is increased by one.
- 10) After 10 seconds from the beginning of T1, the SS shall switch the power settings from T1 to T2 according to the parameters defined in table 8.6.2.1.5.
- 11) 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 1040 ms. If the reporting delay for this event is within the required limit, the number of succesful tests is increased by one.
- 12) After 5 seconds from the beginning of T2, the UE is switched off.
- 13)Repeat steps 1-12 until the confidence level according to annex F.6.2 is achieved.
- NOTE: The measurement reporting delay is 956.2 ms plus 80 ms delay uncertainty (twice the TTI). This gives a total of 1036.2 ms and rounded off to 1040 ms.

#### 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:

PHYSICAL CHANNEL RECONFIGURATION message for Inter frequency measurement:

Information Flomant	Value/Demork
	value/Remark
Message Type	
UE Information Elements	
-RRC transaction identifier	0
-Integrity check info	SS calculates the value of MAC-I for this
-message authentication code	message and writes to this IE. The first/
5	leftmost bit of the bit string contains the most
	significant bit of the MAC-L
	SS provides the value of this IF, from its
-BBC message sequence number	internal counter
	Not Present
-Integrity protection mode info	Not Present
-Ciphering mode info	Not Present
-Activation time	Not Present
-New U-BNTI	Not Present
-New C-BNTI	CELL DCH
-BBC State Indicator	Not Present
-UTBAN DBX cycle length coefficient	Not Procont
CN Information Elements	
-CN Information info	Not Present
LITRAN mobility information elements	
	Not Present
BB information elemente	
-Downlink counter synchronisation info	Not Present
-Downlink counter synchronisation into	Not Flesent
Frequency info	Net Present
	Not Present
Opinik radio resources	Not Dropont
-Maximum allowed OL TX power	Not Present
	FDD
	FDD Net Present
-DOWNINK PDSCH INformation	Not Present
-Downlink Information common for all Rule	Not Dropont
DDCH compressed mode info	FDD
-DFCH compressed mode into	
TCDSI	1
TGPS Status Elag	Activato
-TGCEN	(Current CEN + (256 ñ TTI/10msec))mod 256
-10011	
Transmission gan pattern seguence	
configuration parameters	
	FDD measurement
TGPBC	Not present
TGSN	
-TGL1	7
-TGL2	Not Present
TGD	
-TGPL1	3
-TGPL2	Not Present
-BPP	Mode 0
-ITP	Mode 0
-CHOICE UI /DL mode	UL and DI
-Downlink compressed mode method	SE/2
-Uplink compressed mode method	SE/2
-Downlink frame type	B
-DeltaSIB1	3.0
-DeltaSlBafter1	3.0
-DeltaSIB2	Not Present
-DeltaSlBafter2	Not Present
-N Identify abort	Not Present
-T Beconfirm abort	Not Present
-TX Diversity Mode	Not Present
-SSDT information	Not Present
-Default DPCH Offset Value	Not Present

-Downlink information per radio link list	
<ul> <li>Downlink information for each radio link</li> </ul>	
-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	Set to value Default DPCH Offset Value ( as
	currently stored in SS) mod 38400
-Secondary CPICH info	Not Present
-DL channelisation code	
-Secondary scrambling code	Not Present
-Spreading factor	128
-Code number	96
-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)	
UE information elements	
-RRC transaction identifier	0
-Integrity check info	
-message authentication code	SS calculates the value of MAC-I for this message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
-nno message sequence number	internal counter.
Measurement Information elements	
-Measurement Identity	2
-Measurement Command (10.3.7.46)	Setup
-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 objects list (10.3.7.13)	
- CHOICE Inter-frequency cell removal	Not Present
- Inter frequency cell id	0
- Frequency info	
- CHOICE mode	FDD
- UARFCN uplink(Nu)	Not Present
- UARFCN downlink(Nd)	Same frequency as "Channel2" in Table
	8.6.2.1. <mark>3</mark> 5
- Cell into	Net Due e est
- Cell individual offset	Not Present
- Reference time difference to cell Road SEN indicator	
- CHOICE mode	
- Primary CPICH info	
- Primary scrambling code	Set to Primary scrambling code of Cell3
- Primary CPICH Tx Power	Set to Primary CPICH Tx Power of Cell3
- Tx Diversity Indicator	described in Table 8.6.2.1. <u>35</u> FALSE
- 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)	
-CHOICE mode	
-interstrement quantity for frequency quality estimate	
-IITBA Carrier BSSI	FALSE
-Frequency quality estimate	FALSE
-Non frequency related cell reporting quantities (10.3.7.5)	
-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	FALSE
-Reporting cell status (10.3.7.61)	Not Present
-ivieasurement validity (10.3.7.51)	Not Present
-UHUIUE report criteria	Inter-frequency measurement reporting
-Inter-frequency measurement reporting criteria (10.3.7.19)	
-Parameters required for each event	1

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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 cells within monitored set on non-	
	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 25.331, 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.		

MEASUREMENT CONTROL message (intra frequency):

Information Element/Group name	Value/Remark
Message Type (10.2.17)	Value/Remark
IIE information elements	
-BBC transaction identifier	0
-Integrity check info	0
-message authentication code	SS calculates the value of MAC-I for this message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
-RRC message sequence number	SS provides the value of this IE, from its internal counter.
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)	
-Cell synchronisation information reporting indicator	IRUE (Note 1)
-Cell Identity reporting indicator	IRUE
	FDD
-CPICH EC/NU reporting indicator	TRUE
-CPICH RSCP reporting indicator	
-Pathioss reporting indicator	FALSE
-Reporting quantities for monitored set cells (10.3.7.5)	
-Cell synchronisation mormation reporting indicator	
-CPICH Ec/N0 reporting indicator	
-CPICH BSCP reporting indicator	
-Difference - Pathloss reporting indicator	FALSE
-1 atmoss reporting indicator Reporting quantities for detected set cells (10.3.7.5)	Not Present
Poperting coll status (10.3.7.61)	Not Present
Moasurement validity (10.3.7.51)	Not Present
-Measurement valuity (10.3.7.31)	Intra-frequency measurement reporting
	criteria
Intra frequency measurement reporting criteria (10.3.7.30)	Ciliena
-Parameters required for each event	1
-Intra-frequency event identity	Fvent 1A
-Triggering condition 2	Monitored set cells
-Benorting Bange Constant	4 dB
-Cells forbidden to affect Reporting Range	Not Present
-CHOICE mode	EDD
-Primary CPICH info (10.3.6.60)	
-W	10
-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
-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% of the cases with a confidence level of 95%. 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.

# Table 8.6.2.1.4: Test requirements for initial test parameters for Correct reporting of neighbours in AWGN propagation condition

Parameter	Unit	Cell 1	Cell 2	Cell3
		<u>T0</u>	<u>T0</u>	<u>T0</u>
CPICH_Ec/lor	<u>dB</u>	<u>-9.2</u>	<u>-9.2</u>	<u>-9.2</u>
PCCPCH_Ec/lor	<u>dB</u>	<u>-11.2</u>	<u>-11.2</u>	<u>-11.2</u>
SCH_Ec/lor	<u>dB</u>	<u>-11.2</u>	<u>-11.2</u>	<u>-11.2</u>
PICH_Ec/lor	<u>dB</u>	<u>-14.2</u>	<u>-14.2</u>	<u>-14.2</u>
DPCH_Ec/lor	<u>dB</u>	<u>-16.2</u>	<u>N/A</u>	<u>N/A</u>
OCNS Ec/lor	<u>dB</u>	<u>-1.30</u>	<u>-1.16</u>	<u>-1.16</u>
$\dot{P}_{or}/I_{oc}$ (Note 1)	<u>dB</u>	<u>0</u>	<u>-Inf</u>	<u>-Inf</u>
<u>G</u>	<u>dBm</u>	<u>-70</u>	<u>-Inf</u>	<u>-Inf</u>
	<u>dBm/3</u> . <u>84</u> <u>MHz</u>		<u>-70</u>	
<u>CPICH_Ec/lo (Note</u> 1)	<u>dB</u>	<u>-12.21</u>	<u>-Inf</u>	<u>-Inf</u>
Propagation         AWGN				
Note 1: These parameters are not directly settable, but are derived by calculation from the settable				
parameters				

# Table 8.6.2.1.5: Test requirements for Correct reporting of neighbours in AWGN propagation condition

Peremeter Unit Cell 4 Cell 2 Cell 2								
Parameter	Unit			<u>Cell 2</u>		<u>Cell 3</u>		
		<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	
UTRA RF Channel		Chan	nol 1	Ohannald		Channel O		
Number		Char						
CPICH Ec/lor	<u>dB</u>	-9	.2	-9.2		-9.2		
PCCPCH Ec/lor	<u>dB</u>	<u>-1</u> 1	1.2	-11.2		-11.2		
SCH_Ec/lor	<u>dB</u>	<u>-1</u>	1.2	-11.2		<u>-1</u>	-11.2	
PICH_Ec/lor	<u>dB</u>	<u>-14</u>	4. <u>2</u>	-14	.2	<u>-14</u>	4. <u>2</u>	
DPCH_Ec/lor	<u>dB</u>	<u>-16</u>	<u> 6.2</u>	N/A		N/A		
OCNS_Ec/lor	<u>dB</u>	-1.	<u>30</u>	<u>-1.1</u>	<u> 6</u>	<u>-1.16</u>		
$\dot{P}_{or}/I_{oc}$ (Note 1)	<u>dB</u>	<u>o</u>	<u>5.42</u>	<u>-Infinity</u>	<u>3.9</u>	<u>-1.8</u>	<u>-1.8</u>	
<u>G</u> r	<u>dBm</u>	<u>0</u>	<u>-64.6</u>	-Infinity	<u>-66.10</u>	<u>-71.8</u>	<u>-71.8</u>	
I <sub>oc</sub>	<u>dBm/3.84</u> <u>MHz</u>	-70						
<u>CPICH_Ec/lo (Note</u>	<u>dB</u>	<u>-12.21</u>	<u>-12.20</u>	<u>-Infinity</u>	<u>-13.70</u>	<u>-13.20</u>	<u>-13.20</u>	
Propagation Condition	AWGN							
Note 1: These parameters are not directly settable, but are derived by calculation from the settable								
parameters								

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.

## 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
8.6.1.4 Correct reporting of neighbours in fading propagation condition	TBD	
8.6.2 FDD inter frequency measurements		
8.6.2.1 Correct reporting of neighbours in AWGN propagation condition	HBDChannel 1 dDuring 10, 11 and 12:	
	CPICH E	
	$\frac{c}{I} = \frac{\pm 0.1 \text{ dB}}{\pm 0.1 \text{ dB}}$	
	$I_{or}(1) \pm 0.7 \text{ dB}$	
	Channel 1 d <del>D</del> uring T2:	
	$\underline{I_{or}} (\underline{2}) \text{ relative to } \underline{I_{or}} (\underline{1}) \pm 0.3 \text{ dB}$	
	Channel 2 during T0, T1 and T2:	
	<u>I<sub>oc</sub>±1.0 dB</u>	
	Channel 2 during T1 and T2:	
	$I_{or} (3) \pm 0.7 \text{ dB}$	
	$\frac{CPICH\_E_c}{I_{or}} = \pm 0.1 \text{ dB}$	
	Assumptions: a) The contributing uncertainties for lor( loc are derived according to ETR 273-1- factor of k=2.	n), channel power ratio, and 2 [16], with a coverage
	b) Within each cell, the uncertainty for lor ratio are uncorrelated to each other.	or(n), and channel power
	c) Across different cells, the channel por	wer ratio uncertainties may
	have any amount of positive correlation one (fully correlated)	from zero (uncorrelated) to
	d) The uncertainty for loc and lor(n) may positive correlation from zero (uncorrelation from zero)	<u>y have any amount of</u> ted) to one (fully correlated).
	e) The absolute uncertainty of lor(1) and lor(2), are uncorrelated to each other.	the relative uncertainty of
	f) The absolute uncertainties for lor(1) a amount of positive correlation from zero correlated).	nd lor(3) may have any (uncorrelated) to one (fully
	g) The absolute uncertainties for loc(1) a amount of positive correlation from zero correlated).	and loc(2) may have any (uncorrelated) to one (fully
	An explanation of correlation between uncer behind the assumptions, is recorded in 3GPI	tainties, and of the rationale P TR 34 902 [24].

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
8.6.2.2 Correct reporting of neighbours in Fading propagation condition	TBD	

## F.2.4 Requirements for support of RRM

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

Clause	Test Tolerance
8.6.1.4 Correct reporting of neighbours in	TBD
fading propagation condition	
8.6.2 FDD inter frequency measurements	
8.6.2.1 Correct reporting of neighbours in	TBD During T0 to T2:
AWGN propagation condition	+0.80 dB for all Cell 1 Ec/lor ratios
	+0.80 dB for all Cell 2 Ec/lor ratios
	+0.80 dB for all Cell 3 Ec/lor ratios
8.6.2.2 Correct reporting of neighbours in	TBD
Fading propagation condition	

## 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	Test Parameters in TS 25.133	Test Tolerance (TT)	Test Requirement in TS 34.121
8.6.1.3 Event triggered reporting of two detectable neighbours in AWGN propagation condition	TBD		
8.6.2.1 Correct	TBDBecause the relationship	os between the Test system ur	certainties and the Test
reporting of neighbours	Tolerances are complex, it is	not possible to give a simple o	derivation of the Test
condition	During T0 to T2:	During T0 to T2:	During T0 to T2:
condition	During To to T2.	During 10 to 12.	During To to T2.
	$\frac{\text{Cell 1, Cell 2 and Cell 3:}}{\text{CPICH} \text{ Ec/lor} = -10 \text{ dB}}$ $\frac{\text{PCCPCH} \text{ Ec/lor} = -12 \text{ dB}}{\text{SCH} \text{ Ec/lor} = -12 \text{ dB}}$ $\frac{\text{PICH} \text{ Ec/lor} = -15 \text{ dB}}{\text{Cell 1:}}$ $\frac{\text{DPCH} \text{ Ec/lor} = -17 \text{ dB}}{\text{Cell 2}}$	<u>+0.80 dB</u> <u>+0.80 dB</u> <u>+0.80 dB</u> +0.80 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
8.6.2.2 Correct reporting of neighbours in Fading propagation condition	TBD		

1

3GPP TSG-T1 N St Paul's Bay, N	leeting #25 T Ialta, 1 <sup>st</sup> - 5 <sup>th</sup> November 2004	doc 🕱 T1-041866	
CHANGE REQUEST			
æ	34.121 CR 466 <b># rev</b> - <b>#</b> Current vers	<sup>sion:</sup> 5.5.0 <sup>第</sup>	
For <u>HELP</u> on L	ising this form, see bottom of this page or look at the pop-up text	over the 賭 symbols.	
Proposed change affects: UICC apps <b>X</b> ME X Radio Access Network Core Network			
Title:	Correction to Correct reporting of neighbours in fading progaga	ation condition test case	
Source:	Motorola, Aeroflex		
Work item code: <mark>#</mark>	TEI Date: 🔀	04/11/2004	
Category: #	F       Release: #         Use one of the following categories:       Use one of         F (correction)       2         A (corresponds to a correction in an earlier release)       R96         B (addition of feature),       R97         C (functional modification of feature)       R98         D (editorial modification)       R99         Detailed explanations of the above categories can       Rel-4         be found in 3GPP TR 21.900.       Rel-5         Rel-6       Rel-6	Rel-5 the following releases: (GSM Phase 2) (Release 1996) (Release 1997) (Release 1998) (Release 1999) (Release 4) (Release 5) (Release 6)	
Reason for chang	e: # This change is to void the R99 test case as it can not be concerned by the set of the specification 25.133. The rel-4 and onwards test case 25.133.	ompleted due to error in is already aligned with	
Summary of chang	<ul> <li>a) The R99 test case defined in 8.6.1.4 have been vo</li> <li>b) Defined separate test 8.6.1.4A for Rel-4 and later.</li> <li>c) Revision of Annex F.1.5 table F.1.5 to define Test</li> <li>d) Revision of Annex F.2 table F.2.4 to define Test</li> <li>e) Revision of Annex F.4 table F4.4 to refer to derivate</li> </ul>	ided. System Uncertainty Tolerances tion of test requirements	
Consequences if not approved:	The test implementation will not match the requirements of good UE.	25.133 and may fail a	
Clauses affected:	器 8.6.1.4, Annext F, new clause 8.6.1.4A		
Other specs affected:	YNXOther core specificationsXTest specificationsXO&M Specifications		
Other comments:	* This CR is applicable for UE's supporting Rel-99 or later. been voided since it can not be completed due to an error	The R99 test case have or in core specification	

25.133. The Rel-4 and later test is already aligned with 25.133.

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 (R99)

### 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 Release 99 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
		Channel 12.2 kbps	
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.
			NOTE: See Annex I for cell information.
T1	S	200	
T2	S	201	

<sup>[</sup>Editor's Note: The minimum requirements defined in TS 25.133 [2] are not completed for the release 99 test case therefore this test case is not testable and should be considered i Voidî until the errors are fixed in TS 25.133.]

Parameter	Unit	Cell 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 Ec/lor	dB	-1.049		-0.941	_
$\dot{P}_{or}/I_{oc}$	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.
- 5) 5 seconds after step4 has completed, the fading simulator is switched on, configured with the settings described in the tables above at the beginning of T1.
- 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 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. 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 from the beginning of T2, the UE is switched off.
- 13)Repeat steps 1-12 until the confidence level according to annex F.6.2 is achieved.

#### 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:

### 5

### MEASUREMENT CONTROL message:

Message Type (10.2.17)	Information Element/Group name	Value/Remark
UE information elements       0         -InRC transaction identifier       0         -Integrity check info       SS calculates the value of MAC-I for this message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.         -RRC transaction identifier       SS provides the value of this IE. from its internal counter.         -RRC transaction identifier       Not present         -RRC transaction identifier       1         -RRC transaction identifier       Not present         -RRC transaction identifier       1         -Resourcement Identity       1         -Measurement Report Transfer Mode       AR ILC         -Periodical Reporting / Event Trigger Reporting Mode       AR ILC         -Intra-frequency measurement (10.3.7.30)       Intra-frequency measurement (10.3.7.30)         -Intra-frequency measurement quantity (10.3.7.41)       Reporting indicator         -Cell Operiting indicator       TRUE         -Cell Identity reporting indicator       TRUE <t< td=""><td>Message Type (10.2.17)</td><td></td></t<>	Message Type (10.2.17)	
-RRC transaction identifier         0           -message authentication code         S Calculates the value of MAC-I for this message and writes to this IE. The first/ incest significant bit of the bit string contains the most significant bit of the MAC-I. SS provides the value of this IE, from its internal counter.	UE information elements	
-Integrity check info	-RRC transaction identifier	0
-message authentication code         SS calculates the value of MAC-1 for this message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-1.           -RRC message sequence number         SS provides the value of this IE. from its internal counter.           Measurement Information elements         1           Measurement Command (10.3.7.46)         1           Measurement Reporting (Mode (10.3.7.40)         1           -Periodical Reporting (Four Integer Reporting Mode -Additional measurements list (10.3.7.36)         1           -Intra-frequency measurement (10.3.7.36)         Intra-frequency measurement (10.3.7.30)           -Intra-frequency measurement (10.3.7.41)         Not Present           -Reporting Quantity (10.3.7.41)         FDD           -PicH Ec/No Group (Indicator -CHCH Ec/N or porting indicator         TRUE (Note 1)           -Reporting quantity reporting indicator         TRUE -CHCH Ec/N or FDD           -CHCH Ec/N or CPICH Ec/N or porting indicator         TRUE -CHCH Ec/N or FDD           -CHCH Ec/N or porting indicator         TRUE -CHCH Ec/N or FDD           -CHCH Ec/N or porting indicator         TRUE -CHCH Ec/N or porting indicator           -CHCH Ec/N or porting indicator         TRUE -CHCH Ec/N or FDD           -CHCH Ec/N or porting indicator         TRUE -CHCH Ec/N or FDD           -CHCH Ec/N or porting indicator         FALSE <t< td=""><td>-Integrity check info</td><td></td></t<>	-Integrity check info	
Measurement Information elements         Internat Control.           Measurement Command (10.3.7.46)         1           Measurement Command (10.3.7.46)         Modify           Measurement Report Transfer Mode         AM RLC           -Periodical Reporting Mode (10.3.7.49)         Modify           -Additional measurements Its (10.3.7.1)         Not Present           -Intra-frequency measurement (10.3.7.36)         Intra-frequency measurement (10.3.7.37.36)           -Intra-frequency measurement quantity (10.3.7.31)         Not Present           -Intra-frequency measurement quantity (10.3.7.41)         FDD           -Reporting quantities for active set cells (10.3.7.5)         CPICH Ec/N 0           -CHOICE mode         FDD           -CPICH RC/N reporting indicator         TRUE           -CPICH RC/N reporting indicator         TRUE           -CPICH RC/N reporting indicator         FALSE           -Reporting quantities for monitored set cells (10.3.7.5)         Cell synchronisation information reporting indicator           -CPICH RC/N reporting indicator         TRUE           -CPICH RC/	-message authentication code -RRC message sequence number	SS calculates the value of MAC-I for this message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I. SS provides the value of this IE, from its internal counter
Measurement Identity         1           Measurement Reporting Mode (10.3.7.49)         1           Measurement Reporting Mode (10.3.7.49)         Modify           Measurement Reporting Mode (10.3.7.49)         AM RLC           Periodical Reporting X-event Trigger Reporting Mode         Event trigger           -Additional measurement bigs (10.3.7.30)         Intra-frequency measurement objects list (10.3.7.33)           -Intra-frequency measurement objects list (10.3.7.33)         Not Present           -Intra-frequency measurement quantity (10.3.7.41)         Peporting quantities for active set cells (10.3.7.5)           -Cell Identity reporting indicator         TRUE           -Cell Vorting indicator         TRUE           -CPICH Ec/No reporting indicator         TRUE           -CPICH SCP reporting indicator         TRUE           -CPICH RSCP reporting indicator         TRUE           -CPICH Ec/No reporting indicator         TRUE           -CPICH RSCP reporting indicator         TRUE           -CPICH SCP reporting indicator         TRUE           -CPICH Ec/No reporting indicator         FALSE           -Reporting Cell status (10.3.7.5)<	Measurement Information elements	
Interaction of the second se	Measurement Identity	1
Measurement Reporting Mode (10.3.7.49)         AM RLC           -Measurement Report Transfer Mode         AM RLC           -Periodical Reporting / Event Trigger Reporting Mode         Not Present           -Additional measurement sits (10.3.7.30)         Intra-frequency measurement objects its (10.3.7.33)           -Intra-frequency measurement objects its (10.3.7.30)         Intra-frequency measurement objects its (10.3.7.30)           -Intra-frequency measurement objects its (10.3.7.30)         Not Present           -Hitter coefficient (10.3.7.9)         0           -CHOICE mode         FDD           -Measurement quantity (10.3.7.41)         CPICH_Ec/NO           -Intra-frequency reporting nucleator         TRUE           -Cell sporting quantities for active set cells (10.3.7.5)         TRUE (Note 1)           -Cell Identity reporting indicator         TRUE           -Pathloss reporting indicator         TRUE           -Pathloss reporting indicator         TRUE           -Cell Identity reporting indicator         TRUE           -Cell Identity reporting indicator         TRUE           -Pathloss reporting indicator         TRUE           -CPICH Ec/NO reporting indicator         TRUE           -CPICH Ec/NO reporting indicator         TRUE           -OPICH Ec/NO reporting indicator         TRUE <td< td=""><td>-Measurement Command (10.3.7.46)</td><td>Modify</td></td<>	-Measurement Command (10.3.7.46)	Modify
Measurement Report Transfer Mode       AM RLC         Periodical Reporting / Event Trigger Reporting Mode       AM RLC         Additional measurements list (10.3.7.1)       Not Present         Intra-frequency measurement (10.3.7.36)       Intra-frequency measurement (10.3.7.37)         -Intra-frequency measurement objects list (10.3.7.38)       Intra-frequency measurement (10.3.7.38)         -Intra-frequency measurement quantity (10.3.7.38)       Not Present         -Hitra-frequency measurement quantity (10.3.7.41)       PICH_Ec/N0         -Henoring quantities for active set cells (10.3.7.5)       -Cell synchronisation information reporting indicator         -CHIOCE mode       FDD         -CHOICE mode       FDD         -CHOICE mode       FDD         -CPICH Ec/No reporting indicator       TRUE         -CPICH Ec/No reporting indicator       FALSE         -Preporting quantities for monitored set cells (10.3.7.5)       -Cell synchronisation information reporting indicator         -CPICH Ec/No reporting indicator       FALSE         -Preporting quantities for detected set cells (10.3.7.5)       -Cell Synchronisation information reporting indicator         -CPICH Ec/No reporting indicator       FALSE         -Preporting cell status (10.3.7.1)       Not Present         -Measurement validity (10.3.7.5)       Not Present         -CHOICE	-Measurement Beporting Mode (10.3.7.49)	Wearry
-Periodical Reporting / Event Trigger Reporting Mode       Event trigger         -Additional measurements list (10.3.7.1)       Not Present         -Intra-frequency measurement objects Ist (10.3.7.38)       Intra-frequency measurement objects Ist (10.3.7.39)         -Intra-frequency measurement objects Ist (10.3.7.39)       0         -Filter coefficient (10.3.7.9)       0         -Cell Spectric Filter Coefficient (10.3.7.9)       0         -Cell spectro reasurement quantity (10.3.7.41)       FReporting quantities for active set cells (10.3.7.5)         -Cell spectro reporting indicator       TRUE         -CHOICE mode       FDD         -Cell spectring indicator       TRUE         -Pathloss reporting indicator       TRUE         -Pathloss reporting indicator       TRUE         -Pathloss reporting indicator       TRUE         -Dell dentity reporting indicator       TRUE         -OPICH EC/NO reporting indicator       TRUE         -OPICH EC/NO reporting indicator       TRUE         -Pathloss reporting indicator       TRUE         -OPICH EC/NO reporting indicator       TRUE         -OPICH EC/NO reporting indicator       TRUE         -Paporting cell status (10.3.7.5)       Not Present         -CPICH EC/NO reporting indicator       FALSE         -Reporting cell status	-Measurement Report Transfer Mode	AMBLC
Additional measurements list (10.3.7.1)     Not Present       -CHOICE Measurement type     Intra-frequency measurement (10.3.7.36)     Intra-frequency measurement objects list (10.3.7.33)       -Intra-frequency measurement quantity (10.3.7.38)     0       -Filter coefficient (10.3.7.9)     0       -CHOICE mode     FDD       -Cell synchronisation information reporting indicator     TRUE (Note 1)       -Cell cerlw reporting indicator     TRUE       -CHOICE mode     FDD       -CPICH RSCP reporting indicator     TRUE       -CPICH RSCP reporting indicator     TRUE       -CPICH RSCP reporting indicator     TRUE       -Pathloss reporting indicator     FALSE       -Reporting quantities for monitored set cells (10.3.7.5)     TRUE (Note 1)       -Cell dentity reporting indicator     TRUE       -PAthloss reporting indicator     TRUE       -PAthloss reporting indicator     TRUE       -OPICH RSCP reporting indicator     TRUE       -OPICH RSCP reporting indicator     TRUE       -Pathloss reporting indicator     FALSE       -Reporting cell status (10.3.7.5)     Not Present       -OPICH RSCP reporting indicator     FALSE       -Pathloss reporting indicator     FALSE       -Pathloss reporting indicator     FALSE       -Pathloss reporting indicator     FALSE       -Pathloss	-Periodical Reporting / Event Triager Reporting Mode	Event trigger
-CHOICE Measurement type       Intra-frequency measurement (10.3.7.36)         -Intra-frequency measurement objects list (10.3.7.39)       Intra-frequency measurement objects list (10.3.7.39)         -Intra-frequency measurement objects list (10.3.7.39)       0         -Hitz-frequency measurement objects list (10.3.7.39)       0         -Heasurement quantity (10.3.7.41)       Feporting quantities for active set cells (10.3.7.5)         -Cell synchronisation information reporting indicator       TRUE         -CHOICE mode       FDD         -Cell dentity reporting indicator       TRUE         -CHOICE mode       FDD         -Cell synchronisation information reporting indicator       TRUE         -CHOICE mode       FDD         -CHOICE mode       TRUE         -OPICH RSCP reporting indicator       TRUE         -Pathloss reporting indicator       TRUE         -Cell synchronisation information reporting indicator       TRUE         -CHOICE mode       FDD         -OPICH RSCP reporting indicator       TRUE         -Pathloss reporting indicator       TRUE         -Pathloss reporting indicator       TRUE         -Pathloss reporting indicator       TRUE         -Heporting quantities for detected set cells (10.3.7.5)       Not Present         -Measurement validity (10.3.7.61	-Additional measurements list (10.3.7.1)	Not Present
-Intra-frequency measurement (10.3.7.36)       Intra-frequency measurement quantity (10.3.7.33)         -Intra-frequency measurement quantity (10.3.7.38)       0         -CHOICE mode       FDD         -Reporting quantities for active set cells (10.3.7.5)       0         -Cell synchronisation information reporting indicator       TRUE (Note 1)         -CHOICE mode       FDD         -CPICH Ec/NO       TRUE         -Cell dentity reporting indicator       TRUE         -CPICH RSCP reporting indicator       TRUE         -CHOICE mode       FDD         -CPICH RSCP reporting indicator       TRUE         -CPICH RSCP reporting indicator       TRUE         -CHOICE mode       FDD         -CPICH RSCP reporting indicator       TRUE         -CPICH RSCP reporting indicator       TRUE         -CPICH RSCP reporting indicator       TRUE         -Pathloss reporting indicator       TRUE         -Reporting quantities for detected set cells (10.3.7.5)       Not Present         -CHOICE requency measurement reporting criteria (10.3.7.39)       -Parameters required for each event         -Intra-frequen	-CHOICE Measurement type	Intra-frequency measurement
- 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)     0       - CHOICE mode     FDD       - Measurement quantity (10.3.7.41)     FDD       - Reporting quantities for active set cells (10.3.7.5)     Cell synchronisation information reporting indicator       - Cell synchronisation information reporting indicator     TRUE       - CHOICE mode     FDD       - CPICH Ec/N0 reporting indicator     TRUE       - CPICH Ec/N0 reporting indicator     TRUE       - Pathloss reporting indicator     TRUE       - Pathloss reporting indicator     TRUE       - Cell synchronisation information reporting indicator     TRUE       - CPICH Ec/N0 reporting indicator     TRUE       - CHOICE mode     FDD       - CPICH Ec/N0 reporting indicator     TRUE       - CHOICE mode     FDD       - OPICH Ec/N0 reporting indicator     TRUE       - Pathloss reporting indicator     FALSE       - Reporting quantities for ache event     Not Present<	-Intra-frequency measurement (10.3.7.36)	initia nequency measurement
-Intra-frequency measurement quantity (10.3.7.38)       -         -Filter coefficient (10.3.7.9)       0         -CHOICE mode       FDD         -Reporting quantities for active set cells (10.3.7.5)       -         -Cell synchronisation information reporting indicator       TRUE (Note 1)         -Cell cellwater of the proving indicator       TRUE         -CHOICE mode       FDD         -CPICH RSCP reporting indicator       FALSE         -PReporting quantities for monitored set cells (10.3.7.5)       -         -Cell synchronisation information reporting indicator       FALSE         -PICH RSCP reporting indicator       FALSE         -PReporting quantities for monitored set cells (10.3.7.5)       -         -Cell synchronisation information reporting indicator       TRUE         -CHOICE mode       FDD         -CPICH RSCP reporting indicator       TRUE         -Cell synchronisation information reporting indicator       TRUE         -CPICH RSCP reporting indicator       TRUE         -Pathloss reporting indicator       FALSE         -Reporting quantities for detected set cells (10.3.7.5)       Not Present         -CHOICE report criteria       Intra-frequency measurement reporting criteria         -Reporting quantities for detected set cells (10.3.7.39)       - <td< td=""><td>-Intra-frequency measurement objects list (10.3.7.33)</td><td>Not Present</td></td<>	-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 indicator       FDD         -Cell synchronisation information reporting indicator       TRUE (Note 1)         -Cell dentity reporting indicator       TRUE         -CHOICE mode       FDD         -CHOICE mode       FDD         -CHOICE mode       FDD         -CHOICE mode       FDD         -CHOICE mode       FALSE         -Reporting quantities for monitored set cells (10.3.7.5)       TRUE         -Cell synchronisation information reporting indicator       TRUE         -Pathloss reporting indicator       TRUE         -OPICH RSCP reporting indicator       TRUE         -OPICH RSCP reporting indicator       FALSE         -Pathloss reporting indicator       FALSE         -Pathloss reporting indicator       FALSE         -Peopring quantities for detected set cells (10.3.7.5)       Not Present         -Measurement validity (10.3.7.51)       Not Present         -Parameters required for each event       FALSE         -Parameters required for each event       2         -Intra-frequency emeasurement reporting range       Not Present         -Cell Strobidde	-Intra-frequency measurement quantity (10.3.7.38)	
-CHOICE mode       FDD         -Measurement quantity       FDD         -Intra-frequency reporting quantity (10.3.7.41)       FReporting quantities for active set cells (10.3.7.5)         -Cell synchronisation information reporting indicator       TRUE (Note 1)         -CHOICE mode       FDD         -CPICH RSCP reporting indicator       TRUE         -Pathloss reporting indicator       TRUE         -Pathloss reporting indicator       FALSE         -Reporting quantities for monitored set cells (10.3.7.5)       TRUE (Note 1)         -Cell synchronisation information reporting indicator       TRUE         -OPICH RSCP reporting indicator       TRUE         -CHOICE mode       FDD         -OPICH RSCP reporting indicator       TRUE         -Cell dentity reporting indicator       TRUE         -OPICH RSCP reporting indicator       TRUE         -OPICH RSCP reporting indicator       FALSE         -Perporting quantities for detected set cells (10.3.7.5)       Not Present         -Measurement validity (10.3.7.51)       Not Present         -Measurement validity (10.3.7.51)       Not Present         -Measurement validition 2       Active set cells and monitored set cells         -Reporting Range Constant       0 dB         -Cell Sorbidden to affect Reporting Range       <	-Filter coefficient (10.3.7.9)	0
-Measurement quantity         CPICH_Ec/N0           -Intra-frequency reporting quantities for active set cells (10.3.7.5)         -Cell synchronisation information reporting indicator         TRUE (Note 1)           -Cell dentity reporting indicator         TRUE         -CPICH Ec/N0 reporting indicator         TRUE           -CPICH BSCP reporting indicator         TRUE         -CPICH BSCP reporting indicator         FALSE           -Reporting quantities for monitored set cells (10.3.7.5)         Cell synchronisation information reporting indicator         TRUE           -Pathloss reporting indicator         FALSE         -Reporting quantities for monitored set cells (10.3.7.5)         Cell synchronisation information reporting indicator         TRUE           -CHICH Ec/N0 reporting indicator         TRUE         -CHICH Ec/N0 reporting indicator         TRUE           -CHICH Ec/N0 reporting indicator         TRUE         -Pathloss reporting indicator         TRUE           -Pathloss reporting indicator         TRUE         -Pathloss reporting indicator         TRUE           -Patholss reporting indicator         TRUE         -Pathloss reporting indicator         FALSE           -Reporting quantities for detected set cells (10.3.7.5)         Not Present         Not Present           -Measurement validity (10.3.7.51)         Not Present         Not Present           -Intra-frequency event identity         <	-CHOICE mode	FDD
-Intra-frequency reporting quantity (10.3.7.41)         -           -Reporting quantities for active set cells (10.3.7.5)         TRUE (Note 1)           -Cell synchronisation information reporting indicator         TRUE           -CHOICE mode         FDD           -CPICH Ec/N0 reporting indicator         TRUE           -PAthOss reporting indicator         TRUE           -PathOss reporting indicator         TRUE           -PathOss reporting indicator         TRUE           -Cell synchronisation information reporting indicator         TRUE           -Cell chritity reporting indicator         TRUE           -Cell Synchronisation information reporting indicator         TRUE           -Cell Chritity reporting indicator         TRUE           -CPICH Ec/N0 reporting indicator         TRUE           -CPICH SCP reporting indicator         TRUE           -CPICH SCP reporting indicator         TRUE           -CPICH SCP reporting indicator         FALSE           -Reporting cell status (10.3.7.5)         Not Present           -Reporting cell status (10.3.7.5)         Not Present           -Reporting quantities for detected set cells (10.3.7.3)         Not Present           -Hatorsfrequency measurement reporting criteria (10.3.7.3)         Not Present           -Heporting Range Constant         O dB	-Measurement quantity	CPICH Ec/N0
-Reporting quantities for active set cells (10.3.7.5)         -Cell synchronisation information reporting indicator         -Cell identity reporting indicator         -CHOICE mode         -CPICH RSCP reporting indicator         -Reporting quantities for monitored set cells (10.3.7.5)         -Cell Identity reporting indicator         -Reporting quantities for monitored set cells (10.3.7.5)         -Cell CH RSCP reporting indicator         -Reporting quantities for monitored set cells (10.3.7.5)         -Cell Identity reporting indicator         -CHOICE mode         -CPICH Ec/N0 reporting indicator         -CHOICE mode         -CPICH RSCP reporting indicator         -CHOICE mode         -CPICH RSCP reporting indicator         -CHOICE mode         -CPICH RSCP reporting indicator         -Reporting quantities for detected set cells (10.3.7.5)         Not Present         -Measurement validity (10.3.7.51)         -Masurement validity (10.3.7.51)         -Not Present         -Neasurement validity (10.3.7.51)         -Parameters required for each event         -Parameters required for each event         -Parameters required for each event         -Reporting deactivation threshold         -Reporting deactivation threshold	-Intra-frequency reporting quantity (10.3.7.41)	_ /
-Cell synchronisation information reporting indicator       TRUE (Note 1)         -Cell Identity reporting indicator       TRUE         -CHOICE mode       FDD         -CPICH Ec/N0 reporting indicator       TRUE         -Pathloss reporting indicator       TRUE         -Pathloss reporting indicator       FALSE         -Reporting quantities for monitored set cells (10.3.7.5)       TRUE (Note 1)         -Cell Identity reporting indicator       TRUE         -CHOICE mode       FDD         -Cell Identity reporting indicator       TRUE         -Cell Identity reporting indicator       TRUE         -CHOICE mode       FDD         -CHOICE rooke       FDD         -CPICH Ec/No reporting indicator       TRUE         -CPICH Booke       FALSE         -Paporting quantities for detected set cells (10.3.7.5)       Not Present         -Reporting quantities for detected set cells (10.3.7.3)       Not Present         -Intra-frequency measurement reporting criteria (10.3.7.39)       Parameters required for each event         -Intra-frequency measurement reporting Range Constant       0 dB         -Cells forbidden to affect Reporting Range       0 dB         -Tiringering deactivation threshold       0         -Reporting deactivation threshold       0	-Reporting quantities for active set cells (10.3.7.5)	
-Cell Identity reporting indicator       TRUE         -CHOICE mode       FDD         -CPICH RSCP reporting indicator       TRUE         -Pathloss reporting indicator       FALSE         -Reporting quantities for monitored set cells (10.3.7.5)       FALSE         -CPICH EC/N0 reporting indicator       TRUE         -CHOICE mode       FDD         -CHOICE mode       FDD         -CPICH EC/N0 reporting indicator       TRUE         -CPICH EC/N0 reporting indicator       FALSE         -Pathloss reporting indicator       TRUE         -Pathloss reporting indicator       FALSE         -Reporting quantities for detected set cells (10.3.7.5)       Not Present         -Reporting cell status (10.3.7.61)       Not Present         -Measurement validity (10.3.7.51)       Not Present         -Intra-frequency measurement reporting criteria (10.3.7.39)       2         -Parameters required for each event       2         -Reporting deactivation threshold       0 dB         -Cells forbidden to affect Reporting Range       0 dB         -Triegering condition 2       Not Present         -Reporting deactivation threshold       0         -Threshold used frequency       Not Present         -Threshold used frequency       Not Present <td>-Cell synchronisation information reporting indicator</td> <td>TRUE (Note 1)</td>	-Cell synchronisation information reporting indicator	TRUE (Note 1)
-CHOICE mode       FDD         -CPICH Ec/N0 reporting indicator       TRUE         -Pathloss reporting indicator       FALSE         -Reporting quantities for monitored set cells (10.3.7.5)       TRUE (Note 1)         -Cell synchronisation information reporting indicator       TRUE         -Cell synchronisation information reporting indicator       TRUE         -CHOICE mode       FDD         -CHOICE mode       FDD         -CHOICE mode       FDD         -CPICH RSCP reporting indicator       TRUE         -Pathoss reporting indicator       FALSE         -Reporting call status (10.3.7.61)       Not Present         -Measurement validity (10.3.7.5)       Not Present         -CHOICE report criteria       Intra-frequency measurement reporting criteria (10.3.7.39)         -Parameters required for each event       2         -Intra-frequency weasurement reporting criteria (10.3.7.39)       -Present         -Pargenting Range Constant       0 dB         -Oells forbidden to affect Reporting Range       0 dB         -Threshold used frequency       Not Present         -Time to trigger <td>-Cell Identity reporting indicator</td> <td>TRUE`´´</td>	-Cell Identity reporting indicator	TRUE`´´
- CPICH Ec/N0 reporting indicator       TRUE         - Pathloss reporting indicator       FALSE         - Reporting quantities for monitored set cells (10.3.7.5)       - Cell synchronisation information reporting indicator         - Cell dentity reporting indicator       TRUE         - Cell dentity reporting indicator       TRUE         - CHOLCE mode       FDD         - CPICH Ec/N0 reporting indicator       TRUE         - CPICH Es/N0 reporting indicator       TRUE         - CPICH RSCP reporting indicator       TRUE         - Pathloss reporting indicator       TRUE         - Pathoss reporting cell status (10.3.7.61)       Not Present         - Measurement validity (10.3.7.51)       Not Present         - Intra-frequency measurement reporting criteria (10.3.7.39)       2         - Parameters required for each event       2         - Intra-frequency went identity       Event 1A         - Triggering condition 2       Active set cells and monitored set cells         - Cells forbidden to affect Reporting Range       0 dB         - W       0       0         - Threshold used frequency       Not Pre	-CHOICE mode	FDD
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-Pathloss reporting indicatorFALSE-Reporting quantities for monitored set cells (10.3.7.5)TRUE (Note 1)-Cell identity reporting indicatorTRUE-CHOLCE modeFDD-CPICH Ec/N0 reporting indicatorTRUE-Pathloss reporting indicatorFALSE-Pethloss reporting indicatorFALSE-Reporting quantities for detected set cells (10.3.7.5)Not Present-Reporting quantities for detected set cells (10.3.7.5)Not Present-Reporting quantities for detected set cells (10.3.7.5)Not Present-Reporting quantities for detected set cells (10.3.7.3)Not Present-Reporting Requercy measurement reporting criteria (10.3.7.39)2-Parameters required for each event2-Intra-frequency event identityEvent 1A-Triggering condition 20 dB-Reporting deactivation threshold0-Reporting deactivation threshold0-Reporting deactivation threshold0-Reporting cell statusNot Present-Time to trigger120 ms-Amount of reportingNot present-Reporting condition 1Active set cells and monitored set cells-Reporting condition 1A	-CPICH RSCP reporting indicator	TRUE
-Reporting quantities for monitored set cells (10.3.7.5)       .Cell synchronisation information reporting indicator         -Cell synchronisation information reporting indicator       TRUE (Note 1)         -Cell status       FDD         -CHOICE mode       FDD         -CPICH Ec/N0 reporting indicator       TRUE         -CPICH SCP reporting indicator       FALSE         -Pathloss reporting indicator       FALSE         -Reporting cell status (10.3.7.61)       Not Present         -Measurement validity (10.3.7.51)       Not Present         -CHOICE report 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         -Cells forbidden to affect Reporting Range       Not Present         -W       1.0         -Hysteresis       0 dB         -Threshold used frequency       Not Present         -Time to trigger       120 ms         -Amount of reporting       Not Present         -Time to trigger       Not Present         -Time to trigger       Not Present         -Time to trigger       0 ms (Note 2)         -Reporting numerval	-Pathloss reporting indicator	FALSE
-Cell synchronisation information reporting indicator       TRUE (Note 1)         -Cell Identity reporting indicator       TRUE         -CHOICE mode       FDD         -CPICH Ec/N0 reporting indicator       TRUE         -Pathloss reporting indicator       TRUE         -Pathloss reporting indicator       FALSE         -Reporting quantities for detected set cells (10.3.7.5)       Not Present         -Reporting cell status (10.3.7.61)       Not Present         -Measurement validity (10.3.7.51)       Not Present         -CHOICE report 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         -W       1.0         -Hysteresis       0 dB         -Trime to trigger       120 ms         -Reporting deactivation threshold       0         -Reporting duestitues       Not Present         -Threshold used frequency       Not present         -Time to trigger       0 ms (Note 2)         -Reporting interval       0 ms (	-Reporting quantities for monitored set cells (10.3.7.5)	
-Cell Identity reporting indicator       TRUE         -CHOICE mode       FDD         -CPICH Ec/N0 reporting indicator       TRUE         -Pathloss reporting indicator       FALSE         -Reporting quantities for detected set cells (10.3.7.5)       Not Present         -Reporting cell status (10.3.7.61)       Not Present         -Measurement validity (10.3.7.51)       Not Present         -CHOICE report criteria       Intra-frequency measurement reporting criteria (10.3.7.39)         -Parameters required for each event       2         -Intra-frequency measurement reporting criteria (10.3.7.39)       2         -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       0 dB         -Threshold used frequency       Not Present         -Reporting deactivation threshold       0         -Reporting interval       0 ms (Note Present         -Time to trigger       Not Present         -Amount of reporting       Not Present         -Triggering condition 1       Oms (Note 2)         -Reporting Range Constant       OdB         <	-Cell synchronisation information reporting indicator	TRUE (Note 1)
-CHOICE mode       FDD         -CPICH Ec/N0 reporting indicator       TRUE         -CPICH RSCP reporting indicator       FALSE         -Pathloss reporting indicator       FALSE         -Reporting quantities for detected set cells (10.3.7.5)       Not Present         -Reporting cell status (10.3.7.61)       Not Present         -Measurement validity (10.3.7.51)       Not Present         -CHOICE report 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 daactivation threshold       0 dB         -Threshold used frequency       Not Present         -W       1.0         -Hysteresis       0 dB         -Threshold used frequency       Not Present         -Reporting deactivation threshold       0         -Reporting cell status       0 dB         -Threshold used frequency       Not Present         -Reporting cell status       0 dB         -Threshold used frequency       Not Present         -Reporting deactivation threshold       0         -Reporting deactivation threshold       0	-Cell Identity reporting indicator	TRUE
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-CPICH RSCP reporting indicator       TRUE         -Pathloss reporting indicator       FALSE         -Reporting quantities for detected set cells (10.3.7.5)       Not Present         -Reporting cell status (10.3.7.61)       Not Present         -Measurement validity (10.3.7.51)       Not Present         -CHOICE report 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 deactivation threshold       0 dB         -Threshold used frequency       Not Present         -W       1.0         -Hysteresis       0 dB         -Time to trigger       0 dB         -Threshold used frequency       Not Present         -Reporting deactivation threshold       0         -Reporting interval       0 ms (Note 2)         -Reporting cell status       Not Present         -Intra-frequency event identity       Event 1A	-CPICH Ec/N0 reporting indicator	TRUE
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-Reporting quantities for detected set cells (10.3.7.5)Not Present-Reporting cell status (10.3.7.61)Not Present-Measurement validity (10.3.7.51)Not Present-CHOICE report criteriaIntra-frequency measurement reporting criteria (10.3.7.39)-Parameters required for each event2-Intra-frequency weasurement reporting criteria (10.3.7.39)2-Parameters required for each event2-Intra-frequency event identityEvent 1A-Triggering condition 2Active set cells and monitored set cells-Reporting Range Constant0 dB-W1.0-Hysteresis0 dB-Threshold used frequencyNot Present-Reporting deactivation threshold0-Reporting interval0 dM-Reporting interval0 ms (Note 2)-Reporting cell statusNot Present-Triggering condition 1Active set cells and monitored set cells-Reporting deactivation threshold0-Reporting interval0 ms (Note 2)-Reporting cell statusNot Present-Intra-frequency event identityEvent 18-Triggering condition 1Active set cells and monitored set cells-Reporting Range Constant0 dB-M1.0-Intra-frequency event identityIntra-frequency event identity-Triggering condition 1Active set cells and monitored set cells-Reporting Range Constant0 dB-Reporting Range Constant0 dB-Intra-frequency event identityIntra-frequency-Reporting Range	-Pathloss reporting indicator	FALSE
-Reporting cell status (10.3.7.61)Not Present-Measurement validity (10.3.7.51)Not Present-CHOICE report criteriaIntra-frequency measurement reporting criteria (10.3.7.39)-Parameters required for each event2-Intra-frequency event identityEvent 1A-Triggering condition 2Active set cells and monitored set cells-Reporting Range Constant0 dB-Cells forbidden to affect Reporting Range0 dB-Hysteresis0 dB-Threshold used frequencyNot Present-Reporting deactivation threshold0-Reporting interval0 dS-Reporting cell statusNot Present-W1.0-Hysteresis0 dB-Threshold used frequencyNot Present-Reporting deactivation threshold0-Reporting interval0 ms (Note 2)-Amount of reportingNot Present-Reporting cell statusNot Present-Triggering condition 1Active set cells and monitored set cells-Reporting Range Constant0 dB-MNot Present-Triggering condition 1Active set cells and monitored set cells-Reporting Range Constant0 dB-Reporting Range Constant0 dB-Intra-frequency event identityEvent 1B-Triggering condition 1Active set cells and monitored set cells-Reporting Range Constant0 dB-VW1.0-W0 dB	-Reporting quantities for detected set cells (10.3.7.5)	Not Present
-Measurement validity (10.3.7.51) -CHOICE report criteriaNot Present Intra-frequency measurement reporting criteria-Intra-frequency measurement reporting criteria (10.3.7.39) -Parameters required for each event2-Intra-frequency event identity -Triggering condition 2 -Reporting Range Constant -Cells forbidden to affect Reporting Range -WEvent 1A Active set cells and monitored set cells 0 dB Not Present-W -Hysteresis0 dB 0 dB-Threshold used frequency -Reporting deactivation threshold0 dB 0 Not Present-Time to trigger -Amount of reporting -Reporting cell status120 ms Not Present-Reporting cell statusNot Present-Intra-frequency event identity0 ms (Note 2) Not Present-Reporting Range Constant - Triggering condition 1 - Reporting cell statusNot Present Not Present-Untra-frequency event identity - Triggering condition 1 - Reporting Range Constant - Cells forbidden to affect Reporting Range - W - HysteresisNot Present-Untra-frequency event identity - Triggering condition 1 - Reporting Range Constant - Cells forbidden to affect Reporting Range - WNot Present-Untra-frequency event identity - Triggering condition 1 - Reporting Range Constant - Cells forbidden to affect Reporting Range - WNot Present - I.0	-Reporting cell status (10.3.7.61)	Not Present
-CHOICE report criteriaIntra-frequency measurement reporting criteria-Intra-frequency measurement reporting criteria (10.3.7.39) -Parameters required for each event2-Intra-frequency event identity2-Intra-frequency event identityEvent 1A-Triggering condition 2Active set cells and monitored set cells-Reporting Range Constant0 dB-Cells forbidden to affect Reporting RangeNot Present-W1.0-Hysteresis0 dB-Threshold used frequencyNot Present-Reporting deactivation threshold0-Replacement activation threshold0-Time to trigger120 ms-Amount of reportingNot Present-Reporting cell statusNot Present-Intra-frequency event identityEvent 1B-Triggering condition 1Active set cells and monitored set cells-Reporting Range Constant0 dB-Hysteresis0 dB-Hysteresis0 dB-Intra-frequency event identityEvent 1B-Triggering condition 1Active set cells and monitored set cells-Reporting Range Constant0 dB-Cells forbidden to affect Reporting RangeNot Present-W1.0-Hysteresis0 dB	-Measurement validity (10.3.7.51)	Not Present
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-Trysteresis       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         -W       1.0         -Hysteresis       0 dB	-vv Hystorosis	
- Threshold used nequency       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         - Cells forbidden to affect Reporting Range       Not Present         -W       1.0         -Hysteresis       0 dB	Threshold used frequency	Not Procent
-Replacement activation 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         -W       1.0         -Hysteresis       0 dB	Poporting depetivation threshold	
-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         -W       1.0         -Hysteresis       0 dB	-nepoting deactivation threshold	V Not Present
-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         -W       1.0         -Hysteresis       0 dB	-Time to trigger	120 me
-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         -W       1.0         -Hysteresis       0 dB	-Amount of reporting	Not present
-Reporting cell status     O fils (Note 2)       -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       -W     1.0       -Hysteresis     0 dB	-Beporting interval	0 ms (Note 2)
-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         -W       1.0         -Hysteresis       0 dB	-Reporting cell status	Not Present
-Triggering condition 1     Active set cells and monitored set cells       -Reporting Range Constant     0 dB       -Cells forbidden to affect Reporting Range     Not Present       -W     1.0       -Hysteresis     0 dB	-Intra-frequency event identity	Event 1B
-Reporting Range Constant -Cells forbidden to affect Reporting Range -W -Hysteresis 0 dB Not Present 1.0 0 dB	-Triagering condition 1	Active set cells and monitored set cells
-Cells forbidden to affect Reporting Range Not Present -W 1.0 -Hysteresis 0 dB	-Reporting Bange Constant	0 dB
-W 1.0 -Hysteresis 0 dB	-Cells forbidden to affect Reporting Range	Not Present
-Hysteresis 0 dB	-W	1.0
	-Hysteresis	0 dB

Information Element/Group name	Value/Remark	
-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% of the cases with a confidence level of 95%. The number of successful 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.

