# TSG RAN Meeting #14 Kyoto, Japan, 11 - 14 December 2001

RP-010781

Title: CRs (R'99 and Rel-4 Category A) to TS 25.123

Source: TSG RAN WG4

Agenda Item: 8.4.3

RAN4 Tdoc	Spec	CR	Title	Cat	Phase	Curr Ver	New Ver
R4-011395	25.123	123	Clarification of CPICH measurement accuracy	F	Rel99	3.7.0	3.8.0
R4-011488	25.123	124	Clarification of CPICH measurement accuracy	Α	Rel-4	4.2.0	4.3.0
R4-011446	25.123	125	CELL_FACH test cases for UTRA TDD	F	Rel99	3.7.0	3.8.0
R4-011489	25.123	126	CELL_FACH test cases for UTRA TDD	Α	Rel-4	4.2.0	4.3.0
R4-011447	25.123	127	Correction to test requirement for URA_PCH test cases	F	Rel99	3.7.0	3.8.0
R4-011490	25.123	128	Correction to test requirement for URA_PCH test cases	Α	Rel-4	4.2.0	4.3.0
R4-011468	25.123	129	Correction of RSSI relative accuracy requirements	F	Rel99	3.7.0	3.8.0
R4-011618	25.123	130	Correction of RSSI relative accuracy requirements	Α	Rel-4	4.2.0	4.3.0
R4-011469	25.123	131	Corrections to TDD/TDD inter-frequency test cases in Annex A	F	Rel99	3.7.0	3.8.0
R4-011493	25.123	132	Corrections to TDD/TDD inter-frequency test cases in Annex A	Α	Rel-4	4.2.0	4.3.0
R4-011470	25.123	133	Correction to GSM carrier RSSI	F	Rel99	3.7.0	3.8.0
R4-011494	25.123	134	Correction to GSM carrier RSSI	Α	Rel-4	4.2.0	4.3.0
R4-011491	25.123	135	Requirements for TFC selection at UE maximum power	F	Rel99	3.7.0	3.8.0
R4-011492	25.123	136	Requirements for TFC selection at UE maximum power	Α	Rel-4	4.2.0	4.3.0

## East Brunswick, NJ, USA 12th - 16th November 2001

	CHANGE REQUEST
*	25.123 CR 123 # ev - # Current version: 3.7.0 #
For <u>HELP</u> on u	sing this form, see bottom of this page or look at the pop-up text over the \ symbols.
Proposed change a	nffects:    ### (U)SIM
Title: Ж	Clarification of CPICH measurement accuracy
Source: #	RAN WG4
Work item code: ₩	Date: ₩ 12 Nov. 2001
Category: ₩	Release:
Reason for change	For the CPICH measurements, which are used for monitoritoring FDD cells in UTRA TDD Mode, CPICH RSCP absolute accuracy requirements are missing whereas relative accuracy requirements are given but are not applicable. <u>Isolated Impact Analysis:</u> Clarification of a requirement. Would not affect implementations behaving like indicated in the CR, would affect implementations that do not behave like indicated in the CR.
Summary of chang	e: # CPICH RSCP relative accuracy requirements are replaced by absolute accuracy requirements.
Consequences if not approved:	# Accuracy requirements for CPICH RSCP measurements would not be clear.
Clauses affected:	<b>%</b> 9.1.1.2
Other specs affected:	# Other core specifications # Test specifications O&M Specifications
Other comments:	*

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

1) Fill out the above form. The symbols above marked \$\mathbb{H}\$ 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 <a href="ftp://ftp.3gpp.org/specs/">ftp://ftp.3gpp.org/specs/</a> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

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

These measurements consider *CPICH RSCP* and *CPICH Ec/Io* measurements. The requirements in this section are valid for terminals supporting this capability.

The measurement period for CELL\_DCH\_state and CELL\_FACH\_state can be found in section 8.

#### 9.1.1.2.1 CPICH RSCP

#### 9.1.1.2.1.1 Inter frequency measurement relative absolute accuracy requirement

The accuracy requirements in table 9.5 are valid under the following conditions:

CPICH RSCP1<sub>dBm</sub> ≥ -114 dBm.

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

Table 9.5: CPICH\_RSCP Inter frequency absolute accuracy

Parameter	l Ini4	Accura	<u>Conditions</u>	
<u> Farameter</u>	<u>Unit</u>	Normal condition	Extreme condition	lo [dBm]
CPICH RSCP	<u>dBm</u>	<u>± 6</u>	<u>± 9</u>	<u>-9470</u>
CPICH RSCP	<u>dBm</u>	<u>± 8</u>	<u>± 11</u>	<u>-9450</u>

The relative accuracy of CPICH RSCP in the 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 accuracy requirements in table 9.5 are valid under the following conditions:

— CPICH\_RSCP1,2 ≥ 114 dBm.

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

Channel 1 Io Channel 2 Io| ≤ 20 dB.

Table 9.5 CPICH RSCP Inter frequency relative accuracy

Parameter	Unit	Accur	Conditions	
Farameter	<del>UIIIL</del>	Normal condition	Extreme condition	<del>lo [dBm]</del>
CPICH_RSCP	<del>dBm</del>	±-6	<del>±6</del>	<del>-9450</del>

#### 9.1.1.2.1.2 Range/mapping

The reporting range for CPICH RSCP is from -115 ...-25 dBm.

In table 9.6 mapping of the measured quantity is defined. Signalling range may be larger than the guaranteed accuracy range.