# 8.6.1.4A Correct reporting of neighbours in fading propagation condition (Rel-4 and later)

### 8.6.1.4A.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 Release 4 and later FDD UE.

### 8.6.1.4A.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.

### 8.6.1.4A.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.
8.6.1.4A.4 Method of test

8.6.1.4A.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 8.6.1.4A.1 and 8.6.1.4A.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 8.6.1.4A.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
		Channel 12.2 kbps	
Power Control		<u>On</u>	
Active cell		<u>Cell 1</u>	
Reporting range	<u>dB</u>	<u>0</u>	Applicable for event 1A and 1B
<u>Hysteresis</u>	<u>dB</u>	<u>0</u>	
W		1	Applicable for event 1A and 1B
Reporting deactivation		<u>0</u>	Applicable for event 1A
threshold			
Time to Trigger	ms	<u>120</u>	
Filter coefficient		<u>0</u>	
Monitored cell list size		<u>24</u>	Signalled before time T1.
			NOTE: See Annex I for cell information.
<u>T1</u>	S	200	
<u>T2</u>	S	<u>201</u>	

# Table 8.6.1.4A.2: Cell specific test parameters for correct reporting of neighbours in fading propagation condition

Parameter	Unit	Cell 1		Ce	l <u>2</u>
		<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>
CPICH_Ec/lor	<u>dB</u>	-	<u>10</u>	<u>-10</u>	
PCCPCH_Ec/lor	<u>dB</u>	- 1	<u>12</u>	<u>-12</u>	
<u>SCH_Ec/lor</u>	<u>dB</u>	- 1	<u>12</u>	<u>-12</u>	
PICH_Ec/lor	<u>dB</u>	- 1	<u>15</u>	<u>-15</u>	
DPCH Ec/lor	<u>dB</u>	-	<u>17</u>	N/	<u>'A</u>
OCNS Ec/lor	<u>dB</u>	<u>-1.049</u> <u>-0.941</u>		941	
$\dot{P}_{or}/I_{oc}$	<u>dB</u>	<u>7.29</u>	<u>3.29</u>	<u>3.29</u>	<u>7.29</u>
$\underline{Q}_{r(Note 1)}$	<u>dBm</u>	<u>-62.71</u>	<u>-66.71</u>	<u>-66.71</u>	<u>-62.71</u>
I <sub>oc</sub>	<u>dBm/3.84</u> <u>MHz</u>	-70			
CPICH_Ec/lo	<u>dB</u>	<u>-12</u>	<u>-16</u>	<u>-16</u>	<u>-12</u>
Propagation Condition	Case 5 as specified in table D.2.2.1				
Note 1: The nominal Obr values, although not explicitly defined in 25.133 are added here since					
they are implied and	they are implied and need to be identified so that the test equipment can be configured.				

8.6.1.4A.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.
- 5) 5 seconds after step4 has completed, the fading simulator is switched on, configured with the settings in table 8.6.1.4A.3 at the beginning of T1.
- 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 a failure is recorded. If the SS receives number of event 1A reports within the required limit, the number of succesful tests is increased by one.
- 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. 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 from the beginning of T2, the UE is switched off.

13) Repeat steps 1-12 until the confidence level according to annex F.6.2 is achieved.

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:

### MEASUREMENT CONTROL message:

Message Type (10.2.17)	Information Element/Group name	Value/Remark
UE information elements -Inflaging contains inter- -Inflaging contains the -Inflaging contain indicator -Patholds reporting indicator	Message Type (10.2.17)	
FIREC transaction identifier         0           -Integrity check info         S           -Integrity check info         SS calculates the value of MAC-I for this. Integrity check info           -Integrity check info         SS calculates the value of MAC-I for this. Integrity check info           -Integrity check info         SS calculates the value of this IE. The first, Integrity check info           Measurement Information elements         Modify           Measurement Command (10.3.7.49)         Modify           Measurement Reporting Mode (10.3.7.29)         Modify           -Measurement Reporting Mode (10.3.7.29)         Modify           -Measurement Reporting Mode (10.3.7.29)         Not Present           -Intra-frequency measurement Usid (10.3.7.38)         Intra-frequency measurement objects list (10.3.7.39)           -Intra-frequency measurement discid list (10.3.7.31)         Intra-frequency measurement discid list (10.3.7.5)           -CHOICE mode         FDD         CPICH_ECNO           -Intra-frequency measurement discid list (10.3.7.5)         CPICH_ECNO           -CHOICE mode         FDD         FDD           -CHOICE mode         FDD         FDD           -CHOICE mode         FDD         FDD           -CPICH EcNO reporting indicator         TRUE         FDD           -CPICH EcNO reporting indicator	UE information elements	
Integrity check info	-RRC transaction identifier	0
-message authentication code         SS calculates the value of M&C-1 for this.           -REC message sequence number         SS calculates the value of M&C-1 for this.           -REC message sequence number         SS sprovides the value of this IE. The first, lettmost bit of the bit string contains the most significant bit of the MAC-1.           Measurement Information elements         Measurement Heportm (Jourd)           Measurement Reporting Mode (10.3.7.49)         1           Measurement Reporting Mode (10.3.7.49)         Measurement Reporting Mode (10.3.7.49)           -Additional measurement (10.3.7.49)         Not Present           -Additional measurement bits (10.3.7.3)         Intra-frequency measurement (10.3.7.3)           -Intra-frequency measurement objects list (10.3.7.30)         0           -Ether coefficient (10.3.7.41)         EDD           -Intra-frequency measurement objects list (10.3.7.5)         0           -Additional measurement objects list (10.3.7.5)         0           -CPICH EoNO reporting indicator         TRUE           -Additional measurement objects list (10.3.7.5)         -CPICH EoNO reporting indicator           -Additional measurement reporting indicator         TRUE           -CPICH EoNO reporting indicator         TRUE           -CPICH EoNO reporting indicator         TRUE           -CPICH EoNO reporting indicator         TRUE	-Integrity check info	
RRC message sequence number         most significant bit of the MAC-1. SS provides the value of this IE, from its internal counter.           Measurement Identity         1           Measurement Command (10.3.7.46)         Modify          Massurement Reporting Incent Trager Reporting Mode         AM RLC          Parodical Reporting Incent Trager Reporting Mode         Event trigger          Additional measurement sits (10.3.7.40)         Mol Present          Intra-frequency measurement toger Reporting Mode         Event trigger          Intra-frequency measurement toger Reporting Mode         Event trigger          Intra-frequency measurement toger Status St	-message authentication code	SS calculates the value of MAC-I for this message and writes to this IE. The first/ leftmost bit of the bit string contains the
Measurement Identity         1           Measurement Identity         1           Measurement Reporting Mode (10.3.7.49)         Modify           Measurement Report Transfer Mode         AM BLC           Periodical Reporting / Event Triquer Reporting Mode         AM BLC           Additional measurements is (10.3.7.1)         Not Present           CHOICE Measurement (10.3.7.30)         Intra-frequency measurement (10.3.7.30)           -Intra-frequency measurement (10.3.7.30)         Intra-frequency measurement (10.3.7.30)           -Intra-frequency measurement quantity (10.3.7.41)         Not Present           -CHOICE mode         FDD           -CHOICE reporting indicator	-RRC message sequence number	most significant bit of the MAC-I. SS provides the value of this IE, from its internal counter.
Measurement Léonthy         1           Measurement Command (10.3.7.46)         Modity           Measurement Reporting Mode (10.3.7.40)         Modity           -Measurement Report Transfer Mode         AM FLC           -Periodical Reporting / Event Trigger Reporting Mode         Event trigger           -Additional measurement bits (10.3.7.30)         Intra-frequency measurement objects list (10.3.7.33)           -Intra-frequency measurement objects list (10.3.7.30)         0           -CHOICE Measurement type         Intra-frequency measurement objects list (10.3.7.31)           -Intra-frequency measurement objects list (10.3.7.30)         0           -CHOICE mode         CPICH_Ec/N0           -Intra-frequency reporting quantity (10.3.7.41)         CPICH Ec/N0           -Intra-frequency reporting indicator         TRUE           -Cell Identity reporting indicator         TRUE           -CPICH Ec/NO reporting indicator         FBDD           -CPICH Ec/NO reporting indicator         TRUE           -Pathoss reporting indicator         FALSE           -Reporting quantities for monitored set cells (10.3.7.5)         TRUE           -CPICH Ec/NO reporting indicator         FALSE           -Reporting quantities for each event         FALSE           -Reporting quantities for each event         FALSE <td< td=""><td>Measurement Information elements</td><td></td></td<>	Measurement Information elements	
Measurement Reporting Mode (10.3.7.49)         Modify           Measurement Report Transfer Mode         AM FLC           Periodical Reporting / Event Transfer Mode         AM FLC           -Additional measurements list (10.3.7.1)         Not Present           -Intra-frequency measurement (10.3.7.36)         Intra-frequency measurement (10.3.7.38)           -Intra-frequency measurement (10.3.7.41)         Ot Present           -Reporting quantity (10.3.7.41)         Ot Present           -Reporting quantity (10.3.7.41)         CPICH_ECN0           -Intra-frequency measurement quantity         Other (10.3.7.5)           -CHOICE mode         FDD           -CPICH ECNO reporting indicator         FRUE           -Patholas reporting indicator         FRUE           -Cell Worknonsaton indicator         FRUE           -Cell Worknonsaton indicator         FRUE           -OPICH ECNO reporting indicator         FRUE           -OPICH ECNO	-Measurement Identity	1
-Measurement Report Transfer Mode         AM RLC           -Periodical Reporting / Event Tragger Reporting Mode         AM RLC           -Additional measurements list (10.3.7.3)         Intra-frequency measurement sist (10.3.7.3)           -Intra-frequency measurement objects list (10.3.7.3)         Not Present           -Intra-frequency measurement objects list (10.3.7.3)         Not Present           -Intra-frequency measurement objects list (10.3.7.3)         O          Measurement quantity (10.3.7.4)         CPICH Ec/N0          Intra-frequency measurement objects list (10.3.7.5)         O           -Cell synchronisation information reporting indicator         TRUE (Note 1)           -Reporting quantities for active set cells (10.3.7.5)         TRUE (Note 1)           -CPICH Ec/NO reporting indicator         TRUE           -Pathioss reporting indicator         TRUE           -Reporting quantities for active set cells (10.3.7.5)         Cell synchronisation information reporting indicator           -Reporting quantities for decided set cells (10.3.7.5)         Cell synchronisation information reporting indicator           -Reporting quantities for decided set cells (10.3.7.5)         Cell Synchronisation information reporting indicator           -Reporting quantities for decided set cells (10.3.7.5)         Not Present           -OPICH Ec/NO reporting indicator         TRUE           -Reporting c	-Measurement Command (10.3.7.46)	Modify
-Measurement Report Transfer Mode         AM FLC           -Periotical Reporting Yearn Trager Reporting Mode         Not Present           -CHOICE Measurement list (10.3.7.3)         Intra-frequency measurement (10.3.7.3)           -Intra-frequency measurement quantity (10.3.7.3)         Intra-frequency measurement quantity (10.3.7.3)           -Intra-frequency measurement quantity (10.3.7.3)         Not Present           -Intra-frequency measurement quantity (10.3.7.4)         CPICH EcNO           -Intra-frequency reporting quantity (10.3.7.4)         CPICH EcNO           -Intra-frequency reporting quantity (10.3.7.4)         TRUE (Note 1)           -Reporting quantities for active set cells (10.3.7.5)         Cell Synchronig indicator           -CPICH RSCP reporting indicator         TRUE           -OPICH RSCP reporting indicator         TRUE           -Pathoss reporting indicator         TRUE           -OPICH RSCP reporting indicator         TRUE           -CPICH RSCP reporting indicator         TRUE           -OPICH RSCP reporting indicator         TRUE           -CPICH RSCP reporting indicator         TRUE           -OPICH RSCP reporting indicator         TRUE           -OPICH RSCP reporting indicator         TRUE           -OPICH RSCP reporting indicator         TRUE           -Pathosis reporting indicator         TRUE <td>-Measurement Reporting Mode (10.3.7.49)</td> <td></td>	-Measurement Reporting Mode (10.3.7.49)	
-Periodical Reporting / Event Trigger Reporting Mode         Event trigger           -Additional measurements list (10.3.7.1)         Not Present           -Intra-frequency measurement (0.2.7.36)         Intra-frequency measurement (0.2.7.36)           -Intra-frequency measurement (0.2.7.36)         Intra-frequency measurement (0.2.7.36)           -Intra-frequency measurement (0.2.7.36)         0           -Filter coefficient (10.3.7.9)         0           -CHOICE mode         CPIC           -Measurement quantity         CPIC           -Theorement quantity (10.3.7.41)         CPIC = EcN0           -Theorement quantity reporting quantities for active set cells (10.3.7.5)         Cell synchronisation information reporting indicator           -CPICH EcN0 reporting indicator         TRUE         FDD           -CPICH EcN0 reporting indicator         TRUE           -Pathloss reporting indicator         TRUE           -Pathloss reporting indicator         TRUE           -Pathloss reporting indicator         TRUE           -CPICH EcN0 reporting indicator         TRUE           -CPICH EcN0 reporting indicator         FALSE           -CPICH EcN0 reporting indicator         FALSE           -CPICH HSCP reporting indicator         FALSE           -CPICH HSCP reporting indicator         FALSE           -Pat	-Measurement Report Transfer Mode	AM RLC
-Additional measurements list (10.3.7.1)       Not Present         -CHOICE Measurement (10.3.7.36)       Intra-frequency measurement (10.3.7.33)         -Intra-frequency measurement quantity (10.3.7.33)       0         -Filter coefficient (10.3.7.9)       0         -CHOICE mode       EDD         -Cell synchronisation information reporting indicator       TRUE (Note 1)         -Cell synchronisation information reporting indicator       TRUE         -CPICH RSCP reporting indicator       TRUE         -Pathose reporting indicator       TRUE         -Pathose reporting indicator       TRUE         -Pathose reporting indicator       TRUE         -Perporting quantities for detacted s	-Periodical Reporting / Event Trigger Reporting Mode	Event trigger
CHOICE Measurement type       Intra-frequency measurement (10.3.7.36)         -Intra-frequency measurement quantity (10.3.7.33)       Not Present         -Intra-frequency measurement quantity (10.3.7.33)       0         -Reporting quantities for active set cells (10.3.7.5)       0         -Cell synchronisation information reporting indicator       TRUE (Note 1)         -Cell synchronisation information reporting indicator       TRUE         -CPICH Ec/N0 reporting indicator       TRUE         -CPICH Ec/N0 reporting indicator       TRUE         -Pathoss reporting indicator       TRUE         -Cell synchronisation information reporting indicator       TRUE         -Cell dentity reporting indicator       TRUE         -OPICH Ec/N0 reporting indicator       TRUE         -Pathoss reporting indicator       TRUE         -Pathos reporting quantities for detected set cells (10.3.7.5)       Not Present         -Measurement validit	-Additional measurements list (10.3.7.1)	Not Present
-Intra-frequency measurement (10.3.7.36)         Not Present           -Intra-frequency measurement quantity (10.3.7.38)         0           -CHOICE mode         0           -Massurement quantity (10.3.7.38)         0           -Intra-frequency reporting quantity (10.3.7.38)         0           -Hintz-frequency reporting quantity (10.3.7.41)         0           -Reporting quantities for active set cells (10.3.7.5)         CPICH_Ec/N0           -Cell dentity reporting indicator         TRUE           -OPICH RSCP reporting indicator         TRUE           -Pathloss reporting indicator         TRUE           -CPICH RSCP reporting indicator         TRUE           -Cell dentity reporting indicator         TRUE           -Cell dentity reporting indicator         TRUE           -Cell dentity reporting indicator         TRUE           -CPICH RSCP reporting indicator         TRUE           -CPICH RSCP reporting indicator         TRUE           -CPICH RSCP reporting indicator         TRUE           -Pathloss reporting indicator         FALSE           -Reporting quantities for detected set cells (10.3.7.5)         Not Present           -Measurement validity (10.3.7.61)         Not Present           -Measurement validity (10.3.7.5)         Not Present           -Intra-frequency	-CHOICE Measurement type	Intra-frequency measurement
-Intra-frequency measurement objects list (10.3.7.33)         Not Present           -Intra-frequency measurement quantity (10.3.7.38)         0           -CHOICE mode         EDD           -Measurement quantity (10.3.7.41)         EDD           -Reporting quantities for active set cells (10.3.7.5)         Cell Sunchronisation information reporting indicator           -CHOICE mode         EDD           -CPICH Ec/NO reporting indicator         TRUE           -Pathloss reporting indicator         TRUE           -Pathloss reporting indicator         TRUE           -Pathloss reporting indicator         TRUE           -CPICH Ec/NO reporting indicator         TRUE           -Pathloss reporting indicator         TRUE	-Intra-frequency measurement (10.3.7.36)	
-Intra-frequency measurement quantity (10.3.7.38)       0         -EHer coefficient (10.3.7.9)       0         -CHOICE mode       EDD         -Measurement quantity       CPICH_Ec/N0         -Intra-frequency reporting quantity (10.3.7.41)       Preporting quantities for active set cells (10.3.7.5)         -Cell synchronisation information reporting indicator       TRUE (Note 1)         -Cell CE/NO reporting indicator       TRUE         -OPICH RSOP reporting indicator       TRUE         -Pathoss reporting indicator       TRUE         -Pathoss reporting indicator       TRUE         -Cell CH RSOP reporting indicator       TRUE         -Cell CH RSOP reporting indicator       TRUE         -Cell CH RSOP reporting indicator       TRUE         -Cell CHUTy reporting indicator       TRUE         -CPICH RSOP reporting indicator       TRUE         -OPICH RSOP reporting indicator       FALSE         -Pathoss reporting indicator       FALSE         -Pathoss reporting indicator       FALSE         -Parameter sequired for detected set cells (	-Intra-frequency measurement objects list (10.3.7.33)	Not Present
Filter coefficient (10.3.7.9)       0        Measurement quantity       CPICH_Ec/N0        Intra-frequency reporting outitity (10.3.7.41)       CPICH_Ec/N0        Reporting quantities for active set cells (10.3.7.5)       -Oell synchronisation information reporting indicator       TRUE        Cell Identity reporting indicator       TRUE       TRUE        OPICH Ec/N0 reporting indicator       TRUE        Pathloss reporting indicator       TRUE        Pathloss reporting indicator       FALSE        Reporting quantities for monitored set cells (10.3.7.5)       TRUE (Note 1)        Cell Identity reporting indicator       TRUE        OPICH Ec/N0 reporting indicator       TRUE        OPICH Ec/N0 reporting indicator       TRUE        OPICH Ec/N0 reporting indicator       TRUE        OPICH BSCP reporting indicator       TRUE        Pathloss reporting indicator       TRUE        Pethles/N0 reporting indicator       FALSE        Reporting quantities for detected set cells (10.3.7.5)       Not Present        Pathloss reporting indicator       FALSE        Reporting quantities for detected set cells (10.3.7.5)       Not Present        Reporting quantities for detected set cells (10.3.7.39)       -Parameters required for each event	-Intra-frequency measurement quantity (10.3.7.38)	
CHOICE mode         EDD          Measurement quantity         CPICH_Ec/N0          Intra-frequency reporting quantity (10.3.7.41)         TRUE (Note 1)          Cell synchronisation information reporting indicator         TRUE          CHICK mode         EDD          Cell dentity reporting indicator         TRUE          CHICKE mode         EDD          CPICH Ec/N0 reporting indicator         TRUE          Pathoss reporting indicator         TRUE          Pathoss reporting indicator         TRUE          Pathoss reporting indicator         TRUE (Note 1)          Cell synchronisation information reporting indicator         TRUE (Note 1)          Cell lentity reporting indicator         TRUE          Pathoss reporting indicator         TRUE          PCICH RSCP reporting indicator         TRUE          Pathoss reporting indica	-Filter coefficient (10.3.7.9)	<u>0</u>
Measurement quantity         CPICH_Ec/N0           -Intra-frequency reporting quantities for active set cells (10.3.7.5)         TRUE (Note 1)           -Cell dentity reporting indicator         TRUE           -CHOICE mode         FDD           -CPICH Ec/N0 reporting indicator         TRUE           -CPICH SCP reporting indicator         TRUE           -Pathloss reporting indicator         FALSE           -Reporting quantities for monitored set cells (10.3.7.5)         TRUE           -Cell identity reporting indicator         FALSE           -Reporting quantities for monitored set cells (10.3.7.5)         TRUE           -Cell dentity reporting indicator         TRUE           -CHOICE mode         TRUE           -Pathloss reporting indicator         TRUE           -PARDING cell status for detected set cells (10.3.7.5)         Not Present           -Measurement validity (10.3.7.51)         Not Present           -Measurement validity (10.3.7.51)         Not Present           -Parameters required for each event         2           -Intra-frequency weasurement reporting criteria (10.3.7.39)         OdB	<u>-CHOICE mode</u>	FDD
-Intra-frequency reporting quantity (10.3.7.41)         -Reporting quantities for active set cells (10.3.7.5)         -Cell synchronisation information reporting indicator         -CHOLE mode         -CPICH Ec/N0 reporting indicator         -Pathloss reporting indicator         -Pathloss reporting indicator         -Pathloss reporting indicator         -Reporting quantities for monitored set cells (10.3.7.5)         -Cell synchronisation information reporting indicator         -Reporting quantities for monitored set cells (10.3.7.5)         -Cell dentity reporting indicator         -CHOICE mode         -OPICH BSCP reporting indicator         -CHOICE mode         -OPICH BSCP reporting indicator         -Pathloss reporting indicator         -Reporting quantities for detected set cells (10.3.7.5)         -CHOICE mode         -OPICH BSCP reporting indicator         -Reporting quantities for detected set cells (10.3.7.5)         -Not Present         -Reporting quantities for detected set cells (10.3.7.3)         -CHOICE report criteria         -Intra-frequency measurement reporting criteria (10.3.7.39)         -Parameters required for each event         -Intra-frequency event identity         -Triggering condition 2         -Reporting deactivation threshold	-Measurement quantity	CPICH_Ec/N0
Reporting quantities for active set cells (10.3.7.5)        Cell Indentity reporting indicator        Cell Identity reporting indicator        CHOICE mode        CPICH RSCP reporting indicator        Prioth RSCP reporting indicator        Cell Identity reporting indicator        Prioth RSCP reporting indicator        Prioting quantities for detected set cells (10.3.7.5)        Prioting quantities for detected set cells (10.3.7.5)        Reporting quantities for detected set cells (10.3.7.3)        Reporting quantities for each event        Prioting Anape Constant        Prioting Anape Constant        Pring Rainge Constant        Reporting deactivation threshold        Tring dering and tervalion threshold        Reporting deactivation threshold	-Intra-frequency reporting quantity (10.3.7.41)	
Cell synchronisation information reporting indicator       TRUE (Note 1)        Cell Identity reporting indicator       TRUE        CPICH Ec/N0 reporting indicator       TRUE        CPICH RSCP reporting indicator       FALSE        Cell Identity reporting indicator       TRUE        Cell Identity reporting indicator       FALSE        Cell synchronisation information reporting indicator       TRUE        Cell synchronisation information reporting indicator       TRUE        Cell Identity reporting indicator       TRUE        CPICH RSCP reporting indicator       TRUE        Pathloss reporting indicator       FALSE        Peorting quantities for detected set cells (10.3.7.5)       Not Present        Reporting quantities for detected set cells (10.3.7.39)       Not Present        Reporting quantities for each event       2        Intra-frequency measurement reporting criteria (10.3.7.39)       -Parameters required for each event        Horder frequency measurement reporting Range       0 dB        W      Deporting Bange Constant       0 dB        Cells forbidden to affect Reporting Range       0 dB        Threshold used frequency       Not Present        Reporting deactivation threshold       0        Reporting deactivation	<ul> <li>Reporting quantities for active set cells (10.3.7.5)</li> </ul>	
Cell Identity reporting indicator       TRUE        CPICH Ec/N0 reporting indicator       TRUE        Pathloss reporting indicator       FALSE        Reporting quantities for monitored set cells (10.3.7.5)       -Cell Identity reporting indicator        CPICH Ec/N0 reporting indicator       TRUE (Note 1)        Cell Identity reporting indicator       TRUE        CHOICE mode       EDD        CHOICE mode       EDD        CPICH Ec/N0 reporting indicator       TRUE        Pathloss reporting indicator       FALSE        Reporting quantities for detected set cells (10.3.7.5)       Not Present         -Measurement validity (10.3.7.51)       Not Present        Hraafrequency measurement reporting criteria (10.3.7.39)       Parameters required for each event        Intra-frequency weatientity       Event 1A         -Triggering condition 2       Active set cells and monitored set cells        Pathotid set frequency       Not Present        Presenting deactivation threshold       0         -Threshold used frequency <t< td=""><td>-Cell synchronisation information reporting indicator</td><td>TRUE (Note 1)</td></t<>	-Cell synchronisation information reporting indicator	TRUE (Note 1)
CHOICE mode         FDD          CPICH Ec/N0 reporting indicator         TRUE          Pathloss reporting indicator         FALSE          Reporting quantities for monitored set cells (10.3.7.5)         TRUE          Cell synchronisation information reporting indicator         TRUE          Cell dentity reporting indicator         TRUE          Cell synchronisation information reporting indicator         TRUE          CPICH Ec/N0 reporting indicator         TRUE          CPICH RSCP reporting indicator         TRUE          Pathloss reporting undicator         FALSE          Reporting quantities for detected set cells (10.3.7.5)         Not Present          Reporting quantities for detected set cells (10.3.7.5)         Not Present          Reporting cell status (10.3.7.61)         Not Present          Measurement validity (10.3.7.51)         Not Present          Intra-frequency weasurement reporting criteria (10.3.7.39)         2          Intra-frequency went identity         Event 1A          Triggering condition 2         0.dB          Reporting Range Constant         0.dB          Qells forbidden to affect Reporting Range         Not Present          W        Amount of reporting          Tireshoid used frequency         Not Pre	-Cell Identity reporting indicator	TRUE
-CPICH Ec/N0 reporting indicator       TRUE         -Pathloss reporting indicator       FALSE         -Reporting quantities for monitored set cells (10.3.7.5)       TRUE (Note 1)         -Cell synchronisation information reporting indicator       TRUE         -Cell Identity reporting indicator       FDD         -CHOLCE mode       FDD         -CPICH Ec/N0 reporting indicator       FRUE         -CPICH RSCP reporting indicator       FALSE         -Pathloss reporting indicator       FALSE         -Pathloss reporting indicator       FALSE         -Pathloss reporting indicator       FALSE         -Reporting quantities for detected set cells (10.3.7.5)       Not Present         -Reporting cell status (10.3.7.61)       Not Present         -Measurement validity (10.3.7.51)       Not Present         -CHOICE report 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       OdB         -Reporting Range Constant       0 dB         -Qell Status       Not Present         -W       0 dB         -Trieshold used frequency       Not Present         -Reporting Range Constant <td< td=""><td>-CHOICE mode</td><td><u>FDD</u></td></td<>	-CHOICE mode	<u>FDD</u>
CPICH RSCP reporting indicator         TRUE          Pathloss reporting indicator         FALSE          Reporting quantities for monitored set cells (10.3.7.5)         TRUE (Note 1)          Cell Identity reporting indicator         TRUE          Cell Identity reporting indicator         TRUE          CHICH RSCP reporting indicator         TRUE          CPICH RSCP reporting indicator         FALSE          Pathloss reporting indicator         FALSE          Reporting quantities for detected set cells (10.3.7.5)         Not Present          Reporting cell status (10.3.7.61)         Not Present          Measurement validity (10.3.7.51)         Not Present          Horta-frequency measurement reporting criteria (10.3.7.39)         -Parameters required for each event          Intra-frequency measurement reporting riteria (10.3.7.39)         -Parameters required for each event          Intra-frequency measurement reporting criteria (10.3.7.39)         -Parameters required for each event          Intra-frequency measurement reporting Range         Not Present          W         -Cells forbidden to affect Reporting Range         Not Present          W         -Q         -Threshold used frequency         Not Present          Time to trigger         1.0         -Meporting deactivation threshold         Q <td>-CPICH Ec/N0 reporting indicator</td> <td>TRUE</td>	-CPICH Ec/N0 reporting indicator	TRUE
Pathloss reporting indicator         FALSE          Reporting quantities for monitored set cells (10.3.7.5)         TRUE (Note 1)          Cell synchronisation information reporting indicator         TRUE          CHOICE mode         FDD          CPICH Ec/N0 reporting indicator         TRUE          CPICH RSCP reporting indicator         FALSE          Pathloss reporting indicator         FALSE          Pethloss reporting indicator         FALSE          Reporting quantities for detected set cells (10.3.7.5)         Not Present          Measurement validity (10.3.7.51)         Not Present          Intra-frequency measurement reporting criteria (10.3.7.39)         -Parameters required for each event          Intra-frequency measurement reporting Range         0 dB          Triggering condition 2         Active set cells and monitored set cells          Reporting Range Constant         0 dB          Threshold used frequency         Not Present          Reporting deactivation threshold         0          Reporting interval         0          Reporting deactivation threshold         0          Triggering condition 1         0          Threshold used frequency         Not Present          Threshold used frequency         Not Present	-CPICH RSCP reporting indicator	TRUE
-Reporting quantities for monitored set cells (10.3.7.5)       TRUE (Note 1)         -Cell synchronisation information reporting indicator       TRUE         -CHOICE mode       FDD         -CPICH Ec/N0 reporting indicator       TRUE         -CPICH SCP reporting indicator       TRUE         -Pathloss reporting indicator       FALSE         -Reporting cell status (10.3.7.61)       Not Present         -Measurement validity (10.3.7.51)       Not Present         -CHOICE report 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       OdB         -Reporting deactivation threshold       0         -Reporting deactivation threshold       0         -Threshold used frequency       0         -Threshold used frequency       Not Present         -Not Present       0         -Threshold used frequency       Not Present         -Threshold used frequency       Not Present </td <td>-Pathloss reporting indicator</td> <td>FALSE</td>	-Pathloss reporting indicator	FALSE
-Cell synchronisation information reporting indicator       TRUE (Note 1)         -Cell Identity reporting indicator       TRUE         -CPICH Ec/N0 reporting indicator       TRUE         -CPICH RSCP reporting indicator       TRUE         -Pathloss reporting indicator       FALSE         -Reporting quantities for detected set cells (10.3.7.5)       Not Present         -Reporting cell status (10.3.7.61)       Not Present         -CHOICE report 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 data feet Reporting Range       0 dB         -Threshold used frequency       Not Present         -W       1.0         -Heporting deactivation threshold       0         -Reporting deactivation threshold       0         -Reporting deactivation threshold       Not Present         -Time to trigger       120 ms         -Amount of reporting       Not Present         -Reporting ell status       Not Present         -Time to trigger       0 ms (Note 2)         -Reporting interval       Ors (Note 2)         -Reporting Range	-Reporting quantities for monitored set cells (10.3.7.5)	
-Cell Identity reporting indicator       TRUE         -CHOICE mode       FDD         -CPICH Ec/N0 reporting indicator       TRUE         -Pathloss reporting indicator       FALSE         -Reporting cell status (10.3.7.61)       Not Present         -Measurement validity (10.3.7.61)       Not Present         -CHOICE report criteria       Intra-frequency measurement reporting criteria (10.3.7.39)         -Parameters required for each event       2         -Intra-frequency weasurement reporting criteria (10.3.7.39)       -Parameters required for each event         -Intra-frequency event identity       Event 1A         -Triggering condition 2       Active set cells and monitored set cells         -Reporting Range Constant       0 dB         -W       0 dB         -Threshold used frequency       Not Present         -Reporting deactivation threshold       0         -Tringer       0 dB         -Tringer       0 dB         -Threshold used frequency       Not Present         -Tringer       0 dB         -Threshold used frequency       0 dB         -Tringer       0 dB         -Threshold used frequency       0 dB         -Tringer       0 dB         -Tringer       0 dB	-Cell synchronisation information reporting indicator	TRUE (Note 1)
-CHOICE mode       FDD         -CPICH Ec/N0 reporting indicator       TRUE         -CPICH RSCP reporting indicator       FALSE         -Reporting quantities for detected set cells (10.3.7.5)       Not Present         -Reporting cell status (10.3.7.61)       Not Present         -Measurement validity (10.3.7.51)       Not Present         -CHOICE report 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 dade frequency       0 dB         -Threshold used frequency       0 dB         -Threshold used frequency       Not Present         -Reporting deactivation threshold       0         -Reporting cell status       0 dB         -Threshold used frequency       Not Present         -Reporting deactivation threshold       0         -Reporting cell status       Not Present         -Time to trigger       120 ms         -Reporting cell status       Not Present         -Time to trigger       0 ms (Note 2)         -Reporting cell status       Not Present         -Reporting candition 1       Active set cells and	-Cell Identity reporting indicator	TRUE
CPICH Ec/N0 reporting indicator       TRUE        CPICH RSCP reporting indicator       TRUE        Pathloss reporting quantities for detected set cells (10.3.7.5)       Not Present        Reporting cell status (10.3.7.51)       Not Present        CHOICE report criteria       Intra-frequency measurement reporting criteria (10.3.7.39)        Parameters required for each event       2        Intra-frequency measurement reporting criteria (10.3.7.39)       -Parameters required for each event        Intra-frequency measurement reporting criteria (10.3.7.39)       -Parameters required for each event        Intra-frequency event identity       Event 1A         -Triggering condition 2       Active set cells and monitored set cells        Cells forbidden to affect Reporting Range       0 dB        Threshold used frequency       Not Present        W       1.0        Heplacement activation threshold       0        Reporting deactivation threshold       0        Reporting cell status       Not Present        Time to trigger       120 ms        Amount of reporting       Not Present        Tiregering condition 1       Active set cells and monitored set cells        Reporting nange Constant       0 dB        Time to trigger       120 ms	-CHOICE mode	FDD
CPICH RSCP reporting indicator         TRUE           -Pathloss reporting indicator         FALSE           -Reporting quantities for detected set cells (10.3.7.5)         Not Present           -Reporting cell status (10.3.7.61)         Not Present           -Measurement validity (10.3.7.51)         Not Present           -CHOICE report criteria         Intra-frequency measurement reporting criteria (10.3.7.39)           -Parameters required for each event         2           -Intra-frequency vext 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           -W         -Hysteresis           -Threshold used frequency         0 dB           -Tringering cell status         0 dB           -Tringering cell status         0 dB           -Tringering cell status         0 dB           -Tringering condition threshold         0           -Reporting deactivation threshold         0           -Reporting cell status         Not Present           -Time to trigger         120 ms           -Amount of reporting         Not present           -Reporting nange Constant         0 dB      <	-CPICH Ec/N0 reporting indicator	TRUE
Pathloss reporting indicator       FALSE        Reporting quantities for detected set cells (10.3.7.5)       Not Present        Reporting cell status (10.3.7.61)       Not Present        Measurement validity (10.3.7.51)       Not Present        CHOICE report 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        W       1.0        Hysteresis       0 dB        Threshold used frequency       Not Present        Reporting deactivation threshold       0        Reporting cell status       Not Present        Time to trigger       120 ms        Amount of reporting       Not Present        Time to trigger       120 ms        Reporting cell status       Not Present        Tiriggering condition 1       Active set cells and monitored set cells        Threshold used frequency       Not Present        Reporting flatus       Not Present        Time to trigger	-CPICH RSCP reporting indicator	TRUE
-Reporting quantities for detected set cells (10.3.7.5)       Not Present         -Reporting cell status (10.3.7.61)       Not Present         -Measurement validity (10.3.7.51)       Not Present         -CHOICE report 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         -W       1.0         -Hysteresis       0 dB         -Threshold used frequency       Not Present         -Reporting deactivation threshold       0         -Reporting cell status       Not Present         -Time to trigger       120 ms         -Amount of reporting       Not Present         -Tingering condition 1       Oms (Note 2)         -Reporting Range Constant       OdB         -Time to trigger       0         -Reporting interval       0         -Time to trigger       0         -Reporting condition 1       Active set cells and monitored set cells         -Reporting condition 1       0         -Reportin	-Pathloss reporting indicator	FALSE
Reporting cell status (10.3.7.61)       Not Present        Measurement validity (10.3.7.51)       Not Present        CHOICE report 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        W       1.0        Hysteresis       0 dB        Threshold used frequency       Not Present        Reporting deactivation threshold       0        Reporting interval       0        Reporting cell status       Not Present        Reporting deactivation threshold       Not Present        Time to trigger       120 ms        Amount of reporting       Not Present        Reporting cell status       Not Present        Intra-frequency event identity       Event 1B        Triggering condition 1       Active set cells and monitored set cells        Reporting reporting interval       0 ms (Note 2)        Reporting cell status       Not Present        Intra-frequency event identity       Active set cells and monitored set cells        Intra-frequ	-Reporting quantities for detected set cells (10.3.7.5)	Not Present
Measurement validity (10.3.7.51)       Not Present        CHOICE report criteria       Intra-frequency measurement reporting criteria (10.3.7.39)        Parameters required for each event       2        Intra-frequency measurement reporting criteria (10.3.7.39)       2        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        W       1.0        Hysteresis       0 dB        Threshold used frequency       Not Present        Reporting deactivation threshold       0        Reporting deactivation threshold       0        Reporting open context       0        Reporting cell status       Not Present        Time to trigger       120 ms        Amount of reporting       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        Intra-frequency event identi	-Reporting cell status (10.3.7.61)	Not Present
-CHOICE report 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         -W       1.0         -Hysteresis       0 dB         -Threshold used frequency       Not Present         -Reporting deactivation threshold       0         -Reporting thereand       120 ms         -Amount of reporting       Not Present         -Amount of reporting       Not Present         -Tingering condition 1       O ms (Note 2)         -Reporting nerval       Not Present         -Tingering condition 1       Active set cells and monitored set cells         -Time to trigger       120 ms         -Amount of reporting       Not Present         -Intra-frequency event identity       Event 1B         -Triggering condition 1       Active set cells and monitored set cells         -Priggering condition 1       Active set cells and monitored set cells         -Priggering condition 1       Active set cells and monitored set cells         -Reportin	-Measurement validity (10.3.7.51)	Not Present
-Intra-frequency measurement reporting criteria (10.3.7.39)       criteria         -Intra-frequency event identity       2         -Intra-frequency event identity       Event 1A         -Triggering condition 2       Active set cells and monitored set cells         -Reporting Range Constant       0 dB         -W       1.0         -Hysteresis       0 dB         -Threshold used frequency       Not Present         -Reporting deactivation threshold       0         -Reporting deactivation threshold       0         -Time to trigger       120 ms         -Amount of reporting       Not Present         -Reporting cell status       Not Present         -Reporting cell status       Not Present         -Triggering condition 1       Oms (Note 2)         -Reporting cell status       Not Present         -Intra-frequency event identity       Event 1B         -Triggering condition 1       OdB         -Reporting Range Constant       OdB         -Hysteresis       OdB         -Intra-frequency event identity       Event 1B         -Triggering condition 1       OdB         -Reporting Range Constant       OdB         -Hysteresis       OdB         -W       0	-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       0 dB         -Cells forbidden to affect Reporting Range       Not Present         -W       1.0         -Hysteresis       0 dB         -Threshold used frequency       Not Present         -Reporting deactivation threshold       0         -Replacement activation threshold       0         -Time to trigger       120 ms         -Amount of reporting       Not Present         -Reporting cell status       Not Present         -Intra-frequency event identity       Event 1B         -Triggering condition 1       Active set cells and monitored set cells         -Intra-frequency event identity       O dB         -Triggering condition 1       Active set cells and monitored set cells         -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         -Hysteresis       0 dB		criteria
-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         -W       1.0         -Hysteresis       0 dB         -Threshold used frequency       Not Present         -Reporting deactivation threshold       0         -Replacement activation threshold       0         -Time to trigger       120 ms         -Amount of reporting       Not Present         -Reporting cell status       Not Present         -Intra-frequency event identity       Status         -Triggering condition 1       Oms (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       O dB         -W       0         -Hysteresis       0 dB	-Intra-frequency measurement reporting criteria (10.3.7.39)	
-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         -W       1.0         -Hysteresis       0 dB         -Threshold used frequency       Not Present         -Reporting deactivation threshold       0         -Replacement activation threshold       0         -Time to trigger       120 ms         -Amount of reporting       Not Present         -Reporting cell status       O ms (Note 2)         -Reporting Range Constant       0         -Intra-frequency event identity       Event 1B         -Triggering condition 1       Active set cells and monitored set cells         -Reporting Range Constant       0 dB         -W       0 dB         -W       1.0         -W       0 dB	-Parameters required for each event	2
-Triggering condition 2Active set cells and monitored set cells-Reporting Range Constant0 dB-Cells forbidden to affect Reporting RangeNot Present-W1.0-Hysteresis0 dB-Threshold used frequencyNot Present-Reporting deactivation threshold0-Replacement activation threshold0-Time to trigger120 ms-Amount of reportingNot Present-Reporting cell status0 ms (Note 2)-Reporting condition 1Active set cells and monitored set cells-Intra-frequency event identityEvent 1B-Triggering condition 1Active set cells and monitored set cells-Reporting Range Constant0 dB-W0-W1.0-W0-W0-W0-Hysteresis0 dB	-Intra-frequency event identity	Event 1A
-Reporting Range Constant       0 dB         -Cells forbidden to affect Reporting Range       Not Present         -W       1.0         -Hysteresis       0 dB         -Threshold used frequency       Not Present         -Reporting deactivation threshold       0         -Replacement activation threshold       0         -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	-Triggering condition 2	Active set cells and monitored set cells
-Cells forbidden to affect Reporting Range       Not Present         -W       1.0         -Hysteresis       0 dB         -Threshold used frequency       Not Present         -Reporting deactivation threshold       0         -Replacement activation threshold       0         -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         -W       1.0         -W       1.0         -Hysteresis       0 dB	-Reporting Range Constant	0 dB
-W       1.0         -Hysteresis       0 dB         -Threshold used frequency       Not Present         -Reporting deactivation threshold       0         -Replacement activation threshold       0         -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         -W       1.0         -Hysteresis       0 dB	-Cells forbidden to affect Reporting Range	Not Present
-Hysteresis       0 dB         -Threshold used frequency       Not Present         -Reporting deactivation threshold       0         -Replacement activation threshold       0         -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         -W       1.0         -Hysteresis       0 dB	-W	1.0
-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         -W       1.0         -Hysteresis       0 dB	<u>-Hysteresis</u>	<u>0 dB</u>
-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         -W       1.0         -Hysteresis       0 dB	-Threshold used frequency	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         -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         -W       1.0         -Hysteresis       0 dB	-Reporting deactivation threshold	<u>0</u>
-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         -W       1.0         -Hysteresis       0 dB	-Replacement activation threshold	Not Present
-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         -W       1.0         -Hysteresis       0 dB	-Time to trigger	<u>120 ms</u>
-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         -W       1.0         -Hysteresis       0 dB	-Amount of reporting	Not present
-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         -W       1.0         -Hysteresis       0 dB	-Reporting interval	<u>0 ms (Note 2)</u>
-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         -W       1.0         -Hysteresis       0 dB	-Reporting cell status	Not Present
-Triggering condition 1       Active set cells and monitored set cells         -Reporting Range Constant       0 dB         -Cells forbidden to affect Reporting Range       Not Present         -W       1.0         -Hysteresis       0 dB	-Intra-frequency event identity	Event 1B
-Reporting Range Constant     0 dB       -Cells forbidden to affect Reporting Range     Not Present       -W     1.0       -Hysteresis     0 dB	-Triggering condition 1	Active set cells and monitored set cells
-Cells forbidden to affect Reporting Range       Not Present         -W       1.0         -Hysteresis       0 dB	-Reporting Range Constant	<u>0 dB</u>
-W         1.0           -Hysteresis         0 dB	-Cells forbidden to affect Reporting Range	Not Present
<u>-Hysteresis</u> <u>0 dB</u>	W	1.0
	<u>-Hysteresis</u>	<u>0 dB</u>

Information Element/Group name	Value/Remark	
-Threshold used frequency	Not Present	
-Reporting deactivation threshold	Not Present	
-Replacement activation threshold	Not Present	
-Time to trigger	<u>120 ms</u>	
-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	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	<u>10</u>	

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

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

#### 8.6.1.4A.5 Test requirements

For the test to pass, the total number of successful tests shall be at least 90% of the cases with a confidence level of 95%. The number of successful 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.

# Table 8.6.1.4A.3: Test requirements for correct reporting of neighbours in fading propagation condition

Parameter	Unit	Cell 1 Cell 2		12	
		<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>
CPICH_Ec/lor	<u>dB</u>	<u>-9.30</u>	<u>-9.70</u>	<u>-9.70</u>	<u>-9.30</u>
PCCPCH_Ec/lor	<u>dB</u>	<u>-11.30</u>	<u>-11.70</u>	<u>-11.70</u>	<u>-11.30</u>
SCH Ec/lor	<u>dB</u>	<u>-11.30</u>	<u>-11.70</u>	<u>-11.70</u>	<u>-11.30</u>
PICH_Ec/lor	<u>dB</u>	<u>-14.30</u>	<u>-14.70</u>	<u>-14.70</u>	<u>-14.30</u>
DPCH_Ec/lor	<u>dB</u>	<u>-16.30</u>	<u>-16.70</u>	<u>N/</u>	<u>'A</u>
OCNS_Ec/lor	<u>dB</u>	<u>-1.26</u>	<u>-1.14</u>	<u>-1.02</u>	<u>-1.13</u>
$\dot{P}_{or}/I_{oc}$ (Note 1)	<u>dB</u>	<u>7.30</u>	<u>3.30</u>	<u>3.30</u>	<u>7.30</u>
<u> </u>	<u>dBm</u>	<u>-62.70</u>	<u>-66.70</u>	<u>-66.70</u>	<u>-62.70</u>
I <sub>oc</sub>	<u>dBm/3.84</u> <u>MHz</u>	<u>IBm/3.84</u> /Hz <u>-70</u>			
<u>CPICH_Ec/lo</u> (Note 1)	<u>dB</u>	<u>-11.30</u>	<u>-15.70</u>	<u>-15.70</u>	<u>-11.30</u>
Propagation Condition	On Case 5 as specified in table D.2.2.1				
Note 1: These parameters are not directly settable, but are derived by calculation from the					
settable parameters	S.				

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.

# 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.1.5 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	During T1 and T2:		
	$\frac{CPICH\_E_c}{I_{or}} \pm 0.1 \text{ dB}$ $I_{oc} \pm 1.0 \text{ dB}$		
	During T1:		
	<i>I</i> <sub>or</sub> (2) ±0.7 dB		
	$I_{or}$ (1, 3, 4, 5, 6) relative to $I_{or}$ (2) ±0.3 dB		
	$\frac{\text{During T2:}}{I_{or}} (1) \pm 0.7 \text{ dB}$		
	$I_{or}$ (2, 3, 4, 5, 6) relative to $I_{or}$ (1) ±0.3 dB		
	Assumptions: a) The contributing uncertainties for lor(r loc are derived according to ETR 273-1- factor of k=2.	n), channel power ratio, and 2 [16], with a coverage	
	b) Within each cell, the uncertainty for lo ratio are uncorrelated to each other.	or(n), and channel power	
	c) The relative uncertainties for lor(n) ac have any amount of positive correlation one (fully correlated).	ross different cells may from zero (uncorrelated) to	
	d) Across different cells, the channel pow have any amount of positive correlation one (fully correlated).	wer ratio uncertainties may from zero (uncorrelated) to	
	e) The uncertainty for loc and lor(n) may have any amount of positive correlation from zero (uncorrelated) to one (fully correlated).		
	f) The absolute uncertainty of lor(2) at T uncertainty of lor(1, 3, 4, 5, 6), are uncon Similarly, the absolute uncertainty of lor( uncertainty of lor(2, 3, 4, 5, 6), are uncon	1 and the relative rrelated to each other. (1) at T2 and the relative rrelated to each other.	
	An explanation of correlation between up rationale behind the assumptions, is rec [24].	ncertainties, and of the orded in 3GPP TR 34 902	

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
8.2.2.2 Scenario 2: Multi carrier case	$\frac{Channel 1 during T1 and T2:}{\frac{CPICH \_ E_c}{I_{or}}} \pm 0.1 dB$ $I_{oc} (1) \pm 1.0 dB$	
	$\frac{\text{Channel 1 during T1:}}{I_{or} (1)} \pm 0.7 \text{ dB}$	
	$I_{or}$ (3, 4) relative to $I_{or}$ (1) ±0.3 dB Channel 1 during T2:	
	$I_{or}$ (1) ±0.7 dB $I_{or}$ (3, 4) relative to $I_{or}$ (1) ±0.3 dB	
	Channel 2 during T1 and T2:	
	$\frac{CPICH\_E_c}{I_{or}} = \pm 0.1 \text{ dB}$	
	<i>I<sub>oc</sub></i> (2) ±1.0 dB	
	$\frac{\text{Channel 2 during T1:}}{I_{or}}$	
	$I_{\it or}$ (5, 6) relative to $I_{\it or}$ (2) ±0.3 dB	
	$\frac{\text{Channel 2 during T2:}}{I_{or}}$	
	$I_{\it or}$ (5, 6) relative to $I_{\it or}$ (2) ±0.3 dB	
	Assumptions: a) to e): Same as for the one-frequency	test 8.2.2.1.
	f) The absolute uncertainty of lor(1) and lor(3, 4), are uncorrelated to each other. uncertainty of lor(2) and the relative unc uncorrelated to each other.	the relative uncertainty of Similarly, the absolute ertainty of lor(5, 6), are
	<li>g) The absolute uncertainties for lor(1) a amount of positive correlation from zero correlated).</li>	nd lor(2) may have any (uncorrelated) to one (fully
	<ul> <li>h) The absolute uncertainties for loc(1) a amount of positive correlation from zero correlated).</li> </ul>	and loc(2) may have any (uncorrelated) to one (fully
	An explanation of correlation between un rationale behind the assumptions, is rece [24].	ncertainties, and of the orded in 3GPP TR 34 902

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
8.2.3 UTRAN to GSM Cell Re-Selection		
8.2.3.1 Scenario 1: Both UTRA and GSM level changed	$\dot{P}_{or}/I_{oc}$ ±0.3 dB $I_{oc}/RXLEV$ ±0.3 dB $I_{oc}$ ±1.0 dB	0.1 dB uncertainty in CPICH_Ec ratio
	RXLEV ±1.0 dB	0.3 dB uncertainty in $\dot{P}_{ar}/I_{ac}$
	$\frac{CPICH\_E_c}{I_{or}} = \pm 0.1 \text{ dB}$	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	$\dot{P}_{or}/I_{oc}$ ±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	
	$CPICH \_E_{c}$ +0.1 dB	
	I or	
8.2.4 FDD/TDD cell re-selection	$\dot{P}_{or}/I_{oc}$ ±0.3 dB	Same as 8.2.2.2
	<i>I<sub>oc</sub></i> ±1.0 dB	
	$I_{oc1}/I_{oc2}$ ±0.3 dB	
	$\frac{CPICH \_ E_c}{1 \text{ dB}}$ +0.1 dB	
	I or	
8.3 UTRAN Connected Mode Mobility	During T1 and T2/T2/T4/T5/T6:	
	$\frac{CPICH\_E_c}{L} = \pm 0.1 \text{ dB}$	
	$I_{or}$	
	I = 10 dB	
	Relative delay of paths received from cell 2 with respect to cell 1: ±0.5 chips	
	<u>During T1:</u> Already covered above	
	During T2/T3/T4/T5/T6:	
	$I_{or}$ (2) relative to $I_{or}$ (1) ±0.3 dB	

Clause	Maximum Test System Uncertainty	Derivation of Test System
	Assumptions: a) The contributing uncertainties for lor(n), ch derived according to ETR 273-1-2 [16], with a	nannel power ratio, and loc are a coverage factor of $k=2$ .
	b) Within each cell, the uncertainty for lor(n), uncorrelated to each other.	and channel power ratio are
c) Across different cells, the channel power ratio uncertai amount of positive correlation from zero (uncorrelated) to correlated).		atio uncertainties may have any correlated) to one (fully
	d) The uncertainty for loc and lor(n) may have any amount of po correlation from zero (uncorrelated) to one (fully correlated).	
	e) The absolute uncertainty of lor(1) and the are uncorrelated to each other.	relative uncertainty of lor(2),
	An explanation of correlation between uncert behind the assumptions, is recorded in 3GPF	tainties, and of the rationale P TR 34 902 [24].
8.3.2 FDD/FDD Hard Handover	During T1 and T0 / T0	
8.3.2.1 Handover to intra-frequency cell	$\frac{CPICH \_E_c}{I} = \pm 0.1 \text{ dB}$	
	$I_{or}(1) \pm 0.7 \text{ dB}$	
	<i>I<sub>oc</sub></i> ±1.0 dB	
	<u>During T1:</u> Already covered above	
	<u>During T2 / T3:</u>	
	$I_{or}$ (2) relative to $I_{or}$ (1) ±0.3 dB	
	Assumptions:	
	a) The contributing uncertainties for lor(r loc are derived according to ETR 273-1- factor of k=2.	n), channel power ratio, and 2 [16], with a coverage
	b) Within each cell, the uncertainty for lo ratio are uncorrelated to each other.	r(n), and channel power
	<ul> <li>c) Across different cells, the channel pow have any amount of positive correlation one (fully correlated).</li> </ul>	ver ratio uncertainties may from zero (uncorrelated) to
	<ul> <li>d) The uncertainty for loc and lor(n) may positive correlation from zero (uncorrelation)</li> </ul>	r have any amount of ted) to one (fully correlated).
	e) The absolute uncertainty of lor(1) and lor(2), are uncorrelated to each other.	the relative uncertainty of
	An explanation of correlation between uncert behind the assumptions, is recorded in 3GPF	ainties, and of the rationale P TR 34 902 [24].

Clause	Maximum Test System Uncertainty	Derivation of Test System
8.3.2.2 Handover to inter-frequency cell	Channel 1 during T1 and T2 / T3:	Uncertainty
	CPICH E	
	$\frac{-c}{I}$ ±0.1 dB	
	1 or	
	$I_{or}$ (1) ±0.7 dB	
	$I_{oc}$ (1) ±1.0 dB	
	Channel 2 during T1 and T2 / T3:	
	$I_{oc}$ (2) ±1.0 dB	
	Channel 2 during T1:	
	Already covered above	
	Channel 2 during T2 / T3:	
	CPICH E	
	$\int \frac{1}{I} = \frac{1}{2} = \frac{1}{2} = \frac{1}{2} = \frac{1}{2}$	
	$I_{or}(2) \pm 0.7  \mathrm{dB}$	
	Assumptions:	
	a) The contributing uncertainties for lor(	n), channel power ratio, and
	loc are derived according to ETR 273-1- factor of k=2.	2 [16], with a coverage
	b) Within each cell, the uncertainty for lo ratio are uncorrelated to each other.	or(n), and channel power
	c) Across different cells, the channel pow have any amount of positive correlation one (fully correlated).	ver ratio uncertainties may from zero (uncorrelated) to
	d) The uncertainty for loc(n) and lor(n) n positive correlation from zero (uncorrela	nay have any amount of ted) to one (fully correlated).
	e) The absolute uncertainties for lor(1) a amount of positive correlation from zero correlated).	and lor(2) may have any (uncorrelated) to one (fully
	f) The absolute uncertainties for loc(1) a amount of positive correlation from zero correlated).	nd loc(2) may have any (uncorrelated) to one (fully
	An explanation of correlation between uncert behind the assumptions, is recorded in 3GPF	tainties, and of the rationale P TR 34 902 [24].
8.3.3 FDD/TDD Handover	TBD	
8.3.4 Inter-system Handover from UTRAN FDD to GSM		
8.3.5 Cell Re-selection in CELL FACH		

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
8.3.5.1 One frequency present in the neighbour list	$\frac{\text{During T1 and T2:}}{\frac{\text{CPICH } E_c}{L}} = \pm 0.1 \text{ dB}$	
	$I_{or}$ $I_{oc}$ ±1.0 dB	
	$\frac{\text{During T1:}}{I_{or}} (2) \pm 0.7 \text{ dB}$	
	$I_{\it or}$ (1, 3, 4, 5, 6) relative to $I_{\it or}$ (2) ±0.3 dB	
	$\frac{\text{During T2:}}{I_{or}} (1) \pm 0.7 \text{ dB}$	
	$I_{\it or}$ (2, 3, 4, 5, 6) relative to $I_{\it or}$ (1) ±0.3 dB	
	Assumptions: a) The contributing uncertainties for lor(r loc are derived according to ETR 273-1- factor of k=2.	n), channel power ratio, and 2 [16], with a coverage
	b) Within each cell, the uncertainty for lo ratio are uncorrelated to each other.	r(n), and channel power
	<ul> <li>c) The relative uncertainties for lor(n) ac have any amount of positive correlation one (fully correlated).</li> </ul>	ross different cells may from zero (uncorrelated) to
	d) Across different cells, the channel pow have any amount of positive correlation one (fully correlated).	ver ratio uncertainties may from zero (uncorrelated) to
	<ul> <li>e) The uncertainty for loc and lor(n) may positive correlation from zero (uncorrelation)</li> </ul>	have any amount of ted) to one (fully correlated).
	f) The absolute uncertainty of lor(2) at T uncertainty of lor(1, 3, 4, 5, 6), are uncor Similarly, the absolute uncertainty of lor( uncertainty of lor(2, 3, 4, 5, 6), are uncor	1 and the relative related to each other. 1) at T2 and the relative rrelated to each other.
	An explanation of correlation between uncert behind the assumptions, is recorded in 3GPF	ainties, and of the rationale ? TR 34 902 [24].

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
8.3.5.2 Two frequencies present in the neighbour list	$\frac{Channel 1 during T1 and T2:}{\frac{CPICH \_ E_c}{2}} \pm 0.1 dB$	
	$I_{or}$ $I_{oc}$ (1) ±1.0 dB	
	$\frac{\text{Channel 1 during T1:}}{I_{or}(1)} \pm 0.7 \text{ dB}$	
	$I_{or}$ (3, 4) relative to $I_{or}$ (1) ±0.3 dB	
	$\frac{\text{Channel 1 during T2:}}{I_{or} (1) \pm 0.7 \text{ dB}}$	
	$I_{or}$ (3, 4) relative to $I_{or}$ (1) ±0.3 dB	
	Channel 2 during T1 and T2:	
	$\frac{CPICH\_E_c}{I_{or}} = \pm 0.1 \text{ dB}$	
	<i>I<sub>oc</sub></i> (2) ±1.0 dB	
	Channel 2 during T1:	
	I <sub>or</sub> (2) ±0.7 dB	
	$I_{\it or}$ (5, 6) relative to $I_{\it or}$ (2) ±0.3 dB	
	Channel 2 during T2:	
	I <sub>or</sub> (2) ±0.7 dB	
	$I_{\it or}$ (5, 6) relative to $I_{\it or}$ (2) ±0.3 dB	
	Assumptions: a) to e): Same as for the one-frequency	test 8.3.5.1.
	f) The absolute uncertainty of lor(1) and lor(3, 4), are uncorrelated to each other. uncertainty of lor(2) and the relative uncorrelated to each other.	the relative uncertainty of Similarly, the absolute ertainty of lor(5, 6), are
	g) The absolute uncertainties for lor(1) a amount of positive correlation from zero correlated).	nd lor(2) may have any (uncorrelated) to one (fully
	h) The absolute uncertainties for loc(1) a amount of positive correlation from zero correlated).	and loc(2) may have any (uncorrelated) to one (fully
	An explanation of correlation between uncert behind the assumptions is recorded in 3GPP	ainties, and of the rationale TR 34 902 [24].

Clause	Maximum Test System Uncertainty	Derivation of Test System
8.3.5.3 Cell Re-selection to GSM	$\dot{P}_{or}/I_{oc}$ ±0.3 dB $I_{oc}/RXLEV$ ±0.3 dB	0.1 dB uncertainty in CPICH_Ec ratio
	<i>I<sub>oc</sub></i> ±1.0 dB	0.3 dB uncertainty in $\dot{P}_{or}/I_{oc}$
	$\frac{CPICH\_E_c}{I_{cr}} = \pm 0.1 \text{ dB}$	based on power meter measurement after the combiner
	0	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.
8.3.6 Cell Re-selection in CELL_PCH		
8.3.6.1 One frequency present in the neighbour list	Same as 8.2.2.1	Same as 8.2.2.1
8.3.6.2 Two frequencies present in the neighbour list	Same as 8.2.2.2	Same as 8.2.2.2
8.3.7 Cell Re-selection in URA PCH		
8.3.7.1 One frequency present in the neighbour list	Same as 8.2.2.1	Same as 8.2.2.1
8.3.7.2 Two frequencies present in the neighbour list	Same as 8.2.2.2	Same as 8.2.2.2
8.4 RRC Connection Control		
8.4.1 RRC Re-establishment delay	Settings. $\dot{P}_{or}/I_{oc}$ ±0.3 dB	0.1 dB uncertainty in CPICH_Ec ratio
	$I_{oc}$ ±1.0 dB	0.3 dB uncertainty in $\dot{P}_{or}/I_{oc}$
	$\frac{CPICH\_E_c}{I_{or}} = \pm 0.1 \text{ dB}$	based on power meter measurement after the combiner
		Overall error is the sum of the $\dot{P}_{or}/I_{oc}$ ratio error and the CPICH_Ec/lor ratio.
		The absolute error of the AWGN is specified as 1.0 dB

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
8.4.2 Random Access	Settings. $\dot{P}_{or}/I_{oc}$ ±0.3 dB	0.1 dB uncertainty in AICH_Ec ratio
	<i>I<sub>oc</sub></i> ±1.0 dB	0.3 dB uncertainty in $\dot{R}_{or}/I_{oc}$
	$\frac{AICH\_E_c}{I_{or}} = \pm 0.1 \text{ dB}$	based on power meter measurement after the combiner
		Overall error is the sum of the $\dot{P}_{or}/I_{oc}$ ratio error and the AICH_Ec/lor ratio.
		The absolute error of the AWGN is specified as 1.0 dB
	Measurements: Power difference. ± 1dB Maximum Power: same as 5.5.2	Power difference: Assume symmetric meas error ±1.0 dB comprising RSS of: - 0.7 dB downlink error plus -0.7 dB meas error.
		Maximum Power: 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
8.4.3 Transport format combination selection in UE	$\frac{DPCH\_E_c}{I_{or}} = \pm 0.1 \text{ dB}$	0.1 dB uncertainty in DPCH_Ec ratio
8.5 Timing and Signalling Characteristics		
8.5.1 UE Transmit Liming	$I_{or}$ ±1.0 dB $I_{or1}/I_{or2}$ ±0.3 dB $DPCH - E_c$ = 0.1 dB	0.1 dB uncertainty in DPCH_Ec ratio
		0.3 dB uncertainty in Ior1/Ior2 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	During T1/T4 and T0/T2	
AWGN propagation conditions (R99)	$\frac{\frac{During 11/14 \text{ and } 12/13:}{CPICH \_E_c}}{I_{or}} = \pm 0.1 \text{ dB}$	
	I (1) ±0.7 dB	
	$I_{oc}$ ±1.0 dB	
	During T1/T4 only: Already covered above	
	During T2/T3 only:	
	$I_{or}$ (2) relative to $I_{or}$ (1) ±0.3 dB	

Clause	Maximum Test System Uncertainty	Derivation of Test System
8.6.1.1 A Event triggered reporting in	During T1/T3 and T2:	Oncertainty
AWGN propagation conditions (Rel-4 and	CPICH E	
later)	$\frac{1}{I} = \frac{1}{2} = \frac{1}$	
	$I_{or}$ (1) ±0.7 dB	
	<i>I<sub>oc</sub></i> ±1.0 dB	
	During T1/T3 only:	
	Already covered above	
	During 12 only:	
	$I_{or}$ (2) relative to $I_{or}$ (1) ±0.3 dB	
8.6.1.1 and 8.6.1.1A	Assumptions:	hannel nower ratio and loc are
	derived according to ETR 273-1-2 [16], with	a coverage factor of k=2.
	b) Within each cell, the uncertainty for lor(n),	and channel power ratio are
	uncorrelated to each other.	atio uncertainties may have any
	amount of positive correlation from zero (unc	correlated) to one (fully
	correlated).	
	d) The uncertainty for loc and lor(n) may have correlation from zero (uncorrelated) to one (f	ve any amount of positive
	e) The absolute uncertainty of lor(1) and the	relative uncertainty of lor(2),
	are uncorrelated to each other.	
	behind the assumptions, is recorded in 3GPI	P TR 34 902 [24].
8.6.1.2 Event triggered reporting of	During T0 to T6:	
multiple neighbours in AWGN	CPICH _ E	
propagation condition (R99)	<u> </u>	
	$I_{or}(1) \pm 0.7 \text{ dB}$	
	<i>I<sub>oc</sub></i> ±1.0 dB	
	During T1/T2 T3 and T6	
	I (3) relative to $I$ (1) +0.3 dB	
	$\Gamma_{or}(0)$ relative to $\Gamma_{or}(1)$ _515 ab	
	During T3, T4/T5 and T6:	
	$I_{or}$ (2) relative to $I_{or}$ (1) ±0.3 dB	
	Assumptions:	
	a) The contributing uncertainties for lor(n), cl	hannel power ratio, and loc are
	derived according to ETR 273-1-2 [4], with a	coverage factor of k=2.
	uncorrelated to each other.	
	c) The relative uncertainties for lor(n) across	different cells may have any
	amount of positive correlation from zero (und correlated).	correlated) to one (fully
	d) Across different cells, the channel power i	atio uncertainties may have
	any amount of positive correlation from zero	(uncorrelated) to one (fully
	e) The uncertainty for loc and lor(1) may hav	e any amount of positive
	correlation from zero (uncorrelated) to one (f	ully correlated).
	1) The absolute uncertainty of lor(1) and the are uncorrelated to each other	relative uncertainty of lor(2, 3),
8.6.1.2A Event triggered reporting of	TBD	
multiple neighbours in AWGN propagation condition (Rel-4 and later)		
8.6.1.3 Event triggered reporting of two	TBD	
detectable neighbours in AWGN		
propagation condition		

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
8.6.1.4 Correct reporting of neighbours in fading propagation condition (Bag)	TBD	
8 6 1 4A Correct reporting of neighbours	During T1 and T2	
in fading propagation condition (Rel-4 and	CPICH F	
later)	$\frac{CTTCTL_c}{\pm 0.1 \text{ dB}}$	
	I <sub>or</sub>	
	<i>I</i> <sub>or</sub> <u>(1)</u> ±0.7 dB	
	<i>I<sub>oc</sub></i> <u>±1.0 dB</u>	
	During T1 and T2:	
	$I_{ar}$ (2) relative to $I_{ar}$ (1) ±0.3 dB	
8.6.1.4 and 8.6.1.4A		
<u>0.0.1.1 and 0.0.1.174</u>	a) The contributing uncertainties for lor(n), c	hannel power ratio, and loc are
	derived according to ETR 273-1-2 [16], with	a coverage factor of k=2.
	b) Within each cell. the uncertainty for lor(n).	, and channel power ratio are
	uncorrelated to each other.	
	c) Across different cells, the channel power (	ratio uncertainties may have any
	amount of positive correlation from zero (und	correlated) to one (fully
	correlated).	
	d) The uncertainty for loc and lor(n) may hav	e any amount of positive
	correlation from zero (uncorrelated) to one (1	fully correlated).
	e) The absolute uncertainty of lor(1) and the	relative uncertainty of lor(2)
	are uncorrelated to each other.	<u>·····································</u>
	An explanation of correlation between uncer	tainties, and of the rationale
	behind the assumptions, is recorded in 3GP	<u>P TR 34 902 [24].</u>
8.6.2 FDD inter frequency measurements	700	
8.6.2.1 Correct reporting of neighbours in	IBD	
AWGN propagation condition		
Fading propagation condition		
8.6.3 TDD measurements		
8.6.3.1Correct reporting of TDD	TBD	
neighbours in AWGN propagation		
condition		
8.6.4 GSM Measurement	TBD	
8.7 Measurements Performance		
8.7.1.1 Intra frequency measurements		Same as 8.2.2.1
accuracy	$P_{or}/I_{oc}$ ±0.3 dB	Game as 0.2.2.1
	$I_{oc}$ ±1.0 dB	
	CPICH _ E <sub>c</sub>	
	$I_{or}$ ±0.1 dB	
8.7.1.2 Inter frequency measurement	$\dot{P}_{or}/I_{oc}$ ±0.3 dB	Same as 8.2.2.2
accuracy	<i>I<sub>oc</sub></i> ±1.0 dB	
	$I_{oc1}/I_{oc2}$ ±0.3 dB	
	CPICH _ E	
	$I_{or}$ ±0.1 dB	
8.7.2 CPICH Ec/lo	~ · ·	

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
8.7.2.1 Intra frequency measurements	$\dot{P}_{or}/I_{oc}$ ±0.3 dB	Same as 8.2.2.1
accuracy	<i>I<sub>oc</sub></i> ±1.0 dB	
	CPICH _ E	
	$I_{or}$ ±0.1 dB	
8.7.2.2 Inter frequency measurement	$\dot{P}_{or}/I_{oc}$ ±0.3 dB	Same as 8.2.2.2
accuracy	<i>I<sub>oc</sub></i> ±1.0 dB	
	$I_{oc1}/I_{oc2}$ ±0.3 dB	
	CPICH _ E	
	$\frac{1}{I_{or}} = \pm 0.1 \text{ dB}$	
8.7.3 UTRA Carrier RSSI	$\dot{P}_{or}/I_{oc}$ ±0.3 dB	0.3 dB uncertainty in $\dot{P}_{ar}/I_{ac}$
	<i>I<sub>oc</sub></i> ±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
8.7.3A GSM Carrier RSSI	TBD	
8.7.3C UE Transmitted power	Mean power measurement $\pm$ 0,7 dB	Downlink parameters are unimportant.
8.7.4 SFN-CFN observed time difference		
8.7.4.1 Intra frequency measurements accuracy	$\dot{P}_{or}/I_{oc}$ ±0.3 dB	0.3 dB uncertainty in $\dot{P}_{or}/I_{oc}$
		based on power meter
	±0.5 chips	combiner
		The absolute error of the AWGN is specified as 1.0 dB
8.7.4.2 Inter frequency measurements	$\dot{P}_{or}/I_{oc}$ ±0.3 dB	0.3 dB uncertainty in $\dot{P}_{ar}/I_{ac}$
accuracy	<i>I<sub>oc</sub></i> ±1.0 dB	based on power meter
	Actual SFN-CFN observed time difference: ±0.5 chips	measurement after the combiner
		The absolute error of the AWGN is specified as 1.0 dB
8.7.5.1 SFN-SFN observed time	$\dot{P}_{or}/I_{oc}$ ±0.3 dB	0.3 dB uncertainty in $\dot{P}_{or}/I_{oc}$
	<i>I<sub>oc</sub></i> ±1.0 dB	based on power meter
	Actual SFN-SFN observed time difference type 1: ±0.5 chips	measurement after the combiner
		The absolute error of the AWGN is specified as 1.0 dB
8.7.6 UE Rx-Tx time difference	$\dot{P}_{or}/I_{oc}$ ±0.3 dB	0.3 dB uncertainty in $\dot{P}_{or}/I_{oc}$
	<i>I<sub>oc</sub></i> ±1.0 dB	based on power meter
	Rx-Tx Timing Accuracy ±0.5 chip	measurement after the combiner
		The absolute error of the AWGN is specified as 1.0 dB.

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
8.7.8 P-CCPCH RSCP	TBD	

### F.1.6 Performance requirement (HSDPA)

#### Table F.1.6: Maximum Test System Uncertainty for Performance Requirements (HSDPA)

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
9.2.1 Single Link Performance	$\dot{P}_{or}/I_{oc}$ ±0.3 dB $I_{oc}$ ±1.0 dB	0.1 dB uncertainty in Ec/lor ratio
	$\frac{E_c}{I_{or}}$ ±0.1 dB	0.3 dB uncertainty in $\dot{P}_{or}/I_{oc}$ based on power meter measurement after the combiner
		The absolute error of the AWGN loc is not important for any tests in clause 9 but is specified as 1.0 dB.
9.3.1 AWGN propagation conditions	No test system uncertainty applied	

## 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 range)
uplink	0.15 dB (2 dB range)
	0.2 dB (3 dB range
	0.3 dB (> 3 dB range))
5.4.3 Minimum Output Power	1.0 dB
5.4.4 Out-of-synchronisation handling of	0.4 dB
output power: $DPCCH \_ E_c$	
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
size	
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
	0.0 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	
5.13.4 PRACH preamble quality (EVM)	0%
5.13.4 PRACH preamble quality	10 Hz
(Frequency error)	

#### Table F.2.1: Test Tolerances for transmitter tests.

### F.2.2 Receiver

Table F.2.2: Test T	<b>Folerances</b> for	receiver	tests.
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Clause	Test Tolerance
6.2 Reference sensitivity level	0.7 dB
6.3 Maximum input level:	0.7 dB for lor
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 $\dot{P}_{or}/I_{oc}$
Condition	0.1 dB for DPCH_Ec/lor
7.3 Demodulation of DCH in multipath	0.6 dB for $\dot{P}_{or}/I_{oc}$
Fading Propagation conditions	0.1 dB for DPCH_Ec/lor
7.4 Demodulation of DCH in Moving	0.6 dB for $\dot{P}_{or}/I_{oc}$
Propagation conditions	0.1 dB for DPCH_Ec/lor
7.5 Demodulation of DCH in Birth-Death	0.6 dB for $\dot{P}_{or}/I_{oc}$
Propagation conditions	0.1 dB for DPCH_Ec/lor
7.6.1 Demodulation of DCH in open loop	0.8 dB for $\dot{P}_{or}/I_{oc}$
I ransmit diversity mode	0.1 dB for DPCH_Ec/lor
7.6.2 Demodulation of DCH in closed	0.8 dB for $\dot{P}_{or}/I_{oc}$
loop Transmit diversity mode	0.1 dB for DPCH_Ec/lor
7.6.3, Demodulation of DCH in site	0.8 dB for $\dot{P}_{or}/I_{oc}$
control mode	0.1 dB for DPCH_Ec/lor
7.7.1 Demodulation in inter-cell soft	0.8 dB for $\hat{P}_{ac}/I_{ac}$
Handover conditions	0.1 dB for DPCH_Ec/lor
7.7.2 Combining of TPC commands Test	0 dB for lor1, lor2
1 7.7.9 Combining of TDC commande Test	0.1 dB for DPCH_Ec/lor
2	0.8 dB for $P_{or}/I_{oc}$
-	0.1 dB for DPCH_Ec/lor
BLER target	0.6 dB for $P_{or}/I_{oc}$
7.0.0 Dower control in downlink initial	0.1 dB for DPCH_Ec/lor
convergence	0.6 dB for $P_{or}/I_{oc}$
	0.1 dB for DPCH_Ec/lor
effects	0.6 dB for $P_{or}/I_{oc}$
	0.1 dB for DPCH_Ec/lor
7.9 Downlink compressed mode	0.6 dB for $P_{or}/I_{oc}$
	0.1 dB for DPCH_Ec/lor
7.10 Blind transport format detection	0.3 dB for $\dot{P}_{or}/I_{oc}$
	0.1 dB for DPCH_Ec/lor
7.10 Blind transport format detection	0.6 dB for $\dot{P}_{or}/I_{oc}$
	0.1 dB for DPCH Ec/lor
7.11 Demodulation of paging channel (PCH)	IRD
7.12 Detection of acquisition indicator (AI)	TBD

### 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	

Clause	Toot Toloronoo
o.2.2.1 Scenario 1: Single carrier case	During 11 and 12:
	+0.60 dB for all Cell 1 and 2 Ec/lor ratios
	-0.30  dB for lor(3, 4, 5, 6)
	+0.03 dB 101 101 (3, 4, 3, 0)
	During T1
	-0.27 dB for lor(1)
	+0.13 dB for lor(2)
	During T2:
	+0.13 dB for lor(1)
-	-0.27 dB for lor(2)
8.2.2.2 Scenario 2: Multi carrier case	Channel 1 during T1 and T2:
	+0.70 dB for all Cell 1 Ec/lor ratios
	-0.80 dB for all Cell 3 and 4 Ec/lor ratios
	Channel 1 during T1:
	-0.01  dB for lor(1)
	-0.01  dB for lor(3, 4)
	No change for loc(1)
	3 ()
	Channel 1 during T2:
	+0.75 dB for lor(1)
	-0.05 dB for lor(3, 4)
	-1.80 dB for loc(1)
	Channel 2 during 11 and 12:
	+0.70 dB for all Cell 5 and 6 Ea/lor ratios
	Channel 2 during T1:
	+0.75 dB for lor(2)
	-0.05 dB for lor(5, 6)
	-1.80 dB for loc(2)
	Channel 2 during 12:
	-0.01 dB for lor(2)
	-0.01 dB for lor(5, 6)
0.0.2 LITRAN to COM Call Do Solastion	No change for loc(2)
8.2.3 UTRAN to GSM Cell Re-Selection	> /
level changed	0.3 dB for $I_{or}^{a}/I_{oc}$
	0.1 dB for CPICH Ec/lor
	0.3 dB for loc/RXLEV
8.2.3.2 Scenario 2: Only UTRA level	0.3 dB for $\dot{P}_{or}/I_{oc}$
	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 $\hat{I}_{or}^{1}/I_{oc}$
	0.1 dB for CPICH_Ec/lor
	0.3 dB for loc1/loc2
8.3 UTRAN Connected Mode Mobility	During T1 and T0/T0/T4/T5/T0:
0.3.1 FUD/FUD Soil Handover	$\frac{Duning   1  and   2/13/14/15/16.}{\pm 0.70 dB for all Cell 1 Ec/lor ratios}$
	Relative delay: {ñ147.5 Ö +147.5} chips
	During T1
	During 11: Already covered above
	Alleady covered above
	During T2/T3/T4/T5/T6:
	+0.70 dB for all Cell 2 Ec/lor ratios
8.3.2 EDD/EDD Hard Handover	,

Clause	Test Tolerance
	During T1 and T0 / T2:
0.0.2.1 manuover to intra-irequency cell	$\frac{Duning   1  anu   2    15}{  0  20  dB  for all Coll   1  Ec/los rotion$
	During T1:
	During TT.
	Already covered above
	During 12 / 13:
	+0.70 dB for all Cell 2 Ec/lor ratios
8.3.2.2 Handover to inter-frequency cell	Channel 1 during 11 and 12 / 13:
	+0.80 dB for all Cell 1 Ec/lor ratios
	Channel 2 during 11:
	Not applicable
	Channel 2 during 12 / 13:
	+0.80 dB for all Cell 2 Ec/lor ratios
8.3.3 FDD/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	During T1 and T2:
neighbour list	+0.60 dB for all Cell 1 and 2 Ec/lor ratios
5	-0.50 dB for all Cell 3. 4 .5. 6 Ec/lor ratios
	+0.03 dB for lor(3, 4, 5, 6)
	During T1:
	-0.27  dB for lor(1)
	$\pm 0.13 \text{ dB for lor(2)}$
	During T2 <sup>.</sup>
	$\pm 0.13 \text{ dB for lor}(1)$
	-0.27 dB for lor(2)
8352 Two frequencies present in the	Channel 1 during T1 and T2
neighbour list	0.60 dB for all Cell 1 Ec/lor ratios
	-0.70 dB for all Cell 3 and 4 Ec/lor ratios
	Channel 1 during T1
	$\pm 0.05 \text{ dB for lor(1)}$
	$\pm 0.05 \text{ dB for lor(1)}$
	No change for $loc(1)$
	Channel 1 during T2:
	0.75 dB for lor(1)
	+0.75  dB for lor(1)
	-0.05  uB IOI IOI(5, 4)
	Channel Q during T1 and T2:
	Official for all Call & Faller ration
	+0.00 dB for all Cell 5 and 6 Fa/lor ratios
	-0.70 dB for all Cell 5 and 6 Ec/lor ratios
	Chappel 2 during T1:
	$\frac{\text{Orianiner 2 during 11:}}{0.75 \text{ dP for lor(0)}}$
	+0.75 up tor tor (2)
	-1.00 dB for IOC(2)
	Channel O during TO
	Channel 2 during 12:
	+0.05 dB for lor(2)
	+0.05 dB for lor(5, 6)
	No change for loc(2)
8.3.5.3 Cell Re-selection to GSM	0.3 dB for $\hat{P}$ /I
	U.1 dB for CPICH_EC/lor
	U.3 dB for loc/HXLEV
1836 Cell Re-selection in CELL PCH	

Clause	Tost Toloropoo
8.3.6.1 One frequency present in the	Same as 8.2.2.1
8.3.6.2 Two frequencies present in the	Same as 8.2.2.2
neighbour list	
8.3.7 Cell Re-selection in URA_PCH	-
8.3.7.1 One frequency present in the	Same as 8.2.2.1
neighbour list	
8.3.7.2 Two frequencies present in the	Same as 8.2.2.2
neighbour list	
8.4 RRC Connection Control	
8.4.1 RRC Re-establishment delay	
	$0  dB  for  \hat{k}  /I$
	0 dB for any_Ec/lor
	Zero TT is applied, as level settings are
	not critical with respect to the outcome of
	the test.
8.4.2 Random Access	Settings:
	0.3 dB for $\hat{\mathbf{A}}$ /I
	0.1 dB for AICH_Ec/lor
	Measurements:
	Power difference: ± 1dB
	Maximum Power: -1dB / +0.7dB
8.4.3 Transport format combination	0 dB for DPCH_Ec/lor
selection in UE	
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	During T1/T4 and T2/T3:
AWGN propagation conditions (R99)	+0.70 dB for all Cell 1 Ec/lor ratios
	During T1/T4 only:
	Already covered above
	During T2/T3 only:
	+0.70 dB for all Cell 2 Ec/lor ratios
8.6.1.1 A Event triggered reporting in	During T1/T3 and T2:
AWGN propagation conditions (Rel-4 and	+0.70 dB for all Cell 1 Ec/lor ratios
later)	
	During T1/T3 only:
	Already covered above
	During T2 only:
	+0.70 dB for all Cell 2 Ec/lor ratios
8.6.1.2 Event triggered reporting of	During T0 to T6:
multiple neighbours in AWGN	+0.70 dB for all Cell 1 Ec/lor ratios
propagation condition (R99)	+0.70 dB tor all Cell 2 Ec/lor ratios
	+0.70 dB for all Cell 3 Ec/lor ratiosTBD
8.6.1.2A Event triggered reporting of	טאו
multiple neighbours in AWGN	
propagation condition (Hel-4 and later)	
8.6.1.3 Event triggered reporting of two	טאו
detectable neighbours in AWGN	
propagation condition	700
8.6.1.4 Correct reporting of neighbours in	חאו
rading propagation condition (R99)	
8.6.1.4A Correct reporting of neighbours	During 11:
in rading propagation condition (Rel-4 and	+0.70 dB for all Cell 1 Ec/lor ratios
later)	+0.30 dB for all Cell 2 Ec/lor ratios
	During To
	During 12:
	+U.3U dB for all Cell 1 Ec/lor ratios
	+0.70 dB for all Cell 2 Ec/lor ratios
1862 EDD inter trequency measurements	

Clause	Test Tolerance
8.6.2.1 Correct reporting of neighbours in	TBD
AWGN propagation condition	
8.6.2.2 Correct reporting of neighbours in	TBD
Fading propagation condition	
8.6.3 IDD measurements	TDD
8.6.3.1 Correct reporting of TDD	IBD
condition	
8 7 Measurements Performance	TBD
Requirements	
8.7.1 CPICH RSCP	
8.7.1.1 Intra frequency measurements	
accuracy	0.3 dB for $P_{or}/I_{oc}$
	0.1 dB for CPICH_Ec/lor
	1.0 dB for loc
8.7.1.2 Inter frequency measurement	0.3 dB for $\dot{P}_{a}/I_{a}$
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	
8.7.2.1 Intra frequency measurements	
accuracy	0.3 dB for $F_{or}/I_{oc}$
	0.1 dB for CPICH_Ec/lor
8.7.2.2 Inter frequency measurement	0.3 dB for $\dot{P}$ /I
accuracy	0.1 dB for CPICH Ec/lor
8.7.3 UTRA Carrier RSSI	
	1.0 dB for loc
8 7 34 GSM Carrier BSSI	
8 7 3B Transport channel BI FB	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 $\hat{\mathbf{A}} / I$
	$\frac{1}{2} \frac{1}{2} \frac{1}$
	1.0 dB for loc
	±0.5 chips for the actual SFN-CFN
	observed time difference
8.7.5.1 SFN-SFN observed time	$0.2 d B for \hat{R} / I$
difference type 1	$\frac{1}{1000} \frac{1}{1000} \frac{1}{10000000000000000000000000000000000$
	1.0 dB for loc
	±0.5 chips for the actual SFN-SFN
	observed time difference type 1
8.7.6 UE Rx-Tx time difference	0.3 dB for $\dot{P}_{a}/I_{a}$
	1.0 dB for loc
	0.5 chip for Bx-Tx Timing Accuracy
8.7.7 Observed time difference to GSM	TBD
cell	
8.7.8 P-CCPCH RSCP	TBD

## F.2.5 Performance requirements (HSDPA)

 Table F.2.5: Test Tolerances for Performance Requirements (HSDPA).

Clause	Test Tolerance
9.2.1 Single Link Performance	0.3 dB for $\hat{P}_{or}/I_{oc}$
	0.1 dB for Ec/lor
9.4 HS-SCCH Detection Performance	0.3 dB for $\dot{P}_{or}/I_{oc}$
	0.1 dB for P-CPICH Ec/lor and HS-SCCH Ec/lor

### F.3 Interpretation of measurement results

The measurement results returned by the Test System are compared ñ without any modification ñ 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 ñ 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.

For some of the more complex tests e.g. RRM, deriving the overall test system uncertainty is not straightforward. In such cases the derivation is given in TR 34.902 [24] rather than in subclause F.1. If it is deemed necessary to apply the additional test system uncertainty rules to these tests, the formula for deriving the new overall uncertainty from any excess fundamental test system uncertainties, shall use the formulas provided in 34.902.