Table 9.6

Reported value	Measured quantity value	Unit
CPICH_RSCP_LEV _00	CPICH RSCP <-115	dBm
CPICH_RSCP_LEV _01	-115 ≤ CPICH RSCP < -114	dBm
CPICH_RSCP_LEV _02	-114 ≤ CPICH RSCP < -113	dBm
	•••	
CPICH_RSCP_LEV _89	-27 ≤ CPICH RSCP < -26	dBm
CPICH_RSCP_LEV _90	-26 ≤ CPICH RSCP < -25	dBm
CPICH_RSCP_LEV _91	-25 ≤ CPICH RSCP	dBm

#### 9.1.1.2.2 CPICH Ec/lo

#### 9.1.1.2.2.1 Inter frequency measurement relative accuracy requirement

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 a different frequency.

The accuracy requirements in table 9.7 are valid under the following conditions:

CPICH\_RSCP1,2  $\geq$  -114 dBm.

$$\left| CPICH \ RSCP1 \right|_{im\ dB} - CPICH \ RSCP2 \Big|_{im\ dB} \right| \le 20dB$$

| Channel 1\_Io -Channel 2\_Io|  $\leq$  20 dB.

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

Table 9.7 CPICH Ec/lo Inter frequency relative accuracy

Parameter	Unit	Accuracy [dE	Conditions	
Parameter	Offic	Normal condition	Extreme condition	lo [dBm]
	dB	± 1.5 for -14 ≤ CPICH Ec/lo	- 0	
CPICH_Ec/lo		$\pm$ 2 for -16 $\leq$ CPICH Ec/lo $<$ -14	± 3	-9450
		$\pm$ 3 for -20 $\leq$ CPICH Ec/lo $<$ -16		

#### 9.1.1.2.2.2 Range/mapping

The reporting range for CPICH Ec/Io is from -24 ...0 dB.

In table 9.8 mapping of the measured quantity is defined. Signalling range may be larger than the guaranteed accuracy range.

Table 9.8

Reported value	Measured quantity value	Unit
CPICH_Ec/lo _00	CPICH Ec/lo < -24	dB
CPICH_Ec/lo _01	-24 ≤ CPICH Ec/lo < -23.5	dB
CPICH_Ec/lo _02	-23.5 ≤ CPICH Ec/lo < -23	dB
CPICH_Ec/lo _47	-1 ≤ CPICH Ec/Io < -0.5	dB
CPICH_Ec/lo _48	-0.5 ≤ CPICH Ec/lo < 0	dB
CPICH_Ec/lo_49	0 ≤ CPICH Ec/lo	dB

### 3GPP TSG RAN WG4 Meeting #20

R4-011488

## East Brunswick, NJ, USA 12th - 16th November 2001

		CHANGE	REQUES	т		CR-Form-v4
¥ 25	5.123 CR	124	€ ev _ €	Current vers	4.2.0	¥
For <u>HELP</u> on using	this form, see	e bottom of this p	page or look at	the pop-up text	over the # syr	nbols.
Proposed change affect	cts:	SIM ME/U	JE <mark>X</mark> Radio	Access Network	k X Core Ne	etwork
Title: 第 CI	arification of (	CPICH measure	ment accuracy			
Source: # R/	AN WG4					
Work item code:    #				Date: ∺	12 Nov. 2001	l
Det	F (correction, A (correspon B (addition of C (functional D (editorial m	ds to a correction f feature), modification of feature) on the feature feature from the fea	ature)	2	Rel-4 the following rele (GSM Phase 2) (Release 1996) (Release 1997) (Release 1998) (Release 1999) (Release 4) (Release 5)	eases:
Reason for change: 3	UTRA TDE	PICH measureme O Mode, CPICH elative accuracy	RSCP absolute	accuracy requi	irements are m	issing
Summary of change: #	CPICH RS requirement	CP relative accunts.	racy requireme	ents are replace	d by absolute a	accuracy
Consequences if # not approved:	Accuracy r	equirements for	CPICH RSCP i	measurements	would not be cl	ear.
Clauses affected:	9.1.1.2					
Other specs # affected:	Test spe	ore specifications ecifications pecifications	s #			
Other comments: #	This Cat A	CR corresponds	s to R99 CR in	R4-011395		

#### 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.
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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.

### 9.1.1.2 CPICH measurements (FDD)

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

These measurements consider *CPICH RSCP* and *CPICH Ec/Io* measurements. The requirements in this section are valid for terminals supporting this capability.

The measurement period for CELL\_DCH\_state and CELL\_FACH state can be found in section 8.

#### 9.1.1.2.1 CPICH RSCP

#### 9.1.1.2.1.1 Inter frequency measurement <u>absolute relative</u>-accuracy requirement

The accuracy requirements in table 9.5 are valid under the following conditions:

CPICH RSCP1<sub>dBm</sub> ≥ -114 dBm.

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

Table 9.5: CPICH\_RSCP Inter frequency absolute accuracy

Parameter	l Ini4	Accura	<u>Conditions</u>	
<u> Farameter</u>	<u>Unit</u>	Normal condition	Extreme condition	lo [dBm]
CPICH RSCP	<u>dBm</u>	<u>± 6</u>	<u>± 9</u>	<u>-9470</u>
CPICH RSCP	<u>dBm</u>	<u>± 8</u>	<u>± 11</u>	<u>-9450</u>

The relative accuracy of CPICH RSCP in the 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 accuracy requirements in table 9.5 are valid under the following conditions:

— CPICH\_RSCP1,2 ≥ 114 dBm.