## 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	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	Because the relationships between the Test system uncertainties and the Test Tolerances are complex, it is not possible to give a simple derivation of the Test Requirement in this document. The analysis is recorded in 3GPP TR 34 902 [24].		
	During T1 and T2:	During T1 and T2:	During T1 and T2:
	Cells 1 and 2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	+0.60 dB +0.60 dB +0.60 dB +0.60 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	Cells 3, 4, 5, 6: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	-0.50 dB -0.50 dB -0.50 dB -0.50 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	lor(3, 4, 5, 6) = -69.73 dBm	+0.03 dB for lor(3, 4, 5, 6)	lor(3, 4, 5, 6) + TT
	During T1:	During T1:	During T1:
	lor(1) = -62.73 dBm lor(2) = -59.73 dBm	-0.27 dB for lor(1) +0.13 dB for lor(2)	lor(1) + TT lor(2) + TT
	During T2:	During T2:	During T2:
	lor(1) = -59.73 dBm lor(2) = -62.73 dBm	+0.13 dB for lor(1) -0.27 dB for lor(2)	lor(1) + TT lor(2) + TT
8.2.2.2 Scenario 2: Multi carrier case	Because the relationships between the Test system uncertainties and the Test Tolerances are complex, it is not possible to give a simple derivation of the Test Requirement in this document. The analysis is recorded in 3GPP TR 34 902 [24].		
	Channel 1 during T1 and T2:	Channel 1 during T1 and T2:	Channel 1 during T1 and T2:
	Cell 1: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	+0.70 dB +0.70 dB +0.70 dB +0.70 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	Cells 3 and 4: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	-0.80 dB -0.80 dB -0.80 dB -0.80 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	<u>Channel 1 during T1:</u> lor(1) = -73.39 dBm lor(3, 4) = -77.39 dBm loc(1) = -70.00 dBm	<u>Channel 1 during</u> <u>T1:</u> -0.01 dB for lor(1) -0.01 dB for lor(3,4) 0.00 dB for loc(1)	<u>Channel 1 during T1:</u> lor(1) + TT lor(3, 4) + TT loc(1) + TT

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
	Channel 1 during T2:	Channel 1 during	Channel 1 during T2:
	lor(1) = -67.75 dBm lor(3, 4) = -74.75 dBm loc(1) = -70.00 dBm	12: +0.75 dB for lor(1) -0.05 dB for lor(3, 4) -1.80 dB for loc(1)	lor(1) + TT lor(3, 4) + TT loc(1) + TT
	Channel 2 during T1 and T2:	Channel 2 during T1 and T2:	Channel 2 during T1 and T2:
	Cell 2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	+0.70 dB +0.70 dB +0.70 dB +0.70 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	Cells 5 and 6: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	-0.80 dB -0.80 dB -0.80 dB -0.80 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	Channel 2 during T1:	Channel 2 during	Channel 2 during T1:
	lor(2) = -67.75 dBm lor(5, 6) = -74.75 dBm loc(2) = -70.00 dBm	+0.75 dB for lor(2) -0.05 dB for lor(5, 6) -1.80 dB for loc(2)	lor(2) + TT lor(5, 6) + TT loc(2) + TT
	Channel 2 during T2:	Channel 2 during	Channel 2 during T2:
	lor(2) = -73.39 dBm lor(5, 6) = -77.39 dBm loc(2) = -70.00 dBm	T2: -0.01 dB for lor(2) -0.01 dB for lor(5,6) 0.00 dB for loc(2)	lor(2) + TT lor(5, 6) + TT loc(2) + TT
8.2.3 UTRAN to GSM			
8.2.3.1 Scenario 1: Both UTRA and GSM level changed	$\frac{CPICH\_E_c}{I_{or}} = -10 \text{ dB}$	0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$ 0.3 dB for lor/loc	Formulas: $\frac{CPICH\_E_c}{I_{or}} = ratio + TT$
			lor/loc = ratio + TT
		loc/RXLEV	(loc/Rxlev) <sub>test requirement</sub> = (loc/Rxlev) <sub>minimum requirement</sub> + TT
			lor/loc = 0.3 dB
			$\frac{CPICH\_E_c}{I_{or}} = -9.9 \text{ dB}:$
	$\frac{CPICH\_E_c}{E_c} = -10 \text{ dB}$	0.1 dB for	Formulas:
	$I_{or}$ lor/loc = - 5 dB	$\frac{OIICII_{C}}{I_{or}}$ 0.3 dB for lor/loc	$\frac{CPICH\_E_c}{I_{or}} = \text{ratio} - \text{TT}$
		0.3 dB for loc/RXLEV	lor/loc = ratio - TT (loc/Rxlev) <sub>test requirement</sub> =
			(IOC/HXIEV)minimum requirement - 11
			lor/loc = -5.3 dB
			$\frac{CPICH\_E_c}{I_{or}} \text{ -10.1 dB:}$

Test	Test Parameters in TS 25 133	Test Tolerance (TT)	Test Requirement in TS 34.121
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: $\frac{CPICH\_E_c}{I_{or}} = \text{ratio} + \text{TT}$ $\text{lor/loc} = \text{ratio} + \text{TT}$ $(\text{loc/Rxlev})_{\text{test requirement}} =$ $(\text{loc/Rxlev})_{\text{minimum requirement}} + \text{TT}$ $\text{lor/loc} = 20.3 \text{ dB}$ $\frac{CPICH\_E_c}{I_{or}} = -9.9 \text{ dB}:$
	$\frac{CPICH\_E_c}{I_{or}} = -10 \text{ dB}$ lor/loc = -9 dB	0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$ 0.3 dB for lor/loc 0.3 dB for loc/RXLEV	Formulas: $\frac{CPICH\_E_c}{I_{or}} = \text{ratio} - TT$ $\text{lor/loc} = \text{ratio} - TT$ $(\text{loc/Rxlev})_{\text{test requirement}} =$ $(\text{loc/Rxlev})_{\text{minimum requirement}} - TT$ $\text{lor/loc} = -9.3 \text{ dB}$ $\frac{CPICH\_E_c}{I_{or}} = -10.1 \text{ dB}:$
8.2.4 FDD/TDD cell re- selection	TBD		
8.3 UTRAN Connected Mode Mobility	TBD		
8.3.1 FDD/FDD Soft Handover	Because the relationships be are complex, it is not possibl document. The analysis is re	etween the Test system le to give a simple deriva ecorded in 3GPP TR 34	uncertainties and the Test Tolerances ation of the Test Requirement in this 902 [24].
	$\frac{\text{During T1 and}}{\text{T2/T3/T4/T5/T6:}}$ Cell 1: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB Relative delay of paths received from cell 2 with respect to cell 1 = {-148 Ö 148} chips <u>During T1:</u> Already covered above <u>During T2/T3/T4/T5/T6:</u> Cell 2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -12 dB	<u>During T1 and</u> <u>T2/T3/T4/T5/T6:</u> +0.70 dB +0.70 dB +0.70 dB +0.70 dB 0.5 chips <u>During T1:</u> Covered above <u>During T2/T3/T4/T5/T6:</u> +0.70 dB +0.70 dB +0.70 dB	During T1 and T2/T3/T4/T5/T6:         Ec/lor ratio + TT         Ec/lor ratio + TT         Ec/lor ratio + TT         {-148+TT Ö 148-TT} chips         During T1:         Already covered above         During T2/T3/T4/T5/T6:         Ec/lor ratio + TT         Ec/lor ratio + TT
8.3.2 FDD/FDD Hard Handover			

Test	Test Parameters in TS 25.133	Test Tolerance (TT)	Test Requirement in TS 34.121	
8.3.2.1 Handover to	Because the relationships be	Because the relationships between the Test system uncertainties and the Test Tolerances		
intra-frequency cell	are complex, it is not possible to give a simple derivation of the Test Requirement in this document. The analysis is recorded in 3GPP TR 34 902 [24].			
	During T1 and T2 / T3:	During T1 / T2 / T3:	During T1 and T2 / T3:	
	Cell 1: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	+0.70 dB +0.70 dB +0.70 dB +0.70 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT	
	During T1:	During T1:	During T1:	
	Already covered above	Covered above	Already covered above	
	During T2 / T3:	During T2 / T3:	During T2 / T3:	
	Cell 2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	+0.70 dB +0.70 dB +0.70 dB +0.70 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT	
8.3.2.2 Handover to inter-frequency cell	Because the relationships between the Test system uncertainties and the Test Tolerand are complex, it is not possible to give a simple derivation of the Test Requirement in this document. The analysis is recorded in 3GPP TR 34 902 [24].			
	<u>Channel 1 during T1 and</u> <u>T2 / T3:</u>	<u>Channel 1 during T1</u> and T2 / T3:	Channel 1 during T1 and T2 / T3:	
	Cell 1: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	+0.80 dB +0.80 dB +0.80 dB +0.80 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT	
	Channel 2 during T1:	Channel 2 during	Channel 2 during T1:	
	Not applicable	Not applicable	Not applicable	
	Channel 2 during T2 / T3:	Channel 2 during T2 / T3:	Channel 2 during T2 / T3:	
	Cell 2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	+0.80 dB +0.80 dB +0.80 dB +0.80 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT	
8.3.3 FDD/TDD Handover	TBD			
8.3.4 Inter-system Handover form UTRAN FDD to GSM	TBD			
8.3.5 Cell Re-selection in CELL_FACH				
8.3.5.1 One frequency present in the	Because the relationships be are complex, it is not possib	etween the Test system le to give a simple deriva	uncertainties and the Test Tolerances ation of the Test Requirement in this	
neighbour list	document. The analysis is recorded in 3GPP TR 34 902 [24].			

Test	Test Parameters in TS 25.133	Test Tolerance (TT)	Test Requirement in TS 34.121
	During T1 and T2:	During T1 and T2:	During T1 and T2:
	Cells 1 and 2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB S-CCPCH_Ec/lor = -12 dB	+0.60 dB +0.60 dB +0.60 dB +0.60 dB +0.60 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	Cells 3, 4, 5, 6: CPICH_Ec/lor = $-10 \text{ dB}$ PCCPCH_Ec/lor = $-12 \text{ dB}$ SCH_Ec/lor = $-12 \text{ dB}$ PICH_Ec/lor = $-15 \text{ dB}$ S-CCPCH_Ec/lor = $-12 \text{ dB}$ lor(3, 4, 5, 6) = $-69.73$	-0.50 dB -0.50 dB -0.50 dB -0.50 dB -0.50 dB +0.03 dB for lor(3, 4,	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT lor(3, 4, 5, 6) + TT
	aBm	5, 6)	
	During T1:	During T1:	During T1:
	lor(1) = -62.73 dBm lor(2) = -59.73 dBm	-0.27 dB for lor(1) +0.13 dB for lor(2)	lor(1) + TT lor(2) + TT
	During T2:	During T2:	During T2:
	lor(1) = -59.73 dBm lor(2) = -62.73 dBm	+0.13 dB for lor(1) -0.27 dB for lor(2)	lor(1) + TT lor(2) + TT
8.3.5.2 Two frequencies present in	Because the relationships be are complex, it is not possible document. The analysis is re-	etween the Test system e to give a simple deriva	uncertainties and the Test Tolerances ation of the Test Requirement in this
the heighbour list	Channel 1 during T1 and T2:	Channel 1 during T1 and T2:	Channel 1 during T1 and T2:
	Cell 1: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB S-CCPCH_Ec/lor = -12 dB	+0.60 dB +0.60 dB +0.60 dB +0.60 dB +0.60 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	Cells 3 and 4: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB S-CCPCH_Ec/lor = -12 dB	-0.70 dB -0.70 dB -0.70 dB -0.70 dB -0.70 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	Channel 1 during T1:	Channel 1 during	Channel 1 during T1:
	lor(1) = -71.85 dBm lor(3, 4) = -76.85 dBm loc(1) = -70.00 dBm	+0.05 dB for lor(1) +0.05 dB for lor(3,4) 0.00 dB for loc(1)	lor(1) + TT lor(3, 4) + TT loc(1) + TT
	Channel 1 during T2:	Channel 1 during	Channel 1 during T2:
	lor(1) = -67.75 dBm lor(3, 4) = -74.75 dBm loc(1) = -70.00 dBm	<u>12:</u> +0.75 dB for lor(1) -0.05 dB for lor(3, 4) -1.60 dB for loc(1)	lor(1) + TT lor(3, 4) + TT loc(1) + TT

Test	Test Parameters in TS 25.133	Test Tolerance (TT)	Test Requirement in TS 34.121
	Channel 2 during T1 and T2:	Channel 2 during T1 and T2:	Channel 2 during T1 and T2:
	Cell 2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB S-CCPCH_Ec/lor = -12 dB	+0.60 dB +0.60 dB +0.60 dB +0.60 dB +0.60 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	Cells 5 and 6: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB S-CCPCH_Ec/lor = -12 dB	-0.70 dB -0.70 dB -0.70 dB -0.70 dB -0.70 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	Channel 2 during T1:	Channel 2 during T1:	Channel 2 during T1:
	lor(2) = -67.75 dBm lor(5, 6) = -74.75 dBm loc(2) = -70.00 dBm	+0.75 dB for lor(2) -0.05 dB for lor(5, 6) -1.60 dB for loc(2)	lor(2) + TT lor(5, 6) + TT loc(2) + TT
	Channel 2 during T2:	<u>Channel 2 during</u> T2 <sup>.</sup>	Channel 2 during T2:
	lor(2) = -71.85 dBm lor(5, 6) = -76.85 dBm loc(2) = -70.00 dBm	+0.05 dB for lor(2) +0.05 dB for lor(5,6) 0.00 dB for loc(2)	lor(2) + TT lor(5, 6) + TT loc(2) + TT
8.3.5.3 Cell Re- selection to GSM	During T1:		
	$\frac{CPICH\_E_c}{I_{or}} = -10 \text{ dB}$	0.1 dB for $\frac{CPICH\_E_c}{L}$	$\frac{CPICH\_E_c}{I_{or}} = ratio + TT$
	lor/loc = 0 dB	0.3 dB for lor/loc	lor/loc = ratio + TT
	loc/RXLEV = 20	0.3 dB for loc/RXLEV	(loc/Rxlev) <sub>test requirement</sub> = (loc/Rxlev) <sub>minimum requirement</sub> + TT
			lor/loc = 0.3 dB
			$\frac{CPICH\_E_c}{I_{or}}$ = -9.9 dB:
			loc/RXLEV = 20.3
	During T2:		
	$\frac{CPICH_{-}E_{c}}{I_{or}} = -10 \text{ dB}$	0.1 dB for $\frac{CPICH\_E_c}{I_{cr}}$	$\frac{CPICH\_E_c}{I_{or}} = ratio - TT$
	lor/loc = - 5 dB	0.3 dB for lor/loc	lor/loc = ratio - TT
	loc/RXLEV = 5	0.3 dB for loc/RXLEV	(loc/Rxlev) <sub>test requirement</sub> = (loc/Rxlev) <sub>minimum requirement</sub> - TT
			lor/loc = -5.3 dB
			$\frac{CPICH\_E_c}{I_{or}}$ -10.1 dB:
			loc/RXLEV = 4.7

Test	Test Parameters in TS 25.133	Test Tolerance (TT)	Test Requirement in TS 34.121
8.3.6 Cell Re-selection in CELL_PCH			
8.3.6.1 One frequency present in the	Same as 8.2.2.1	Same as 8.2.2.1	Same as 8.2.2.1
neighbour list	$\frac{CPICH\_E_c}{I_{or}} = -10 \text{ dB}$ $I_{oc} = -70 \text{ dBm}$ $Ior/Ioc = 10.27 \text{ dB}$ Note: Parameters are valid	0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$ 0.3 dB for lor/loc	Formulas: $\frac{CPICH\_E_c}{I_{or}} = \text{ratio} + \text{TT}$ $\text{lor/loc} = \text{ratio} + \text{TT}$ $\text{loc unchanged}$
	for cell 1 at time T2 and cell 2 at time T1		lor/loc = 10.57 dB $\frac{CPICH - E_c}{I_{or}} -9.9 \text{ dB}:$
8.3.6.2 Two frequencies present in the neighbour list	Same as 8.2.2.2	Same as 8.2.2.2	Same as 8.2.2.2
8.3.7 Cell Re-selection	$\frac{CPICH\_E_c}{I_{or}} = -10 \text{ dB}$ $I_{oc} = -70 \text{ dBm}$ $Ior/Ioc = 2.2 \text{ dB}$ 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	Formulas: $\frac{CPICH\_E_c}{I_{or}} = \text{ratio} + \text{TT}$ $\text{lor/loc} = \text{ratio} + \text{TT}$ $\text{loc unchanged}$ $\text{loc ratio unchanged}$ $\text{lor/loc} = 2.5 \text{ dB}$ $\frac{CPICH\_E_c}{I_{or}} - 9.9 \text{ dB}$
in URA_PCH	Samo ac 9 2 2 1	Samo as 9.2.2.1	Sama as 8.0.0.1
present in the neighbour list		0ame as 0.2.2.1	
8.3.7.2 Two frequencies present in the neighbour list	Same as 8.2.2.2	Same as 8.2.2.2	Same as 8.2.2.2
8.4 RRC Connection Control			
8.4.1 RRC Re- establishment delav	TBD		

Test	Test Parameters in TS 25 133	Test Tolerance (TT)	Test Requirement in TS 34.121
8.4.1.1 Test 1	Cell 1, T1: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB DCH_Ec/lor = -17 dB lor/loc = 2.39 dB	0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$ 0.3 dB for lor/loc	Level settings in either direction are not critical with respect to the outcome of the test.
	Cell 1, T2: lor/loc = -infinity		
	Cell 2, T1: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB lor/loc = 4.39 dB		
	Cell 2, T2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB lor/loc = 0.02 dB		
8.4.1.2 Test 2	Cell 1, T1: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB DCH_Ec/lor = -17 dB lor/loc = -3.35 dB	0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$ 0.3 dB for lor/loc	Level settings in either direction are not critical with respect to the outcome of the test.
	Cell 1, T2: lor/loc = -infinity		
	Cell 2, T1: lor/loc = -infinity		
	Cell 2, T2: CPICH_Ec/lor = $-10 \text{ dB}$ PCCPCH_Ec/lor = $-12 \text{ dB}$ SCH_Ec/lor = $-12 \text{ dB}$ PICH_Ec/lor = $-15 \text{ dB}$ lor/loc = $0.02 \text{ dB}$		
8.4.2 Random Access	RACH power difference nominal 3dB ± 2dB UE setting uncertainty	Measurement TT:Power difference ± 1dBMaximum Power-1dB / +0.7dB	Test parameter settings unchanged.Power measurement:Upper limit +TT Lower limit -TT
8.4.3 Transport format combination selection in UE	DL Power control is ON so DPCH_Ec/lor depends on TPC commands sent by UE	0 dB for DPCH_Ec/lor	No test requirements for DPCH_Ec/lor
8.5 Timing and Signalling Characteristics	TBD		
8.5.1 UE Transmit Timing	TBD		
8.6 UE Measurements Procedures			
frequency measurements			
8.6.1.1 Event triggered reporting in AWGN propagation conditions	Because the relationships between the Test system uncertainties and the Test Tolerances are complex, it is not possible to give a simple derivation of the Test Requirement in this document. The analysis is recorded in 3GPP TR 34 902 [24].		

Test	Test Parameters in	Test Tolerance	Test Requirement in TS 34.121		
(B99)	During T1 to T4:	During T1 to T4 <sup>.</sup>	During T1 to T4:		
(100)		During 11 to 14.			
	Cell 1:				
	CPICH_Ec/lor = -10 dB	+0.70 dB	Ec/lor ratio + TT		
	PCCPCH_Ec/lor = -12 dB	+0.70 dB	Ec/lor ratio + TT		
	SCH_Ec/lor = -12 dB	+0.70 dB	Ec/lor ratio + TT		
	PICH_Ec/lor = -15 dB	+0.70 dB	Ec/lor ratio + TT		
	During T1/T4 only :	During T1/T4 only:	During T1/T4 only:		
			<u></u>		
	Already covered above	Covered above	Already covered above		
	During T2/T3 only:	During T2/T3 only:	During T2/T3 only:		
	Cell 2:				
	CPICH_Ec/lor = -10 dB	+0.70 dB	Ec/lor ratio + TT		
	PCCPCH_Ec/lor = -12 dB	+0.70 dB	Ec/lor ratio + $TT$		
	SCH_EC/IOr = -12 dB	+0.70 dB	Ec/lor ratio + 11		
	$PICH_EC/IOT = -15 \text{ dB}$	+0.70 dB	Ec/lor ratio + 11		
8.6.1.1 A Event	Because the relationships be	tween the Test system	uncertainties and the Test Tolerances		
triggered reporting in	are complex, it is not possible	le to give a simple deriva	ation of the Test Requirement in this		
conditions (Rel-4 and	During T1 / T2 / T3:	During T1 / T2 / T3:	During T1 / T2 / T3:		
later)	<u>Banng 117 127 101</u>	<u>Bailing 11/12/101</u>	<u>Banng 117 127 10.</u>		
	Cell 1:				
	CPICH_Ec/lor = -10 dB	+0.70 dB	Ec/lor ratio + TT		
	PCCPCH_Ec/lor = -12 dB	+0.70 dB	Ec/lor ratio + TT		
	$SCH\_Ec/lor = -12 dB$	+0.70 dB	Ec/lor ratio + TT		
	PICH_Ec/lor = -15 dB	+0.70 dB	Ec/lor ratio + 11		
	During T1/T3 only :	During T1/T3 only:	During T1/T3 only:		
	Already covered above	Covered above	Already covered above		
	During T2 only:	During T2 only:	During T2 only:		
	Cell 2:				
	CPICH Ec/lor = -10 dB	+0.70 dB	Ec/lor ratio + TT		
	PCCPCH_Ec/lor = -12 dB	+0.70 dB	Ec/lor ratio + TT		
	SCH_Ec/lor = -12 dB	+0.70 dB	Ec/lor ratio + TT		
	PICH_Ec/lor = -15 dB	+0.70 dB	Ec/lor ratio + TT		
	Decourse the velotionships h		uppertainting and the Test Televeness		
8.6.1.2 Event triggered	Because the relationships between the Lest system uncertainties and the Test Tolerances				
neighbours in AWGN	document The analysis is re	ecorded in 3GPP TR 34	902 [24]		
propagation condition	During T0 to T6.	During T0 to T6 <sup>-</sup>	During T0 to T6 <sup>.</sup>		
(R99)	<u></u>	<u>Bailing to to tot</u>	<u>Bannig rotto rot</u>		
	Cell 1, Cell 2 and Cell 3:				
	CPICH_Ec/lor = -10 dB	+0.70 dB	Ec/lor ratio + TT		
	PCCPCH_Ec/lor = -12 dB	+0.70 dB	Ec/lor ratio + TT		
	$SCH\_Ec/lor = -12 dB$	+0.70 dB	Ec/lor ratio + TT		
	$PICH_Ec/lor = -15 dB$	+0.70 dB	Ec/lor ratio + 11		
8.6.1.2A Event	TBD	TBD	TBD		
triggered reporting of					
multiple neighbours in					
AWGN propagation					
condition (Rel-4 and					
later)					
8.0.1.3 Event triggered	עטו				
detectable neighbours					
in AWGN propagation					
condition					

Test	Test Parameters in	Test Tolerance	Test Requirement in TS 34.121
	TS 25.133	(TT)	
8.6.1.4 Correct	TBD		
reporting of neighbours			
in fading propagation			
condition (R99)	<b>D</b>		
8.6.1.4A Correct	Because the relationships be	etween the Test system	uncertainties and the Test Tolerances
reporting of neighbours	are complex, it is not possib	le to give a simple deriva	ation of the Test Requirement in this
In rading propagation	During T1 only	During T1	<u>902 [24].</u>
condition (Rei-4 and	During 11 only:	During TT:	During TT:
	Coll 1:		
	$\frac{OOIII}{CPICH} = -10 dB$	±0.70 dB	Ec/lor ratio + TT
	$PCCPCH_Ec/lor = -12 dB$	+0.70 dB	Ec/lor ratio + TT
	SCH $Ec/lor = -12 dB$	+0.70 dB	$E_{c/lor ratio + TT}$
	PICH Ec/lor = -15 dB	+0.70 dB	Ec/lor ratio + TT
	DPCH Ec/lor = -17 dB	+0.70 dB	Ec/lor ratio + TT
	Cell 2:		
	<u>CPICH_Ec/lor = -10dB</u>	<u>+0.30 dB</u>	Ec/lor ratio + TT
	PCCPCH_Ec/lor = -12 dB	<u>+0.30 dB</u>	Ec/lor ratio + TT
	<u>SCH_Ec/lor = <math>-12 \text{ dB}</math></u>	<u>+0.30 dB</u>	Ec/lor ratio + TT
	$\underline{PICH}\underline{Ec/lor} = -15 \text{ dB}$	<u>+0.30 dB</u>	Ec/lor ratio + TT
	During 12 only:	During 12:	During 12:
	$\frac{O(1)}{O(1)} = -10 dB$	10.30 dB	Ec/lor ratio + TT
	$\frac{CFICH_EC/IOI = -10dB}{PCCPCH_Ec/Ior = -12 dB}$	$\pm 0.30 \text{ dB}$	Ec/lor ratio + TT
	SCH Fc/lor = -12 dB	$\frac{+0.30 \text{ dB}}{+0.30 \text{ dB}}$	$E_{c/lor ratio + TT}$
	PICH Ec/lor = $-15 \text{ dB}$	+0.30 dB	Ec/lor ratio + TT
	DPCH Ec/lor = -17 dB	+0.30 dB	Ec/lor ratio + TT
	Cell 2:		
	<u>CPICH_Ec/lor = -10dB</u>	<u>+0.70 dB</u>	<u>Ec/lor ratio + TT</u>
	PCCPCH_Ec/lor = -12 dB	<u>+0.70 dB</u>	<u>Ec/lor ratio + TT</u>
	<u>SCH_Ec/lor = <math>-12 \text{ dB}</math></u>	<u>+0.70 dB</u>	<u>Ec/lor ratio + TT</u>
	$\underline{PICH}\underline{Ec/Ior} = -15 \text{ dB}$	<u>+0.70 dB</u>	<u>Ec/lor ratio + TT</u>
8.6.2 FDD inter	TBD		
trequency			
measurements	TRD		
8.6.2.1 Correct	IBD		
in AWGN propagation			
condition			
8 6 2 2 Correct	TBD		
reporting of neighbours	100		
in Fading propagation			
condition			
8.6.3 TDD	TBD		
measurements			
8.6.3.1Correct	TBD		
reporting of TDD			
neighbours in AWGN			
propagation condition			
8.7 Measurements	TBD		
Performance			
Requirements			
8.7.1 CPICH RSCP			

Test	Test Parameters in	Test Tolerance	Test Requirement in TS 34.121
	TS 25.133	(TT)	
8.7.1.1 Intra frequency measurements accuracy	see table 8.7.1.1.1.1 andtable 8.7.1.1.1.2	±1 dB for loc±0.3 dB for lor/loc±0.1dB forÖEc/lor	Any TT applied to the nominal setting shall fulfil:Test 1 (absolute and relative): lo shall not go below - 69dBm Test 2(absolute and relative): lo shall not go above -50 dBmTest 3 (absolute and relative): lo shall not go below -94 dBm lor/loc + TTTT on top of UE measurement accuracy:Absolute±1.0 dB for loc±0.3 dB for lor/loc ±0.1dB for CPICH_Ec/lor $\Sigma$ 1.4dBRelative±0.3 dB for lor/loc (cell1)±0.3 dB for lor/loc (cell2)±0.1dB for CPICH_Ec/lor (cell1)±0.1dB for CPICH_Ec/lor (cell2) $\Sigma$ 0.8dB
8.7.1.2 Inter frequency measurement accuracy	See table 8.7.1.2.1.1 andtable 8.7.1.2.1.2	±1 dB for loc±0.3 dB for loc1/loc2±0.3 dB for lor/loc±0.1dB for ÖEc/lor	Any TT applied to the nominal setting shall fulfil:Test 1: lo shall not go above -50 dBmTest 2: lo shall not go below -94 dBmIor/loc + TTTT on top of UE measurement accuracy:±0.3 dB for loc1/loc2±0.3 dB for lor/loc (cell1)±0.3 dB for lor/loc (cell2)±0.1dB for CPICH_Ec/lor (cell1)±0.1dB for CPICH_Ec/lor (cell2)∑ 1.1 dB
8.7.2 CPICH Ec/lo			
Test	Test Parameters in TS 25 133	Test Tolerance (TT)	Test Requirement in TS 34.121
---	--	--------------------------------------	---
8.7.2.1 Intra frequency measurements accuracy	table 8.7.2.1.1.1 and table 8.7.2.1.1.2	±1 dB for Ioc ±0.3 dB for Ior/Ioc	Any TT applied to the nominal setting shall fulfil:
		±0.1dB for ÖEc/lor	Test 1(absolute and relative): Io shall not go above -50 dBm
			Test 2 (absolute and relative): Io shall not go below -87dBm
			Test 3 (absolute and relative): Io shall not go below -94 dBm
			CPICH Ec/Io shall stay in the UE accuracy ranges
			Ior/Ioc + TT
			TT on top of UE measurement accuracy:
			Absolute
			±0.3 dB for Ior/Ioc
			±0.1dB for CPICH_Ec/Ior
			$\sum 0.4$ dB
			Relative
			Ioc1=Ioc2
			$\pm 0.3$ dB for Ior/Ioc (cell1)
			$\pm 0.3$ dB for Ior/Ioc (cell2)
			±0.1dB for CPICH_Ec/Ior (cell1)
			±0.1dB for CPICH_Ec/Ior (cell2)
			∑ 0.8dB

Test	Test Parameters in	Test Tolerance	Test Requirement in TS 34.121
8.7.2.2 Inter frequency measurement accuracy	TS 25.133 table 8.7.2.2.2.1 and table 8.7.2.2.2.2	(TT) ±1 dB for Ioc ±0.3 dB for Ioc1/Ioc2 ±0.3 dB for Ior/Ioc ±0.1dB for ÖEc/Ior	Any TT applied to the nominal setting shall fulfil: Test 1: Io shall not go above -50 dBm Test 2: Io shall not go below -87 dBm Test 3: Io shall not go below -94 dBm Ior/Ioc + TT
			TT on top of UE measurement accuracy: Ioc1=Ioc2. $\pm 0.3$ dB for Ior/Ioc (cell1) $\pm 0.3$ dB for Ior/Ioc (cell2) $\pm 0.1$ dB for CPICH_Ec/Ior (cell1) $\pm 0.1$ dB for CPICH_Ec/Ior (cell2) $\sum 0.8$ dB

Test	Test Parameters in	Test Tolerance	Test Requirement in TS 34.121				
8.7.3 UTRA Carrier RSSI	Table 8.7.3.1.2	$\pm 1 \text{ dB for Ioc}$	Any TT applied to the nominal setting shall fulfil:				
		±0.3 dB for Ioc1/Ioc2	Test 1 (absolute): Io shall not go above -50 dBm				
		$\pm 0.3$ dB for Ger/Ioc	Test 2 (absolute): Io shall not go below -69 dBm				
			Test 3 (absolute and relative): Io shall not go below -94 dBm				
			Ior/Ioc + TT				
			TT on top of UE measurement accuracy:				
			Absolute tests:				
			Test 1:				
			Max TT= Io <sub>max</sub> ñ Io <sub>nominal</sub>				
			$Io_{nominal} = -51.15 \text{ dBm}$				
			$Io_{max} = Ioc_{max} + Ior_{max} = (-53.5)$ dBm + 1dB) + (-52.5 dBm ñ 1.45 dB + 0.3 dB) = -50.0 dBm				
			=> Max TT = 1.15 dB				
			$Min \ TT = Io_{min} - Io$				
			$\begin{split} Io_{min} &= Ioc_{min} + Ior_{min} = (-53.5) \\ dBm ~ \tilde{n}1 ~ dB) + (-54.5 ~ dBm ~ \tilde{n}) \\ 1.45 ~ dB ~ \tilde{n} ~ 0.3 ~ dB) &= -52.3 \\ dBm \end{split}$				
			=> Min TT = -1.15 dB				
			Test 2:				
			Max TT= $Io_{max} \tilde{n} Io_{nominal}$				
			$Io_{nominal} = -67.9 \text{ dBm}$				
			$Io_{max} = Ioc_{max} + Ior_{max} = (-69.27 \text{ dBm} + 1\text{ dB}) + (-68.27 \text{ dBm} \tilde{n} 4.4 \text{ dB} + 0.3 \text{ dB}) = -66.8 \text{ dBm}$				
			=> Max TT = 1.1 dB				
			$Min \ TT = Io_{min} - Io$				
			$\begin{split} Io_{min} &= Ioc_{min} + Ior_{min} = (-69.27 \text{ dBm } \tilde{n} \text{ 1 dB}) + (-70.27 \text{ dBm } \tilde{n} \text{ 4.4 dB } \tilde{n} \text{ 0.3 dB}) = -69.0 \text{ dBm} \end{split}$				
			=> Min TT = -1.1 dB				
			Test 3 (Band I):				
			Max TT= Io <sub>max</sub> ñ Io <sub>nominal</sub>				
			$Io_{nominal} = -93 \text{ dBm}$				
			$\begin{split} Io_{max} &= Ioc_{max} + Ior_{max} + No = \\ (-93.46 \ dBm + 1 dB) + (- \\ 92.46 \ dBm \ \tilde{n} \ 9.24 \ dB + 0.3 \\ dB) + -99 \ dBm = -91.2 \end{split}$				
		3GPP	=> Max TT = 1.8 dB				

Test	Test Parameters in TS 25.133	Test Tolerance (TT)	Test Requirement in TS 34.121			
8.7.3A GSM Carrier RSSI	TBD					
8.7.3B Transport channel BLER	TBD					
8.7.3C UE Transmitted power	Accuracy upper limit Accuracy lower limit Depends on PUEMAX see table 8.7.3C.2.1	0.7 dB	Formula: Upper accuracy limit + TT Lower accuracy limit ñ TT Add and subtract TT to all the values in table 8.7.3C.2.1.			
8.7.4 SFN-CFN	T able 8.7.4.1.2 and Table	±1.0 dB for loc	Intra and inter frequency case:			
difference	0.7.4.2.2	±0.3 dB for lor/loc	Test 1: lo shall not go above -50 dBm			
		±0.5 chips for the	Test 2: No restrictions on lo value			
		observed time difference	Test 3: Io shall not go below -94 dBm (Band 1), or below ñ92 dBm (Band II) or below ñ91 dBm (Band III)			
			@r/loc + TT			
			TT on top of UE measurements accuracy: SFN-CFN observed time difference: 1.0 chips + TT			
8.7.5.1 SFN-SFN	T able 8.7.5.1.2	±1.0 dB for loc	Test 1: lo shall not go above -50 dBm			
difference type 1		±0.3 dB for lor/loc	Test 2: No restrictions on lo value			
		±0.5 chips for the actual SFN-SFN observed time difference	Test 3: lo shall not go below -94 dBm (Band 1), or below ñ92 dBm (Band II) or below ñ91 dBm (Band III)			
			@fr/loc + TT			
			TT on top of UE measurements accuracy: SFN-SFN observed time difference: 1.0 chips + TT			

Test	Test Parameters in	Test Tolerance	Test Requirement in TS 34.121
Test 8.7.6 UE Rx-Tx time difference	Test Parameters in TS 25.133           Io ñ10.9 dB = loc,           Test 1: lo = -94 dBm           Test2 : lo = -72dBm           Test3 : lo = -50dBm           Timing Accuracy ± 1.5           chip	Test Tolerance (TT) 1 dB for loc 0.3 dB for lor/loc 0.5 chip for timing accuracy	Test Requirement in TS 34.121Test 1: Io = -92.7 dBm,Ioc = -103.6 dBmFormula:Ioc*(1-TT <sub>loc</sub> + (Ior/Ioc-TT <sub>lor/Ioc</sub> )) $\geq$ -94Test 2: unchanged (no critical RFparameters)Test 3: Io = -51.3 dBm, Ioc =-62.2 dBmFormula:Ioc*(1+TT <sub>loc</sub> + (Ior/Ioc+TT <sub>lor/Ioc</sub> )) $\leq$ -
8.7.7 Observed time difference to GSM cell 8.7.8 P-CCPCH RSCP	TBD		50 Timing accuracy ±2.0 chip Formulas: Upper limit +TT Lower limit ñTT

Test	Minimum Requirement in TS 25.101	Test Tolerance (TT)	Test Requirement in TS 34.121
9.2.1 Single Link Performance	$\frac{E_c}{I_{or}}$ -6 and -3 dB	0.1 dB for $\frac{E_c}{I_{or}}$	Formulas: $\frac{E_c}{I_{or}}$ = ratio + TT
	$I_{oc} = -60 \text{ dBm}$ $\dot{P}_{or}/I_{oc} = 0 \text{ and } 10 \text{ dB}$	0.3 dB for $\hat{P}_{or}/I_{oc}$	$\dot{P}_{or}/I_{oc}$ = ratio + TT $I_{oc}$ unchanged

Other specs

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Summary of char	nge: <mark>#</mark>	a) b) c) d) f) g) h) i) j) k) The te	<ul> <li>The R99 to 25.133 R9</li> <li>Add CPIC</li> <li>Add new t</li> <li>Add new t</li> <li>and change</li> <li>Add new t</li> <li>Change trively</li> <li>Add new t</li> <li>Add new t</li> <li>Change trively</li> <li>Add new t</li> <li>Change trively</li> <li>Add new t</li> <li>Add new t</li></ul>	est case 9 H Ec/lo a ime perio ime perio gethe va ime perio ggering / to 0, in tables gi parate t of Annex of Annex f Annex	defined and SFN coid T5 in ods and r lue of W ods for R condition the meas ving corr the meas ving corr the meas F.1.5 tak F.2 table F.4 table ill not ma	CFN R99 evise to 0. 99 tes 1 to surem ect RI .3A fo ble F.1 F.2.4 F4.4 tch th	.1.3 r repo Meth dura st in t iActi f cor f cor fr Re 1.5 to to to re to re	need to be orting in RS nod of test ations for F table 8.6.1 ve set cell control me ndition for I-4 and lat define Test define Test efer to deri	aligned 99 Meth 8.6.1.3 199 test .3.3 sî only, ssage f R99 tes er. est Syste t Tolera vation c s of 25.1	d with cha od of test .4 t in table 8 and chan for R99 tes of R99 tes t em Uncer nces of test requ	nges in 8.6.1.3.4 3.6.1.3.2, ge the st tainty uirements nay fail a
not approved:		good	UE.								
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affected:	X     Test specifications       X     O&M Specifications
Other comments:	# This CR is applicable for UE supporting Rel-99 or later.

### 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 (R99)

### 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 Release 99 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 initial test parameters are given in table 8.6.1.3.4.

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

Parameter	<u>Unit</u>	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 N/A N/A</u>							
OCNS_Ec/lor	<u>dB</u>	<u>-1.049</u>	<u>-0.941</u>	<u>-0.941</u>					
$\dot{P}_{or}/I_{oc}$	<u>dB</u>	<u>5.87<del>0</del></u>	<u>-Inf</u>						
$\underline{\mathbf{G}}_{r(Note 1)}$	<u>dBm</u>	<u>-79.13</u>	<u>-Inf</u>						
	<u>dBm/</u> <u>3.84</u> <u>MHz</u>		<u>-85</u>						
CPICH_Ec/lo	<u>dB</u>	<u>-11</u>	<u>-Inf</u>	<u>-Inf</u>					
Propagation Condition	AWGN								
Note 1: The nomina	al Obr valu	es, although not explicitly	defined in 25.133 are ad	ded here since they					
are implied and need t	<u>o be iden</u>	<u>tified so that the test equ</u>	ipment can be configured						

The test parameters are given in table 8.6.1.3.4-2 and 8.6.1.3.25. 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. <u>CPICH Ec/Io and SFN-CFN observed time difference shall be reported together with Event 1A</u>. The test consists of four five successive time periods, with a time duration of T1, T2, T3, T4 and T5T4 respectively. In the initial condition before the time T1 only Cell1 is active.

Parameter	Unit	Value	Comment
DCH parameters		DL and UL Reference Measurement Channel 12.2	As specified in C.3.1 and C.2.1
Power Control		On	
Active cell		Cell 1	
Reporting range	dB	3	Applicable for event 1A and 1B
Hysteresis	dB	0	
W		<u>+0</u>	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		32	NOTE: See Annex I for cell information.
T1	S	10	
T2	S	10	
ТЗ	S	<del>10</del> 1	
T4	S	10	
<u>T5</u>	<u>S</u>	<u>10</u>	

# Table 8.6.1.3.24: General test parameters for Event triggered reporting of two detectable neighbours in AWGN propagation condition

# Table 8.6.1.3.32: Cell specific test parameters for Event triggered reporting of two detectable neighbours in AWGN propagation condition

Parameter	Unit	Cell 1						Cell 2				Cell3				
		T1	T2	T3	T4	<u>T5</u>	T1	T2	Т3	T4	<u>T5</u>	T1	T2 T3	5 T4	<u>T5</u>	
CPICH_Ec/lor	dB			-10				-10					-1	0		
PCCPCH_Ec/ lor	dB	-12							-12				-12			
SCH_Ec/lor	dB			-12					-12				-1	2		
PICH_Ec/lor	dB			-15					-15				-1	5		
DPCH_Ec/lor	dB		-1	7 <u>Note</u>	1		N/A	۸	<del>-0.</del>	941 <mark>Note</mark>	<u>= 1</u>		N	/A		
OCNS_Ec/lor	dB		<del>-1.0</del>	4 <mark>9</mark> No	te <u>2</u>		-0.94	11		Note 2			-0.9	941		
$\dot{\mathbf{P}}_{or}/I_{oc}$	dB	14.5 5	28.5 <sup>-</sup> <del>14.4</del>	1 5	<del>28.</del> <del>51<u>1</u> <u>4.4</u> <u>5</u></del>	<u>28.</u> 51	-Inf	27.5 <del>13.9</del>	1 5	<del>21.5</del> + <u>13.</u> 95	<u>21</u> .5 1	8.0 5	21.51 <del>13.95</del>	<del>27.5</del> + <u>13.</u> 95	<u>27.5</u>	
<b>(</b> <i>Note</i> <u>3</u> <b>1</b> )	<u>dBm</u>	<u>70.4</u> 5	<u>56.</u> 4	<u>19</u>	<u>70.</u> 55	<u>56.</u> <u>49</u>	<u>-Inf</u>	<u>-57.49</u>		<u>71.0</u> <u>5</u>	- <u>63</u> .4 9	<u>-</u> <u>76.</u> <u>95</u>	<u>-63.49</u>	<u>71.0</u> <u>5</u>	<u>57.4</u> <u>9</u>	
I <sub>oc</sub>	dBm/ 3.84 MHz		-85													
CPICH_Ec/lo	dB	-11	-13 <del>-14.5</del>		- <u>131</u> <u>4.5</u>	<u>-13</u>	-Inf	-14.0 <del>-15</del>	)	- <del>20<u>15</u></del>	- 20	- 17. 5	-20 <del>-15</del>	- 44 <u>15</u>	<u>-14</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 lor           Note 3:         The nominal @r values, although not explicitly defined in 25.133 are added here since they are implied and need to be identified so that the test equipment can be configured.																

### 8.6.1.3.4.2 Procedure

- 1) The RF parameters are set up according to **T**<u>1</u><u>T</u><u>0</u> in table 8.6.1.3.4</u>.
- 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 T<u>0</u><sup>1</sup>, the SS shall switch the power settings from <u>T1 to T2</u><u>T0 to T1 in table</u> <u>8.6.1.3.5.</u>

6) After a total of 10 seconds from the beginning of T1, the SS shall switch the power settings from T1 to T2.

- 67) 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 880 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.
- 78) After 10 seconds from the beginning T2, the SS shall switch the power settings from T2 to T43.
- 89) UE shall transmit a MEASUREMENT REPORT message for Cell 3 triggered by event 1A. The measurement reporting delay from the beginning of T<sub>4</sub><sup>3</sup> shall be less than 280 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.
- <u>910</u>) After 10 seconds from the beginning T<u>4</u>3, the SS shall switch the power settings from T<u>4</u>3 to T<u>5</u>4.
- 1011) UE shall transmit a MEASUREMENT REPORT message for Cell 2 triggered by event 1B. The measurement reporting delay from the beginning of T54 shall be less than 280 ms. If the reporting delay for this event is within the required limit, the number of succesfull tests is increased by one.
- **<u>1112</u>**) After 10 seconds, the UE is switched off.
- 1213) Repeat steps 1-11 until the confidence level according to annex F.6.2 is achieved.

#### 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:

### MEASUREMENT CONTROL message:

I

Information Element/Group name	Value/Remark
Message Type (10.2.17)	- unon coman
UF information elements	
-BBC transaction identifier	0
-Integrity check info	0
-message authentication code	SS calculates the value of MAC-I for this message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
	internal counter.
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)	
-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	FALSE
-Reporting quantities for monitored set cells (10.3.7.5)	
-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	FALSE
-Reporting quantities for detected set cells (10.3.7.5)	Not Present
-Reporting cell status (10.3.7.61)	Not Present
-Measurement validity (10.3.7.51)	Not Present
-CHOICE report criteria	Intra-frequency measurement reporting
-Intra-frequency measurement reporting criteria (10.3.7.39)	criteria
-Parameters required for each event	2
-Intra-frequency event identity	Event 1A
-Triagering condition 2	Monitored set cells
-Reporting Range Constant	3 dB
-Cells forbidden to affect Reporting Range	Not Present
-W	<del>1.0</del> 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 present
-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 Bange Constant	3 dB
-Cells forbidden to affect Reporting Range	Not Present
	1.00
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Information Element/Group name	Value/Remark					
-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	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						
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% of the cases with a confidence level of 95%. 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.

# Table 8.6.1.3.4: Initial test parameters for Event triggered reporting of two detectable neighbours in AWGN propagation condition

Parameter	Unit	Cell 1	Cell 2	Cell3					
		<u>T0</u>	<u>T0</u>	<u>T0</u>					
CPICH Ec/lor	<u>dB</u>	<u>-9.6<del>5</del>0</u>	<u>-9.6<del>5</del>0</u>	<u>-9.6<del>5</del>0</u>					
PCCPCH_Ec/lor	<u>dB</u>	<u>-11.6<del>5</del>0</u>	<u>-11.650</u> <u>-11.650</u> <u>-11.650</u>						
SCH_Ec/lor	<u>dB</u>	<u>-11.6<del>5</del>0</u>	<u>-11.6<del>5</del>0</u>	<u>-11.6<mark>5</mark>0</u>					
PICH_Ec/lor	<u>dB</u>	<u>-14.6<del>5</del>0</u>	<u>-14.6<del>5</del>0</u>	<u>-14.6<mark>5</mark>0</u>					
DPCH_Ec/lor	<u>dB</u>	<u>-16.6<del>5</del>0</u>	<u>N/A</u>	<u>N/A</u>					
OCNS_Ec/lor	<u>dB</u>	<u>-1.1<del>2</del>0</u>	<u>-1.047</u>	<u>-1.04<del>7</del></u>					
$\dot{P}_{or}/I_{oc}$ (Note 1)	<u>dB</u>	<u>5.90</u>	<u>-Inf</u>	<u>-Inf</u>					
<u> (Note 1)</u>	<u>dBm</u>	<u>-79.10</u>	<u>-Inf</u>	<u>-Inf</u>					
	<u>dBm/</u> <u>3.84</u> <u>MHz</u>		<u>-85</u>						
CPICH_Ec/lo (Note 1)	<u>dB</u>	<u>-10.49</u>	<u>-Inf</u>	<u>-Inf</u>					
Propagation AWGN									
Note 1: These parameters are not directly settable, but are derived by calculation from the settable									
since they are implied	ne nomir and need	to be identified so that t	ot explicitly defined in 25. he test equipment can be	<u>⊣ ss are aqued nere.</u> <u>-configured.</u>					

Parameter	Unit		C	ell 1				Cell 2					Cel	3		
		<u>T1</u>	<u>T2</u>	<b>T3</b>	<u>T4</u>	<u>T5</u>	<u>T1</u>	<u>T2</u>	<u>T3</u>	<b>T4</b>	<u>T5</u>	<u>T1</u>	<u>T2</u> <u>T3</u>	<u>T4</u>	<u>T5</u>	
CPICH_Ec/lor	<u>dB</u>		-9	<del>.65</del> 0					-9.6 <mark>5</mark> 0				- <u>9.6</u>	<u>∍0</u>		
PCCPCH_Ec/ lor	<u>dB</u>		<u>-1</u>	1.6 <del>5</del> 0	<u>)</u>			=	<u>11.6<del>5</del>(</u>	<u>)</u>		<u>-11.6<del>5</del>0</u>				
SCH Ec/lor	<u>dB</u>		-11	1.6 <mark>5</mark> 0	)			-	11.6 <mark>5</mark> (	<u>)</u>			-11.6 <del>5</del> 0			
PICH Ec/lor	<u>dB</u>		-14	4.6 <mark>5</mark> 0	)			-	14.6 <mark>5</mark> (	<u>)</u>			<u>-14.6</u>	<del>50</del>		
DPCH_Ec/lor	<u>dB</u>		<u>N</u>	ote 1			<u>N//</u>	<u>4</u>		Note 1			<u>N/A</u>	A		
OCNS Ec/lor	<u>dB</u>		N	ote 2			-1.04	<u>47</u>		Note 2			<u>-1.04</u>	<u>17</u>		
$\frac{\hat{\mathbf{p}}_{or}}{3}$	<u>dB</u>	<u>14.6</u>	<u>28.50</u>		<u>14.</u> 5	<u>28.</u> 5	<u>-Inf</u>	<u>27.5</u>	0	<u>14.0</u>	<u>21.</u> <u>50</u>	<u>8.0</u> 5	<u>21.50</u>	<u>14.0</u>	<u>27.5</u>	
<b>(<u>Note 1)</u></b>	<u>dBm</u>	<u>-</u> <u>70.4</u> <u>0</u>	<u>-56.5</u>	<u>50</u>	- <u>70.</u> 50	<u>-</u> <u>56.</u> 50	<u>-Inf</u>	<u>-5</u> 7	7. <u>50</u>	- <u>71.</u> <u>00</u>	<u>-</u> <u>63.5</u> <u>0</u>	<u>-</u> <u>76.</u> <u>90</u>	<u>-63.50</u>	<u>71.0</u>	<u>-</u> <u>57.5</u> <u>0</u>	
	<u>dBm/</u> <u>3.84</u> <u>MHz</u>								<u>-85</u>							
<u>CPICH_Ec/lo</u> ( <u>Note 3)</u>	<u>dB</u>	<u>-</u> <u>10.5</u> 0	<u>-12.50</u>		- 14. 0	<u>-</u> <u>12.</u> 50	<u>-Inf</u>	<u>-13.</u>	<u>50</u>	<u>-</u> <u>14.</u> 50	<u>-</u> <u>19.</u> 50	<u>-</u> <u>17.</u> 0	<u>-19.50</u>	<u>-</u> <u>14.5</u> 0	<u>-</u> <u>13.5</u> <u>0</u>	
Propagation Condition		AWGN														
Note 1 : The Note 2 : The Note 3: Thes Gr values, altho test equipment of	e DPCH e power e parame rugh not ( can be co	level is of the O eters are explicitly onfigure	controlle CNS ch e not dire definee	ed by anne ectly <del>I in 2</del>	the po I that is settab <del>5.133</del>	wer co s adde le, but are ade	ontrol loop d shall m are deriv ded here	<u>p</u> lake th red by <del>since</del>	e total calcul they a	<u>power</u> ation fro <del>re impli</del>	from the om the ed and	ie cell t settabl need t	to be equal t e parameter to be identifi	<u>o lor</u> s. <del>The no</del> ed so the	ominal at the	

# Table 8.6.1.3.5: Test parameters for Event triggered reporting of two detectable neighbours in AWGN propagation condition

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.

### 8.6.1.3A Event triggered reporting of two detectable neighbours in AWGN propagation condition (Rel-4 and later)

### 8.6.1.3A.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 Rel-4 and later FDD UE.

### 8.6.1.3A.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.

### 8.6.1.3A.3 Test purpose

To verify that the UE meets the minimum requirements.

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### 8.6.1.3A.4 Method of test

8.6.1.3A.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 8.6.1.3A.4.

# Table 8.6.1.3A.1: Cell specific initial test parameters for Event triggered reporting of two detectable neighbours in AWGN propagation condition

9

Parameter	<u>Unit</u>	Cell 1	Cell 2	Cell3						
		<u>T0</u>	<u>T0</u>	<u>T0</u>						
CPICH Ec/lor	<u>dB</u>	<u>-10</u>	<u>-10</u>							
PCCPCH Ec/lor	<u>dB</u>	<u>-12</u>	<u>-12</u>							
SCH Ec/lor	<u>dB</u>	<u>-12</u>	<u>-12</u>	<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>	<u>N/A</u>	<u>N/A</u>						
OCNS_Ec/lor	<u>dB</u>	<u>-1.049</u>	<u>-0.941</u>	<u>-0.941</u>						
$\dot{P}_{or}/I_{oc}$	<u>dB</u>	<u>5.87<del>0</del></u> <u>-Inf</u> <u>-Inf</u>								
$\underline{\underline{G}}_{r(Note 1)}$	<u>dBm</u>	<u>-79.13</u>	<u>-Inf</u>	<u>-Inf</u>						
Ioc	<u>dBm/</u> <u>3.84</u> <u>MHz</u>		<u>-85</u>							
CPICH_Ec/lo	<u>dB</u>	<u>-11</u>	<u>-Inf</u>	<u>-Inf</u>						
Propagation Condition	opagation AWGN									
Note 1: The nominal @r values, although not explicitly defined in 25.133 are added here since they are implied and need to be identified so that the test equipment can be configured.										

The test parameters are given in table 8.6.1.3A2 and 8.6.1.3A.5. 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 8.6.1.3A.2: 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
		Measurement Channel 12.2	
		<u>kbps</u>	
Power Control		<u>On</u>	
Active cell		<u>Cell 1</u>	
Reporting range	<u>dB</u>	<u>3</u>	Applicable for event 1A and 1B
<u>Hysteresis</u>	<u>dB</u>	<u>0</u>	
W		<u>1</u>	Applicable for event 1A and 1B
Reporting deactivation		<u>0</u>	Applicable for event 1A
threshold			
Time to Trigger	<u>Ms</u>	<u>0</u>	
Filter coefficient		<u>0</u>	
Monitored cell list size		<u>32</u>	NOTE: See Annex I for cell information.
<u>T1</u>	<u>S</u>	<u>10</u>	
<u>T2</u>	S	10	
<u>T3</u>	S	10	
<u>T4</u>	S	<u>10</u>	

Parameter	<u>Unit</u>	Cell 1				Ce	<u>ll 2</u>			Ce	<u>+113</u>		
		<u>T1</u>	<u>T2</u>	<u>T3</u>	<u>T4</u>	<u>T1</u>	<u>T2</u>	<u>T3</u>	<u>T4</u>	T1	<u>T2</u>	<u>T3</u>	<u>T4</u>
CPICH_Ec/lor	<u>dB</u>		-1	0			<u>-1</u>	0		<u>-10</u>			
PCCPCH_Ec/ lor	<u>dB</u>		-1	12			<u>-12</u>			<u>-12</u>			
SCH Ec/lor	<u>dB</u>		-1	12			-1	2			-1	2	
PICH Ec/lor	<u>dB</u>		-1	15			-1	5			-1	5	
DPCH_Ec/lor	<u>dB</u>		-1	7			<u>N</u>	<u>/A</u>		<u>N/A</u>			
OCNS Ec/lor	<u>dB</u>		-1.0	049			-0.9	941		-0.941			
$\dot{P}_{or}/I_{oc}$	<u>dB</u>	<u>14.5</u> 5	<u>28.5</u> <u>1</u>	<u>14.4</u> 5	<u>28.5</u> <u>1</u>	<u>-Inf</u>	<u>27.5</u> <u>1</u>	<u>13.9</u> 5	<u>21.5</u> <u>1</u>	<u>8.05</u>	<u>21.5</u> <u>1</u>	<u>13.9</u> 5	<u>27.5</u> <u>1</u>
Gr (Note 1)	<u>dBm</u>	<u>70.4</u> 5	<u>-</u> <u>56.4</u> <u>9</u>	<u>70.5</u>	<u>-</u> <u>56.4</u> <u>9</u>	<u>-Inf</u>	<u>-</u> <u>57.4</u> <u>9</u>	<u>71.0</u> 5	<u>-</u> <u>63.4</u> <u>9</u>	<u>76.9</u> 5	<u>-</u> <u>63.4</u> <u>9</u>	<u>71.0</u> 5	<u>57.4</u> 9
I <sub>oc</sub>	<u>dBm/</u> <u>3.84</u> <u>MHz</u>		<u>-85</u>										
CPICH_Ec/lo	<u>dB</u>	<u>-11</u>	<u>-13</u>	<u>-14.5</u>	<u>-13</u>	<u>-Inf</u>	<u>-14.0</u>	<u>-15</u>	<u>-20</u>	<u>-17.5</u>	<u>-20</u>	<u>-15</u>	<u>-14</u>
Propagation Condition		<u>AWGN</u>											
Note 1: The r	nominal (	Er value	s, althou	igh not e	xplicitly	defined	in 25.13	3 are ad	ded her	e since t	hey are	implied a	and

#### Table 8.6.1.3A.3: Cell specific test parameters for Event triggered reporting of two detectable neighbours in AWGN propagation condition

Note 1: The nominal Or values, although not explicitly defined in 25.133 are added here since they are implied and need to be identified so that the test equipment can be configured.

8.6.1.3A.4.2 Procedure

- 1) The RF parameters are set up according to T0 in table 8.6.1.3A.4.
- 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 T0, the SS shall switch the power settings from T0 to T1 in 8.6.1.3A.5.
- 6) After a total of 10 seconds from the beginning of T1, the SS shall switch the power settings from T1 to T2.
- 7) 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 880 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.
- 8) After 10 seconds from the beginning T2, the SS shall switch the power settings from T2 to T3.
- 9) 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 280 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.
- 10) After 10 seconds from the beginning T3, the SS shall switch the power settings from T3 to T4.
- 11)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 280 ms. If the reporting delay for this event is within the required limit, the number of succesful tests is increased by one.
- 12) After 10 seconds, the UE is switched off.

13)Repeat steps 1-11 until the confidence level according to annex F.6.2 is achieved.

### 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], with the following exceptions:</u>

### MEASUREMENT CONTROL message:

Information Element/Group name	Value/Remark
Message Type (10.2.17)	
LIE information elements	
DPC transaction identifier	0
	<u>v</u>
-message authentication code	SS calculates the value of MAC-I for this
	message and writes to this IE. The first/
	leftmost bit of the bit string contains the
	most significant bit of the MAC-I.
-RRC message sequence number	SS provides the value of this IE, from its
	internal counter.
Measurement Information elements	
-Measurement Identity	1
-Measurement Command (10.3.7.46)	Modify
-Measurement Beporting Mode (10.3.7.49)	wouny
Measurement Benort Transfer Mode	AMRIC
Periodical Poperting / Event Trigger Poperting Mede	Event trigger
Additional managements list (10.2.7.1)	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)	<u>0</u>
-CHOICE mode	<u>FDD</u>
-Measurement quantity	CPICH Ec/N0
-Intra-frequency reporting quantity (10.3.7.41)	_
-Reporting quantities for active set cells (10.3.7.5)	
-Cell synchronisation information reporting indicator	TRUE (Note 1)
-Cell Identity reporting indicator	TRUE
-CHOICE mode	FDD
-CPICH Ec/N0 reporting indicator	
CPICH PSCP reporting indicator	
-OFION NOOF reporting indicator	
	FALSE
<u>-Reporting quantities for monitored set cells (10.3.7.5)</u>	
-Cell synchronisation information reporting indicator	IRUE (Note 1)
-Cell Identity reporting indicator	IRUE
<u>-CHOICE mode</u>	<u>FDD</u>
-CPICH Ec/N0 reporting indicator	TRUE
-CPICH RSCP reporting indicator	TRUE
-Pathloss reporting indicator	FALSE
-Reporting quantities for detected set cells (10.3.7.5)	Not Present
-Reporting cell status (10.3.7.61)	Not Present
-Measurement validity (10.3.7.51)	Not Present
-CHOICE report criteria	Intra-frequency measurement reporting
	criteria
-Intra-frequency measurement reporting criteria (10.3.7.30)	ontona
-Intra-frequency measurement reporting chiena (10.0.7.03)	2
Intra fraguanay avant identity	Event 1A
<u>- Iriggering condition 2</u>	Monitored set cells
-Reporting Range Constant	<u>3 dB</u>
-Cells forbidden to affect Reporting Range	Not Present
<u>W</u>	<u>1.0</u>
<u>-Hysteresis</u>	<u>0 dB</u>
<u>-Threshold used frequency</u>	Not Present
-Reporting deactivation threshold	<u>0</u>
-Replacement activation threshold	Not Present
-Time to trigger	<u>0 ms</u>
-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
Benorting Bange Constant	3 dB
Cells forbidden to affect Penerting Pener	Not Present
-Hysteresis	<u>пав</u>

Information Element/Group name	Value/Remark					
-Threshold used frequency	Not Present					
-Reporting deactivation threshold	Not Present					
-Replacement activation threshold	Not Present					
-Time to trigger	<u>0 ms</u>					
-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	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 informati						
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.

### 8.6.1.3A.5 Test requirements

For the test to pass, the total number of successful tests shall be at least 90% of the cases with a confidence level of 95%. 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.

# Table 8.6.1.3A.4: Initial test parameters for Event triggered reporting of two detectable neighbours in AWGN propagation condition

Parameter	<u>Unit</u>	<u>Cell 1</u>	<u>Cell 2</u>	Cell3					
		<u>T0</u>	<u>T0</u>	<u>T0</u>					
CPICH Ec/lor	<u>dB</u>	<u>-9.60</u>	<u>-9.60</u>	<u>-9.60</u>					
PCCPCH_Ec/lor	<u>dB</u>	<u>-11.60</u>	<u>-11.60</u> <u>-11.60</u> <u>-11.60</u>						
SCH_Ec/lor	<u>dB</u>	<u>-11.60</u>	<u>-11.60</u>	<u>-11.60</u>					
PICH_Ec/lor	<u>dB</u>	<u>-14.60</u>	<u>-14.60</u>	<u>-14.60</u>					
DPCH_Ec/lor	<u>dB</u>	<u>-16.60</u>	<u>N/A</u>	<u>N/A</u>					
OCNS_Ec/lor	<u>dB</u>	<u>-1.17</u>	<u>-1.04</u>	<u>-1.04</u>					
$\dot{P}_{or}/I_{oc}$ (Note 1)	<u>dB</u>	<u>5.90</u>	<u>-Inf</u>	<u>-Inf</u>					
<u> (Note 1)</u>	<u>dBm</u>	<u>-79.10</u>	<u>-Inf</u>	<u>-Inf</u>					
	<u>dBm/</u> <u>3.84</u> <u>MHz</u>		<u>-85</u>						
<u>CPICH_Ec/lo (Note 1)</u>	<u>dB</u>	<u>-10.59</u>	<u>-Inf</u>	<u>-Inf</u>					
Propagation AWGN									
Note 1: These parameters are not directly settable, but are derived by calculation from the settable parameters. The nominal Ger values, although not explicitly defined in 25.133 are added here since they.									
are implied and need t	<del>o be iden</del>	<u>tified so that the test equ</u>	<del>ipment can be configured</del>	<u>ł.</u>					

	•	•												
Parameter	<u>Unit</u>		<u>Ce</u>	<u>   1</u>	-	<u>Cell 2</u>					<u>Cell3</u>			
		<u>T1</u>	<u>T2</u>	<u>T3</u>	<u>T4</u>	<u>T1</u>	<u>T2</u>	<u>T3</u>	<u>T4</u>	<u>T1</u>	<u>T2</u>	<u>T3</u>	<u>T4</u>	
CPICH_Ec/lor	<u>dB</u>		<u>-9</u>	. <u>60</u>			<u>-9</u>	. <u>60</u>			<u>-9</u>	. <u>60</u>		
PCCPCH_Ec/ lor	<u>dB</u>		<u>-11</u>	.60			<u>-11</u>	<u>.60</u>		<u>-11.60</u>				
SCH Ec/lor	<u>dB</u>		-11	.60			-11	.60			-11	.60		
PICH Ec/lor	dB		-14	.60			-14	.60			-14	.60		
DPCH Ec/lor	dB		-16	6.60			N	<u>/A</u>			N	<u>/A</u>		
OCNS Ec/lor	dB		-1	.17			-1.	.04			-1.	.04		
$\frac{\hat{P}_{or}/I_{oc}}{1}$	<u>dB</u>	<u>14.6</u> 0	<u>28.5</u> 0	<u>14.5</u> 0	<u>28.5</u> 0	<u>-Inf</u>	<u>27.5</u> 0	<u>14.0</u>	<u>21.5</u> 0	<u>8.10</u>	<u>21.5</u> 0	<u>14.0</u>	<u>27.5</u> <u>0</u>	
<u> (Note 1)</u>	<u>dBm</u>	<u>-</u> <u>70.4</u> <u>0</u>	<u>-</u> <u>56.5</u> <u>0</u>	<u>-</u> <u>70.5</u> <u>0</u>	<u>-</u> <u>56.5</u> <u>0</u>	<u>-Inf</u>	<u>-</u> <u>57.5</u> <u>0</u>	<u>-</u> <u>71.0</u> <u>0</u>	<u>-</u> <u>63.5</u> <u>0</u>	<u>-</u> <u>76.9</u> <u>0</u>	<u>-</u> <u>63.5</u> <u>0</u>	<u>-</u> <u>71.0</u> <u>0</u>	<u>-</u> <u>57.5</u> <u>0</u>	
I <sub>oc</sub>	<u>dBm/</u> <u>3.84</u> <u>MHz</u>						<u>-8</u>	<u>35</u>						
<u>CPICH_Ec/lo</u> (Note 1)	<u>dB</u>	<u>-</u> <u>10.6</u> 0	<u>-</u> <u>12.6</u> 0	<u>-</u> <u>14.1</u> 0	<u>-</u> <u>12.6</u> 0	<u>-Inf</u>	<u>-</u> <u>13.6</u> 0	<u>-</u> <u>14.6</u> 0	<u>-</u> <u>19.6</u> 0	<u>-</u> <u>17.1</u> <u>0</u>	<u>-</u> <u>19.6</u> 0	<u>-</u> <u>14.6</u> 0	<u>-</u> <u>13.6</u> 0	
Propagation Condition	<u>AWGN</u>													
Note 1: Thes	<u>e parame</u>	eters are	not dire	ectly sett	able, bu	<u>t are der</u>	ived by	calculati	on from	the sette	able para	ameters.	The	
nominal @r valu	<del>ies, altho</del>	ugh not	explicitly	<del>/ definec</del>	in 25.1	<del>33 are a</del>	<del>dded he</del>	<del>re since</del>	they are	<del>implied</del>	and nee	<del>od to be</del>		
identified so that	t the test	equipm	ent can	<del>be confi</del>	aured.									

### Table 8.6.1.3A.5: Test parameters for Event triggered reporting of two detectable neighbours in AWGN propagation condition

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.

## 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.1.5 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	During T1 and T2:	
	$\frac{CPICH\_E_c}{I_{or}} \pm 0.1 \text{ dB}$ $I_{oc} \pm 1.0 \text{ dB}$	
	$\frac{\text{During T1:}}{I_{or}}$ (2) ±0.7 dB	
	$I_{\it or}$ (1, 3, 4, 5, 6) relative to $I_{\it or}$ (2) ±0.3 dB	
	$\frac{\text{During T2:}}{I_{or}} (1) \pm 0.7 \text{ dB}$	
	$I_{\it or}$ (2, 3, 4, 5, 6) relative to $I_{\it or}$ (1) ±0.3 dB	
	Assumptions: a) The contributing uncertainties for lor(r loc are derived according to ETR 273-1- factor of k=2.	n), channel power ratio, and 2 [16], with a coverage
	b) Within each cell, the uncertainty for lo ratio are uncorrelated to each other.	or(n), and channel power
	c) The relative uncertainties for lor(n) ac have any amount of positive correlation one (fully correlated).	ross different cells may from zero (uncorrelated) to
	d) Across different cells, the channel pow have any amount of positive correlation one (fully correlated).	wer ratio uncertainties may from zero (uncorrelated) to
	e) The uncertainty for loc and lor(n) may positive correlation from zero (uncorrelation	r have any amount of ted) to one (fully correlated).
	f) The absolute uncertainty of lor(2) at T uncertainty of lor(1, 3, 4, 5, 6), are uncor Similarly, the absolute uncertainty of lor( uncertainty of lor(2, 3, 4, 5, 6), are uncor	1 and the relative rrelated to each other. (1) at T2 and the relative rrelated to each other.
	An explanation of correlation between un rationale behind the assumptions, is rece [24].	ncertainties, and of the orded in 3GPP TR 34 902

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
8.2.2.2 Scenario 2: Multi carrier case	Channel 1 during T1 and T2:	
	$\frac{CPICH\_E_c}{I_{or}} = \pm 0.1 \text{ dB}$	
	$I_{oc}$ (1) ±1.0 dB	
	$\frac{\text{Channel 1 during T1:}}{I_{or}(1)} \pm 0.7 \text{ dB}$	
	$I_{\it or}$ (3, 4) relative to $I_{\it or}$ (1) $\pm$ 0.3 dB	
	$\frac{\text{Channel 1 during T2:}}{I_{or} (1) \pm 0.7 \text{ dB}}$	
	$I_{or}$ (3, 4) relative to $I_{or}$ (1) ±0.3 dB	
	Channel 2 during T1 and T2:	
	$\frac{CPICH\_E_c}{I_{or}} = \pm 0.1 \text{ dB}$	
	<i>I<sub>oc</sub></i> (2) ±1.0 dB	
	$\frac{\text{Channel 2 during T1:}}{I_{or}}$	
	$I_{or}$ (5, 6) relative to $I_{or}$ (2) ±0.3 dB	
	$\frac{\text{Channel 2 during T2:}}{I_{or} (2) \pm 0.7 \text{ dB}}$	
	$I_{\it or}$ (5, 6) relative to $I_{\it or}$ (2) ±0.3 dB	
	Assumptions: a) to e): Same as for the one-frequency	test 8.2.2.1.
	f) The absolute uncertainty of lor(1) and lor(3, 4), are uncorrelated to each other. uncertainty of lor(2) and the relative unc uncorrelated to each other.	the relative uncertainty of Similarly, the absolute ertainty of lor(5, 6), are
	<li>g) The absolute uncertainties for lor(1) a amount of positive correlation from zero correlated).</li>	and lor(2) may have any (uncorrelated) to one (fully
	h) The absolute uncertainties for loc(1) a amount of positive correlation from zero correlated).	and loc(2) may have any (uncorrelated) to one (fully
	An explanation of correlation between up rationale behind the assumptions, is rec [24].	ncertainties, and of the orded in 3GPP TR 34 902
8.2.3 UTRAN to GSM Cell Re-Selection		

Maximum Test System Uncertainty	Derivation of Test System Uncertainty
$\hat{P}_{or}/I_{oc}$ ±0.3 dB $I_{oc}/RXLEV$ ±0.3 dB I +1.0 dB	0.1 dB uncertainty in CPICH_Ec ratio
RXLEV ±1.0 dB	0.3 dB uncertainty in $\hat{P}_{or}/I_{oc}$
$\frac{CPICH\_E_c}{I_{or}} = \pm 0.1 \text{ dB}$	based on power meter measurement after the combiner
	0.3 dB uncertainty in 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.
$\dot{P}_{or}/I_{oc}$ ±0.3 dB $I_{oc}/RXLEV$ ±0.3 dB $I_{oc}$ ±1.0 dB RXLEV ±1.0 dB	Same as 8.2.3.1
$\frac{CPICH\_E_c}{I_{or}} = \pm 0.1 \text{ dB}$	
$ \begin{array}{ccc} \dot{P}_{or}/I_{oc} & \pm 0.3 \text{ dB} \\ I_{oc} & \pm 1.0 \text{ dB} \\ I_{oc1}/I_{oc2} & \pm 0.3 \text{ dB} \\ \\ \hline \frac{CPICH\_E_c}{I_{or}} & \pm 0.1 \text{ dB} \end{array} $	Same as 8.2.2.2
$\frac{\text{During T1 and T2/T3/T4/T5/T6:}}{I_{or}} \pm 0.1 \text{ dB}$ $I_{or} (1) \pm 0.7 \text{ dB}$ $I_{oc} \pm 1.0 \text{ dB}$ Relative delay of paths received from cell 2 with respect to cell 1: $\pm 0.5$ chips $\frac{\text{During T1:}}{\text{Already covered above}}$ $\frac{\text{During T2/T3/T4/T5/T6:}}{I_{or}} = I_{or} (1) + 0.0 \text{ dB}$	
	$\frac{\dot{h}_{or}/I_{oc}}{I_{oc}} \pm 0.3 \text{ dB}$ $I_{oc}/RXLEV \pm 0.3 \text{ dB}$ $I_{oc} \pm 1.0 \text{ dB}$ RXLEV ± 1.0 dB $\frac{CPICH \_ E_c}{I_{or}} \pm 0.1 \text{ dB}$ $\frac{\dot{P}_{or}/I_{oc}}{I_{or}} \pm 0.3 \text{ dB}$ $I_{oc}/RXLEV \pm 0.3 \text{ dB}$ $I_{oc}/RXLEV \pm 0.3 \text{ dB}$ $I_{oc} \pm 1.0 \text{ dB}$ RXLEV ± 1.0 dB $\frac{CPICH \_ E_c}{I_{or}} \pm 0.1 \text{ dB}$ $\frac{\dot{P}_{or}/I_{oc}}{I_{oc}} \pm 0.3 \text{ dB}$ $I_{oc} \pm 1.0 \text{ dB}$ $\frac{CPICH \_ E_c}{I_{or}} \pm 0.1 \text{ dB}$ $\frac{\dot{P}_{or}/I_{oc}}{I_{oc}} \pm 0.3 \text{ dB}$ $I_{oc} \pm 1.0 \text{ dB}$ $\frac{CPICH \_ E_c}{I_{or}} \pm 0.1 \text{ dB}$ $\frac{\dot{P}_{or}/I_{oc}}{I_{oc}} \pm 0.3 \text{ dB}$ $I_{oc} \pm 1.0 \text{ dB}$ $I_{oc} \pm 1.0 \text{ dB}$ $I_{oc} \pm 1.0 \text{ dB}$ $\frac{CPICH \_ E_c}{I_{or}} \pm 0.1 \text{ dB}$ $\frac{During T1 \text{ and } T2/T3/T4/T5/T6:}{I_{or}} \pm 0.1 \text{ dB}$ $I_{oc} \pm 1.0 \text{ dB}$ $I_{or} (1) \pm 0.7 \text{ dB}$ $I_{oc} \pm 1.0 \text{ dB}$ $I_{oc} \pm$

Clause	Maximum Test System Uncertainty	Derivation of Test System
	Assumptions: a) The contributing uncertainties for lor(n), ch derived according to ETR 273-1-2 [16], with a	nannel power ratio, and loc are a coverage factor of $k=2$ .
	b) Within each cell, the uncertainty for lor(n), uncorrelated to each other.	and channel power ratio are
	<ul> <li>c) Across different cells, the channel power reamount of positive correlation from zero (unc correlated).</li> </ul>	atio uncertainties may have any correlated) to one (fully
	d) The uncertainty for loc and lor(n) may hav correlation from zero (uncorrelated) to one (fi	e any amount of positive ully correlated).
	e) The absolute uncertainty of lor(1) and the are uncorrelated to each other.	relative uncertainty of lor(2),
	An explanation of correlation between uncert behind the assumptions, is recorded in 3GPF	tainties, and of the rationale P TR 34 902 [24].
8.3.2 FDD/FDD Hard Handover	During T1 and T0 / T0	
8.3.2.1 Handover to intra-frequency cell	$\frac{CPICH \_E_c}{I} = \pm 0.1 \text{ dB}$	
	$I_{or}(1) \pm 0.7 \text{ dB}$	
	<i>I<sub>oc</sub></i> ±1.0 dB	
	<u>During T1:</u> Already covered above	
	<u>During T2 / T3:</u>	
	$I_{or}$ (2) relative to $I_{or}$ (1) ±0.3 dB	
	Assumptions:	
	a) The contributing uncertainties for lor(r loc are derived according to ETR 273-1- factor of k=2.	n), channel power ratio, and 2 [16], with a coverage
	b) Within each cell, the uncertainty for lo ratio are uncorrelated to each other.	r(n), and channel power
	<ul> <li>c) Across different cells, the channel pow have any amount of positive correlation one (fully correlated).</li> </ul>	ver ratio uncertainties may from zero (uncorrelated) to
	<ul> <li>d) The uncertainty for loc and lor(n) may positive correlation from zero (uncorrelation)</li> </ul>	r have any amount of ted) to one (fully correlated).
	e) The absolute uncertainty of lor(1) and lor(2), are uncorrelated to each other.	the relative uncertainty of
	An explanation of correlation between uncert behind the assumptions, is recorded in 3GPF	ainties, and of the rationale P TR 34 902 [24].

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
8.3.2.2 Handover to inter-frequency cell	Channel 1 during T1 and T2 / T3:	
	CPICH _ E	
	$\frac{1}{I}$ ±0.1 dB	
	I or	
	$I_{or}$ (1) ±0.7 dB	
	$I_{oc}$ (1) ±1.0 dB	
	Channel 2 during T1 and T2 / T3:	
	$I_{oc}$ (2) ±1.0 dB	
	Channel 2 during T1:	
	Already covered above	
	Channel 0 during TO / TO:	
	Channel 2 during 12/13:	
	$\frac{CFICH_{L_c}}{-}$ ±0.1 dB	
	I <sub>or</sub>	
	$I_{or}$ (2) ±0.7 dB	
	Assumptions:	<b>、</b>
	a) The contributing uncertainties for lor(i loc are derived according to ETR 273-1- factor of k-2	n), channel power ratio, and 2 [16], with a coverage
	ratio are uncorrelated to each other.	r(n), and channel power
	<ul> <li>c) Across different cells, the channel pow have any amount of positive correlation one (fully correlated).</li> </ul>	wer ratio uncertainties may from zero (uncorrelated) to
	d) The uncertainty for loc(n) and lor(n) n positive correlation from zero (uncorrela	nay have any amount of ted) to one (fully correlated).
	<ul> <li>e) The absolute uncertainties for lor(1) a amount of positive correlation from zero correlated).</li> </ul>	and lor(2) may have any (uncorrelated) to one (fully
	<li>f) The absolute uncertainties for loc(1) a amount of positive correlation from zero correlated).</li>	nd loc(2) may have any (uncorrelated) to one (fully
	An explanation of correlation between uncert behind the assumptions, is recorded in 3GPF	tainties, and of the rationale P TR 34 902 [24].
8.3.3 FDD/TDD Handover	TBD	
8.3.4 Inter-system Handover from UTRAN FDD to GSM		
8.3.5 Cell Re-selection in CELL FACH		

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
8.3.5.1 One frequency present in the neighbour list	$\frac{\text{During T1 and T2:}}{\frac{\text{CPICH } E_c}{I_{or}}} = \pm 0.1 \text{ dB}$	entertainty
	<i>I<sub>oc</sub></i> ±1.0 dB	
	$\frac{\text{During T1:}}{I_{or}} (2) = \pm 0.7 \text{ dB}$	
	$I_{\it or}$ (1, 3, 4, 5, 6) relative to $I_{\it or}$ (2) ±0.3 dB	
	$\frac{\text{During T2:}}{I_{or}} (1) \pm 0.7 \text{ dB}$	
	$I_{\it or}$ (2, 3, 4, 5, 6) relative to $I_{\it or}$ (1) ±0.3 dB	
	Assumptions: a) The contributing uncertainties for lor(r loc are derived according to ETR 273-1- factor of k=2.	n), channel power ratio, and 2 [16], with a coverage
	<ul> <li>b) Within each cell, the uncertainty for lo ratio are uncorrelated to each other.</li> </ul>	r(n), and channel power
	<ul> <li>c) The relative uncertainties for lor(n) ac have any amount of positive correlation one (fully correlated).</li> </ul>	ross different cells may from zero (uncorrelated) to
	d) Across different cells, the channel pow have any amount of positive correlation one (fully correlated).	ver ratio uncertainties may from zero (uncorrelated) to
	<ul> <li>e) The uncertainty for loc and lor(n) may positive correlation from zero (uncorrelation)</li> </ul>	have any amount of ted) to one (fully correlated).
	f) The absolute uncertainty of lor(2) at $T^{-1}$ uncertainty of lor(1, 3, 4, 5, 6), are uncor Similarly, the absolute uncertainty of lor( uncertainty of lor(2, 3, 4, 5, 6), are uncor	1 and the relative related to each other. 1) at T2 and the relative related to each other.
	An explanation of correlation between uncert behind the assumptions, is recorded in 3GPF	ainties, and of the rationale ? TR 34 902 [24].

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
8.3.5.2 Two frequencies present in the neighbour list	$\frac{Channel 1 during T1 and T2:}{\frac{CPICH \_E_c}{I_{or}}} \pm 0.1 dB$	
	<i>I<sub>oc</sub></i> (1) ±1.0 dB	
	$\frac{\text{Channel 1 during T1:}}{I_{or}}$ (1) ±0.7 dB	
	$I_{or}$ (3, 4) relative to $I_{or}$ (1) ±0.3 dB	
	$\frac{\text{Channel 1 during T2:}}{I_{or}}$ (1) ±0.7 dB	
	$I_{or}$ (3, 4) relative to $I_{or}$ (1) ±0.3 dB	
	Channel 2 during T1 and T2:	
	$\frac{CPICH\_E_c}{I_{or}} = \pm 0.1 \text{ dB}$	
	<i>I<sub>oc</sub></i> (2) ±1.0 dB	
	$\frac{\text{Channel 2 during T1:}}{I_{or}}$	
	$I_{\it or}$ (5, 6) relative to $I_{\it or}$ (2) $\pm$ 0.3 dB	
	Channel 2 during T2:	
	$I_{or}(2) \pm 0.7 \text{ dB}$	
	$I_{or}$ (5, 6) relative to $I_{or}$ (2) ±0.3 dB	
	Assumptions: a) to e): Same as for the one-frequency	test 8.3.5.1.
	f) The absolute uncertainty of lor(1) and lor(3, 4), are uncorrelated to each other. uncertainty of lor(2) and the relative uncouncorrelated to each other.	the relative uncertainty of Similarly, the absolute ertainty of lor(5, 6), are
	g) The absolute uncertainties for lor(1) a amount of positive correlation from zero correlated).	nd lor(2) may have any (uncorrelated) to one (fully
	h) The absolute uncertainties for loc(1) a amount of positive correlation from zero correlated).	and loc(2) may have any (uncorrelated) to one (fully
	An explanation of correlation between uncert behind the assumptions is recorded in 3GPP	ainties, and of the rationale TR 34 902 [24].

Clause	Maximum Test System Uncertainty	Derivation of Test System
8.3.5.3 Cell Re-selection to GSM	$\dot{P}_{or}/I_{oc}$ ±0.3 dB $I_{oc}/RXLEV$ ±0.3 dB	0.1 dB uncertainty in CPICH_Ec ratio
	<i>I<sub>oc</sub></i> ±1.0 dB	0.3 dB uncertainty in $\dot{P}_{or}/I_{oc}$
	RXLEV ±1.0 dB $\frac{CPICH\_E_c}{I_{or}}$ ±0.1 dB	based on power meter measurement after the combiner 0.3 dB uncertainty in loc/RXLEV based on power
		meter measurement after the combiner
		AWGN is specified as 1.0 dB.
		RXLEV is specified as 1.0 dB.
8.3.6 Cell Re-selection in CELL_PCH		
8.3.6.1 One frequency present in the neighbour list	Same as 8.2.2.1	Same as 8.2.2.1
8.3.6.2 Two frequencies present in the neighbour list	Same as 8.2.2.2	Same as 8.2.2.2
8.3.7 Cell Re-selection in URA_PCH		
8.3.7.1 One frequency present in the neighbour list	Same as 8.2.2.1	Same as 8.2.2.1
8.3.7.2 Two frequencies present in the neighbour list	Same as 8.2.2.2	Same as 8.2.2.2
8.4 RRC Connection Control		
8.4.1 RRC Re-establishment delay	Settings. $\dot{P}_{or}/I_{oc}$ ±0.3 dB	0.1 dB uncertainty in CPICH_Ec ratio
	$I_{oc}$ ±1.0 dB	0.3 dB uncertainty in $\dot{P}_{or}/I_{oc}$
	$\frac{CPICH\_E_c}{I_{or}} = \pm 0.1 \text{ dB}$	based on power meter measurement after the combiner
		Overall error is the sum of the $\dot{P}_{or}/I_{oc}$ ratio error and the CPICH_Ec/lor ratio.
		The absolute error of the AWGN is specified as 1.0 dB

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
8.4.2 Random Access	Settings.	0.1 dB uncertainty in AICH Ec
	$\dot{P}_{ar}/I_{ac}$ ±0.3 dB	ratio
	<i>I<sub>oc</sub></i> ±1.0 dB	$0.2 dP$ upportainty in $\hat{B}/I$
	AICH E	0.3 dB uncertainty if $F_{or}/I_{oc}$
	IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	based on power meter measurement after the combiner
		Overall error is the sum of the $\dot{P}_{or}/I_{oc}$ ratio error and the AICH_Ec/lor ratio.
		The absolute error of the AWGN is specified as 1.0 dB
	Measurements: Power difference. ± 1dB Maximum Power: same as 5.5.2	Power difference: Assume symmetric meas error ±1.0 dB comprising RSS of: - 0.7 dB downlink error plus -0.7 dB meas error.
		Maximum Power: 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
8.4.3 Transport format combination selection in UE	$\frac{DPCH\_E_c}{I_{or}}$ ±0.1 dB	0.1 dB uncertainty in DPCH_Ec ratio
8.5 Timing and Signalling Characteristics		
8.5.1 UE Transmit Timing	$I_{or} \pm 1.0 \text{ dB}$ $I_{or1}/I_{or2} \pm 0.3 \text{ dB}$ $\frac{DPCH\_E_c}{I_{or}} \pm 0.1 \text{ dB}$	0.1 dB uncertainty in DPCH_Ec ratio 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 trequency measurements	During T1/T4 and T2/T3:	
AWGN propagation conditions (R99)	$\frac{CPICH\_E_c}{I_{or}} = \pm 0.1 \text{ dB}$	
	$I_{or}$ (1) ±0.7 dB	
	<i>I<sub>oc</sub></i> ±1.0 dB	
	During T1/T4 only: Already covered above	
	During T2/T3 only: $I_{ar}$ (2) relative to $I_{ar}$ (1) ±0.3 dB	

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
8.6.1.1 A Event triggered reporting in	During T1/T3 and T2:	
AWGN propagation conditions (Rel-4 and	CPICH _ E	
later)	$I_{ar}$ ±0.1 dB	
	<i>I</i> (1) +0.7 dB	
	$I + 10 \mathrm{dB}$	
	During T1/T3 only:	
	Already covered above	
	During T2 only:	
	$I_{or}$ (2) relative to $I_{or}$ (1) ±0.3 dB	
8.6.1.1 and 8.6.1.1A	Assumptions:	annol power ratio, and loo are
	derived according to ETR 273-1-2 [16], with	a coverage factor of k=2.
	b) Within each cell, the uncertainty for lor(n),	and channel power ratio are
	c) Across different cells, the channel power r	atio uncertainties may have any
	amount of positive correlation from zero (und	correlated) to one (fully
	correlated). d) The uncertainty for loc and lor(n) may hav	e any amount of positive
	correlation from zero (uncorrelated) to one (f	ully correlated).
	e) The absolute uncertainty of lor(1) and the are uncorrelated to each other	relative uncertainty of lor(2),
	An explanation of correlation between uncer	tainties, and of the rationale
8.6.1.2 Event triggered reporting of	behind the assumptions, is recorded in 3GPI	P TR 34 902 [24].
multiple neighbours in AWGN	CPICH E	
propagation condition (R99)	$\frac{1}{I} = \frac{1}{2} \frac{1}{c} = \pm 0.1 \text{ dB}$	
	I (1) +0.7 dB	
	During T1/T2, T3 and T6:	
	$I_{or}$ (3) relative to $I_{or}$ (1) ±0.3 dB	
	During T2 T4/T5 and T6:	
	I (2) relative to $I$ (1) +0.3 dB	
	Assumptions:	
	a) The contributing uncertainties for lor(n), cl	hannel power ratio, and loc are
	derived according to ETR 273-1-2 [4], with a	coverage factor of k=2.
	uncorrelated to each other.	
	c) The relative uncertainties for lor(n) across	different cells may have any
	correlated).	one area to one (fully
	d) Across different cells, the channel power i	atio uncertainties may have
	correlated).	(unconcluted) to one (fully
	e) The uncertainty for loc and lor(1) may have	ve any amount of positive
	f) The absolute uncertainty of lor(1) and the	relative uncertainty of lor(2, 3),
	are uncorrelated to each other.	
8.6.1.2A Event triggered reporting of	TBD	
multiple neighbours in AWGN		
propagation condition (Rel-4 and later)		

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
8.6.1.3 Event triggered reporting of two detectable neighbours in AWGN propagation condition (R99)	$\frac{\frac{\text{During T0 to T5:}}{CPICH\_E_c}}{I_{or}} = \pm 0.1 \text{ dB}}$	
	$\frac{I_{oc}}{During T1, T2/T3, T4 and T5:}$ $\frac{I_{or}}{(3) \text{ relative to } I_{or}} (1) \pm 0.3 \text{ dB}$ $\frac{During T2/T3, T4 \text{ and T5:}}{I_{or}} (2) \text{ relative to } I_{or} (1) \pm 0.3 \text{ dB}$ $\frac{I_{or}}{(2) \text{ relative to } I_{or}} (1) \pm 0.3 \text{ dB}$	
8.6.1.3A Event triggered reporting of two detectable neighbours in AWGN propagation condition (Rel-4 and later)	$\frac{\frac{\text{During T0 to T4:}}{CPICH\_E_c}}{I_{or}} \underbrace{\underbrace{\begin{array}{c} \pm 0.1 \text{ dB} \\ \pm 0.7 \text{ dB} \end{array}}_{\pm 0.7 \text{ dB}}}$	
	$     \underline{I_{oc}} = \pm 1.0 \text{ dB} $ $     \underline{During T1, T2, T3 \text{ and } T4:} $ $     \underline{I_{or}} = \underline{I_{or}} = \underline{I_{or}} = \pm 0.3 \text{ dB} $	
	During T2, T3 and T4: I <sub>or</sub> (2) relative to I <sub>or</sub> (1) ±0.3 dB	
	Assumptions: a) The contributing uncertainties for lor(normalized line for lor (normalized line for lor for l	n), channel power ratio, and 2 [4], with a coverage factor
	ratio are uncorrelated to each other. c) The relative uncertainties for lor(n) ac	ross different cells may
	have any amount of positive correlation one (fully correlated).	from zero (uncorrelated) to
	d) Across different cells, the channel power have any amount of positive correlation one (fully correlated).	<u>ver ratio uncertainties may</u> from zero (uncorrelated) to
	e) The uncertainty for loc and lor(1) may positive correlation from zero (uncorrela	<u>/ have any amount of</u> ted) to one (fully correlated).
	f) The absolute uncertainty of lor(1) and lor(2, 3), are uncorrelated to each other.	the relative uncertainty of
	An explanation of correlation between un rationale behind the assumptions, is rec [24].	ncertainties, and of the orded in 3GPP TR 34 902
8.6.1.4 Correct reporting of neighbours in fading propagation condition	TBD	
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 Fading propagation condition	TBD	

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
8.6.3 TDD measurements		
8.6.3.1Correct reporting of TDD neighbours in AWGN propagation condition	TBD	
8.6.4 GSM Measurement	TBD	
8.7 Measurements Performance Requirements		
8.7.1 CPICH RSCP		
8.7.1.1 Intra frequency measurements accuracy	$\dot{P}_{or}/I_{oc}$ ±0.3 dB	Same as 8.2.2.1
	<sup>1</sup> <sub>oc</sub> ±1.0 dB	
	$\underline{CPICH \_ E_c}$	
	1 <sub>or</sub> ±0.1 dB	
8.7.1.2 Inter frequency measurement accuracy	$\dot{P}_{or}/I_{oc}$ ±0.3 dB	Same as 8.2.2.2
	<i>I<sub>oc</sub></i> ±1.0 dB	
	$I_{oc1}/I_{oc2}$ ±0.3 dB	
	$\frac{CPICH \_E_c}{L}$	
	I	
8.7.2 CPICH Ec/lo		Sama ao 8.0.0.1
accuracy	$\frac{P_{or}}{I}$ ±0.3 dB	Same as 0.2.2.1
	$I_{oc}$ ±1.0 dB	
	$\frac{CHCH_{L_c}}{I}$	
0.7.0.0 Inter frequency macaurement	1 or ±0.1 dB	Sama as 8.0.0.0
accuracy	$\frac{P_{or}}{I}$ ±0.3 dB	Same as 0.2.2.2
	$I_{oc}$ ±1.0 dB	
	$I_{oc1}/I_{oc2}$ ±0.3 dB	
	$\frac{CPICH \_E_c}{I}$	
	<i>I</i> <sub>or</sub> ±0.1 dB	
	$\frac{P_{or}}{I} = \frac{1000}{1000} \pm 0.3 \text{ dB}$	0.3 dB uncertainty in $\frac{P_{or}}{I_{oc}}$
	<sup>1</sup> <sub>oc</sub> ±1.0 dB	based on power meter
	$I_{oc1}/I_{oc2}$ ±0.3 dB	combiner
		0.3 dB uncertainty in loc1/loc2
		measurement after the
		combiner
		The absolute error of the AWGN is specified as 1.0 dB
8.7.3A GSM Carrier RSSI	TBD	-
8.7.3C UE Transmitted power	Mean power measurement □0,7 dB	Downlink parameters are unimportant.
8.7.4 SFN-CFN observed time difference		
accuracy	$I_{or}^{\mu}/I_{oc}$ ±0.3 dB	0.3 dB uncertainty in $\hat{P}_{or}/I_{oc}$
,	I <sub>oc</sub> ±1.0 dB	based on power meter
	Actual SFN-CFN observed time difference:	measurement after the
	±0.5 chips	combiner The absolute error of the
		AWGN is specified as 1.0 dB

Clause	Maximum Test System Uncertainty	Derivation of Test System
		Uncertainty
8.7.4.2 Inter frequency measurements accuracy	$\dot{P}_{or}/I_{oc}$ ±0.3 dB $I_{oc}$ ±1.0 dB Actual SFN-CFN observed time difference: ±0.5 chips	$\dot{P}_{or}/I_{oc}$ 0.3 dB uncertainty in $\dot{P}_{or}/I_{oc}$ based on power meter measurement after the combiner The absolute error of the AWGN is specified as 1.0 dB
8.7.5.1 SFN-SFN observed time difference type 1	$\dot{P}_{or}/I_{oc}$ ±0.3 dB $I_{oc}$ ±1.0 dB Actual SFN-SFN observed time difference type 1: ±0.5 chips	$\dot{P}_{or}/I_{oc}$ 0.3 dB uncertainty in $\dot{P}_{or}/I_{oc}$ based on power meter measurement after the combiner The absolute error of the AWGN is specified as 1.0 dB
8.7.6 UE Rx-Tx time difference	$\dot{P}_{or}/I_{oc}$ ±0.3 dB $I_{oc}$ ±1.0 dB Rx-Tx Timing Accuracy ±0.5 chip	$\dot{P}_{or}/I_{oc}$ 0.3 dB uncertainty in $\dot{P}_{or}/I_{oc}$ based on power meter measurement after the combiner The absolute error of the AWGN is specified as 1.0 dB.
8.7.8 P-CCPCH RSCP	TBD	

#### F.1.6 Performance requirement (HSDPA)

Table F.1.6: Maximum Test System Uncertainty for Performance Requirements (HSDPA)

Clause	Maximum Test System Uncertainty	Derivation of Test System Uncertainty
9.2.1 Single Link Performance	$ \begin{array}{cccc} \dot{P}_{or}/I_{oc} & \pm 0.3 \text{ dB} \\ I_{oc} & \pm 1.0 \text{ dB} \\ \frac{E_c}{I_{or}} & \\ & \pm 0.1 \text{ dB} \end{array} $	0.1 dB uncertainty in Ec/lor ratio 0.3 dB uncertainty in $\frac{\dot{P}_{or}}{I_{oc}}$ based on power meter measurement after the combiner The absolute error of the AWGN loc is not important for any tests in clause 9 but is specified as 1.0 dB.
9.3.1 AWGN propagation conditions	No test system uncertainty applied	

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

Table F.2.1: Test Tolerances for transmitter tests.