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

$$\begin{array}{c|cccc}
I_o & - & CPICH_E_c \\
\hline
(\hat{I}_{or})_{in\ dB} & & I_{or}
\end{array}$$

— | Channel 1\_Io Channel 2\_Io|  $\leq$  20 dB.

Table 9.5: CPICH\_RSCP Inter frequency relative accuracy

Parameter	Unit	Accuracy [dB]		Conditions	
Farameter	<del>Unit</del>	Normal condition	Extreme condition	lo [dBm]	
CPICH_RSCP	dBm	±-6	±-6	<del>-9450</del>	

#### 9.1.1.2.1.2 Range/mapping

The reporting range for CPICH RSCP is from -115 ...-25 dBm.

In table 9.6 mapping of the measured quantity is defined. Signalling range may be larger than the guaranteed accuracy range.

Table 9.6

Reported value	Measured quantity value	Unit
CPICH_RSCP_LEV _00	CPICH RSCP <-115	dBm
CPICH_RSCP_LEV _01	-115 ≤ CPICH RSCP < -114	dBm
CPICH_RSCP_LEV _02	-114 ≤ CPICH RSCP < -113	dBm
CPICH_RSCP_LEV _89	-27 ≤ CPICH RSCP < -26	dBm
CPICH_RSCP_LEV _90	-26 ≤ CPICH RSCP < -25	dBm
CPICH_RSCP_LEV _91	-25 ≤ CPICH RSCP	dBm

#### 9.1.1.2.2 CPICH Ec/lo

#### 9.1.1.2.2.1 Inter frequency measurement relative accuracy requirement

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 a different frequency.

The accuracy requirements in table 9.7 are valid under the following conditions:

CPICH\_RSC1,2  $\geq$  -114 dBm.

$$\left| CPICH \ RSCP1 \right|_{im\ dB} - CPICH \ RSCP2 \Big|_{im\ dB} \right| \le 20dB$$

/ Channel 1\_Io -Channel 2\_Io/  $\leq$  20 dB.

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

Table 9.7: CPICH Ec/lo Inter frequency relative accuracy

Parameter	Unit	Accuracy [dB]	Conditions	
Farameter	Onit	Normal condition	Extreme condition	lo [dBm]
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

#### 9.1.1.2.2.2 Range/mapping

The reporting range for CPICH Ec/Io is from -24 ...0 dB.

In table 9.8 mapping of the measured quantity is defined. Signalling range may be larger than the guaranteed accuracy range.

Table 9.8

Reported value	Measured quantity value	Unit
CPICH_Ec/lo _00	CPICH Ec/lo < -24	dB
CPICH_Ec/lo _01	-24 ≤ CPICH Ec/lo < -23.5	dB
CPICH_Ec/lo _02	-23.5 ≤ CPICH Ec/lo < -23	dB
CPICH_Ec/lo _47	-1 ≤ CPICH Ec/lo < -0.5	dB
CPICH_Ec/lo _48	-0.5 ≤ CPICH Ec/lo < 0	dB
CPICH Ec/lo 49	0 < CPICH Ec/lo	dB

# 3GPP TSG RAN WG4 Meeting #20

# R4-011446

# East Brunswick, NJ, USA 12th - 16th November 2001

			CH	IANGI	ΕR	EQ	UE	ST	•			CR-Form-v4
ж	25	.123	CR 12	25	æ	ev	-	¥	Current ve	rsion:	3.7.0	*
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.												
Proposed change affects:												
Title: #	Intr	oductio	on of CEL	L_FACH t	est c	ases	for U	TRA	TDD			
Source: #	RA	N WG	4									
Work item code: ₩	-								Date:	第 12	/11/2001	
Reason for change Summary of change	Deta be fo	F (corr A (corr B (add C (fund D (edit iled exp pund in 3	rection) responds to dition of feactional modifications and the second modifications and the second modifications and the second modification of the second model model model.	dification of fication) of the abov 21.900.	feature e cate	re) egorie	s can	e spe	2 e) R96 R97 R98 R99 REL-4 REL-5	of the for (GSI) (Relicing	ollowing rele M Phase 2) ease 1996) ease 1997) ease 1998) ease 4) ease 5)	n section
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Clauses affected:	H	A.5.4										
Other specs affected:	ж	<u>-</u> Те	ther core est specifi &M Speci		ons	æ						
Other comments:	¥	-										

## A.5.4 Cell Re-selection in CELL\_FACH

## A.5.4.1 Scenario 1: TDD/TDD cell re-selection single carrier case

#### A.5.4.1.1 Test Purpose and Environment

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 reported in section 5.4.2.2.1. The test parameters are given in Table A.5.1 and A.5.2.

Table A.5.1: General test parameters for Cell Re-selection in CELL\_FACH

	Parameter Parameter	<u>Unit</u>	<u>Value</u>	Comment
<u>Initial</u>	Active cell		<u>Cell1</u>	
<u>condition</u>	Neighbour cells		Cell2, Cell3,Cell4,	
			Cell5, Cell6	
<u>Final</u>	Active cell		Cell2	
<u>condition</u>				
	<u>HCS</u>		Not used	
UE_TX	PWR_MAX_RACH	<u>dBm</u>	<u>21</u>	The value shall be used for all cells in the test.
	Qrxlevmin	<u>dBm</u>	<u>-102</u>	The value shall be used for all cells in the test.
Access Se	ervice Class (ASC#0)			Selected so that no additional delay is caused by
<u>- Pe</u>	ersistence value	=	<u>1</u>	the random access procedure. The value shall be
				used for all cells in the test.
	<u>T<sub>SI</sub></u>	<u>s</u>	<u>1,28</u>	The value shall be used for all cells in the test.
	<u>T1</u>	<u>s</u>	<u>15</u>	
	<u>T2</u>	S	<u>15</u>	

Table A.5.1A: Physical channel parameters for S-CCPCH.

<u>Parameter</u>	<u>Unit</u>	<u>Level</u>
Channel bit rate	<u>Kbps</u>	<u>24,4</u>
Channel symbol rate	<u>Ksps</u>	<u>12,2</u>
Slot Format #	<u> </u>	<u>0</u>
Frame allocation	=	Continuous frame allocation
Midamble allocation	-	Default Midamble

Table A.5.1B: Transport channel parameters for S-CCPCH

<u>Parameter</u>	<u>FACH</u>
Transport Channel Number	<u>1</u>
Transport Block Size	<u>240</u>
Transport Block Set Size	<u>240</u>
Transmission Time Interval	<u>20 ms</u>
Type of Error Protection	Convolutional Coding
Coding Rate	1/2
Rate Matching attribute	<u>256</u>
Size of CRC	<u>16</u>

Table A.5.2: Cell specific test parameters for Cell Re-selection in CELL FACH

<u>Parameter</u>	Unit		Ce	<u>II 1</u>			Ce	II <u>2</u>		Cell 3				
Timeslot Number		(	)	3	3	(	)	3	3	(	)	3	3	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	
UTRA RF Channel Number			Chan	nel 1			Char	nel 1			Channel 1			
PCCPCH_Ec/lor	dB	<u>-3</u>	<u>-3</u>			<u>-3</u>	<u>-3</u>			<u>-3</u>	-3			
SCH_Ec/lor	dB	<u>-9</u>	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	
SCH_t <sub>offset</sub>		0	0	0	0	5	5	5	5	10	10	10	10	
PICH Ec/lor	dB			<u>-3</u>	-3	<u> </u>	<u>~</u>	<u>-3</u>	<u>-3</u>	<u></u>	<u> </u>	<u>-3</u>	<u>-3</u>	
OCNS_Ec/lor	dB	-4,28	-4,28	<u>-4,28</u>	-4.28	-4,28	-4,28	-4.28	-4.28	-4,28	-4,28	-4.28	<u>-4,28</u>	
T														
$\frac{\hat{I}_{or}/I_{oc}}{I_{oc}}$	<u>dB</u>	<u>9</u>	<u>7</u>	<u>9</u>	<u>7</u>	<u>7</u>	<u>9</u>	<u>7</u>	<u>9</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>	
PCCPCH RSCP	<u>dBm</u>	<u>-64</u>	<u>-66</u>			<u>-66</u>	<u>-64</u>			<u>-74</u>	<u>-74</u>			
Qoffset1 <sub>s,n</sub>	dB			C3:0; C1				C3:0; C2				C2:0; C2		
<u>Qonserr<sub>s,n</sub></u>	<u>ub</u>	(	C1, C5:0	; C1,C6:	0	<u>C</u>	2, C5: 0	; C2, C6:	<u>0</u>	<u>C</u>	3, C5: 0	; C3, C6:	0	
Qhyst1 <sub>s</sub>	<u>dB</u>		(	)			(	)			(	)		
Treselection			(	)			(	)			(	)		
\$intrasearch	dB		not	sent			not	sent			not	sent		
FACH measurement								-						
occasion info			not	<u>sent</u>			not	<u>sent</u>			not	<u>sent</u>		
$I_{oc}$	dBm/3,					•		70		•				
<u> 100</u>	<u>84 MHz</u>							<u>70</u>						
<u>Propagation</u>							۸۱۸	'GN						
<u>Condition</u>							Avv	GIV						
			<u>Ce</u>	<u>II 4</u>			<u>Ce</u>	<u>II 5</u>		Cell 6				
Timeslot		(			3		)	8		<u>0</u> <u>8</u>				
		<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	
UTRA RF Channel			Chan	nel 1			<u>Char</u>	<u>nel 1</u>		Channel 1				
Number		_		ı	ı			ı	ı	_		1	ı	
PCCPCH_Ec/lor	<u>dB</u>	<u>-3</u>	<u>-3</u>			<u>-3</u>	<u>-3</u>			<u>-3</u>	<u>-3</u>	_	_	
SCH_Ec/lor	<u>dB</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	
SCH_t <sub>offset</sub>		<u>15</u>	<u>15</u>	<u>15</u>	<u>15</u>	<u>20</u>	<u>20</u>	<u>20</u>	<u>20</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	
PICH_Ec/lor	<u>dB</u>			<u>-3</u>	<u>-3</u>			<u>-3</u>	<u>-3</u>			<u>-3</u>	<u>-3</u>	
OCNS_Ec/lor	<u>dB</u>	<u>-4,28</u>	<u>-4,28</u>	<u>-4,28</u>	<u>-4,28</u>	<u>-4,28</u>	<u>-4,28</u>	<u>-4,28</u>	<u>-4,28</u>	<u>-4,28</u>	<u>-4,28</u>	<u>-4,28</u>	<u>-4,28</u>	
$\hat{I}_{or}/I_{oc}$	<u>dB</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>	
PCCPCH RSCP	dBm	<u>-74</u>	<u>-74</u>			<u>-74</u>	<u>-74</u>			<u>-74</u>	<u>-74</u>			
Qoffset1 <sub>s,n</sub>							1.0.05	C2:0; C5	5 C3·0	C6, C1: 0; C6, C2:0; C6,C3:0				
I IQUIISELIS n	4D		1: 0; C4,			<u>C5, C</u>	1: 0; C5,	CZ:0;C	<u> </u>	<u>C6, C1: 0; C6, C2:0; C6, C3:0</u> <u>C6, C4:0; C6, C5:0</u>				
3,11	<u>dB</u>			C2:0; C <sup>2</sup> C4, C6:				C5, C6:						
Qhyst1 <sub>s</sub>	<u>dB</u>		24, C5:0;				C5, C4:0;				C6, C4:0;			
_	<u>dB</u>		24, C5:0;	C4, C6:0			C5, C4:0;	C5, C6:0			C6, C4:0;	C6, C5:		
Qhyst1 <sub>s</sub>			C4, C5:0; (	C4, C6:0			C5, C4:0; (	C5, C6:0			C6, C4:0; (	C6, C5:		
Qhyst1 <sub>s</sub> Treselection Sintrasearch FACH measurement	<u>dB</u>		04, C5:0; ( 0 not	C4, C6: 0 0 sent			05, C4:0; ( not	C5, C6:0 ) ) sent			06, C4:0; ( not	C6, C5: 0 0 sent		
Qhyst1 <sub>s</sub> Treselection Sintrasearch	dB dB		04, C5:0; ( 0 not	C4, C6: 0 0			05, C4:0; ( not	C5, C6:0 ) )			06, C4:0; ( not	C6, C5: 0 0		
Qhyst1 <sub>s</sub> Treselection Sintrasearch FACH measurement	<u>dB</u> <u>dB</u>		04, C5:0; ( 0 not	C4, C6: 0 0 sent			05, C4:0; ( 0 not not	C5, C6:0 ) ) sent			06, C4:0; ( not	C6, C5: 0 0 sent		
Qhyst1 <sub>s</sub> Treselection Sintrasearch FACH measurement cccasion info	dB dB		04, C5:0; ( 0 not	C4, C6: 0 0 sent			C5, C4:0; ( not not	C5, C6:0 ) ) sent sent			06, C4:0; ( not	C6, C5: 0 0 sent		