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 range)
uplink	0.15 dB (2 dB range)
	0.2 dB (3 dB range
	0.3 dB (> 3 dB range))
5.4.3 Minimum Output Power	1.0 dB
5.4.4 Out-of-synchronisation handling of	0.4 dB
$DPCCH \_ E_c$	
output power: $I_{or}$	
5.4.4 Out-of-synchronisation handling of	0 ms
output power: transmit ON/OFF time	

Clause	Test Tolerance
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
size	
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
	0.0 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	
5.13.4 PRACH preamble quality (EVM)	0%
5.13.4 PRACH preamble quality	10 Hz
(Frequency error)	

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

Clause	Test Tolerance	
7.2 Demodulation in Static Propagation	0.3 dB for $\hat{P}_{or}/I_{oc}$	
Condition	0.1 dB for DPCH Ec/lor	
7.3 Demodulation of DCH in multipath Fading Propagation conditions	0.6 dB for $\frac{\hat{P}_{or}/I_{oc}}{0.1 \text{ dB for DPCH}_Ec/lor}$	
7.4 Demodulation of DCH in Moving	0.6 dB for $\frac{\dot{P}_{or}}{I_{oc}}$	
Propagation conditions	0.1 dB for DPCH_Ec/lor	
7.5 Demodulation of DCH in Birth-Death	0.6 dB for $\frac{\dot{P}_{or}}{I_{oc}}$	
Propagation conditions	0.1 dB for DPCH_Ec/lor	
7.6.1 Demodulation of DCH in open loop	0.8 dB for $\frac{\dot{P}_{or}}{I_{oc}}$	
Transmit diversity mode	0.1 dB for DPCH Ec/lor	
7.6.2 Demodulation of DCH in closed loop Transmit diversity mode	0.8 dB for $\frac{\dot{P}_{or}/I_{oc}}{0.1 \text{ dB for DPCH_Ec/lor}}$	
7.6.3, Demodulation of DCH in site selection diversity Transmission power control mode	0.8 dB for $\frac{\dot{P}_{or}/I_{oc}}{0.1 \text{ dB for DPCH_Ec/lor}}$	
7.7.1 Demodulation in inter-cell soft	0.8 dB for $\frac{\dot{P}_{or}}{I_{oc}}$	
Handover conditions	0.1 dB for DPCH_Ec/lor	
7.7.2 Combining of TPC commands Test	0 dB for lor1, lor2 0.1 dB for DPCH_Ec/lor	
7.7.2 Combining of TPC commands Test	0.8 dB for $\frac{\dot{P}_{or}}{I_{oc}}$	
2	0.1 dB for DPCH_Ec/lor	

Clause	Test Tolerance
7.8.1 Power control in downlink constant BLER target	0.6 dB for $\frac{\dot{P}_{or}}{I_{oc}}$ 0.1 dB for DPCH Ec/lor
7.8.2, Power control in downlink initial convergence	0.6 dB for $\frac{\dot{P}_{or}}{I_{oc}}$ 0.1 dB for DPCH_Ec/lor
7.8.3, Power control in downlink: wind up effects	0.6 dB for $\frac{\dot{P}_{or}}{I_{oc}}$ 0.1 dB for DPCH_Ec/lor
7.9 Downlink compressed mode	0.6 dB for $\frac{\dot{P}_{or}}{I_{oc}}$ 0.1 dB for DPCH Ec/lor
7.10 Blind transport format detection Tests 1, 2, 3	0.3 dB for $\frac{\dot{P}_{or}}{I_{oc}}$ 0.1 dB for DPCH_Ec/lor
7.10 Blind transport format detection Tests 4, 5, 6	0.6 dB for $\frac{\dot{P}_{or}}{I_{oc}}$ 0.1 dB for DPCH_Ec/lor
7.11 Demodulation of paging channel (PCH)	TBD
7.12 Detection of acquisition indicator (AI)	TBD

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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	During T1 and T2: +0.60 dB for all Cell 1 and 2 Ec/lor ratios -0.50 dB for all Cell 3, 4 ,5, 6 Ec/lor ratios +0.03 dB for lor(3, 4, 5, 6)
	During T1: -0.27 dB for lor(1) +0.13 dB for lor(2)
	During T2: +0.13 dB for lor(1) -0.27 dB for lor(2)
8.2.2.2 Scenario 2: Multi carrier case	Channel 1 during T1 and T2: +0.70 dB for all Cell 1 Ec/lor ratios -0.80 dB for all Cell 3 and 4 Ec/lor ratios
	Channel 1 during T1: -0.01 dB for lor(1) -0.01 dB for lor(3, 4) No change for loc(1)
	Channel 1 during T2: +0.75 dB for lor(1) -0.05 dB for lor(3, 4) -1.80 dB for loc(1)
	Channel 2 during T1 and T2: +0.70 dB for all Cell 2 Ec/Ior ratios -0.80 dB for all Cell 5 and 6 Ec/Ior ratios
	Channel 2 during T1: +0.75 dB for lor(2) -0.05 dB for lor(5, 6) -1.80 dB for loc(2)
	Channel 2 during T2: -0.01 dB for lor(2) -0.01 dB for lor(5, 6) No change for loc(2)
8.2.3 UTRAN to GSM Cell Re-Selection	

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Clause	Tost Toloranoo
Clause	
8.2.3.1 Scenario 1: Both OTRA and GSM	$\hat{P}_{ar}/I_{ar}$
level changed	
	0.1 dB for CPICH_EC/lor
	0.3 dB for loc/RXLEV
8.2.3.2 Scenario 2: Only UTRA level	$\dot{\mathbf{p}} / \mathbf{I}$
changed	0.3 dB for Or / Oc
	0.1 dB for CPICH_Ec/lor
	0.3 dB for loc/RXLEV
8.2.4 FDD/TDD cell re-selection	$\dot{\mathbf{a}} / \mathbf{I}$
	0.3 dB for $r r r r r r r$
	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	During T1 and T2/T3/T4/T5/T6:
	+0.70 dB for all Cell 1 Ec/lor ratios
	Relative delay: {ñ147.5 Ö +147.5} chips
	During T1:
	Already covered above
	During T2/T3/T4/T5/T6:
	+0.70 dB for all Cell 2 Ec/lor ratios
8.3.2 FDD/FDD Hard Handover	
8.3.2.1 Handover to intra-frequency cell	During T1 and T2 / T3:
	+0.70 dB for all Cell 1 Ec/lor ratios
	During T1:
	Already covered above
	During T2 / T3:
	+0.70 dB for all Cell 2 Ec/lor ratios
8.3.2.2 Handover to inter-frequency cell	Channel 1 during T1 and T2 / T3:
	+0.80 dB for all Cell 1 Ec/lor ratios
	Channel 2 during 11:
	Not applicable
	Channel 2 during 12 / 13:
	+0.80 dB for all Cell 2 Ec/lor ratios
8.3.3 FDD/TDD Handover	TBD
8.3.4 Inter-system Handover form	IBD
UTRAN FDD to GSM	
8.3.5 Cell Re-selection in CELL_FACH	
8.3.5.1 One frequency present in the	During 11 and 12:
neighbour list	+0.60 dB for all Cell 1 and 2 Ec/lor ratios
	-0.50 dB for all Cell 3, 4, 5, 6 Ec/lor ratios
	+0.03 dB for lor(3, 4, 5, 6)
	During The
	-0.27 dB for lor(1)
	+0.13 dB for lor(2)
	During 12:
	+0.13 dB for lor(1)
	-0.27 dB for lor(2)
Clause	Test Tolerance
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8.3.5.2 Two frequencies present in the	Channel 1 during T1 and T2:
neighbour list	+0.60 dB for all Cell 1 Ec/lor ratios
- C	-0.70 dB for all Cell 3 and 4 Ec/lor ratios
	Channel 1 during T1:
	+0.05 dB for lor(1)
	+0.05 dB for lor(3, 4)
	No change for loc(1)
	Channel 1 during T2:
	+0.75 dB for lor(1)
	-0.05 dB for lor(3, 4)
	-1.60 dB for loc(1)
	Channel O during T1 and T0:
	Channel 2 during 11 and 12:
	+0.60 dB for all Cell 2 Ec/lor ratios
	Channel 2 during T1:
	$\pm 0.75 \text{ dB for lor(2)}$
	-0.05  dB for lor(5, 6)
	-1.60  dB for loc(2)
	Channel 2 during T2:
	+0.05 dB for lor(2)
	+0.05 dB for lor(5, 6)
	No change for loc(2)
8.3.5.3 Cell Re-selection to GSM	
	0.3 dB for $F_{or}/I_{oc}$
	0.1 dB for CPICH_Ec/lor
	0.3 dB for loc/RXLEV
8.3.6 Cell Re-selection in CELL_PCH	-
8.3.6.1 One frequency present in the	Same as 8.2.2.1
neighbour list	
8.3.6.2 Two frequencies present in the	Same as 8.2.2.2
neighbour list	
8.3.7 Cell Re-selection in URA_PCH	Sama as 8.0.0.1
a.s.7.1 One frequency present in the	Same as 8.2.2.1
8 3 7 2 Two frequencies present in the	Same as 8.2.2.2
peighbour list	Same as 0.2.2.2
8 4 BBC Connection Control	
8.4.1 BBC Be-establishment delay	
	$\mathbf{x} = \mathbf{x} + \mathbf{x}$
	0 dB for $P_{or}/I_{oc}$
	0 dB for any Ec/lor
	Zero TT is applied, as level settings are
	not critical with respect to the outcome of
	the test.
8.4.2 Random Access	Settings:
	0.3 dB for $\hat{P}$ /I
	U.1 dB for AICH_Ec/Ior
	ivieasurements:
	Power difference: ± 1dB
	Maximum Power: -1dB / +0.7dB
8.4.3 Transport format combination	U aB for DPCH_EC/lor
Selection in UE	
6.5 Liming and Signalling Characteristics	
8.5.1 UE Transmit Timing	עסו
8.0 UE Weasurements Procedures	
ו מוו הטט וווגימ trequency measurements	

Clause	Test Tolerance
8.6.1.1 Event triggered reporting in	During T1/T4 and T2/T3:
AWGN propagation conditions (R99)	+0.70 dB for all Cell 1 Ec/lor ratios
	During T1/T4 only:
	Already covered above
	During T2/T3 only:
	+0.70 dB for all Cell 2 Ec/lor ratios
8.6.1.1 A Event triggered reporting in	During T1/T3 and T2:
AWGN propagation conditions (Rel-4 and	+0.70 dB for all Cell 1 Ec/lor ratios
later)	
,	During T1/T3 only:
	Already covered above
	,
	During T2 only:
	+0.70 dB for all Cell 2 Ec/lor ratios
8.6.1.2 Event triggered reporting of	During T0 to T6 $\cdot$
multiple neighbours in AWGN	+0.70 dB for all Cell 1 Ec/lor ratios
propagation condition (B99)	+0.70 dB for all Cell 2 Ec/lor ratios
	+0.70 dB for all Cell 3 Ec/lor ratiosTBD
8.6.1.2A Event triggered reporting of	
multiple neighbours in AWGN	
propagation condition (Rel_4 and later)	
8 6 1 3 Event triggered reporting of two	During T0 to T5:
detectable neighbours in AW/GN	±0.40 dB for all Cell 1 Ec/lor ratios
propagation condition (R00)	$\pm 0.40 \text{ dB}$ for all Cell 2 Ec/lor ratios
propagation condition (199)	+0.40 dB for all Cell 2 Ec/lor ratios TPD
0.6.1.04 Event triggered reporting of two	Puring T0 to T4
detectable paidbaurs in AWGN	Utiling To to 14.
propagation condition (Pol 4 and later)	+0.40 dB for all Cell 2 Ec/lor ratios
propagation condition (Hei-4 and later)	+0.40 dB for all Cell 2 Ec/lor ratios
9.6.1.4 Correct reporting of poighbours in	
fading propagation condition	
8 6 2 EDD inter frequency measurements	
8.6.2 FDD Intel frequency frequencies	
AWGN propagation condition	עסו
Ave GN propagation condition	
8.6.2.2 Correct reporting of neighbours in	עסו
8.6.3 TDD measurements	
8.6.3. ICOnect reporting of TDD	עסו
neighbours in AvvGN propagation	
Condition	
8.7 Measurements Penormance	עסו
8.7.1 CPICH RSCP	
	0.3 dB for $I_{ar}^{A}/I_{ac}$
accuracy	0.1 dB for CPICH Ec/lor
	1.0 dB for loc
8 7 1 2 Inter frequency measurement	
accuracy	0.3 dB for $P_{or}/I_{oc}$
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 2 1 Intra frequency measurements	à /_
accuracy	0.3 dB for $I_{or}^{1}/I_{oc}$
accuracy	0.1 dB for CPICH Ec/lor
8.7.2.2 Inter frequency measurement	
accuracy	0.3 dB for $P_{or}/I_{oc}$
	0.1 dB for CPICH Ec/lor
8.7.3 UTRA Carrier RSSI	
	0.3 dB for $P_{or}/I_{oc}$
	1.0 dB for loc
8.7.3A GSM Carrier RSSI	TBD
8.7.3B Transport channel BLER	TBD

Clause	Test Telerance
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 $\dot{P}_{or}/I_{oc}$
	1.0 dB for loc
	±0.5 chips for the actual SFN-CFN observed time difference
8.7.5.1 SEN-SEN observed time	- $+$ $+$
difference type 1	0.3 dB for $P_{or}/I_{oc}$
	1.0 dB for loc
	±0.5 chips for the actual SFN-SFN observed time difference type 1
8.7.6 UE Rx-Tx time difference	0.3 dB for $\dot{P}_{or}/I_{oc}$
	1.0 dB for loc
	0.5 chip for Rx-Tx Timing Accuracy
8.7.7 Observed time difference to GSM	TBD
cell	
8.7.8 P-CCPCH RSCP	TBD

# F.2.5 Performance requirements (HSDPA)

Table F.2.5: Tes	t Tolerances for	Performance	Requirements	(HSDPA).
				· /

Clause	Test Tolerance
9.2.1 Single Link Performance	0.3 dB for $\hat{P}_{or}/I_{oc}$
	0.1 dB for Ec/lor
9.4 HS-SCCH Detection Performance	0.3 dB for $\hat{P}_{or}/I_{oc}$
	0.1 dB for P-CPICH_Ec/lor and HS-SCCH_Ec/lor

# F.3 Interpretation of measurement results

The measurement results returned by the Test System are compared ñ without any modification ñ 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 ñ 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.

For some of the more complex tests e.g. RRM, deriving the overall test system uncertainty is not straightforward. In such cases the derivation is given in TR 34.902 [24] rather than in subclause F.1. If it is deemed necessary to apply the additional test system uncertainty rules to these tests, the formula for deriving the new overall uncertainty from any excess fundamental test system uncertainties, shall use the formulas provided in 34.902.

# 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	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	Because the relationships between the Test system uncertainties and the Test Tolerances are complex, it is not possible to give a simple derivation of the Test Requirement in this document. The analysis is recorded in 3GPP TR 34 902 [24].			
	During T1 and T2:	During T1 and T2:	During T1 and T2:	
	Cells 1 and 2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	+0.60 dB +0.60 dB +0.60 dB +0.60 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT	
	Cells 3, 4, 5, 6: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	-0.50 dB -0.50 dB -0.50 dB -0.50 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT	
	lor(3, 4, 5, 6) = -69.73 dBm	+0.03 dB for lor(3, 4, 5, 6)	lor(3, 4, 5, 6) + TT	
	During T1:	During T1:	During T1:	
	lor(1) = -62.73 dBm lor(2) = -59.73 dBm	-0.27 dB for lor(1) +0.13 dB for lor(2)	lor(1) + TT lor(2) + TT	
	During T2:	During T2:	During T2:	
	lor(1) = -59.73 dBm lor(2) = -62.73 dBm	+0.13 dB for lor(1) -0.27 dB for lor(2)	lor(1) + TT lor(2) + TT	
8.2.2.2 Scenario 2: Multi carrier case	Because the relationships between the Test system uncertainties and the Test Tolerances are complex, it is not possible to give a simple derivation of the Test Requirement in this document. The analysis is recorded in 3GPP TR 34 902 [24].			
	<u>Channel 1 during T1 and</u> <u>T2:</u>	Channel 1 during T1 and T2:	Channel 1 during T1 and T2:	
	Cell 1: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	+0.70 dB +0.70 dB +0.70 dB +0.70 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT	
	Cells 3 and 4: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	-0.80 dB -0.80 dB -0.80 dB -0.80 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT	
	<u>Channel 1 during T1:</u> lor(1) = -73.39 dBm lor(3, 4) = -77.39 dBm loc(1) = -70.00 dBm	<u>Channel 1 during</u> <u>T1:</u> -0.01 dB for lor(1) -0.01 dB for lor(3,4) 0.00 dB for loc(1)	<u>Channel 1 during T1:</u> lor(1) + TT lor(3, 4) + TT loc(1) + TT	

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
	Channel 1 during T2:	Channel 1 during	Channel 1 during T2:
	lor(1) = -67.75 dBm lor(3, 4) = -74.75 dBm loc(1) = -70.00 dBm	+0.75 dB for lor(1) -0.05 dB for lor(3, 4) -1.80 dB for loc(1)	lor(1) + TT lor(3, 4) + TT loc(1) + TT
	Channel 2 during T1 and T2:	Channel 2 during T1 and T2:	Channel 2 during T1 and T2:
	Cell 2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	+0.70 dB +0.70 dB +0.70 dB +0.70 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	Cells 5 and 6: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	-0.80 dB -0.80 dB -0.80 dB -0.80 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	Channel 2 during T1:	Channel 2 during	Channel 2 during T1:
	lor(2) = -67.75 dBm lor(5, 6) = -74.75 dBm loc(2) = -70.00 dBm	+0.75 dB for lor(2) -0.05 dB for lor(5, 6) -1.80 dB for loc(2)	lor(2) + TT lor(5, 6) + TT loc(2) + TT
	Channel 2 during T2:	Channel 2 during	Channel 2 during T2:
	lor(2) = -73.39 dBm lor(5, 6) = -77.39 dBm loc(2) = -70.00 dBm	<u>T2:</u> -0.01 dB for lor(2) -0.01 dB for lor(5,6) 0.00 dB for loc(2)	lor(2) + TT lor(5, 6) + TT loc(2) + TT
8.2.3 UTRAN to GSM			
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	Formulas: $\frac{CPICH\_E_c}{I_{or}} = ratio + TT$
		0.3 dB for loc/RXLEV	lor/loc = ratio + TT (loc/Rxlev) <sub>test requirement</sub> = (loc/Rxlev) <sub>minimum requirement</sub> + TT
			lor/loc = 0.3 dB $\frac{CPICH \_ E_c}{I_{or}} = -9.9 \text{ dB}:$
	$\frac{CPICH\_E_c}{I_{or}} = -10 \text{ dB}$ lor/loc = - 5 dB	0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$ 0.3 dB for lor/loc	Formulas: $\frac{CPICH\_E_c}{I_{or}} = \text{ratio} - TT$ $I_{or}$
		0.3 dB for loc/RXLEV	(loc/Rxlev) <sub>test requirement</sub> = (loc/Rxlev) <sub>minimum</sub> requirement - TT
			lor/loc = -5.3 dB
			$\frac{CPICH\_E_c}{I_{or}}$ -10.1 dB:

Test	Test Parameters in TS 25 133	Test Tolerance (TT)	Test Requirement in TS 34.121
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 = -9 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: $\frac{CPICH\_E_c}{I_{or}} = \text{ratio} - TT$ $\text{lor/loc} = \text{ratio} - TT$ $(\text{loc/Rxlev})_{\text{test requirement}} =$ $(\text{loc/Rxlev})_{\text{minimum requirement}} - TT$ $\text{lor/loc} = -9.3 \text{ dB}$ $\frac{CPICH\_E_c}{I_{or}} = -10.1 \text{ dB}:$
8.2.4 FDD/TDD cell re- selection	TBD		
8.3 UTRAN Connected Mode Mobility	TBD		
8.3.1 FDD/FDD Soft Handover	Because the relationships be are complex, it is not possibl document. The analysis is re <u>During T1 and</u> <u>T2/T3/T4/T5/T6:</u> Cell 1:	etween the Test system le to give a simple deriva ecorded in 3GPP TR 34 During T1 and T2/T3/T4/T5/T6:	uncertainties and the Test Tolerances ation of the Test Requirement in this 902 [24]. During T1 and T2/T3/T4/T5/T6:
	CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB Relative delay of paths received from cell 2 with respect to cell 1 = {-148 Ö 148} chips	+0.70 dB +0.70 dB +0.70 dB +0.70 dB 0.5 chips	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT {-148+TT Ö 148-TT} chips
	During T1:	During T1:	During T1:
	Already covered above	Covered above	Already covered above
	During T2/T3/T4/T5/T6: Cell 2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	During T2/T3/T4/T5/T6: +0.70 dB +0.70 dB +0.70 dB +0.70 dB	During T2/T3/T4/T5/T6: Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
8.3.2 FDD/FDD Hard Handover			

Because the relationships between the Test system uncertainties and the Test Tolerances			
are complex, it is not possible to give a simple derivation of the Test Requirement in this document. The analysis is recorded in 3GPP TR 34 902 [24].			
During T1 and T2 / T3:	During T1 / T2 / T3:	During T1 and T2 / T3:	
Cell 1: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	+0.70 dB +0.70 dB +0.70 dB +0.70 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT	
During T1:	During T1:	During T1:	
Already covered above	Covered above	Already covered above	
During T2 / T3:	During T2 / T3:	<u>During T2 / T3:</u>	
Cell 2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	+0.70 dB +0.70 dB +0.70 dB +0.70 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT	
Because the relationships between the Test system uncertainties and the Test Tolerand are complex, it is not possible to give a simple derivation of the Test Requirement in this document. The analysis is recorded in 3GPP TR 34 902 [24].			
Channel 1 during T1 and T2 / T3:	Channel 1 during T1 and T2 / T3:	Channel 1 during T1 and T2 / T3:	
Cell 1: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	+0.80 dB +0.80 dB +0.80 dB +0.80 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT	
Channel 2 during T1:	Channel 2 during	Channel 2 during T1:	
Not applicable	<u>11:</u> Not applicable	Not applicable	
Channel 2 during T2 / T3:	<u>Channel 2 during T2</u> / <u>T3:</u>	Channel 2 during T2 / T3:	
Cell 2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB	+0.80 dB +0.80 dB +0.80 dB +0.80 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT	
TBD			
TBD			
Because the relationships be are complex, it is not possible document. The analysis is re-	etween the Test system e to give a simple derive peorded in 3GPP TP 34	uncertainties and the Test Tolerances ation of the Test Requirement in this	
	Because the relationships be are complex, it is not possibl document. The analysis is re During T1 and T2 / T3: Cell 1: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -12 dB During T1: Already covered above During T2 / T3: Cell 2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB Because the relationships be are complex, it is not possibl document. The analysis is re Channel 1 during T1 and T2 / T3: Cell 1: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -12 dB PICH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB Channel 2 during T1: Not applicable Channel 2 during T2 / T3: Cell 2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -12 dB PICH_Ec/lor = -12 dB PICH_Ec/lor = -13 dB TBD TBD	Because the relationships between the Test system are complex, it is not possible to give a simple derivat document. The analysis is recorded in 3GPP TR 34         During T1 and T2 / T3:       During T1 / T2 / T3:         Cell 1:       CPICH_Ec/lor = -10 dB +0.70 dB +0.80 dB +0.70 dB +0.80 dB +0.70 dB +0.80 dB +0.8	

Test	Test Parameters in TS 25,133	Test Tolerance (TT)	Test Requirement in TS 34.121
	During T1 and T2:	During T1 and T2:	During T1 and T2:
	Cells 1 and 2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB S-CCPCH_Ec/lor = -12 dB	+0.60 dB +0.60 dB +0.60 dB +0.60 dB +0.60 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	Cells 3, 4, 5, 6: CPICH_Ec/lor = $-10 \text{ dB}$ PCCPCH_Ec/lor = $-12 \text{ dB}$ SCH_Ec/lor = $-12 \text{ dB}$ PICH_Ec/lor = $-15 \text{ dB}$ S-CCPCH_Ec/lor = $-12 \text{ dB}$ lor(3, 4, 5, 6) = $-69.73$	-0.50 dB -0.50 dB -0.50 dB -0.50 dB -0.50 dB +0.03 dB for lor(3, 4,	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT lor(3, 4, 5, 6) + TT
		5, 0)	
	During T1:	During T1:	During T1:
	lor(1) = -62.73 dBm lor(2) = -59.73 dBm	-0.27 dB for lor(1) +0.13 dB for lor(2)	lor(1) + TT lor(2) + TT
	During T2:	During T2:	During T2:
	lor(1) = -59.73 dBm lor(2) = -62.73 dBm	+0.13 dB for lor(1) -0.27 dB for lor(2)	lor(1) + TT lor(2) + TT
8.3.5.2 Two frequencies present in	Because the relationships be are complex, it is not possible document. The analysis is re-	etween the Test system to give a simple derive	uncertainties and the Test Tolerances ation of the Test Requirement in this
the neighbour list	Channel 1 during T1 and T2:	Channel 1 during T1 and T2:	Channel 1 during T1 and T2:
	Cell 1: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB S-CCPCH_Ec/lor = -12 dB	+0.60 dB +0.60 dB +0.60 dB +0.60 dB +0.60 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	Cells 3 and 4: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB S-CCPCH_Ec/lor = -12 dB	-0.70 dB -0.70 dB -0.70 dB -0.70 dB -0.70 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	Channel 1 during T1:	<u>Channel 1 during</u> <u>T1:</u>	Channel 1 during T1:
	lor(1) = -71.85 dBm lor(3, 4) = -76.85 dBm loc(1) = -70.00 dBm	+0.05 dB for lor(1) +0.05 dB for lor(3,4) 0.00 dB for loc(1)	lor(1) + TT lor(3, 4) + TT loc(1) + TT
	Channel 1 during T2:	Channel 1 during	Channel 1 during T2:
	lor(1) = -67.75 dBm lor(3, 4) = -74.75 dBm loc(1) = -70.00 dBm	12: +0.75 dB for lor(1) -0.05 dB for lor(3, 4) -1.60 dB for loc(1)	lor(1) + TT lor(3, 4) + TT loc(1) + TT

Test	Test Parameters in TS 25,133	Test Tolerance (TT)	Test Requirement in TS 34.121
	Channel 2 during T1 and T2:	Channel 2 during T1 and T2:	Channel 2 during T1 and T2:
	Cell 2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB S-CCPCH_Ec/lor = -12 dB	+0.60 dB +0.60 dB +0.60 dB +0.60 dB +0.60 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	Cells 5 and 6: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB S-CCPCH_Ec/lor = -12 dB	-0.70 dB -0.70 dB -0.70 dB -0.70 dB -0.70 dB	Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT Ec/lor ratio + TT
	Channel 2 during T1:	Channel 2 during	Channel 2 during T1:
	lor(2) = -67.75 dBm lor(5, 6) = -74.75 dBm loc(2) = -70.00 dBm	+0.75 dB for lor(2) -0.05 dB for lor(5, 6) -1.60 dB for loc(2)	lor(2) + TT lor(5, 6) + TT loc(2) + TT
	Channel 2 during T2:	Channel 2 during	Channel 2 during T2:
	lor(2) = -71.85 dBm lor(5, 6) = -76.85 dBm loc(2) = -70.00 dBm	12: +0.05 dB for lor(2) +0.05 dB for lor(5,6) 0.00 dB for loc(2)	lor(2) + TT lor(5, 6) + TT loc(2) + TT
8.3.5.3 Cell Re-	During T1:		
	$\frac{CPICH\_E_c}{I_{or}} = -10 \text{ dB}$	0.1 dB for $\frac{CPICH\_E_c}{I}$	$\frac{CPICH\_E_c}{I_{or}} = ratio + TT$
	lor/loc = 0 dB	0.3 dB for lor/loc	lor/loc = ratio + TT
	loc/RXLEV = 20	0.3 dB for loc/RXLEV	(loc/Rxlev) <sub>test requirement</sub> = (loc/Rxlev) <sub>minimum</sub> requirement + TT
			lor/loc = 0.3 dB
			$\frac{CPICH\_E_c}{I_{or}} = -9.9 \text{ dB}:$
			loc/RXLEV = 20.3
	During T2:		
	$\frac{CPICH\_E_c}{I_{or}} = -10 \text{ dB}$	0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$	$\frac{CPICH\_E_c}{I_{or}} = ratio - TT$
	lor/loc = - 5 dB	0.3 dB for lor/loc	lor/loc = ratio - TT
	loc/RXLEV = 5	0.3 dB for loc/RXLEV	(loc/Rxlev) <sub>test requirement</sub> = (loc/Rxlev) <sub>minimum requirement</sub> - TT
			lor/loc = -5.3 dB
			$\frac{CPICH\_E_c}{I_{or}}$ -10.1 dB:
			loc/RXLEV = 4.7

Test	Test Parameters in TS 25.133	Test Tolerance (TT)	Test Requirement in TS 34.121
8.3.6 Cell Re-selection in CELL_PCH			
8.3.6.1 One frequency present in the	Same as 8.2.2.1	Same as 8.2.2.1	Same as 8.2.2.1
neighbour list	$\frac{CPICH\_E_c}{I_{or}} = -10 \text{ dB}$ $I_{oc} = -70 \text{ dBm}$ $Ior/Ioc = 10.27 \text{ dB}$ Note: Parameters are valid	0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$ 0.3 dB for lor/loc	Formulas: $\frac{CPICH\_E_c}{I_{or}} = \text{ratio} + \text{TT}$ $\text{lor/loc} = \text{ratio} + \text{TT}$ $\text{loc unchanged}$
	for cell 1 at time T2 and cell 2 at time T1		lor/loc = 10.57 dB $\frac{CPICH - E_c}{I_{or}} -9.9 \text{ dB}:$
8.3.6.2 Two frequencies present in the neighbour list	Same as 8.2.2.2	Same as 8.2.2.2	Same as 8.2.2.2
8.3.7 Cell Re-selection	$\frac{CPICH\_E_c}{I_{or}} = -10 \text{ dB}$ $I_{oc} = -70 \text{ dBm}$ $Ior/Ioc = 2.2 \text{ dB}$ 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	Formulas: $\frac{CPICH\_E_c}{I_{or}} = \text{ratio} + \text{TT}$ $\text{lor/loc} = \text{ratio} + \text{TT}$ $\text{loc unchanged}$ $\text{loc ratio unchanged}$ $\text{lor/loc} = 2.5 \text{ dB}$ $\frac{CPICH\_E_c}{I_{or}} - 9.9 \text{ dB}$
in URA_PCH	Samo ac 9 2 2 1	Samo as 9 2 2 1	Sama as 8.0.0.1
present in the neighbour list		0ame as 0.2.2.1	
8.3.7.2 Two frequencies present in the neighbour list	Same as 8.2.2.2	Same as 8.2.2.2	Same as 8.2.2.2
8.4 RRC Connection Control			
8.4.1 RRC Re- establishment delav	TBD		

Test	Test Parameters in TS 25 133	Test Tolerance (TT)	Test Requirement in TS 34.121
8.4.1.1 Test 1	Cell 1, T1: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB DCH_Ec/lor = -17 dB lor/loc = 2.39 dB	0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$ 0.3 dB for lor/loc	Level settings in either direction are not critical with respect to the outcome of the test.
	Cell 1, T2: lor/loc = -infinity		
	Cell 2, T1: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB lor/loc = 4.39 dB		
	Cell 2, T2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB lor/loc = 0.02 dB		
8.4.1.2 Test 2	Cell 1, T1: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB DCH_Ec/lor = -17 dB lor/loc = -3.35 dB	0.1 dB for $\frac{CPICH\_E_c}{I_{or}}$ 0.3 dB for lor/loc	Level settings in either direction are not critical with respect to the outcome of the test.
	Cell 1, T2: lor/loc = -infinity		
	Cell 2, T1: lor/loc = -infinity		
	Cell 2, T2: CPICH_Ec/lor = -10 dB PCCPCH_Ec/lor = -12 dB SCH_Ec/lor = -12 dB PICH_Ec/lor = -15 dB lor/loc = 0.02 dB		
8.4.2 Random Access	RACH power difference nominal 3dB ± 2dB UE setting uncertainty	Measurement TT:Power difference ± 1dBMaximum Power-1dB / +0.7dB	Test parameter settings unchanged.Power measurement:Upper limit +TT Lower limit -TT
8.4.3 Transport format combination selection in UE	DL Power control is ON so DPCH_Ec/lor depends on TPC commands sent by UE	0 dB for DPCH_Ec/lor	No test requirements for DPCH_Ec/lor
8.5 Timing and Signalling Characteristics	TBD		
8.5.1 UE Transmit Timing	TBD		
8.6 UE Measurements Procedures			
frequency measurements			
8.6.1.1 Event triggered reporting in AWGN propagation conditions	Because the relationships be are complex, it is not possible document. The analysis is re	etween the Test system le to give a simple deriva ecorded in 3GPP TR 34	uncertainties and the Test Tolerances ation of the Test Requirement in this 902 [24].

Test	Test Parameters in TS 25,133	Test Tolerance (TT)	Test Requirement in TS 34.121
(R99)	During T1 to T4:	During T1 to T4:	During T1 to T4:
	Cell 1:		
	CPICH_Ec/lor = -10 dB	+0.70 dB	Ec/lor ratio + TT
	$PCCPCH_Ec/lor = -12 dB$	+0.70 dB	Ec/lor ratio + 11
	PICH Ec/lor = -15 dB	+0.70 dB	Ec/lor ratio + TT
		+0.70 00	
	<u>During T1/T4 only :</u>	During T1/T4 only:	During T1/T4 only:
	Already covered above	Covered above	Already covered above
	During T2/T3 only:	During T2/T3 only:	During T2/T3 only:
	Cell 2:		
	CPICH_Ec/lor = -10 dB	+0.70 dB	Ec/lor ratio + TT
	PCCPCH_Ec/lor = -12 dB	+0.70 dB	Ec/lor ratio + TT
	SCH_Ec/lor = -12 dB	+0.70 dB	Ec/lor ratio + 11
	PICH_EC/IOr = -15 dB	+0.70 dB	Ec/lor ratio + 11
8611A Event	Because the relationships be	l etween the Test system	uncertainties and the Test Tolerances
triggered reporting in	are complex, it is not possible	le to give a simple deriva	ation of the Test Requirement in this
AWGN propagation	document. The analysis is re	ecorded in 3GPP TR 34	902 [24].
conditions (Rel-4 and	During T1 / T2 / T3:	During T1 / T2 / T3:	During T1 / T2 / T3:
later)			
		0.70 -10	
	$CPICH_EC/IOr = -10 \text{ dB}$	+0.70 dB	Ec/lor ratio + 11
	$PCCPCH_EC/IOI = -12 dB$	+0.70 dB	Ec/lor ratio + TT
	$PICH_Ec/lor = -15 dB$	+0.70 dB	Ec/lor ratio + TT
	During T1/T3 only :	During T1/T3 only:	During T1/T3 only:
	Already covered above	Covered above	Already covered above
	During T2 only:	During T2 only:	During T2 only:
	Cell 2:		
	CPICH Ec/lor = -10 dB	+0.70 dB	Ec/lor ratio + TT
	PCCPCH_Ec/lor = -12 dB	+0.70 dB	Ec/lor ratio + TT
	SCH_Ec/lor = -12 dB	+0.70 dB	Ec/lor ratio + TT
	PICH_Ec/lor = -15 dB	+0.70 dB	Ec/lor ratio + TT
8 6 1 2 Event triggered	Because the relationships be	l etween the Test system	I uncertainties and the Test Tolerances
reporting of multiple	are complex, it is not possible	le to give a simple deriva	ation of the Test Requirement in this
neighbours in AWGN	document. The analysis is re	ecorded in 3GPP TR 34	902 [24].
propagation condition (R99)	During T0 to T6:	During T0 to T6:	During T0 to T6:
	Cell 1, Cell 2 and Cell 3:		
	CPICH_Ec/lor = -10 dB	+0.70 dB	Ec/lor ratio + TT
	PCCPCH_Ec/lor = -12 dB	+0.70 dB	Ec/lor ratio + TT
	SCH_Ec/lor = -12 dB	+0.70 dB	Ec/lor ratio + TT
	PICH_Ec/lor = -15 dB	+0.70 dB	Ec/lor ratio + TT
8 6 1 24 Event			
triggered reporting of	עסו	עסו	עפו
multiple neighbours in			
AWGN propagation			
condition (Rel-4 and			
later)			
8.6.1.3 Event triggered	Because the relationships be	etween the Test system	uncertainties and the Test Tolerances
reporting of two	are complex, it is not possible	le to give a simple deriva	ation of the Test Requirement in this
detectable neighbours	document. The analysis is recorded in 3GPP TR 34 902 [24]. TBD		

Test	Test Parameters in TS 25.133	Test Tolerance (TT)	Test Requirement in TS 34.121
in AWGN propagation	During T0 to T5:	During T0 to T5:	During T0 to T5:
condition <u>(R99)</u>	Cell 1. Cell 2 and Cell 3:		
	CPICH_Ec/lor = -10 dB	<u>+0.40 dB</u>	<u>Ec/lor ratio + TT</u>
	$\frac{PCCPCH\_Ec/lor = -12 \text{ dB}}{SCU}$	+0.40 dB	$\frac{\text{Ec/lor ratio} + TT}{\text{Ec/lor ratio} + TT}$
	$\frac{3CH}{EC/Ior} = -12 \text{ dB}$	+0.40 dB	Ec/lor ratio + TT
	$\frac{\text{DPCH}}{\text{DPCH}} = -17 \text{ dB}$	<u>+0.40 dB</u>	<u>Ec/lor ratio + TT</u>
8.6.1.3A Event	Because the relationships between the Test system uncertainties and the Test Tolerances		
triggered reporting of	are complex, it is not possible to give a simple derivation of the Test Requirement in this		
neighbours in AWGN	During T0 to T4:	During T0 to T4:	During T0 to T4:
propagation condition			
(Hei-4 and later)	CPICH Ec/lor = $-10 \text{ dB}$	+0.40 dB	Ec/lor ratio + TT
	PCCPCH_Ec/lor = -12 dB	+0.40 dB	Ec/lor ratio + TT
	<u>SCH_Ec/lor = -12 dB</u> PICH_Ec/lor = -15 dB	<u>+0.40 dB</u> +0.40 dB	<u>Ec/lor ratio + TT</u> Ec/lor ratio + TT
	$\frac{\text{Cell 1:}}{\text{DPCH}_\text{Ec/lor} = -17 \text{ dB}}$	<u>+0.40 dB</u>	<u>Ec/lor ratio + TT</u>
8.6.1.4 Correct	TBD		
reporting of neighbours			
condition			
8.6.2 FDD inter	TBD		
measurements			
8.6.2.1 Correct	TBD		
reporting of neighbours			
condition			
8.6.2.2 Correct	TBD		
in Fading propagation			
condition			
8.6.3 TDD measurements	TBD		
8.6.3.1Correct	TBD		
reporting of TDD			
propagation condition			
8.7 Measurements	TBD		
Requirements			
8.7.1 CPICH RSCP			
8.7.1.1 Intra frequency	See table 8.7.1.1.1.1	±1 dB for loc±0.3 dB	Any TT applied to the nominal setting
accuracy	andtable 8.7.1.1.1.2	for lor/loc±0.1dB	relative): lo shall not go below -
y			69dBm Test 2(absolute and relative):
			Io shall not go above -50 dBmTest 3 (absolute and relative): Io shall not go
			below -94 dBm lor/loc + TTTT on top
			of UE measurement
			dB for lor/loc ±0.1dB for
			CPICH_Ec/lor $\sum 1.4$ dBRelative $\pm 0.3$
			lor/loc (cell2)±0.1dB for
			CPICH_Ec/lor (cell1)±0.1dB for CPICH_Ec/lor (cell2)∑ 0.8dB

Test	Test Parameters in TS 25.133	Test Tolerance (TT)	Test Requirement in TS 34.121
8.7.1.2 Inter frequency measurement accuracy	See table 8.7.1.2.1.1 andtable 8.7.1.2.1.2	±1 dB for loc±0.3 dB for loc1/loc2±0.3 dB for lor/loc±0.1dB for ÖEc/lor	Any TT applied to the nominal setting shall fulfil:Test 1: Io shall not go above -50 dBmTest 2: Io shall not go below -94 dBmIor/loc + TTTT on top of UE measurement accuracy:±0.3 dB for loc1/loc2±0.3 dB for lor/loc (cell1)±0.3 dB for lor/loc (cell2)±0.1dB for CPICH_Ec/lor (cell1)±0.1dB for CPICH_Ec/lor (cell2)∑ 1.1 dB
8.7.2 CPICH Ec/lo			

Test	Test Parameters in TS 25.133	Test Tolerance (TT)	Test Requirement in TS 34.121
8.7.2.1 Intra frequency measurements accuracy	table 8.7.2.1.1.1 and table 8.7.2.1.1.2	$\pm 1$ dB for Ioc $\pm 0.3$ dB for Ior/Ioc	Any TT applied to the nominal setting shall fulfil:
		±0.1dB for ÖEc/lor	Test 1(absolute and relative): Io shall not go above -50 dBm
			Test 2 (absolute and relative): Io shall not go below -87dBm
			Test 3 (absolute and relative): Io shall not go below -94 dBm
			CPICH Ec/Io shall stay in the UE accuracy ranges
			Ior/Ioc + TT
			TT on top of UE measurement accuracy:
			Absolute
			±0.3 dB for Ior/Ioc
			±0.1dB for CPICH_Ec/Ior
			$\sum 0.4$ dB
			Relative
			Ioc1=Ioc2
			$\pm 0.3$ dB for Ior/Ioc (cell1)
			$\pm 0.3$ dB for Ior/Ioc (cell2)
			±0.1dB for CPICH_Ec/Ior (cell1)
			±0.1dB for CPICH_Ec/Ior (cell2)
			∑ 0.8dB

Test	Test Parameters in	Test Tolerance	Test Requirement in TS 34.121
8.7.2.2 Inter frequency measurement accuracy	TS 25.133           table 8.7.2.2.2.1 and table 8.7.2.2.2.2	tost formatice (TT) ±1 dB for loc ±0.3 dB for loc1/loc2 ±0.3 dB for lor/loc ±0.1dB for ÖEc/lor	Any TT applied to the nominal setting shall fulfil: Test 1: Io shall not go above -50 dBm Test 2: Io shall not go below -87 dBm Test 3: Io shall not go below -94 dBm Ior/Ioc + TT TT on top of UE measurement accuracy: Ioc1=Ioc2.
			±0.3 dB for Ior/Ioc (cell1)
			$\pm 0.3$ dB for Ior/Ioc (cell2)
			±0.1dB for CPICH_Ec/Ior (cell1)
			±0.1dB for CPICH_Ec/Ior (cell2)
			∑ 0.8 dB

Test	Test Parameters in	Test Tolerance	Test Requirement in TS 34.121
8.7.3 UTRA Carrier RSSI	Table 8.7.3.1.2	$\pm 1$ dB for Ioc	Any TT applied to the nominal setting shall fulfil:
		±0.3 dB for Ioc1/Ioc2	Test 1 (absolute): Io shall not go above -50 dBm
		$\pm 0.3 \text{ dB}$ for Ger/Ioc	Test 2 (absolute): Io shall not go below -69 dBm
			Test 3 (absolute and relative): Io shall not go below -94 dBm
			Ior/Ioc + TT
			TT on top of UE measurement accuracy:
			Absolute tests:
			Test 1:
			Max TT= Io <sub>max</sub> ñ Io <sub>nominal</sub>
			$Io_{nominal} = -51.15 \text{ dBm}$
			$Io_{max} = Ioc_{max} + Ior_{max} = (-53.5)$ dBm + 1dB) + (-52.5 dBm ñ 1.45 dB + 0.3 dB) = -50.0 dBm
			=> Max TT = 1.15 dB
			$Min \ TT = Io_{min} - Io$
			$\begin{split} Io_{min} &= Ioc_{min} + Ior_{min} = (-53.5) \\ dBm ~ \tilde{n}1 ~ dB) + (-54.5 ~ dBm ~ \tilde{n}) \\ 1.45 ~ dB ~ \tilde{n} ~ 0.3 ~ dB) &= -52.3 \\ dBm \end{split}$
			=> Min TT = -1.15 dB
			Test 2:
			Max TT= $Io_{max} \tilde{n} Io_{nominal}$
			$Io_{nominal} = -67.9 \text{ dBm}$
			$Io_{max} = Ioc_{max} + Ior_{max} = (-69.27 \text{ dBm} + 1\text{ dB}) + (-68.27 \text{ dBm} \tilde{n} 4.4 \text{ dB} + 0.3 \text{ dB}) = -66.8 \text{ dBm}$
			=> Max TT = 1.1 dB
			$Min \ TT = Io_{min} - Io$
			$\begin{split} Io_{min} &= Ioc_{min} + Ior_{min} = (-69.27 \text{ dBm } \tilde{n} \text{ 1 dB}) + (-70.27 \text{ dBm } \tilde{n} \text{ 4.4 dB } \tilde{n} \text{ 0.3 dB}) = -69.0 \text{ dBm} \end{split}$
			=> Min TT = -1.1 dB
			Test 3 (Band I):
			Max TT= Io <sub>max</sub> ñ Io <sub>nominal</sub>
			$Io_{nominal} = -93 \text{ dBm}$
			$\begin{split} Io_{max} &= Ioc_{max} + Ior_{max} + No = \\ (-93.46 \ dBm + 1 dB) + (- \\ 92.46 \ dBm \ \tilde{n} \ 9.24 \ dB + 0.3 \\ dB) + -99 \ dBm = -91.2 \end{split}$
		3GPP	=> Max TT = 1.8 dB

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Test	Test Parameters in TS 25.133	Test Tolerance (TT)	Test Requirement in TS 34.121
8.7.3A GSM Carrier RSSI	TBD		
8.7.3B Transport channel BLER	TBD		
8.7.3C UE Transmitted power	Accuracy upper limit Accuracy lower limit Depends on PUEMAX see table 8.7.3C.2.1	0.7 dB	Formula: Upper accuracy limit + TT Lower accuracy limit ñ TT Add and subtract TT to all the values in table 8.7.3C.2.1.
8.7.4 SFN-CFN	T able 8.7.4.1.2 and Table	±1.0 dB for loc	Intra and inter frequency case:
difference	0.7.4.2.2	±0.3 dB for lor/loc	Test 1: lo shall not go above -50 dBm
		±0.5 chips for the	Test 2: No restrictions on lo value
		observed time difference	Test 3: Io shall not go below -94 dBm (Band 1), or below ñ92 dBm (Band II) or below ñ91 dBm (Band III)
			@r/loc + TT
			TT on top of UE measurements accuracy: SFN-CFN observed time difference: 1.0 chips + TT
8.7.5.1 SFN-SFN	T able 8.7.5.1.2	±1.0 dB for loc	Test 1: lo shall not go above -50 dBm
difference type 1		±0.3 dB for lor/loc	Test 2: No restrictions on lo value
		±0.5 chips for the actual SFN-SFN observed time difference	Test 3: lo shall not go below -94 dBm (Band 1), or below ñ92 dBm (Band II) or below ñ91 dBm (Band III)
			Ober/loc + TT
			TT on top of UE measurements accuracy: SFN-SFN observed time difference:
			1.0 cnips + 11

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Test	Test Parameters in	Test Tolerance	Test Requirement in TS 34.121
8.7.6 UE Rx-Tx time difference	TS 25.133         Io $\tilde{n}10.9 \ dB = loc,$ Test 1: lo = -94 dBm         Test2 : lo = -72dBm         Test3 : lo = -50dBm         Timing Accuracy ± 1.5         chip	(TT) 1 dB for loc 0.3 dB for lor/loc 0.5 chip for timing accuracy	Test 1: lo = -92.7 dBm, loc = -103.6 dBm Formula: loc*(1-TT <sub>loc</sub> + (lor/loc-TT <sub>lor/loc</sub> )) $\geq$ -94 Test 2: unchanged (no critical RF parameters)
			Formula: $loc*(1+TT_{loc}+ (lor/loc+TT_{lor/loc})) \leq -$
			50 Timing accuracy ±2.0 chip Formulas:
			Upper limit +TT Lower limit ñTT
8.7.7 Observed time difference to GSM cell	TBD		
8.7.8 P-CCPCH RSCP	TBD		

Table F.4.5: Derivation of Test F	Requirements (Perform	ance tests HSDPA)

Test	Minimum Requirement in TS 25.101	Test Tolerance (TT)	Test Requirement in TS 34.121
9.2.1 Single Link Performance	$\frac{E_c}{I_{or}}$ -6 and -3 dB	0.1 dB for $\frac{E_c}{I_{or}}$	Formulas: $\frac{E_c}{I_{or}}$ = ratio + TT
	$I_{oc}$ = -60 dBm $\dot{P}_{or}/I_{oc}$ = 0 and 10 dB	0.3 dB for $\hat{P}_{or}/I_{oc}$	$\dot{P}_{or}/I_{oc}$ = ratio + TT $I_{oc}$ unchanged

# Tdoc **#**T1-041868

CHANGE REQUEST			
æ	<mark>34.121</mark> CR <mark>468</mark> # re	V - <sup>#</sup> Current version: 5.5.0	
For <u>HELP</u> or	n using this form, see bottom of this page	$\Rightarrow$ or look at the pop-up text over the $\frac{2}{3}$ symbols.	
Proposed change affects: UICC apps <sup>38</sup> ME X Radio Access Network Core Network			
Title:	<b>#</b> S-CCPCH configuration in 8.3.5 Cell Re	-selection in CELL_FACH.	
Source:	Bobde & Schwarz NEC		
000,00			
Work item code:	<b>#</b>	Date: <mark>೫ 2/11/2004</mark>	
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 an B (addition of feature),</li> <li>C (functional modification of feature)</li> <li>D (editorial modification)</li> <li>Detailed explanations of the above categories</li> <li>be found in 3GPP <u>TR 21.900</u>.</li> </ul>	Release: <b>#</b> R5Use one of the following releases: 2 (GSM Phase 2)a earlier release)R96 (Release 1996)R97 (Release 1997)e)R98 (Release 1998)R99 (Release 1999)ories canRel-4 (Release 4)Rel-5 (Release 5)Rel-6 (Release 6)	
Reason for chan	ge:       X       To define a consistent S-CCPC         definition of the S-CCPCH to s         nge:       X         Bemove table 8.3.5.1.2 and tal	CH configuration it is proposed to change the tandard S-CCPCH as defined in 34.108.	

ourninary or change.	
	Remove table 8.3.5.2.2 and table 8.3.5.2.3.
	Remove table 8.3.5.3.2 and table 8.3.5.3.3.
Consequences if 🛛 🔀	The configuration of the S-CCPCH would not be consistent through the TS 34.121.
not approved:	

Clauses affected:	<b>#</b> 8.3.5.1, 8.3.5.2, 8.3.5.3
Other specs affected:	Y       N         X       Other core specifications       X         X       Test specifications       X         X       O&M Specifications       X
Other comments:	器 This is a re-submission of T1-041364

# 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.

The requirements and this test apply to the FDD UE.