Note: S-CCPCH shall not be located in TS0.

### A.5.4.1.2 Test Requirements

The cell re-selection delay is defined as the time from the beginning of time period T2, to the moment when the UE camps on Cell 2, and starts to send the CELL UPDATE message with cause value "cell reselection" in cell 2.

The cell re-selection delay shall be less than 2,5 s.

#### NOTE:

The cell re-selection delay can be expressed as:  $T_{reselection,intra} = T_{identify intra} + T_{SI}$ , where:

<u>T<sub>identify intra</sub></u> Specified in 8.4.2.2.1, gives 800 ms for this test case.

<u>T<sub>SI</sub></u> Maximum repetition rate of relevant system info blocks that needs to be received by the UE to camp on a cell. 1280 ms is assumed in this test case.

This gives a total of 2,08s, allow 2,5 s in the test case.

### A.5.4.2 Scenario 2: TDD/TDD cell re-selection multi carrier case

#### A.5.4.2.1 Test Purpose and Environment

The purpose of this test is to verify the requirement for the cell re-selection delay in CELL FACH state in the multi carrier case reported in section 5.4.2.2.2. The test parameters are given in Table A.5.3 and A.5.4.

Table A.5.3: General test parameters for Cell Re-selection in CELL FACH

	Parameter Parameter	<u>Unit</u>	<u>Value</u>	Comment
<u>Initial</u>	Active cell		<u>Cell1</u>	
condition	Neighbour cells		Cell2, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		<u>Cell2</u>	
	<u>HCS</u>		Not used	
UE_TX	PWR_MAX_RACH	<u>dBm</u>	<u>21</u>	The value shall be used for all cells in the test.
	Qrxlevmin	<u>dBm</u>	<u>-102</u>	The value shall be used for all cells in the test.
	Access Service Class (ASC#0) - Persistence value		1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.
	<u>T<sub>SI</sub></u>	<u>s</u>	<u>1,28</u>	The value shall be used for all cells in the test.
	<u>T1</u>	<u>s</u>	<u>15</u>	
	<u>T2</u>	<u>s</u>	<u>15</u>	

Table A.5.3A: Physical channel parameters for S-CCPCH.

<u>Parameter</u>	<u>Unit</u>	<u>Level</u>
Channel bit rate	<u>Kbps</u>	<u>24,4</u>
Channel symbol rate	<u>Ksps</u>	12,2
Slot Format #	=	<u>0</u>
Frame allocation	=	Continuous frame allocation
Midamble allocation	-	Default Midamble

Table A.5.3B: Transport channel parameters for S-CCPCH

<u>Parameter</u>	<u>FACH</u>
Transport Channel Number	1
Transport Block Size	<u>240</u>
Transport Block Set Size	<u>240</u>
Transmission Time Interval	<u>20 ms</u>
Type of Error Protection	Convolutional Coding
Coding Rate	1/2
Rate Matching attribute	<u>256</u>
Size of CRC	<u>16</u>

Table A.5.4: Cell specific test parameters for Cell Re-selection in CELL FACH

	Parameter	Unit		Ce	<u>II 1</u>			Се	II 2		Cell 3				
Tir	neslot Number		C	)	3	3	(	)	8	3	(	)	3	8	
			<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	
UTI	RA RF Channel			Char	nel 1			Char	nnel 2		Channel 1				
	<u>Number</u>														
<u>P0</u>	CPCH_Ec/lor	<u>dB</u>	<u>-3</u>	<u>-3</u>			<u>-3</u>	<u>-3</u>			<u>-3</u>	<u>-3</u>			
	SCH_Ec/lor	<u>dB</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	
	SCH_t <sub>offset</sub>		<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>10</u>	<u>10</u>	<u>10</u>	<u>10</u>	
	CH_Ec/lor	<u>dB</u>			<u>-3</u>	<u>-3</u>			<u>-3</u>	<u>-3</u>			<u>-3</u>	<u>-3</u>	
	OCNS_Ec/lor	<u>dB</u>	<u>-4,28</u>	<u>-4,28</u>	<u>-4,28</u>	<u>-4,28</u>	<u>-4,28</u>	<u>-4,28</u>	<u>-4,28</u>	<u>-4,28</u>	<u>-4,28</u>	<u>-4,28</u>	<u>-4,28</u>	<u>-4,28</u>	
	$\frac{\hat{I}_{or}/I_{oc}}{}$	<u>dB</u>	<u>9</u>	<u>3</u>	<u>9</u>	<u>3</u>	<u>3</u>	<u>9</u>	<u>3</u>	<u>9</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>	
PO	CPCH RSCP	<u>dBm</u>	<u>-64</u>	<u>-70</u>			<u>-70</u>	<u>-64</u>			<u>-74</u>	<u>-74</u>			
	Qoffset1 <sub>s,n</sub>	dB			C3:0; C1		C2, C1	: 0; C2, C	C3:0; C2	,C4:0	C3, C	1: 0; C3,	C2:0; C3	3,C4:0	
	QUITSELT <sub>S,n</sub>	<u>ub</u>	(	C1, C5:0	; C1,C6:	0	<u>C</u>	2, C5: 0	; C2, C6:	<u>0</u>	<u>C</u>	3, C5: 0	; C3, C6:	:0	
	<u>Qhyst1</u> <sub>s</sub>	<u>dB</u>		<u>(</u>	<u>)</u>			(	<u>0</u>			<u>(</u>	<u>)</u>		
	<u>Treselection</u>			_	<u>)</u>			(	<u>0</u>			(	<u>)</u>		
	\$intrasearch	<u>dB</u>		not	<u>sent</u>			not	<u>sent</u>			<u>not</u>	sent		
	Sintersearch	<u>dB</u>		<u>not</u>	<u>sent</u>			<u>not</u>	<u>sent</u>			<u>not</u>	<u>sent</u>		
	H measurement			not	sent			not	sent			not	sent		
	ccasion info			1101	<u> </u>			1101	<u> </u>			1100	00111		
	r-frequency TDD			TO				TD				TD	–		
<u>n</u>	measurement			<u>IR</u>	<u>UE</u>			<u>IR</u>	<u>UE</u>			TR	<u>UE</u>		
	<u>indicator</u>	-ID /0													
	$I_{oc}$	<u>dBm/3,</u> <u>84 MHz</u>		<u>-70</u>											
	Propagation							Δ\Λ	/GN						
	Condition			<u>AWGN</u>											
<b>—</b>	<u> </u>						1				1				
					<u>II 4</u>	_			<u>II 5</u>				<u>II 6</u>		
	Timeslot		<u>(</u>	<u> </u>	8	3		)	8			)	8	<u>8</u>	
LITI	Timeslot		<u>(</u>	T2	<u>T1</u>	3 <u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	3 <u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	8 <u>T2</u>	
UTI	Timeslot  RA RF Channel			T2	8			<u>T2</u>	8			<u>T2</u>	8		
	Timeslot  RA RF Channel  Number	dB	<u>T1</u>	T2 Char	<u>T1</u>		<u>T1</u>	T2 Char	<u>T1</u>		<u>T1</u>	<u>T2</u> Char	<u>T1</u>		