## 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

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

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 8.3.5.1.5. 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, one freq. in neighbour list

	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) ñ 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 <u>TS 34.108 clause</u> 6.1.0b (Contents of System Information Block type 5 (FDD)) table 8.3.5.1.2 and table 8.3.5.1.3.

## Table 8.3.5.1.2: void Physical channel parameters for S-CCPCH, one freq. in neighbour list

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

# Table 8.3.5.1.3: <u>void</u>Transport channel parameters for S-CCPCH, one freq. in neighbour list

Parameter	FACH
Transport Channel Number	4
Transport Block Size	<del>240</del>
Transport Block Set Size	<del>240</del>
Transmission Time Interval	<del>10 ms</del>
Type of Error Protection	Convolution Coding
Coding Rate	Ð
Rate Matching attribute	<del>256</del>
Size of CRC	<del>16</del>
Position of TrCH in radio frame	Fixed

# Table 8.3.5.1.4: Cell specific conditions for Cell Re-selection in CELL\_FACH, one freq. in neighbour list

Parameter	Unit	Ce	ll 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		Char	nol 1	Chan	nol 1	Channel 1	Channel 1	Channel 1	Channel 1	
Number		Unar		Unan		Channel 1	Channel I		Channel I	
CPICH Ec/lor	dB	-'	10	-1	0	-10	-10	-10	-10	
PCCPCH Ec/lor	dB	-'	12	-1	2	-12	-12	-12	-12	
SCH_Ec/lor	dB	-	12	-1	2	-12	-12	-12	-12	
PICH_Ec/lor	dB	-	15	-1	5	-15	-15	-15	-15	
S-CCPCH_Ec/lor	dB	-1	2	-1	2	-12	-12	-12	-12	
OCNS_Ec/lor	dB	-1.5	295	-1.2	95	-1.295	-1.295	-1.295	-1.295	
$\dot{P}_{or}/I_{oc}$	dB	7.3	10.27	10.27	7.3	0.27	0.27	0.27	0.27	
<i>C</i> <sub><i>E</i><sup>(Note 1)</sup></sub>	dBm	-62.73	-59.73	-59.73	-62.73	-69.73	-69.73	-69.73	-69.73	
I <sub>oc</sub>	dBm/3.84 MHz					-	70			
CPICH Ec/lo	dB	-16	-13	-13	-16	-23	-23	-23	-23	
Propagation						Δ٧	/GN			
Condition						/ (				
Cell_selection_and_ reselection_quality_		CPICH	I E₀/N₀	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	20	-2	0	-20	-20	-20	-20	
Qrxlevmin	dBm	-1	15	-11	5	-115	-115	-115	-115	
UE_TXPWR_ MAX_RACH	dBm	2	:1	2.	1	21	21	21	21	
		C1, 0	C2: 0	C2, C	01:0	C3, C1: 0	C4, C1: 0	C5, C1: 0	C6, C1: 0	
		C1, 0	C3: 0	C2, C	3: 0	C3, C2: 0	C4, C2: 0	C5, C2: 0	C6, C2: 0	
Qoffset 2 <sub>s, n</sub>	dB	C1, 0	C4: 0	C2, C	24: 0	C3, C4: 0	C4, C3: 0	C5, C3: 0	C6, C3: 0	
		C1, 0	C5: 0	C2, C	5: 0	C3, C5: 0	C4, C5: 0	C5, C4: 0	C6, C4: 0	
		C1, 0	C6: 0	C2, C6: 0		C3, C6: 0	C4, C6: 0	C5, C6: 0	C6, C5: 0	
Qhyst	dB	(	2	0		0	0	0	0	
Treselection	S	(	)	0		0	0	0	0	
Sintrasearch	dB	not	sent	not sent		not sent	not sent	not sent	not sent	
IE "FACH			_							
Measurement		not	sent	not s	sent	not sent	not sent	not sent	not sent	
occasion into"										

Note 1 The nominal Ger values, although not explicitly defined in 25.133 are added here since they are implied and need to be identified so that the test equipment can be configured.

#### 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 7.3.5 to place the UE in the CELL\_FACH state on Cell 2 and the SS waits for this process to complete.
- 4) After 15 seconds from completion of step 3 or the beginning of T1, the parameters are changed to those defined for T2 in table 8.3.5.1.5.
- 5) If the UE responds on Cell 1 with a PRACH (CELL UPDATE message cause "cell reselection") within 1.7 s, then the success is recorded, the SS shall transmit a CELL 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 15 s 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 CELL UPDATE CONFIRM message and then the procedure continues with step 7.
- 7) After total of 15 s from the beginning of T2, the parameters are changed to those defined for T1 in table 8.3.5.1.5.

- 8) If the UE responds on Cell 2 with a PRACH (CELL UPDATE message cause "cell reselection") within 1.7 s, 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 15 s 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 CELL UPDATE CONFIRM message and then the procedure continues with step 10.
- 10) Steps 4 to 10 are repeated until the confidence level according to annex F.6.2 is achieved .
- 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). 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:

## Contents of CELL UPDATE CONFIRM message for CELL\_FACH

Information Element	Value/remark
RRC transaction identifier	0
Activation time	Not Present
New C-RNTI	0101010101010 B
RRC State indicator	CELL_FACH

### 8.3.5.1.5 Test requirements

For the test to pass, the total number of successful attempts shall be more than 90% of the cases with a confidence level of 95 %.

Parameter	Unit	Ce	ll 1	Cell 2		Ce	ell 3	Cell 4		Cell 5		Cell 6	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Char	Channel 1 (		Channel 1		Channel 1		nel 1	Channel 1		Channel 1	
CPICH_Ec/lor	dB	-9	.4	-9	.4	-1	0.5	-1(	0.5	-1	0.5	-10	).5
PCCPCH_Ec/lor	dB	-11	1.4	-11	1.4	-1	-12.5 -12.5		-1	2.5	-12.5		
SCH_Ec/lor	dB	-1	1.4	-11	1.4	-1	2.5	-1:	2.5	-12.5		-12.5	
PICH_Ec/lor	dB	-14	4.4	-14	4.4	-1	5.5	-1	5.5	-15.5		-15.5	
S-CCPCH_Ec/lor	dB	-11	1.4	-1	1.4	-1	2.5	-12.5		-12.5		-12.5	
OCNS_Ec/lor	dB	-1.	52	-1.	.52	-1	-1.13 -		-1.13		.13	-1.13	
$\dot{P}_{or}/I_{oc}$ Note 1	dB	7.0	10.4	10.4	10.4 7.0		0.3 0.3		.3	0.3		0.3	
Œ,	dBm	-63.0	-59.6	-59.6 -63.0		-6	9.7	-69.7		-69.7		-69.7	
I <sub>oc</sub>	dBm/3.84 MHz	-70											
CPICH_Ec/lo Note 1	dB	-15.7	-12.3	-12.3	-15.7	-2	3.5	-25	3.5	-2	3.5	-23	3.5

Table 8.3.5.1.5: Cell specific test requirements for Cell Re-selection in CELL\_FACH, one freq. in neighbour list

All other parameters and conditions specified in table 8.3.5.1.4 are unchanged.

- Note 1: These parameters are not directly settable, but are derived by calculation from the settable parameters.
- Note 2: 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.

The requirements and this test apply to the FDD UE.

#### 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

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

where

 $T_{Measurement\_inter}$  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

#### 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 8.3.5.2.5. The UE is requested to monitor neighbouring cells on 2 carriers. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1280 ms

# Table 8.3.5.2.1: General test parameters for Cell Re-selection in CELL\_FACH, two freqs. in neighbour list

	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) ñ 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 <u>TS 34.108 clause</u> 6.1.0b (Contents of System Information Block type 5 (FDD)) table 8.3.5.2.2 and table 8.3.5.2.3.

#### Table 8.3.5.2.2: void Physical channel parameters for S-CCPCH, two freqs. in neighbour list

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

# Table 8.3.5.2.3: <u>void</u>Transport channel parameters for S-CCPCH, two freqs. in neighbour list

Parameter	FACH
Transport Channel Number	4
Transport Block Size	<del>240</del>
Transport Block Set Size	<del>240</del>
Transmission Time Interval	<del>10 ms</del>
Type of Error Protection	Convolution Coding
Coding Rate	Ð
Rate Matching attribute	<del>256</del>
Size of CRC	<del>16</del>
Position of TrCH in radio frame	Fixed

# Table 8.3.5.2.4: Cell specific conditions for Cell re-selection in CELL\_FACH state, two freqs. in neighbour list

Parameter	Unit	Ce	ell 1	Ce	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				С	hannel	2	Channel 2		
Number		onan													
CPICH Ec/lor	dB	-10		-10		-10 -10				- '	10		-10		
PCCPCH Ec/lor	dB	-12		-12		-12		-1	12		- '	12		-12	
SCH_Ec/lor	dB	-12		-12		-12		-1	12		- '	12		-12	
PICH_Ec/lor	dB	-15		-15		-15		-1	15		-	15		-15	
S-CCPCH_Ec/lor	dB	-12	_	-12		-12		-1	2		-1	2		-12	
OCNS_Ec/lor	ав	-1.29	5	-1.295	1	-1.295		-1	.295		-1	.295		-1.295	
$\mathbf{P}_{or}/\mathbf{I}_{oc}$	dB	-1.8	2.2	2.2	-1.8	-6.8	-4.8	-6	.8	-4.8	-4	.8	-6.8	-4.8	-6.8
(Kr (Note 1)	dBm	- 71.85	- 67.75	- 67.75	- 71.85	- 76.85	- 74.7	5	- 76.85	- 74.7	5	- 74.75	- 76.85	- 74.75	- 76.85
I <sub>oc</sub>	dBm/3.8 4 MHz	-70													
CPICH Ec/lo	dB	-15	-13	-13	-15	-2	0		-20	)		-20	)	-2	20
Propagation		AWG	N	•											
Condition		7.070		1		1		1							
Cell_selection_		CPIC	н	CPICH	4	CPICH		~			_				
and_reselection_		$E_c/N_0$		$E_c/N_0$					CPICH E <sub>c</sub> /N <sub>0</sub>			PICH E	.c/N₀	CPICH E <sub>c</sub> /N₀	
quality measure	JD														
Qquaimin	dB dB	-20		-20		-20	-20 -20			-20			-20		
	abm	-115		-115		-115		-115			-115			-115	
MAX_RACH	dBm	21		21		21		21		21		21			
		C1, C	2:0	C2, C <sup>-</sup>	1:0	C3, C1	C3, C1: 0 C4, C1: 0		C5, C1: 0			C6, C1: 0			
		C1, C	3: 0	C2, C3	C2, C3: 0 C3, C2: 0		C4, C2: 0			C5, C2: 0			C6, C2: 0		
Qoffset2 <sub>s, n</sub>	dB	C1, C	4: 0	C2, C4	4: 0	C3, C4: 0		C4, C3: 0		C5, C3: 0		C6, C3: 0			
		C1, C	5:0	C2, C	5:0	C3, C5: 0		C4, C5: 0		C5, C4: 0		)	C6, C4: 0		
Obust0	٩D	01,0	6:0	02,00	5:0	<u>C3, C6: 0 C4,</u>			C4, C6: 0			5, 06: 0	)	C6, C5: 0	
Qnyst2	aв	0		0		0		0			0			0	
Sintrassorah	S dP	0	t	U not co	nt	0				0			U not oo	nt.	
Sintasearch	dB	not se	nt	not se	nt	not ser	1L >+	nc	t cont		not sent			not se	nt
	uD	HOL SE		1101 50	111	HUL SEI	11	TIC	JI Sem		not sent			HUL SE	i it
Measurement		sont		sont		sont		cont		Sont			sont		
occasion info"		Sent		Sent		Sent		30	sent		Sent			Sent	
FACH															
Measurement		•					~			_			•		
occasion cycle		3		3		3		3			3			3	
length coefficient															
Inter-frequency										+					
FDD measurement		TRUE	UE TRUE		TRUE		TRUE		TRUE			TRUE			
indicator															
Inter-frequency			_		_									_	
IDD measurement		FALS	E	FALSE	=	FALSE		FALSE		FALSE		FALSE	=		
Indicator															

Note 1 The nominal Ger values, although not explicitly defined in 25.133 are added here since they are implied and need to be identified so that the test equipment can be configured.

#### 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.
- 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 7.3.5 to place the UE in the CELL\_FACH state on Cell 2 and the SS waits for this process to complete.

- 4) After 15 seconds from completion of step3 or the beginning of T1, the parameters are changed to those defined for T2 in table 8.3.5.2.5.
- 5) If the UE responds on Cell 1 with a PRACH (CELL UPDATE message cause "cell reselection") within 2.0 s, then the success is recorded, the SS shall transmit a CELL 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 15 s 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 CELL UPDATE CONFIRM message and then the procedure continues with step 7.
- 7) After total of 15 s from the beginning of T2, the parameters are changed to those defined for T1 in table 8.3.5.2.5.
- 8) If the UE responds on Cell 2 with a PRACH (CELL UPDATE message cause "cell reselection") within 2.0 s, 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 15 s 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 CELL UPDATE CONFIRM message and then the procedure continues with step 10.

10) Steps 4 to 10 are repeated until the confidence level according to annex F.6.2 is achieved.

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).

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:

## Contents of CELL UPDATE CONFIRM message for CELL\_FACH

Information Element	Value/remark
RRC transaction identifier	0
Activation time	Not Present
New C-RNTI	0101010101010 B
RRC State indicator	CELL_FACH

## 8.3.5.2.5 Test requirements

For the test to pass, the total number of successful attempts shall be more than 90% of the cases with a confidence level of 95 %.

# Table 8.3.5.2.5: Cell specific test requirements for Cell re-selection in CELL\_FACH state, two freqs. in neighbour list

Parameter	Unit	Cell 1		Cell 2		Cell 3		Cell 4		Cell 5		Cell 6	
		T1	T2										

UTRA RF Channel Number		Chann	iel 1	Chann	el 2	Chann	el 1	Chann	el 1	Chann	el 2	Chann	iel 2
CPICH_Ec/lor	dB	-9	9.4	-9	9.4	-1	0.7	-1	0.7	-10	0.7	-10	).7
PCCPCH_Ec/lor	dB	-1	1.4	-1	1.4	-1:	2.7	-1	2.7	-1:	2.7	-12	2.7
SCH_Ec/lor	dB	-1	1.4	-1	1.4	-1:	2.7	-1	2.7	-1:	2.7	-12	2.7
PICH_Ec/lor	dB	-1	4.4	-1-	4.4	-1:	5.7	-1	5.7	-1	5.7	-15	5.7
S-CCPCH_Ec/lor	dB	-1	1.4	-1	1.4	-1:	2.7	-1	2.7	-1:	2.7	-12	2.7
OCNS Ec/lor	dB	-1	.52	-1	.52	-1	.08	-1	.08	-1.	.08	-1.	.08
$\dot{P}_{or}/I_{oc}$ Note 1	dB	-1.80	+4.64	+4.64	-1.80	-6.80	-3.16	-6.80	-3.16	-3.16	-6.80	-3.16	-6.80
Œ,	dBm	-71.8	-67.0	-67.0	-71.8	-76.8	-74.8	-76.8	-74.8	-74.8	-76.8	-74.8	-76.8
I <sub>oc</sub>	dBm/3.8 4 MHz	-70.0	-71.6	-71.6	-70.0	-70.0	-71.6	-70.0	-71.6	-71.6	-70.0	-71.6	-70.0
CPICH_Ec/lo Note	dB	-14.4	-11.6	-11.6	-14.4	-20.7	-20.7	-20.7	-20.7	-20.7	-20.7	-20.7	-20.7

All other parameters and conditions specified in table 8.3.5.2.4 are unchanged.

Note 1: These parameters are not directly settable, but are derived by calculation from the settable parameters.

Note 2: 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

#### 8.3.5.3.1 Definition and applicability

The cell re-reselection delay is defined as the time from the beginning of time period T2, to the moment when the UE starts to transmit the random access in Cell 2 (the GSM cell).

This requirements and this test apply to UE supporting FDD PS and GSM GPRS.

#### 8.3.5.3.2 Minimum requirements

The cell re-selection delay shall be less than  $5.5 + T_{RA}$  s.

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

NOTE: The cell re-selection delay can be expressed

$$T_{\text{reselection, GSM}} = T_{\text{identify,GSM}} + T_{\text{measurement, GSM}} + 40 + T_{\text{BCCH}} + T_{\text{RA}} \text{ ms}$$

where:

T <sub>identify,GSM</sub>	Specified in TS 25.133 [2] clause 8.4.2.5.2.1, here it is 2880 ms
T <sub>measurement, GSM</sub>	Specified in TS 25.133 [2] clause 5.5.2.1.4, here it is 640 ms
T <sub>BCCH</sub>	According to TS 05.08 [20], the maximum time allowed to read the BCCH data, when being synchronized to a BCCH carrier, is 1.9 s.
T <sub>RA</sub>	The additional delay caused by the random access procedure in the GSM cell, is 10 ms (2 GSM radio frames).

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 5.5.2.1.4 and A.5.5.3.

#### 8.3.5.3.3 Test purpose

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

# 8.3.5.3.4 Method of test

#### 8.3.5.3.4.1 Initial conditions

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

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

The test parameters are given in table 8.3.5.3.1 to 8.3.5.3.5. This scenario implies the presence of 1 UTRAN serving cell, and 1 GSM cell to be re-selected. The UTRAN cell and the GSM cell are set to belong to different location areas. The GSM cell shall be set up to allow UE to transmit radio access burst in every GSM radio frame. The UE is requested to monitor neighbouring cells on 1 UMTS carrier and 6 GSM cells.

Table 8.3.5.3.1: General test parameters for UTRAN to GSM Cell Re-selection

Parameter		Unit	Value	Comment
Initial condition	Active cell		Cell1	
	Neighbour cell		Cell2	
Final condition	Active cell		Cell2	
HCS				Not used
Neighbour cell lis	t size		24 FDD neighbours on Channel 1 6 GSM neighbours including ARFCN 1	
T1		S	5	
T2		S	10	

The transport and physical parameters of the S-CCPCH carrying the FACH are defined in <u>TS 34.108 clause</u> 6.1.0b (Contents of System Information Block type 5 (FDD)) <u>Table 8.3.5.3.2 and Table 8.3.5.3.3</u>.

#### Table 8.3.5.3.2: void Physical channel parameters for S-CCPCH.

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

Parameter	FACH
Transport Channel Number	4
Transport Block Size	<del>240</del>
Transport Block Set Size	<del>240</del>
Transmission Time Interval	<del>10 ms</del>
Type of Error Protection	Convolution Coding
Coding Rate	Ω
Rate Matching attribute	<del>256</del>
Size of CRC	<del>16</del>
Position of TrCH in radio frame	Fixed

Parameter	Unit	Cell 1 (UTRA		
		T1	T2	
UTRA RF Channel		Chan	nol 1	
Number		Onan		
CPICH_Ec/lor	dB	-1	0	
PCCPCH_Ec/lor	dB	-1	2	
SCH_Ec/lor	dB	-1	2	
PICH Ec/lor	dB	-1	5	
S-CCPCH_Ec/lor	dB	-1	2	
OCNS Ec/lor	dB	-1.2	295	
$\dot{P}_{or}/I_{oc}$	dB	0	-5	
I <sub>oc</sub>	dBm/3.84 MHz	-7	0	
CPICH_Ec/lo	dB	-13	-16.2	
CPICH_RSCP	dBm	-80	-85	
Propagation Condition		AW	GN	
Cell_selection_and_ reselection_quality_mea		CPICH	l Ec/lo	
Oqualmin	dB	2	0	
Orxleymin	dBm		15	
UE_TXPWR_MAX_ RACH	dBm	21		
Qoffset1 <sub>s.n</sub>	dB	C1, C	C2: 0	
Qhyst1	dB	C	)	
Treselection	S	C	)	
Ssearch <sub>BAT</sub>	dB	Not	sent	
IE ìFACH Measurement occasion infoî		Se	ent	
FACH Measurement occasion cycle length coefficient		3	3	
Inter-frequency FDD measurement indicator		FAL	SE	
Inter-frequency TDD measurement indicator		FAL	SE	
Inter-RAT measurement indicators		Inclu	Ided	
>RAT type		GS	SM	

Table 8.3.5.3.4: Cell re-selection UTRAN to GSM cell case (cell 1)

#### Table 8.3.5.3.5: Cell re-selection UTRAN to GSM cell case (cell 2)

Parameter	Unit	Cell 2	(GSM)
		T1	T2
Absolute RF Channel Number		ARFCN	N 1
RXLEV	dBm	-90	-75
RXLEV_ACCESS_ MIN	dBm	-104	
MS_TXPWR_MAX_ CCH	dBm	33	

#### 8.3.5.3.4.2 Procedure

- 1) The SS activates cell 1-2 with RF parameters set up according to T1 in tables 8.3.5.3.6 and 8.3.5.3.7.
- 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 7.3.5 to place the UE in CELL\_FACH and the SS waits for this process to complete.

- 4) After 5 seconds from completion of step3 or the beginning of T1, the parameters are changed to those defined for T2 in tables 8.3.5.3.6 and 8.3.5.3.7.
- 5) The SS waits for random access requests from the UE. If the UE responds on cell 2 within 5.51 s (=5.5 s  $+ T_{RA}s$ ) from the beginning of time period T2 then a success is recorded and the SS completes the location update procedure in GSM and the procedure continues with 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 10s 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 completes the location update procedure in GSM and the procedure continues with step 7.
- 7) After 10 s from the beginning of time period T2, the parameters are changed to those defined for T1 in tables 8.3.5.3.6 and 8.3.5.3.6.
- 8) The SS waits for random access requests from the UE on cell 1. The SS completes the location update procedure in UTRA
- 9) Repeat step 3) to 8) until the confidence level according to annex F.6.2 is achieved.

#### 8.3.5.3.5 Test requirements

#### Table 8.3.5.3.6: Cell re-selection UTRAN to GSM cell case (cell 1) Test Requirements

Parameter	Unit	Cell 1 (UTRA)			
		T1	T2		
UTRA RF Channel Number		Chan	inel 1		
CPICH Ec/lor	dB	-9.9	-10.1		
PCCPCH Ec/lor	dB	-1	2		
SCH Ec/lor	dB	-1	2		
PICH Ec/lor	dB	-1	5		
S-CCPCH_Ec/lor	dB	-1	2		
OCNS_Ec/lor	dB	-1.309	-1.282		
$\hat{P}_{or}/I_{oc}$	dB	0.3	-5.3		
I <sub>oc</sub>	dBm/3.84 MHz	-7	'0		
CPICH_Ec/lo	dB	-12.8	-16.5		
CPICH_RSCP	dBm	-79.6	-85.4		
Propagation Condition		AW	GN		
Cell_selection_and_ reselection_quality_mea sure		CPICH	I Ec/lo		
Qqualmin	dB	-2	20		
Qrxlevmin	dBm	-115			
UE_TXPWR_MAX_ RACH	dBm	21			
Qoffset1 <sub>s, n</sub>	dB	C1, 0	C2: 0		
Qhyst1	dB	(	)		
Treselection	S	(	)		
Ssearch <sub>RAT</sub>	dB	Not	sent		
IE ìFACH Measurement occasion infoî		Se	ent		
FACH Measurement occasion cycle length coefficient		3			
Inter-frequency FDD measurement indicator		FALSE			
Inter-frequency TDD measurement indicator		FALSE			
Inter-RAT measurement indicators		Inclu	ıded		
>RAT type		GS	SM		

Parameter	Unit	Cell 2	(GSM)
		T1	T2
Absolute RF Channel		ARECN	11
Number		744 01	• •
RXLEV	dBm	-90.3	-74.7
RXLEV_ACCESS_ MIN	dBm	-104	
MS_TXPWR_MAX_ CCH	dBm	33	

## Table 8.3.5.3.7: Cell re-selection UTRAN to GSM cell case (cell 2) Test Requirements

NOTE 1: 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 attempts shall be more than 90% of the cases with a confidence level of 95 %.

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										
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Source:	<b>#</b> Ericsson									
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Reason for change: 🕷	$T_{SI}$ 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). In test case 8.2.2.1, 8.2.2.2, 8.3.5.1, 8.3.5.2, 8.3.6.1, 8.3.6.2, 8.3.7.1, 8.3.7.2, 8.4.1.1 and 8.4.1.2 it is assumed that $T_{SI}$ is 1280 ms. However, the worst case would be 1420 ms as described in the example below. Example										
	MIB	SB1	SIB18	SIB5	MIB	SIB5	SIB5	SIB5			
	32	34	36	38	40	42	44	46	SFN		
	1. UE starts reading BCH at SFN 34.										
	<ol> <li>At SFN 40 the Master Information Block (MIB) is read. As part of the MIB the UE get the scheduling information for System Information Block 5 (SIB5).</li> </ol>										
	<ol> <li>The SIB5 is segmented into 4 segments. First position is SFN 38 followed by 42, 44 and 46. The repetition rate is 128 (1280 ms). According to RRC Spec (clause 8.1.1.1.4 in 25.331) the segments should be read in an ascending order.</li> </ol>										
	4. No at 17	ot being al SFN 38 + 74. The co	ble to rea 128. The mplete S	d the SIB e followin IB5 is rea	5 starting g segme ad at 176.	g at SFN 3 nts are loc	8 the nex ated at S	kt occurre FN 170,	ence is 172,		
	5. As the UE starts reading the BCH at SFN 34 and finish reading SIB5 at SFN 176 this will result in 1420 ms (10 ms*(176-34))										
------------------------------------	---										
Summary of change: <mark></mark> #	Changes to test cases 8.2.2.1, 8.2.2.2, 8.3.5.1, 8.3.5.2, 8.3.6.1, 8.3.6.2, 8.3.7.1, 8.3.7.2, 8.4.1.1 and 8.4.1.2:										
	<ol> <li>The maximum time to read the relevant system info blocks is changed from 1280 ms to 1420 ms</li> </ol>										
	2. Note added given the rationale for setting the value to 1420ms.										
	Changes to 8.4.1.1 and 8.4.1.2:										
	3. Added reference to Annex I for system information scheduling.										
Consequences if 🛛 🕷	Test case may fail good UE.										
not approved:											
Clauses affected: #	8.2.2.1, 8.2.2.2, 8.3.5.1, 8.3.5.2, 8.3.6.1, 8.3.6.2, 8.3.7.1, 8.3.7.2, 8.4.1.1 and										
	8.4.1.2										
Other specs 🕷	X Other core specifications <b>#</b>										
affected:	X     1 est specifications       X     QM Specifications										
Other comments: 🖁	Affects R99, Rel4 and Rel5 UEs.										

# 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 **B** 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) on the new cell.

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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 95%.

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

T <sub>evaluateFDD</sub>	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 4.2.2.2 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 to 8.2.2.1.3. 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.

#### Unit Value Comment Parameter Initial Active cell Cell2 condition Neighbour cells Cell1, Cell3, Cell4, Cell5, Cell6 Cell1 Final Active cell condition SYSTEM INFORMATION BLOCK This identity should be set as different 00 80(H) → Cell 1 00 81 (H) → Cell 2 value from the neigbour cell so that a TYPE 1 -- CN common GSM-MAP NAS system Location Updating procedure(MM) or a information Routing Area Updating 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 - Persistence value 1 caused by the random access procedure. The value shall be used for all cells in the test. HCS Not used 1,28 The value shall be used for all cells in DRX cycle length s the test. T1 s 15 T1 need to be defined so that cell reselection reaction time is taken into account. T2 15 T2 need to be defined so that cell res selection reaction time is taken into account.

#### Table 8.2.2.1.1: Scenario 1: General test parameters for Cell Re-selection single carrier multi-cell case

Release 5

Parameter	Unit	ŭ	911 1	ů	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	1 1	Channe	) 1 1	Channel 1	Channel 1	Channel 1	Channel 1
CPICH Ec/lor	dB	-10		-10		-10	-10	-10	-10
PCCPCH Ec/lor	dB	-12		-12		-12	-12	-12	-12
SCH Ec/lor	dB	-12		-12		-12	-12	-12	-12
PICH Ec/lor	dB	-15		-15		-15	-15	-15	-15
OCNS_Ec/lor	dB	-0,94		-0,941		-0,941	-0,941	-0,941	-0,941
$I\!$	dB	7,3	10,27	10,27	7,3	0,27	0,27	0,27	0,27
$G_{T}^{-}(Note \ I)$	dBm	- 62.7 3	-59.73	-59.73	-62.73	-69.73	-69.73	-69.73	-69.73
$I_{oc}$	dBm / 3,84 MHz	-70							
CPICH Ec/lo	dB	-16	-13	-13	-16	-23	-23	-23	-23
Propagation Condition						AW	ND		
Cell_selection_and_ reselection_quality_		CPICI	H E <sub>c</sub> /N <sub>o</sub>	CPICH	E <sub>c</sub> /N <sub>o</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>o</sub>
measure	ģ				9	00	0	c c	00
uqualmin	ab a				0,1	02-	02-	02-	07-
UE_TXPWR_MAX_ UE_TXPWR_MAX_ RACH	dB dB		21	- S	10	-21 21	-21 21	-211- 21	-21 -21
		ບົ່	C2: 0	C2, C	C1: 0	C3, C1: 0	C4, C1: 0	C5, C1: 0	C6, C1: 0
Onffeat?	ц	5.5	0.00		0.0	C3, C2: 0	C4, C2: 0	C5, C2: 0	C6, C2: 0
	2	50	C5: 0	i ci Ci Ci Ci Ci	02: 0 05: 0	C3. C5: 0	C4. C5: 0	C5, C4: 0	C6. C4: 0
		<u>5</u>	C6: 0	С С С	C6: 0	C3, C6: 0	C4, C6: 0	C5, C6: 0	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 sent	not sent	not sent

Table 8.2.2.1.2: Scenario 1: Test parameters for Cell re-selection single carrier multi cell

The nominal Gar values, although not explicitly defined in 25.133 are added here since they are implied and need to be identified so that the test equipment can be configured. Note 1

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# 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 and the UE shall perform a first registration procedure on cell2.
- 4) 15 s after step 3 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) on cell1.
- 6) After 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) 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) on cell2.
- 8) After 15 s from the beginning of time period T1, the parameters are changed to that as described for T2.
- 9) Repeat step 5) to 8) until the confidence level according to annex F.6.2 is achieved.
- NOTE\_1: 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 time to read repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell is 14201280ms (see note 2) and the maximum RRC procedure delay for reception system information block is 100ms, 15201380 ms is assumed in this test case. Therefore this gives a total of 7.927.78 s.(Minimum requirement + 240100ms), allow 8s in the test case.
- NOTE 2: 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. The Master Information Block (MIB) is repeated every 8 frame and SIB5 (and SIB11) is segmented into 4 segments where the first segment is scheduled adjacent to the MIB at SIB\_POS=40 and the other three segments are scheduled after the MIB (SIB\_POS=42, 44 and 46). The maximum time for a UE to read SIB5 will occur if the UE start reading the BCH at the SFN after the MIB located prior to the first segment of SIB5 (SIB\_POS 32). Then the UE will not be able to read SIB5 until the second occurrence of SIB5, which will happen at SIB\_POS 46 + 1280ms. This gives that the maximum time for the UE to read the relevant system info will be 1420ms ((SIB\_POS 46 fi SIB\_POS 32)\*10ms + 1280ms).

# 8.2.2.1.5 Test requirements

For the test to pass, the total number of successful attempts shall be more than 90% of the cases with a confidence level of 95 %.

Parameter	Unit	C	ell 1	Ce	ll 2	C	ell 3	Cel	4	Ce	ell 5	Ce	ell 6
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Chan	nel 1	Channe	el 1	Chan	nel 1	Channe	el 1	Chanr	nel 1	Chanr	ıel 1
CPICH_Ec/lor	dB	-9.4		-9.4		-10.5		-10.5		-10.5		-10.5	
PCCPCH_Ec/lor	dB	-11.4		-11.4		-12.5		-12.5		-12.5		-12.5	
SCH_Ec/lor	dB	-11.4		-11.4		-12.5		-12.5		-12.5		-12.5	
PICH Ec/lor	dB	-14.4		-14.4		-15.5		-15.5		-15.5		-15.5	
OCNS Ec/lor	dB	-1.10		-1.10		-0.83		-0.83		-0.83		-0.83	
$\dot{P}_{or}/I_{oc}$ Note 1	dB	7.00	10.40	10.40	7.00	0.30		0.30		0.30		0.30	
Œ	dBm	- 63.0	-59.6	-59.6	-63.0	-69.7		-69.7		-69.7		-69.7	
I <sub>oc</sub>	dBm / 3,84 MHz						-7	0					
CPICH_Ec/lo Note 1	dB	- 15.7	-12.3	-12.3	-15.7	-23.5		-23.5		-23.5		-23.5	

Table 8.2.2.1.3: Scenario 1: Test requirements for Cell re-selection single carrier multi cell

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All other parameters and conditions specified in table 8.2.2.1.2 are unchanged.

NOTE 1: These parameters are not directly settable, but are derived by calculation from the settable parameters.

NOTE 2: 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) 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 95 %.

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 to 8.2.2.2.3. 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.

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## Table 8.2.2.2.1: Scenario 2: General test parameters for Cell Re-selection in multi carrier case

F	Parameter	Unit	Value	Comment
Initial	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		Cell1	
SYSTEM IN	FORMATION		00 80(H) → Cell 1	This identity should be set as different value from
BLOCK TY	PE 1	-	00 81(H) → Cell 2	the neigbour cell so that a Location Updating
- CN comm	on GSM-MAP NAS			procedure (MM) or a Routing Area Updating
system info	rmation			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
- 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	S	30	T1 need to be defined so that cell re-selection
				reaction time is taken into account.
	T2	S	15	T2 need to be defined so that cell re-selection
				reaction time is taken into account.

Parameter	Unit	Cell 1		Cell	2	Cell	3	ŭ	jii 4	Cell	5	Ce	9
		T1	Т2	T1	T2	T1	Т2	Т1	Т2	T1	Т2	T1	Т2
UTRA RF Channel Number		Channel	11	Chann	el 2	Chann	el 1	Chai	nnel 1	Chann	el 2	Chan	nel 2
CPICH Ec/lor	đb	-10		-10	_	-1(	_		10	-10	0	7	0
PCCPCH Ec/lor	dB	-12		-12		-12	~		12	-12	~	7	2
SCH_Ec/lor	dB	-12		-12		-12	~		12	-12	~	7	2
PICH Ec/lor	Яþ	-15		-15		-15			15	-15	2	7	5
OCNS_Ec/lor	dB	-0.941		-0.94	Ţ.	-0.9	11	-0	941	-0.9	t1	-0.6	941
$I\!$	Яþ	-3.4	2.2	2.2	-3.4	-7.4	-4.8	-7.4	-4.8	-4.8	-7.4	-4.8	-7.4
$G_{T(Note\ I)}$	dBm	-73.39	37.7 5	-67.75	- 73.3 9	-77.39	- 74.7 5	- 77.3 9	-74.75	-74.75	- 77.3 9	- 74.7 5	-77.39
$I_{oc}$	dBm / 3.84 MHz						1-	0					
CPICH_Ec/lo	Яþ	-16	-13	-13	-16	-20		Ŧ	20	-20	_	Ņ	0
Propagation Condition							AW	GN					
Cell_selection_and_			I A		141		I A		Ľ		I A		Ę
reselection_quality_ measure			د/ No		=c/ <b>N</b> 0	HOHO HOHO	Ec/N0	222	T Ec/N0	HOHO HOHO	Ec/N0	ちてい	Ec/N0
Qqualmin	đb	-20		-20		-20		T	20	-20		Ņ	0
Qrxlevmin	mBb	-115		-115	ē	-11	10	-	15	-11	ы	÷	15
UE_TXPWR_MAX_ RACH	dB	21		21		21			21	21		2	1
		C1, C2:	0	C2, C1	0:	C3, C	1:0	C4,	C1: 0	C5, C	1: 0	C6, (	C1: 0
		C1, C3:	0	C2, C3	0	ິ ເວັ	0	<u>5</u>	C2: 0	CS, CS,	0	0 00 00	
Qoffset2 <sub>s, n</sub>	dВ	C1, C4:	0	C2, C2	0.	С Ю	+: 0	9. 9.	C3: 0	CS.	3: 0 3:	0°.	0.33
		C1, C5:	0	C2, C5	<u>5:</u> 0	с С	0:0	9. 9.	C5: 0	C2, C	4: 0	C9, C	24: 0
		C1, C6:	0	C2, C6	<u>):</u> 0	Ö Ö	<u>3:</u> 0	9. 9.	C6: 0	C5, C	6: 0	C6, C	25: 0
Qhyst2	dB	0		0		0			0	0		C	
Treselection	s	0		0		0			0	0		C	
Sintrasearch	dB	not sen	Ħ	not se	ent	not se	ent	not	sent	not se	ent	not s	sent
Sintersearch	dB	not sen	ht	not se	ent	not se	ent	not	sent	not se	ent	not s	sent

Table 8.2.2.2.3: Scenario 2: Test parameters for Cell re-selection multi carrier multi cell

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The nominal Gr values, although not explicitly defined in 25.133 are added here since they are implied and need to be identified so that the test equipment can be configured. Note 1

# 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 and the UE shall perform a first location registration procedure on cell2.
- 4) 30 s after step3 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) 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) 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) on cell2.
- 8) After 15 s from the beginning of time period T1, the parameters are changed as described for T2.
- 9) Repeat step 5) to 8) until the confidence level according to annex F.6.2 is achieved.
- NOTE 1: 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 2: 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 time to readrepetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell is <u>14201280ms (see note 3)</u> and the maximum RRC procedure delay for reception system information block is 100ms, <u>15201380</u> ms is assumed in this test case. Therefore this gives a total of <u>7.927.78</u>s- (Minimum requirement + <u>240100</u>ms), allow 8s in the test case.
- NOTE 3: 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. The Master Information Block (MIB) is repeated every 8 frame and SIB5 (and SIB11) is segmented into 4 segments where the first segment is scheduled adjacent to the MIB at SIB\_POS=40 and the other three segments are scheduled after the MIB (SIB\_POS=42, 44 and 46). The maximum time for a UE to read SIB5 will occur if the UE start reading the BCH at the SFN after the MIB located prior to the first segment of SIB5 (SIB\_POS 32). Then the UE will not be able to read SIB5 until the second occurrence of SIB5, which will happen at SIB\_POS 46 + 1280ms. This gives that the maximum time for the UE to read the relevant system info will be 1420ms ((SIB\_POS 46 ñ SIB\_POS 32)\*10ms +1280ms).

# 8.2.2.2.5 Test requirements

For the test to pass, the total number of successful tests shall be more than 90% of the cases with a confidence level of 95%.

# Table 8.2.2.2.3: Scenario 2: Test parameters for Cell re-selection multi carrier multi cell, test requirements

Parameter	Unit	Ce	ll 1	Ce	ll 2	Ce	13	Ce	II 4	Ce	II 5	Cel	16
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2

UTRA RF Channel		Chanr	iel 1	Chanr	nel 2	Chanr	nel 1	Chanr	nel 1	Chann	el 2	Chann	el 2
Number													
CPICH_Ec/lor	dB	-9	9.3	-9	9.3	-1	0.8	-10	0.8	-1(	D.8	-1(	D.8
PCCPCH_Ec/lor	dB	-1	1.3	-1	1.3	-1:	2.8	-1:	2.8	-12	2.8	-12	2.8
SCH_Ec/lor	dB	-1	1.3	-1	1.3	-1:	2.8	-1:	2.8	-12	2.8	-12	2.8
PICH_Ec/lor	dB	-1	4.3	-1-	4.3	-1	5.8	-1	5.8	-1	5.8	-15	5.8
OCNS_Ec/lor	dB	-1	.13	-1.	.13	-0.	.77	-0	.77	-0.	77	-0.	77
$\dot{P}_{or}/I_{oc}$ Note 1	dB	-3.40	+4.80	+4.80	-3.40	-7.40	-3.00	-7.40	-3.00	-3.00	-7.40	-3.00	-7.40
Œ,	dBm	-73.4	-67.0	-67.0	-73.4	-77.4	-74.8	-77.4	-74.8	-74.8	-77.4	-74.8	-77.4
I <sub>oc</sub>	dBm/3.8 4 MHz	-70.0	-71.8	-71.8	-70.0	-70.0	-71.8	-70.0	-71.8	-71.8	-70.0	-71.8	-70.0
CPICH_Ec/lo Note 1	dB	-15.3	-11.5	-11.5	-15.3	-20.8	-20.8	-20.8	-20.8	-20.8	-20.8	-20.8	-20.8

All other parameters and conditions specified in table 8.2.2.2.2 are unchanged.

NOTE 1: These parameters are not directly settable, but are derived by calculation from the settable parameters.

NOTE 2: 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.

<End of modified section>

## <Start of next modified section>

# 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.

The requirements and this test apply to the FDD UE.

# 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

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

 $T_{IU}$  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 8.3.5.1.5. 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, one freq. in neighbour list

	Parameter	Unit	Value	Comment
Initial	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		Cell1	
Access Ser ñ Persisten	vice Class (ASC#0) ce value	-	1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.
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.

# Table 8.3.5.1.2: Physical channel parameters for S-CCPCH, one freq. in neighbour list

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, one freq. in neighbour list

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	Ω
Rate Matching attribute	256
Size of CRC	16
Position of TrCH in radio frame	Fixed

Parameter	Unit	Ce	ll 1	Cel	12	Cell 3	Cell 4	Cell 4 Cell 5		
		T1	T2	T1	T2	T1 T2	T1 T2	T1 T2	T1 T2	
UTRA RF Channel		Char	nol 1	Chan		Channel 1	Channel 1	Channel 1	Channel 1	
Number		Unar		Unan		Channel I	Channel I	Channel I	Channel I	
CPICH_Ec/lor	dB	-	10	-1	0	-10	-10	-10	-10	
PCCPCH Ec/lor	dB	-	12	-1	2	-12	-12	-12	-12	
SCH_Ec/lor	dB	-	12	-1	2	-12	-12	-12	-12	
PICH_Ec/lor	dB	-	15	-1	5	-15	-15	-15	-15	
S-CCPCH_Ec/lor	dB	-	12	-1	2	-12	-12	-12	-12	
OCNS_Ec/lor	dB	-1.3	295	-1.2	95	-1.295	-1.295	-1.295	-1.295	
$\dot{P}_{or}/I_{oc}$	dB	7.3	10.27	10.27	7.3	0.27	0.27	0.27	0.27	
<i>CE</i> <sub>(Note 1)</sub>	dBm	-62.73	-59.73	-59.73	-62.73	-69.73	-69.73	-69.73	-69.73	
I <sub>oc</sub>	dBm/3.84 MHz						-70			
CPICH_Ec/lo	dB	-16	16 -13 -13 -16		-23	-23	-23	-23		
Propagation						A	WGN			
Condition										
reselection quality		CPICH	H E₀/N₀	CPICH E <sub>c</sub> /N <sub>0</sub>			CPICH E <sub>c</sub> /N₀	CPICH E <sub>c</sub> /N <sub>0</sub>	CPICH	
measure						$E_c/IN_0$			$E_c/N_0$	
Qqualmin	dB	-2	20	-2	0	-20	-20	-20	-20	
Qrxlevmin	dBm	-1	15	-11	5	-115	-115	-115	-115	
UE_TXPWR_ MAX_RACH	dBm	2	21	2.	1	21	21	21	21	
		C1, 0	C2: 0	C2, C	01:0	C3, C1: 0	C4, C1: 0	C5, C1: 0	C6, C1: 0	
		C1, 0	C3: 0	C2, C	3: 0	C3, C2: 0	C4, C2: 0	C5, C2: 0	C6, C2: 0	
Qoffset 2 <sub>s, n</sub>	dB	C1, 0	C4: 0	C2, C	24: 0	C3, C4: 0	C4, C3: 0	C5, C3: 0	C6, C3: 0	
		C1,	C5: 0	C2, C	5: 0	C3, C5: 0	C4, C5: 0	C5, C4: 0	C6, C4: 0	
		C1, 0	C6: 0	C2, C	6: 0	C3, C6: 0	C4, C6: 0	C5, C6: 0	C6, C5: 0	
Qhyst	dB	(	0	0		0	0	0	0	
Treselection	s	(	0	0		0	0	0	0	
Sintrasearch	dB	not	sent	not s	sent	not sent	not sent	not sent	not sent	
IE "FACH										
Measurement		not	sent	not s	sent	not sent	not sent	not sent	not sent	
occasion info"										

# Table 8.3.5.1.4: Cell specific conditions for Cell Re-selection in CELL\_FACH, one freq. in neighbour list

Note 1 The nominal Ger values, although not explicitly defined in 25.133 are added here since they are implied and need to be identified so that the test equipment can be configured.

#### 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 7.3.5 to place the UE in the CELL\_FACH state on Cell 2 and the SS waits for this process to complete.
- 4) After 15 seconds from completion of step 3 or the beginning of T1, the parameters are changed to those defined for T2 in table 8.3.5.1.5.
- 5) If the UE responds on Cell 1 with a PRACH (CELL UPDATE message cause "cell reselection") within <u>1.84</u><u>1.7</u> s, then the success is recorded, the SS shall transmit a CELL 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 15 s 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 CELL UPDATE CONFIRM message and then the procedure continues with step 7.
- 7) After total of 15 s from the beginning of T2, the parameters are changed to those defined for T1 in table 8.3.5.1.5.

- 8) If the UE responds on Cell 2 with a PRACH (CELL UPDATE message cause "cell reselection") within <u>1.84</u><del>1.7</del> s, 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 15 s 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 CELL UPDATE CONFIRM message and then the procedure continues with step 10.
- 10) Steps 4 to 10 are repeated until the confidence level according to annex F.6.2 is achieved .
- NOTE\_1: 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 time to read repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell is <u>14201280</u>ms (see note 2) and the maximum RRC procedure delay for reception system information block is 100ms, <u>15201380</u> ms is assumed in this test case. Therefore the cell re-selection delay shall be less than <u>1.841.7</u> s.(Minimum requirement + <u>240100</u>ms). Specific Message Contents
- NOTE 2: 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. The Master Information Block (MIB) is repeated every 8 frame and SIB5 (and SIB11) is segmented into 4 segments where the first segment is scheduled adjacent to the MIB at SIB\_POS=40 and the other three segments are scheduled after the MIB (SIB\_POS=42, 44 and 46). The maximum time for a UE to read SIB5 will occur if the UE start reading the BCH at the SFN after the MIB located prior to the first segment of SIB5 (SIB\_POS 32). Then the UE will not be able to read SIB5 until the second occurrence of SIB5, which will happen at SIB\_POS 46 + 1280ms. This gives that the maximum time for the UE to read the relevant system info will be 1420ms ((SIB\_POS 46 ñ SIB\_POS 32)\*10ms + 1280ms).

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:

Contents of CELL UPDATE CONFIRM message for CELL FACH

Information Element	Value/remark
RRC transaction identifier	0
Activation time	Not Present
New C-RNTI	0101010101010 B
RRC State indicator	CELL_FACH

# 8.3.5.1.5 Test requirements

For the test to pass, the total number of successful attempts shall be more than 90% of the cases with a confidence level of 95 %.