	Timeslot  RA RF Channel  Number  CPCH Ec/lor	d <u>B</u>	<u>T1</u>	<u>T2</u> Char	T1 nnel 1	<u>T2</u>	<u>T1</u>	<u>T2</u> Char	T1 nnel 2	<u>T2</u>	<u>T1</u>	<u>T2</u> Char	T1 nnel 2	<u>T2</u>	
	Timeslot  RA RF Channel  Number  CPCH Ec/lor  SCH Ec/lor	dB dB	<u>T1</u> -3 -9	T2 Char -3 -9	T1 nnel 1 -9	<u>T2</u>	<u>T1</u> -3  -9	T2 Char -3 -9	T1 nnel 2 -9	<u>T2</u>	<u>T1</u> -3  -9	T2 Char -3 -9	T1 nnel 2 -9	<u>T2</u>	
<u>P(</u>	Timeslot  RA RF Channel  Number  CPCH Ec/lor  SCH Ec/lor  SCH toffset	<u>dB</u>	<u>T1</u>	<u>T2</u> Char	T1 nnel 1 -9 15	<u>T2</u> -9 15	<u>T1</u>	<u>T2</u> Char	T1 nnel 2 -9 20	<u>T2</u> -9 20	<u>T1</u>	<u>T2</u> Char	T1 anel 2 -9 25	<u>T2</u> -9 25	
<u>PC</u>	Timeslot  RA RF Channel  Number  CPCH Ec/lor  SCH Ec/lor  SCH toffset  PICH Ec/lor	dB dB	<u>-3</u> -9 15	T2 Char -3 -9 15	T1 nnel 1 -9 15 -3	-9 15 -3	<u>-3</u> -9 20	T2 Char -3 -9 20		-9 20 -3	<u>-3</u> -9 <u>25</u>	T2 Char -3 -9 25		-9 25 -3	
<u>PC</u>	Timeslot  RA RF Channel  Number  CPCH Ec/lor  SCH Ec/lor  SCH toffset  PICH Ec/lor  CNS Ec/lor	<u>dB</u>	<u>-3</u> -9 15	T2 Char -3 -9 15	11 nnel 1	<u>-9</u> <u>15</u> -3 -4,28	<u>-3</u> <u>-9</u> <u>20</u> -4,28	T2 Char -3 -9 20	11 nnel 2	<u>-9</u> <u>20</u> -3 -4,28	<u>-3</u> <u>-9</u> <u>25</u> -4,28	T2 Char -3 -9 25	-9 25 -3 -4,28	-9 25 -3 -4,28	
<u>PC</u>	Timeslot  RA RF Channel  Number  CPCH Ec/lor  SCH Ec/lor  SCH toffset  PICH Ec/lor  CNS Ec/lor $\hat{I}_{or}/I_{oc}$	<u>dB</u> <u>dB</u> <u>dB</u> <u>dB</u>	-3 -9 15 -4,28 -1	T2 Char -3 -9 15 -4,28	T1 nnel 1 -9 15 -3	-9 15 -3	<u>-3</u> <u>-9</u> <u>20</u> -4,28 <u>-1</u>	T2 Char -3 -9 20 -4,28		-9 20 -3	<u>-3</u> <u>-9</u> <u>25</u> -4,28 <u>-1</u>	T2 Char -3 -9 25 -4,28 -1		-9 25 -3	
<u>PC</u>	Timeslot  RA RF Channel  Number  CPCH Ec/lor  SCH Ec/lor  SCH toffset  PICH Ec/lor  CNS Ec/lor $\hat{I}_{or}/I_{oc}$ CPCH RSCP	dB dB dB	-3 -9 15 -4,28 -1 -74	T2 Char -3 -9 15 -4,28 -1 -74	-9 15 -3 -4,28	<u>-9</u> <u>15</u> -3 -4.28 <u>-1</u>	-4,28 -1 -74	T2 Char -3 -9 20 -4,28 -1 -74	-9 20 -3 -4,28	<u>-9</u> <u>20</u> <u>-3</u> <u>-4,28</u> <u>-1</u>		T2 Char -3 -9 25 -4,28 -1 -74	-9 25 -3 -4,28	-9 25 -3 -4.28 -1	
<u>PC</u>	Timeslot  RA RF Channel  Number  CPCH Ec/lor  SCH Ec/lor  SCH toffset  PICH Ec/lor  CNS Ec/lor $\hat{I}_{or}/I_{oc}$	<u>dB</u> <u>dB</u> <u>dB</u> <u>dB</u>	-3 -9 15 -4,28 -1 -74 C4, C	T2 Char -3 -9 15 -4.28 -1 -74 1: 0; C4,	-9 15 -3 -4.28 -1	<u>-9</u> <u>15</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 4,C3:0	-3 -9 20 -4.28 -1 -74 C5, C	T2 Char -3 -9 20 -4,28 -1 -74 1: 0; C5,	-9 -20 -3 -4,28 -1	-9 20 -3 -4.28 -1	-3 -9 25 -4.28 -1 -74 C6, C1	T2 Char -3 -9 25 -4.28 -1 -74 : 0; C6, 0	-9 25 -3 -4,28 -1	-9 25 -3 -4.28 -1	
<u>PC</u>	Timeslot  RA RF Channel  Number  CPCH Ec/lor  SCH Ec/lor  SCH toffset  PICH Ec/lor  CNS Ec/lor $\hat{I}_{or}/I_{oc}$ CPCH RSCP  Qoffset1 <sub>s.n</sub>	dB dB dB dB dBm	-3 -9 15 -4,28 -1 -74 C4, C	Char -3 -9 15 -4,28 -1 -74 1: 0; C4, C4, C5:0;	15 -9 15 -3 -4,28 -1 C2:0; C4	<u>-9</u> <u>15</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 4,C3:0	-3 -9 20 -4.28 -1 -74 C5, C	T2 Char -3 -9 20 -4,28 -1 -74 1: 0; C5, C5, C4:0;	11	-9 20 -3 -4.28 -1	-3 -9 25 -4.28 -1 -74 C6, C1	T2 Char -3 -9 25 -4,28 -1 -74 : 0; C6, 0	-9 25 -3 -4,28	-9 25 -3 -4.28 -1	