Table 8.3.5.1.5: Cell specific test requirements for Cell Re-selection in CELL_F.	ACH, one freq. in
neighbour list	

Parameter	Unit	Ce	1	Ce	ll 2	Ce	ell 3	Ce	II 4	Ce	II 5	Ce	Cell 6	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	
UTRA RF Channel Number		Char	nnel 1	Char	nnel 1	Cha	nnel 1	Char	nel 1	Char	nel 1	Chan	inel 1	
CPICH_Ec/lor	dB	-9	.4	-9	).4	-1	0.5	-1(	).5	-10	0.5	-10.5		
PCCPCH_Ec/lor	dB	-1	1.4	-11	1.4	-1	2.5	-12	2.5	-1:	2.5	-12	2.5	
SCH_Ec/lor	dB	-1	1.4	-11	1.4	-1	2.5	-12	2.5	-1:	2.5	-12	2.5	
PICH_Ec/lor	dB	-14	4.4	-14	4.4	-1	5.5	-15	5.5	-1	5.5	-15	5.5	
S-CCPCH_Ec/lor	dB	-1	1.4	-11	1.4	-1	2.5	-12.5		-12.5		-12.5		
OCNS_Ec/lor	dB	-1.	.52	-1.	.52	-1	.13	-1.	13	-1.	.13	-1.	13	
$\hat{P}_{or}/I_{oc}$ Note 1	dB	7.0	10.4	10.4	7.0	0	).3	0	.3	0	.3	0.	.3	
ſĘ,	dBm	-63.0	-59.6	-59.6	-63.0	-6	69.7	-69	9.7	-6	9.7	-69	9.7	
I <sub>oc</sub>	dBm/3.84 MHz			-70										
CPICH_Ec/lo Note 1	dB	-15.7	-12.3	-12.3	-15.7	-2	23.5	-23	3.5	-23	3.5	-23	3.5	

All other parameters and conditions specified in table 8.3.5.1.4 are unchanged.

- Note 1: These parameters are not directly settable, but are derived by calculation from the settable parameters.
- Note 2: 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.

The requirements and this test apply to the FDD UE.

# 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

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

where

 $T_{Measurement\_inter}\xspace$  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

## 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 8.3.5.2.5. The UE is requested to monitor neighbouring cells on 2 carriers. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1280 ms

# Table 8.3.5.2.1: General test parameters for Cell Re-selection in CELL\_FACH, two freqs. in neighbour list

	Parameter	Unit	Value	Comment
Initial	Active cell			
condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		Cell1	
Access Service Class (ASC#0) ñ 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 8.3.5.2.2 and table 8.3.5.2.3.

Table 8.3.5.2.2: Ph	ysical channel	parameters fo	or S-CCPCH,	two freq	s. in neighbour list
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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,	, two freqs. in	neighbour list
------------------------------------	-------------------------	-----------------	----------------

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	Ω
Rate Matching attribute	256
Size of CRC	16
Position of TrCH in radio frame	Fixed

$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$
$ \begin{array}{ c c c c } \mbox{UTRA RF Channel} \\ \mbox{Number} & \mbox{Original} \mbox$
Number       Image: Imag
$\begin{array}{c c c c c c c c c c c c c c c c c c c $
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $
OCNS_Ec/lor       dB       -12
$ \frac{\dot{P}_{or}}{I_{oc}} = \frac{1}{1000} + \frac{1}{$
$\begin{array}{c c c c c c c c c c c c c c c c c c c $
I_{oc}         dBm/3.8 4 MHz         -70           CPICH_Ec/lo         dB         -15         -13         -15         -20         -20         -20         -20           Propagation         AWGN
CPICH_Ec/lo         dB         -15         -13         -13         -15         -20         -20         -20         -20         -20           Propagation         AWGN
Propagation
Condition
Cell_selection_
and reselection $E/N_{a}$ $E/N_{a}$ $E/N_{b}$ $CPICH E_{c}/N_{0}$ $CPICH E_{c}/N_{0}$ $CPICH E_{c}/N_{0}$
quality_measure
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
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
QOTTSet $2_{s,n}$ dB C1, C4: 0 C2, C4: 0 C3, C4: 0 C4, C3: 0 C5, C3: 0 C6, C3: 0 C6, C3: 0 C6, C4: 0 C1, C5: 0 C1,
Ohvst2 dB 0 0 0 0 0 0 0 0 0 0 0 0 0
$\frac{dHyde}{dt} = \frac{dH}{dt} = \frac$
Sintrasearch dB not sent
Sintersearch dB not sent
IE "FACH
Measurement sent sent sent Sent sent sent
occasion info"
FACH
Measurement 3 3 3 3 3
Inter-frequency
TDD measurement FALSE FALSE FALSE FALSE FALSE FALSE
indicator

# Table 8.3.5.2.4: Cell specific conditions for Cell re-selection in CELL\_FACH state, two freqs. in neighbour list

Note 1 The nominal Ger values, although not explicitly defined in 25.133 are added here since they are implied and need to be identified so that the test equipment can be configured.

#### 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.
- 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 7.3.5 to place the UE in the CELL\_FACH state on Cell 2 and the SS waits for this process to complete.

- 4) After 15 seconds from completion of step3 or the beginning of T1, the parameters are changed to those defined for T2 in table 8.3.5.2.5.
- 5) If the UE responds on Cell 1 with a PRACH (CELL UPDATE message cause "cell reselection") within 2.0 s, then the success is recorded, the SS shall transmit a CELL 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 15 s 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 CELL UPDATE CONFIRM message and then the procedure continues with step 7.
- 7) After total of 15 s from the beginning of T2, the parameters are changed to those defined for T1 in table 8.3.5.2.5.
- 8) If the UE responds on Cell 2 with a PRACH (CELL UPDATE message cause "cell reselection") within <u>2.14</u><del>2.0</del> s, 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 15 s 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 CELL UPDATE CONFIRM message and then the procedure continues with step 10.

10) Steps 4 to 10 are repeated until the confidence level according to annex F.6.2 is achieved.

- NOTE\_1: 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 time to readrepetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell is <u>14201280</u>ms (see note 2) and the maximum RRC procedure delay for reception system information block is 100ms, <u>15201380</u> ms is assumed in this test case. Therefore the cell re-selection delay shall be less than 2.<u>140</u> s.(Minimum requirement + <u>240100</u>ms).
- NOTE 2: 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. The Master Information Block (MIB) is repeated every 8 frame and SIB5 (and SIB11) is segmented into 4 segments where the first segment is scheduled adjacent to the MIB at SIB\_POS=40 and the other three segments are scheduled after the MIB (SIB\_POS=42, 44 and 46). The maximum time for a UE to read SIB5 will occur if the UE start reading the BCH at the SFN after the MIB located prior to the first segment of SIB5 (SIB\_POS 32). Then the UE will not be able to read SIB5 until the second occurrence of SIB5, which will happen at SIB\_POS 46 + 1280ms. This gives that the maximum time for the UE to read the relevant system info will be 1420ms ((SIB\_POS 46 ñ SIB\_POS 32)\*10ms +1280ms).

#### 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:

#### Contents of CELL UPDATE CONFIRM message for CELL\_FACH

Information Element	Value/remark
RRC transaction identifier	0
Activation time	Not Present
New C-RNTI	0101010101010 B
RRC State indicator	CELL_FACH

#### 8.3.5.2.5 Test requirements

For the test to pass, the total number of successful attempts shall be more than 90% of the cases with a confidence level of 95 %.

Parameter	Unit	Ce	1	Ce	ll 2	Cell 3		Cell 4		Cell 5		Ce	II 6
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Chann	iel 1	Chann	el 2	Chann	iel 1	Chanr	nel 1	Chanr	nel 2	Chann	el 2
CPICH_Ec/lor	dB	-9	9.4	-9	-9.4		-10.7 -10		-10.7 -1		0.7	-10.7	
PCCPCH Ec/lor	dB	-1	1.4	-1	1.4	-1	2.7	-1	2.7	-1:	2.7	-12	2.7
SCH_Ec/lor	dB	-1	1.4	-1	1.4	-1	2.7	-1	2.7	-1:	2.7	-12	2.7
PICH_Ec/lor	dB	-1	4.4	-1	4.4	-1	5.7	-15.7		-15.7		-15.7	
S-CCPCH_Ec/lor	dB	-1	1.4	-11.4		-12.7		-12.7		-12.7		-12.7	
OCNS_Ec/lor	dB	-1	.52	-1	.52	-1	.08	-1	.08	-1	.08	-1.	08
$\dot{P}_{or}/I_{oc}$ Note 1	dB	-1.80	+4.64	+4.64	-1.80	-6.80	-3.16	-6.80	-3.16	-3.16	-6.80	-3.16	-6.80
Œ,	dBm	-71.8	-67.0	-67.0	-71.8	-76.8	-74.8	-76.8	-74.8	-74.8	-76.8	-74.8	-76.8
I <sub>oc</sub>	dBm/3.8 4 MHz	-70.0	-71.6	-71.6	-70.0	-70.0	-71.6	-70.0	-71.6	-71.6	-70.0	-71.6	-70.0
CPICH_Ec/lo Note	dB	-14.4	-11.6	-11.6	-14.4	-20.7	-20.7	-20.7	-20.7	-20.7	-20.7	-20.7	-20.7

# Table 8.3.5.2.5: Cell specific test requirements for Cell re-selection in CELL\_FACH state, two freqs. in neighbour list

All other parameters and conditions specified in table 8.3.5.2.4 are unchanged.

Note 1: These parameters are not directly settable, but are derived by calculation from the settable parameters.

Note 2: 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.

#### <End of modified section>

# <Start of next modified section>

# 8.3.6 Cell Re-selection in CELL\_PCH

# 8.3.6.1 One frequency present in the neighbour list

# 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 95 %.

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

T <sub>evaluateFDD</sub>	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.5.6.1.

# 8.3.6.1.3 Test purpose

To verify that the UE meets the minimum requirements and is capable of camping on to a new cell, within the required time, when the preferred cell conditions change.

# 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 to 8.3.6.1.3. 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, one freq. in neighbour list

	Parameter	Unit	Value	Comment
initial	Active cell		Cell2	
condition	On         Neighbour cells         Cell1, Cell3, Cell4, Cell5, Cell6           Active cell         Cell1		Cell1, Cell3,Cell4, Cell5, Cell6	
final condition	Active cell		Cell1	
Access Service Class (ASC#0)				Selected so that no additional delay is caused by the
- Persister	ice value	-	1	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.

# Table 8.3.6.1.2: Cell specific test parameters for Cell re-selection in CELL\_PCH state, one freq. in neighbour list

Baramotor	Unit	Ce	ell 1	Ce	Cell 2		Cell 3		Cell 4		Cell 5		Cell 6	
Falameter	Onic	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	
UTRA RF Channel		Chann	al 1	Channe		Chann		Char	nol 1	Chan	Channel 1		Channel 1	
Number		Chann		Channe		Chann		Unar						
CPICH_Ec/lor	dB	-10		-10		-10		-10		-10		-10		
PCCPCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12		
SCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12		
PICH_Ec/lor	dB	-15		-15		-15		-15		-15		-15		
OCNS_Ec/lor	dB	-0.941		-0.941		-0.941		-0.94	.1	-0.941		-0.941	Í	
$\dot{P}_{or}/I_{oc}$	dB	7.3	10.27	10.27	10.27 7.3			0.27		0.27		0.27		
Œr (Note 1)	dBm	-62.73	-59.73	-59.73	-59.73 - 62.73			-69.7	3	-69.73	3	-69.73	3	
I <sub>oc</sub>	dBm/ 3.84MHz	-70												
CPICH_Ec/lo	dB	-16	-13	-13	-13 -16			-23		-23		-23		
Propagation							۵۱۸/	GN						
Condition				-			70							
Cell_selection_and_		СЫСН		сысн		CPICH	ł					CPICH		
measure				OF ION		E <sub>c</sub> /N <sub>0</sub>		ONC		01101	I ∟ <sub>c</sub> /I <b>N</b> 0	E <sub>c</sub> /N <sub>0</sub>		
Qqualmin	dB	-2	20	-2	20	-2	0		-20	-	20	-20		
Qrxlevmin	dBm	-1	15	-11	15	-11	5	-	115	-115		-1	15	
UE_TXPWR_ MAX_RACH	dBm	2	21	2	1	21	1		21		21	2	1	
		C1,	C2: 0	C2, C	C1: 0	C3, C	)1:0	C4,	, C1: 0	C5,	C1: 0	C6, 0	C1: 0	
		C1,	C3: 0	C2, C	C3: 0	C3, C	2: 0	C4,	C2: 0	C5,	C2: 0	C6, 0	C2: 0	
Qoffset2 <sub>s, n</sub>	dB	C1,	C4: 0	C2, C	C2, C4: 0		4: 0	C4,	, C3: 0	C5,	C3: 0	C6, 0	C3: 0	
		C1,	C5: 0	C2, C	C2, C5: 0		5: 0	C4,	C4, C5: 0		C5, C4: 0		C4: 0	
		C1,	C6: 0	C2, C	C2, C6: 0 C3, C6: 0 C4, C6:		, C6: 0	C5, C6: 0		C6, 0	C5: 0			
Qhyst2	dB		0	C	)	0			0		0	0		
Treselection	S		0	C	)	0			0		0	(	0	
Sintrasearch	dB	not	sent	nots	sent	not s	ent	no	not sent		not sent		not sent	

Note 1 The nominal Ger values, although not explicitly defined in 25.133 are added here since they are implied and need to be identified so that the test equipment can be configured.

## 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) An RRC connection is set up according to the generic set-up procedure specified in TS 34.108 [3] subclause 7.3.3 to place the UE in the CELL\_PCH state on Cell 2 and then 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 T2 in table 8.3.6.1.3.
- 5) If the UE responds on Cell 1 with a PRACH (CELL UPDATE message cause "cell reselection") within 8s, then a success is recorded, the SS shall transmit a CELL 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 CELL 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 in table 8.3.6.1.3.
- 8) If the UE responds on Cell 2 with a PRACH (CELL UPDATE message cause "cell 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 CELL UPDATE CONFIRM message and then the procedure continues with step 10.

10) Steps 4 to 10 are repeated until the confidence level according to annex F.6.2 is achieved.

- NOTE\_1: 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 time to readrepetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell is 14201280ms (see note 2) and the maximum RRC procedure delay for reception system information block is 100ms, 15201380 ms is assumed in this test case. Therefore this gives a total of 7.927.78 (Minimum requirement + 240100ms), allow 8s in the test case.
- NOTE 2: 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. The Master Information Block (MIB) is repeated every 8 frame and SIB5 (and SIB11) is segmented into 4 segments where the first segment is scheduled adjacent to the MIB at SIB\_POS=40 and the other three segments are scheduled after the MIB (SIB\_POS=42, 44 and 46). The maximum time for a UE to read SIB5 will occur if the UE start reading the BCH at the SFN after the MIB located prior to the first segment of SIB5 (SIB\_POS 32). Then the UE will not be able to read SIB5 until the second occurrence of SIB5, which will happen at SIB\_POS 46 + 1280ms. This gives that the maximum time for the UE to read the relevant system info will be 1420ms ((SIB\_POS 46 ñ SIB\_POS 32)\*10ms +1280ms).

#### 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:

### PHYSICAL CHANNEL RECONFIGURATION (Step 3)

Information Element	Value/remark
RRC State Indicator	CELL PCH
UTRAN DRX cycle length coefficient	7
Downlink information for each radio link - Primary CPICH info	
- Primary scrambling code	Reference to TS 34.108 clause 6.1 iDefault settings (FDD)î

Contents of CELL UPDATE CONFIRM message for CELL PCH

Information Element	Value/remark
RRC transaction identifier	0
Activation time	Not Present
RRC State indicator	CELL PCH
UTRAN DRX cycle length coefficient	7

#### 8.3.6.1.5 Test requirements

For the test to pass, the total number of successful attempts shall be more than 90% of the cases with a confidence level of 95 %.

# Table 8.3.6.1.3: Cell specific test requirements for Cell re-selection in CELL\_PCH state, one freq. in neighbour list

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 Number		Chan	nel 1	Channe	el 1	Channel 1		Channel 1		Channel 1		Channel 1	
CPICH Ec/lor	dB	-9.4		-9.4		-10.5		-10.5		-10.5		-10.5	
PCCPCH_Ec/lor	dB	-11.4		-11.4		-12.5		-12.5		-12.5		-12.5	
SCH_Ec/lor	dB	-11.4		-11.4		-12.5		-12.5		-12.5		-12.5	
PICH_Ec/lor	dB	-14.4		-14.4		-15.5		-15.5		-15.5		-15.5	
OCNS_Ec/lor	dB	-1.10		-1.10		-0.83		-0.83		-0.83		-0.83	
$\dot{P}_{or}/I_{oc}$ Note 1	dB	7.00	10.40	10.40	7.00	0.30		0.30		0.30		0.30	
Œ	dBm	- 63.0	-59.6	-59.6	-63.0	-69.7		-69.7		-69.7		-69.7	
I <sub>oc</sub>	dBm / 3,84 MHz		-70										
CPICH_Ec/lo Note 1	dB	- 15.7	-12.3	-12.3	-15.7	-23.5		-23.5		-23.5		-23.5	

All other parameters and conditions specified in table 8.3.6.1.2 are unchanged.

NOTE 1: These parameters are not directly settable, but are derived by calculation from the settable parameters.

NOTE 2: 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

#### 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 95 %.

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

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T <sub>evaluateFDD</sub>	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 and is capable of camping on to a new cell, within the required time, when the preferred cell conditions change.

#### 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 to 8.3.6.2.3. 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, two freqs. in neighbour list

	Parameter	Unit	Value	Comment
initial	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5, Cell6	
final condition	Active cell		Cell1	
Access Ser - Persisten	vice Class (ASC#0) ce value	-	1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.
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.

Parameter	Unit	Ce	ell 1	Ce	Cell 2		Cell 3		Cell 4		Cell 5		Cell 6	
		T1	T2	T1	T1 T2		T2	T1	T2	T1	T2	T1	T2	
UTRA RF Channel		Chan	nol 1	Chan	Channel 2		ol 1	Channel 1		Channel 2		Channel 2		
Number		Onar		Onan		Onanner 1						Onam		
CPICH_Ec/lor	dB	-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		
PICH_Ec/lor	dB	-15		-15		-15		-15		-15		-15		
OCNS_Ec/lor	dB	-0.94	1	-0.94	1	-0.941		-0.941		-0.941		-0.941		
$\dot{P}_{or}/I_{oc}$	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	
Œ (Note 1)	dBm	- 73.3 9	- 67.75	- 67.7 5	- 73.39	- 77.39	- 74.7 5	- 77.39	- 74.75	-74.75	- 77.39	- 74.7 5	- 77.39	
I <sub>oc</sub>	dBm/3.8 4 MHz	-70												
CPICH_Ec/lo	dB	-16	-13	-13	-16	-20		-20		-20		-20		
Propagation Condition							ļ	AWGN						
Cell_selection_ and_reselection_ quality_measure		CPIC E <sub>c</sub> /N <sub>0</sub>	;H ,	CPIC E <sub>c</sub> /N <sub>0</sub>	Н	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	-	20	-2	0	-2	20	-20		-20		
Qrxlevmin	dBm	-1	15	-1	15	-11	5	-1	15	-11	5	-1	15	
UE_TXPWR_ MAX_RACH	dBm	2	21	2	21	2	1	2	1	21	l	2	21	
		C1,	C2: 0	C2,	C1: 0	C3, C	1: 0	C4, 0	C1: 0	C5, C	1:0	C6,	C1: 0	
		C1,	C3: 0	C2,	C3: 0	C3, C	2: 0	C4, 0	C2: 0	C5, C	2:0	C6,	C2: 0	
Qoffset2 <sub>s, n</sub>	dB	C1,	C4: 0	C2,	C4: 0	C3, C	24: 0	C4, 0	C3: 0	C5, C	3:0	C6,	C3: 0	
		C1,	C5: 0	C2, C5: 0		C3, C	5: 0	C4, (	C5: 0	C5, C	4:0	C6,	C4: 0	
		C1,	<u>C6: 0</u>	C2,	C6: 0	C3, C	6:0	C4, 0	<u>56: 0</u>	C5, C	6:0	C6,	C5: 0	
Qnyst2	dB		0		0	0		(	<u>)</u>	0			0	
I reselection	S JD	- · ·	0		0	0		(	<u>)</u>	0			0	
Sintrasearch	aB	not	sent	not	sent	not s	sent	not	sent	not s	ent	not	sent	
Sintersearch	dB	not	sent	not	sent	not s	sent	not sent		not sent		not sent		

# Table 8.3.6.2.2: Cell specific test parameters for Cell re-selection in CELL\_PCH state, two freqs. in neighbour list

Note 1 The nominal Ger values, although not explicitly defined in 25.133 are added here since they are implied and need to be identified so that the test equipment can be configured.

### 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 7.3.3 to place the UE in CELL\_PCH state on cell 2. The SS waits for this process to complete.
- 4) After 30 s from the completion of step 3 or the beginning of T1, the parameters are changed to those defined for T2 in table 8.3.6.2.3.
- 5) If the UE responds on Cell 1 with a PRACH (CELL UPDATE message cause "cell reselection") within 8s, then a success is recorded, the SS shall transmit a CELL 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 CELL 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 in table 8.3.6.2.3.

- 8) If the UE responds on Cell 2 with a PRACH (CELL UPDATE message cause "cell 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 CELL UPDATE CONFIRM message and then the procedure continues with step 10.
- 10) After a total of 15 s from the beginning of T1, the parameters are changed to those defined for T2 in table 8.3.6.2.3.
- 11)Steps 5 to 10 are repeated until the confidence level according to annex F.6.2 is achieved.
- NOTE 1: 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 2: 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 <u>14201280</u>ms (see note 3) and the maximum RRC procedure delay for reception system information block is 100ms, <u>15201380</u> ms is assumed in this test case. Therefore this gives a total of <u>7.827.78s</u> (Minimum requirement + <u>240100</u>ms), allow 8s in the test case.
- NOTE 3: 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. The Master Information Block (MIB) is repeated every 8 frame and SIB5 (and SIB11) is segmented into 4 segments where the first segment is scheduled adjacent to the MIB at SIB POS=40 and the other three segments are scheduled after the MIB (SIB POS=42, 44 and 46). The maximum time for a UE to read SIB5 will occur if the UE start reading the BCH at the SFN after the MIB located prior to the first segment of SIB5 (SIB POS 32). Then the UE will not be able to read SIB5 until the second occurrence of SIB5, which will happen at SIB POS 46 + 1280ms. This gives that the maximum time for the UE to read the relevant system info will be 1420ms ((SIB\_POS 46 ñ SIB\_POS 32)\*10ms + 1280ms).

#### 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:

#### PHYSICAL CHANNEL RECONFIGURATION (Step 3)

Information Element	Value/remark
RRC State Indicator	CELL PCH
UTRAN DRX cycle length coefficient	7
Downlink information for each radio link - Primary CPICH info	
- Primary scrambling code	Reference to TS 34.108 clause 6.1 iDefault settings (FDD)î

#### Contents of CELL UPDATE CONFIRM message for CELL PCH

Information Element	Value/remark
RRC transaction identifier	0
Activation time	Not Present
RRC State indicator	CELL PCH
UTRAN DRX cycle length coefficient	7

#### 8.3.6.2.5 Test requirements

For the test to pass, the total number of successful tests shall be more than 90% of the cases with a confidence level of 95%.

# Table 8.3.6.2.3: Cell specific test requirements for Cell re-selection in CELL\_PCH state, two freqs. in neighbour list

Parameter	Unit	Cell 1		Ce	Cell 2		Cell 3		Cell 4		Cell 5		II 6	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	
UTRA RF Channel Number		Chann	Channel 1		Channel 2		Channel 1		Channel 1		iel 2	Channel 2		
CPICH_Ec/lor	dB	-9	9.3	-9	9.3	-1	-10.8		-10.8		-10.8		-10.8	
PCCPCH_Ec/lor	dB	-1	1.3	-1	1.3	-1:	-12.8		-12.8		2.8	-12.8		
SCH_Ec/lor	dB	-1	1.3	-1	-11.3		-12.8		-12.8		-12.8		-12.8	
PICH_Ec/lor	dB	-1-	4.3	-14.3		-15.8		-15.8		-15.8		-15.8		
OCNS_Ec/lor	dB	-1	.13	-1.13		-0.77		-0.77		-0.77		-0.77		
$\dot{P}_{or}/I_{oc}$ Note 1	dB	-3.40	+4.80	+4.80	-3.40	-7.40	-3.00	-7.40	-3.00	-3.00	-7.40	-3.00	-7.40	
Œ	dBm	-73.4	-67.0	-67.0	-73.4	-77.4	-74.8	-77.4	-74.8	-74.8	-77.4	-74.8	-77.4	
I <sub>oc</sub>	dBm/3.8 4 MHz	-70.0	-71.8	-71.8	-70.0	-70.0	-71.8	-70.0	-71.8	-71.8	-70.0	-71.8	-70.0	
CPICH_Ec/lo Note	dB	-15.3	-11.5	-11.5	-15.3	-20.8	-20.8	-20.8	-20.8	-20.8	-20.8	-20.8	-20.8	

All other parameters and conditions specified in table 8.3.6.2.2 are unchanged.

- NOTE 1: These parameters are not directly settable, but are derived by calculation from the settable parameters.
- NOTE 2: 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 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 95%.

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.

#### **Release 5**

### 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 to 8.3.7.1.3. 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. In System Information Block Type 2 cell1 and cell 2 URA identity is set to a different value.

# Table 8.3.7.1.1: General test parameters for Cell Re-selection in URA\_PCH, one freq. in neighbour list

	Parameter	Unit	Value	Comment
Initial	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		Cell1	
SYSTEM IN TYPE 2 - URA iden - URA iden	NFORMATION BLOCK tity list tity	-	0000 0000 0000 0001(B) (Cell 1) 0000 0000 0000 0010(B) (Cell 2)	
Access Ser - Persisten	vice Class (ASC#0) ce value	-	1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.
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	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 Number		Chanr	nel 1	Channel	1	Channel 1	Channel 1	Channel 1	Channel 1	
CPICH Ec/lor	dB	-10		-10		-10	-10	-10	-10	
PCCPCH Ec/lor	dB	-12		-12		-12	-12	-12	-12	
SCH_Ec/lor	dB	-12		-12		-12	-12	-12	-12	
PICH_Ec/lor	dB	-15		-15		-15	-15	-15	-15	
OCNS_Ec/lor	dB	-0,941		-0,941		-0,941	-0,941	-0,941	-0,941	
$\dot{P}_{or}/I_{oc}$	dB	7,3	10,27	10,27	7,3	0,27	0,27	0,27	0,27	
(Note 1)	dBm	-62.73	-59.73	-59.73	- 62.73	-69.73	-69.73	-69.73	-69.73	
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	H E <sub>c</sub> /N <sub>0</sub>	CPICH E	c/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	-20	)	-20	-20	-20	-20	
Qrxlevmin	dBm	-1	15	-11	5	-115	-115	-115	-115	
UE_TXPWR_MAX_ RACH	dB	2	21	21		21	21	21	21	
Qoffset2 <sub>s, n</sub>	dB	C1, C1, C1, C1, C1, C1,	C2: 0 C3: 0 C4: 0 C5: 0 C6: 0	C2, C C2, C C2, C C2, C C2, C C2, C	1: 0 3: 0 4: 0 5: 0 6: 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	
Treselection	S		0	0		0	0	0	0	
Sintrasearch	dB	not	sent	not se	ent	not sent	not sent	not sent	not sent	

# Table 8.3.7.1.2: Cell specific test parameters for Cell re-selection in URA\_PCH state, one freq. in neighbour list

Note 1 The nominal Ger values, although not explicitly defined in 25.133 are added here since they are implied and need to be identified so that the test equipment can be configured.

#### 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) An RRC connection is set up according to the generic set-up procedure specified in TS 34.108 [3] subclause 7.3.3 to place the UE in the URA\_PCH state on Cell 2 and then the SS waits for this process to complete.
- 4) After 15 s from the completion of step 3 or the beginning of T1, the parameters are changed to those defined for T2 in table 8.3.7.1.3.
- 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 another 15 s from the beginning of T2, the parameters are changed to those defined for T1 in table 8.3.7.1.3.

- 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 the confidence level according to annex F.6.2 is achieved.

- NOTE\_1: 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 time to readrepetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell is <u>1420</u><del>1280</del> ms and the maximum RRC procedure delay for reception system information block is 100ms, <u>1520</u><del>1380</del> ms is assumed in this test case. Therefore this gives a total of <u>7.92</u><del>7.78</del>s (Minimum requirement + <u>240</u><del>100</del>ms), allow 8s in the test case.
- NOTE 2: 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. The Master Information Block (MIB) is repeated every 8 frame and SIB5 (and SIB11) is segmented into 4 segments where the first segment is scheduled adjacent to the MIB at SIB POS=40 and the other three segments are scheduled after the MIB (SIB POS=42, 44 and 46). The maximum time for a UE to read SIB5 will occur if the UE start reading the BCH at the SFN after the MIB located prior to the first segment of SIB5 (SIB\_POS 32). Then the UE will not be able to read SIB5 until the second occurrence of SIB5, which will happen at SIB POS 46 + 1280ms. This gives that the maximum time for the UE to read the relevant system info will be 1420ms ((SIB\_POS 46 ñ SIB\_POS 32)\*10ms +1280ms).

#### 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:

#### PHYSICAL CHANNEL RECONFIGURATION (Step 3)

Information Element	Value/remark
RRC State Indicator	URA PCH
UTRAN DRX cycle length coefficient	7

#### Contents of URA UPDATE CONFIRM message for URA\_PCH

Information Element	Value/remark
RRC transaction identifier	0
RRC state indicator	URA PCH
UTRAN DRX cycle length coefficient	7
URA identity	000000000000010 B

## 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 95 % of the cases.

Table 8.3.7.1.3: Cell specific test requirements for Cell re-selection in URA_I	PCH state,	one freq. in
neighbour list		

Parameter	Unit	C	ell 1	Ce	ll 2	Cell 3		Cel	Cell 4 Cell 5		Cell 6			
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	
UTRA RF Channel Number		Chan	Channel 1 Ch		Channel 1		Channel 1		Channel 1		Channel 1		Channel 1	
CPICH_Ec/lor	dB	-9.4		-9.4		-10.5		-10.5		-10.5		-10.5		
PCCPCH_Ec/lor	dB	-11.4		-11.4		-12.5		-12.5		-12.5		-12.5		
SCH_Ec/lor	dB	-11.4		-11.4		-12.5 -1		-12.5		-12.5		-12.5		
PICH_Ec/lor	dB	-14.4		-14.4	-14.4		-15.5 -15.5		-15.5 -15.			-15.5		
OCNS_Ec/lor	dB	-1.10		-1.10		-0.83		-0.83		-0.83		-0.83		
$\dot{P}_{or}/I_{oc}$ Note 1	dB	7.00	10.40	10.40	7.00	0.30	0.30 0.3		0.30		0.30		0.30	
Œ,	dBm	- 63.0	-59.6	-59.6	-59.6 -63.0			-69.7		-69.7		-69.7		
I <sub>oc</sub>	dBm / 3,84 MHz	-70												
CPICH_Ec/lo Note 1	dB	- 15.7	-12.3	-12.3	-12.3 -15.7		-23.5		-23.5		-23.5		-23.5	

All other parameters and conditions specified in table 8.3.7.1.2 are unchanged.

- NOTE 1: These parameters are not directly settable, but are derived by calculation from the settable parameters.
- NOTE 2: 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 95 %.

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.

#### **Release 5**

### 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 to 8.3.7.2.3. 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 cell 1 and cell 2 URA identity is set to different value.

# Table 8.3.7.2.1: General test parameters for Cell Re-selection in URA\_PCH, two freqs. in neighbour list

	Parameter	Unit	Value	Comment
Initial	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5, Cell6	
Initial	Active cell Cell2		Cell1	
condition				
SYSTEM I	NFORMATION		0000 0000 0000 0001(B) (Cell 1)	
BLOCK TY	PE 2	-	0000 0000 0000 0010(B) (Cell 2)	
- URA iden	tity list			
- URA iden	tity			
Access Ser	rvice Class (ASC#0)			Selected so that no additional delay
- Persistence value		-	1	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	30	T1 need to be defined so that cell re-
				selection reaction time is taken into
				account.
	T2	S	15	T2 need to be defined so that cell re-
				selection reaction time is taken into
				account.

Parameter	Unit	Ce	II 1	C	ell 2	(	Cell 3			Cell 4		C	ell 5		Cell		
		T1	T2	T1	T2	T1	Т	2	T1	Т	2	T1	Т	2	T1	Т	2
UTRA RF Channel Number		Char	nnel 1	Cha	nnel 2	Cł	Channel 1		Channel 1		1	Channel 2		2	Channel 2		
CPICH_Ec/lor	dB	-'	-10 -10				-10			-10			-10		-10		
PCCPCH Ec/lor	dB	-'	12		-12		-12			-12		-12			-12		
SCH_Ec/lor	dB	-'	12		-12		-12			-12		-12			-12		
PICH_Ec/lor	dB	-'	15	-	-15		-15			-15			-15			-15	
OCNS_Ec/lor	dB	-0.9	941	-0	.941	-	0.941			-0.941		-0	.941		-(	).941	
$\dot{P}_{or}/I_{oc}$	dB	-3.4	2.2	2.2	-3.4	-7.	4 -4	1.8	-7.4	-4	.8	-4.8	-7	.4	-4.8	-7	'.4
Œ(Note 1)	dBm	-73.39	- 67.7 5	- 67.7 5	- 73.3 9	- 77.3 9	- 74.7 5	- 77 9	.3	- 74.7 5	-74	.75	- 77.3 9	- 7- 5	4.7	-77.39	)
I <sub>oc</sub>	dBm / 3.84 MHz							-	70								
CPICH_Ec/lo	dB	-16	-13	-13	-16		-20			-20			-20		-20		
Propagation Condition								AW	/GN								
Cell_selection_and_ reselection_quality_ measure		CPICH	∃ E <sub>c</sub> /N₀	CPIC	H E <sub>c</sub> /N <sub>0</sub>	CPI	CPICH E <sub>c</sub> /N <sub>0</sub>		CPICH E <sub>c</sub> /N <sub>0</sub>		/N <sub>0</sub>	CPICH E <sub>c</sub> /N <sub>0</sub>		No	CPIC	CH Ec	/N <sub>0</sub>
Qqualmin	dB	-2	20	-	20		-20			-20			-20			-20	
Qrxlevmin	dBm	-1	15		115		-115			-115		-	115		-	115	
UE_TXPWR_MAX_ RACH	dB	2	:1	:	21		21		21			21				21	
Qoffset2 <sub>s, n</sub>	dB	C1, 0 C1, 0 C1, 0 C1, 0 C1, 0	C2: 0 C3: 0 C4: 0 C5: 0 C6: 0	C2, C1: 0 C2, C3: 0 C2, C4: 0 C2, C5: 0 C2, C6: 0		00000000000000000000000000000000000000	C3, C1: 0 C3, C2: 0 C3, C4: 0 C3, C5: 0		C4, C1: 0 C4, C2: 0 C4, C3: 0 C4, C5: 0		0 0 0 0 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		0 0 0 0 0
Qhyst2	dB	(	C		0		0		l	0			0			0	
Treselection	s	(	C		0		0			0			0			0	
Sintrasearch	dB	not	sent	not	sent	n	ot sent		n	ot sen	t	no	t sent		no	t sen	t
Sintersearch	dB	not	sent	not	sent	n	ot sent		n	ot sen	t	no	t sent		no	t sen	t

# Table 8.3.7.2.2: Cell specific test parameters for Cell Re-selection in URA\_PCH state, two freqs. in neighbour list

Note 1 The nominal Ger values, although not explicitly defined in 25.133 are added here since they are implied and need to be identified so that the test equipment can be configured.

### 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) An RRC connection is set up according the generic set-up procedure specified in TS 34.108 [3] subclause 7.3.3 to place the UE in URA\_PCH state on cell 2. The SS waits for this process to complete.
- 4) After 30 s from the completion of step 3 or the beginning of T1, the parameters are changed to those defined for T2 in table 8.3.7.2.3.
- 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 in table 8.3.7.2.3.

- 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) After a total of 15 s from the beginning of T1, the parameters are changed to those defined for T2 in table 8.3.7.2.3.

11) Steps 5 to 10 are repeated until the confidence level according to annex F.6.2 is achieved.

- NOTE 1: 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 2: 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 time to readrepetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell is 14201280ms (see note 3) and the maximum RRC procedure delay for reception system information block is 100ms, 15201380 ms is assumed in this test case. Therefore this gives a total of 7.827.78s (Minimum requirement + 240100ms), allow 8s in the test case.
- NOTE 3: 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. The Master Information Block (MIB) is repeated every 8 frame and SIB5 (and SIB11) is segmented into 4 segments where the first segment is scheduled adjacent to the MIB at SIB\_POS=40 and the other three segments are scheduled after the MIB (SIB\_POS=42, 44 and 46). The maximum time for a UE to read SIB5 will occur if the UE start reading the BCH at the SFN after the MIB located prior to the first segment of SIB5 (SIB\_POS 32). Then the UE will not be able to read SIB5 until the second occurrence of SIB5, which will happen at SIB\_POS 46 + 1280ms. This gives that the maximum time for the UE to read the relevant system info will be 1420ms ((SIB\_POS 46 ñ SIB\_POS 32)\*10ms + 1280ms).

#### 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:

#### PHYSICAL CHANNEL RECONFIGURATION (Step 3)

Information Element	Value/remark
RRC State Indicator	URA PCH
UTRAN DRX cycle length coefficient	7

#### Contents of URA UPDATE CONFIRM message for URA\_PCH

Information Element	Value/remark
RRC transaction identifier	0
RRC state indicator	URA PCH
UTRAN DRX cycle length coefficient	7
URA identity	000000000000010 B

### 8.3.7.2.5 Test requirements

For the test to pass, the total number of successful tests shall be more than 90% of the cases with a confidence level of 95%.

Table 8.3.7.2.3: Cell specific test requirements for Cell re-selection in URA_	PCH state, tv	<i>vo</i> freqs. in
neighbour list		

Parameter	Unit	Ce	Cell 1		Cell 2		Cell 3		Cell 4		Cell 5		II 6	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	
UTRA RF Channel Number		Chann	Channel 1 (		Channel 2		Channel 1		Channel 1		Channel 2		Channel 2	
CPICH_Ec/lor	dB	-9	9.3	-9	9.3	-1	-10.8		-10.8		D.8	-1(	).8	
PCCPCH_Ec/lor	dB	-1	1.3	-1	1.3	-1:	2.8	-12	-12.8		-12.8		-12.8	
SCH_Ec/lor	dB	-1	1.3	-1	-11.3 -1		2.8	-12.8		-12.8		-12.8		
PICH_Ec/lor	dB	-1-	4.3	-14.3		-15.8		-15.8		-15.8		-15.8		
OCNS_Ec/lor	dB	-1	.13	-1	.13	-0.77		-0.77		-0.77		-0.77		
$\dot{P}_{or}/I_{oc}$ Note 1	dB	-3.40	+4.80	+4.80	-3.40	-7.40	-3.00	-7.40	-3.00	-3.00	-7.40	-3.00	-7.40	
Œ,	dBm	-73.4	-67.0	-67.0	-73.4	-77.4	-74.8	-77.4	-74.8	-74.8	-77.4	-74.8	-77.4	
I <sub>oc</sub>	dBm/3.8 4 MHz	-70.0	-71.8	-71.8	-70.0	-70.0	-71.8	-70.0	-71.8	-71.8	-70.0	-71.8	-70.0	
CPICH_Ec/lo Note	dB	-15.3	-11.5	-11.5	-15.3	-20.8	-20.8	-20.8	-20.8	-20.8	-20.8	-20.8	-20.8	

All other parameters and conditions specified in table 8.3.7.2.2 are unchanged.

NOTE 1: These parameters are not directly settable, but are derived by calculation from the settable parameters.

NOTE 2: 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 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%.
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NOTE: The Re-establishment delay in this case can be expressed as

 $T_{RE-ESTABLISH} = T_{RRC-RE-ESTABLISH} + T_{UE-RE-ESTABLISH-REQ-KNOWN}$ .

#### where

T <sub>RRC-RE-ESTABLISE</sub>	$= 160ms + (N_{313} - 1) \times 10ms + T_{313}$
T <sub>UE-RE-ESTABLISH</sub> _	$REQ-KNOWN = 50ms + T_{search} + T_{SI} + T_{RA},$
N <sub>313</sub> =	20
T <sub>313</sub> =	0s
$T_{search} =$	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, table 8.4.1.1A, 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.

#### Table 8.4.1.1 General test parameters for RRC re-establishment delay, Test 1

Parameter	Unit	Value	Comment
DCH Parameters		DL and UL Reference measurement channel 12.2 kbps	As specified in clause C.3.1 and C.2.1
Power Control		On	
Active cell, Initial condition		Cell 1	
Active cell, Final condition		Cell 2	
N313		20	
N315		1	
T313	Seconds	0	
Monitored cell list size		24	Monitored set shall only include intra frequency neighbours. NOTE: See Annex I for cell information.
Cell 2			Included in the monitored set
<u>T<sub>SI</sub></u>	<u>ms</u>	<u>1280</u>	See Annex I for the SIB repetition period of system infomation blocks.
Reporting frequency	Seconds	4	
T1	S	10	
T2	S	6	

Parameter	Unit	Cell 1	Cell 2	
		ТО	ТО	
Cell Frequency	ChNr	1	1	
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	
OCNS_Ec/lor	dB	-1.049	-0.941	
$\hat{P}_{or}/I_{oc}$	dB	2.39	-infinity	
I <sub>oc</sub>	dBm/ 3.84 MHz	-70		
CPICH Ec/lo	dB	-12	-infinty	
Propagation Condition		AWGN		

## Table 8.4.1.1.A Cell specific parameters for RRC re-establishment delay test, Test 1

## Table 8.4.1.2 Cell specific parameters for RRC re-establishment delay test, Test 1

Parameter	Unit	Cell 1		Cell 2	
		T1	T2	T1	T2
Cell Frequency	ChNr	1		1	
CPICH_Ec/lor	dB	-10		-1	0
PCCPCH_Ec/lor	dB	-	12	-1	2
SCH_Ec/lor	dB	-12		-1	2
PICH Ec/lor	dB	-15		-1	5
DCH_Ec/lor	dB	-17	-Infinity	Not applicable	
OCNS Ec/lor	dB	-1.049	-0.941	-0.941	
$\dot{P}_{or}/I_{oc}$	dB	2,39	-Infinity	4,39	0,02
Lag	dBm/ 3.84	-70			
00	MHz				
CPICH_Ec/lo	dB	-15 -Infinity -13		3	
Propagation Condition		AWGN			

### 8.4.1.1.4.2 Procedure

- 1) The RF parameters are set up according to T0.
- 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.
- 4) The RF parameters are setup according to T1.
- 5) 10 s after step4 has completed, the parameters are changed to that as described for T2.

- 6) If the UE responds on cell 2 within 2.0-2.1 s from the beginning of time period T2 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 T0.
- 9) The SS shall wait for 30s to make the UE complete cell reselection to cell1.

10) Repeat step 3-9 until the confidence level according to annex F.6.2 is achieved.

- NOTE\_1: 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 <u>is</u> defined in 25.331 for a UTRAN cell. Since the maximum <u>timerepetition period of to read</u> the relevant system info blocks that needs to be received by the UE to camp on a cell is <del>1280ms1420ms (see note 2)</del> and the maximum RRC procedure delay for reception system information block is 100ms, <u>1520</u><del>1380</del> ms is assumed in this test case. Therefore this gives a total of <u>2060ms</u><del>1920ms</del>(Minimum requirement + <u>240ms</u><del>100ms</del>), allow 2.1s in the test case.
- NOTE 2: 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. The Master Information Block (MIB) is repeated every 8 frame and SIB5 (and SIB11) is segmented into 4 segments where the first segment is scheduled adjacent to the MIB at SIB POS=40 and the other three segments are scheduled after the MIB (SIB POS=42, 44 and 46). The maximum time for a UE to read SIB5 will occur if the UE start reading the BCH at the SFN after the MIB located prior to the first segment of SIB5 (SIB\_POS 32). Then the UE will not be able to read SIB5 until the second occurrence of SIB5, which will happen at SIB POS 46 + 1280ms. This gives that the maximum time for the UE to read the relevant system info will be 1420ms ((SIB\_POS 46 ñ SIB\_POS 32)\*10ms +1280ms).

#### 8.4.1.1.5 Test requirements

For the test to pass, the total number of successful tests shall be more than 90% of the cases with a confidence level of 95%.

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

 $T_{\text{RE-ESTABLISH}} = T_{\text{RRC-RE-ESTABLISH}} + T_{\text{UE-RE-ESTABLISH-REQ-UNKNOWN}}.$ 

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where

T <sub>RRC-RE-ESTABLISH</sub>	$= 160 \text{ms} + (N_{313} - 1) \times 10 \text{ms} + T_{313}$
T <sub>UE-RE-ESTABLISH-I</sub>	$REQ-UNKNOWN = 50ms + T_{search} * NF + T_{SI} + T_{RA},$
N <sub>313</sub> =	20
T <sub>313</sub> =	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 and UL Reference measurement channel 12.2	As specified in clause C.3.1 and C.2.1			
		kbps				
Power Control		On				
Active cell, initial condition		Cell 1				
Active cell, final condition		Cell 2				
N313		20				
N315		1				
T313	Seconds	0				
Monitored cell list size		24	Monitored set shall include 2 additional frequencies. NOTE: See Annex I for cell information.			
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.			
<u>Tsi</u>	<u>ms</u>	<u>1280</u>	See Annex I for the SIB repetition period of system infomation blocks.			
Reporting frequency	Seconds	4				
T1	S	10				
T2	S	6				

Parameter	Unit	Cell 1		Ce	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		-1	2
PICH_Ec/lor	dB	-15		-1	5
DCH_Ec/lor	dB	-17 -Infinity Not applicable		olicable	
OCNS_Ec/lor	dB	-1.049 -0.941		-0.941	
$\dot{P}_{or}/I_{oc}$	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.
- 4) 10 s after step3 has completed, the parameters are changed to that as described for T2.
- 5) If the UE responds on cell 2 within 4.34.4 s from the beginning of time period T2 with a CELL\_UPDATE command then the number of successful tests is increased by one.
- 6) SS shall transmit a RRC CONNECTION RELEASE message to make the UE transit to idle mode.
- 7) After 6 seconds the RF parameters are set up according to T1.
- 8) The SS shall wait for 30s to make the UE complete cell reselection to cell1.
- 9) Repeat step 3-8 until the confidence level according to annex F.6.2 is achieved.
- NOTE\_1: 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 <u>is</u> defined in 25.331 for a UTRAN cell. Since the maximum <u>timerepetition period of to read</u> the relevant system info blocks that needs to be received by the UE to camp on a cell is <u>12801420</u>ms (see note 2) and the maximum RRC procedure delay for reception system information block is 100ms, <u>1520ms</u><u>1380</u> ms is assumed in this test case. Therefore this gives a total of <u>42204360</u>ms\_(Minimum requirement + <u>100240</u>ms), allow <u>4.34.4</u>s in the test case.
- NOTE 2: 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. The Master Information Block (MIB) is repeated every 8 frame and SIB5 (and SIB11) is segmented into 4 segments where the first segment is scheduled adjacent to the MIB at SIB\_POS=40 and the other three segments are scheduled after the MIB (SIB\_POS=42, 44 and 46). The maximum time for a UE to read SIB5 will occur if the UE start reading the BCH at the SFN after the MIB located prior to the first segment of SIB5 (SIB\_POS 32). Then the UE will not be able to read SIB5 until the second occurrence of SIB5, which will happen at SIB\_POS 46 + 1280ms. This gives that the maximum time for the UE to read the relevant system info will be 1420ms ((SIB\_POS 46 ñ SIB\_POS 32)\*10ms + 1280ms).

#### 8.4.1.2.5 Test requirements

For the test to pass, the total number of successful tests shall be more than 90% of the cases with a confidence level of 95%.

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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.