<u>PC</u>	Timeslot  RA RF Channel  Number  CPCH Ec/lor  SCH Ec/lor  SCH Ec/lor  PICH Ec/lor  CNS Ec/lor $\hat{I}_{or}/I_{oc}$ CPCH RSCP  Qoffset1 <sub>s.n</sub> Qhyst1 <sub>s</sub>	dB dB dB dB dBm	-3 -9 15 -4,28 -1 -74 C4, C	T2 Char -3 -9 15 -4,28 -1 -74 1: 0; C4, C4, C5:0;	-9 15 -3 -4.28 -1	<u>-9</u> <u>15</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 4,C3:0	-3 -9 20 -4.28 -1 -74 C5, C	T2 Char -3 -9 20 -4,28 -1 -74 1: 0; C5, C5, C4:0;	-9 -20 -3 -4,28 -1	-9 20 -3 -4.28 -1	-3 -9 25 -4.28 -1 -74 C6, C1	T2 Char -3 -9 25 -4,28 -1 -74 : 0; C6, 0	-9 -25 -3 -4,28 -1	-9 25 -3 -4.28 -1	
<u>PC</u>	Timeslot  RA RF Channel  Number  CPCH Ec/lor  SCH Ec/lor  SCH toffset  PICH Ec/lor  CNS Ec/lor $\hat{I}_{or}/I_{oc}$ CPCH RSCP  Qoffset1 <sub>s.n</sub>	dB dB dB dB dBm dBm	-3 -9 15 -4,28 -1 -74 C4, C	Char -3 -9 15 -4,28 -1 -74 1: 0; C4, C4, C5:0;	T1 nnel 1 -9 15 -3 -4,28 -1 C2:0; C4 ; C4, C6:	<u>-9</u> <u>15</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 4,C3:0	-3 -9 20 -4.28 -1 -74 C5, C	2 Char -3 -9 20 -4,28 -1 -74 1: 0; C5, C4:0;	T1 nnel 2  -9 20 -3 -4,28 -1  C2:0; C: C5, C6:	-9 20 -3 -4.28 -1	-3 -9 25 -4.28 -1 -74 C6, C1	T2 Char -3 -9 25 -4,28 -1 -74 : 0; C6, 0	-9 -25 -3 -4,28 -1 -2:0; C6 C6, C5:	-9 25 -3 -4.28 -1	
<u>PC</u>	Timeslot  RA RF Channel  Number  CPCH Ec/lor  SCH Ec/lor  SCH Ec/lor  PICH Ec/lor  CNS Ec/lor $\hat{I}_{or}/I_{oc}$ CPCH RSCP  Qoffset1 <sub>s.n</sub> Qhyst1 <sub>s</sub> Treselection	dB dB dB dB dBm	-3 -9 15 -4,28 -1 -74 C4, C	T2 Char -3 -9 15 -4,28 -1 -74 1: 0; C4, C4, C5:0;	15 -9 15 -3 -4,28 -1 C2:0; C4	<u>-9</u> <u>15</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 4,C3:0	-3 -9 20 -4.28 -1 -74 C5, C	2 Char -3 -9 20 -4,28 -1 -74 1: 0; C5, C4:0; not	11	-9 20 -3 -4.28 -1	-3 -9 25 -4.28 -1 -74 C6, C1	T2 Char -3 -9 25 -4,28 -1 -74 : 0; C6, 0 (6, C4:0;	-9 -25 -3 -4,28 -1 -22:0; C6 C6, C5:0	-9 25 -3 -4.28 -1	
PC PC	Timeslot  RA RF Channel  Number  CPCH Ec/lor  SCH Ec/lor  SCH Ec/lor  CNS Ec/lor  CNS Ec/lor  CPCH RSCP  Qoffset1 <sub>s.n</sub> Qhyst1 <sub>s</sub> Treselection  Sintrasearch  H measurement	dB dB dB dB dBm dB dB	-3 -9 15 -4,28 -1 -74 C4, C	T2 Char -3 -9 15 -4.28 -1 -74 1: 0; C4, C4, C5:0;	T1 nnel 1 -9 15 -3 -4.28 -1 C2:0; C4 ; C4, C6:	<u>-9</u> <u>15</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 4,C3:0	-3 -9 20 -4.28 -1 -74 C5, C	T2 Char -3 -9 20 -4.28 -1 -74 1: 0; C5, C5, C4:0;	-9 -20 -3 -4.28 -1 -25, C6:00 00 sent sent	-9 20 -3 -4.28 -1	-3 -9 25 -4.28 -1 -74 C6, C1	T2 Char -3 -9 25 -4,28 -1 -74 : 0; C6, C4:0; (g not not	-9 -25 -3 -4,28 -1 -22:0; C6 C6, C5:0	-9 25 -3 -4.28 -1	
P(C   P(C)   P(C   P(C	Timeslot  RA RF Channel  Number  CPCH Ec/lor  SCH Ec/lor  SCH Ec/lor  CNS Ec/lor  CNS Ec/lor  CPCH RSCP  Qoffset1 <sub>s.n</sub> Qhyst1 <sub>s</sub> Treselection  Sintrasearch Sintersearch H measurement ccasion info	dB dB dB dB dBm dB dB	-3 -9 15 -4,28 -1 -74 C4, C	T2 Char -3 -9 15 -4.28 -1 -74 1: 0; C4, C4, C5:0;	T1 nnel 1  -9 15 -3 -4,28 -1  C2:0; C4 ; C4, C6:0 0 0 sent	<u>-9</u> <u>15</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 4,C3:0	-3 -9 20 -4.28 -1 -74 C5, C	T2 Char -3 -9 20 -4.28 -1 -74 1: 0; C5, C5, C4:0;	T1 nnel 2  -9 20 -3 -4,28 -1  C2:0; C: C5, C6:	-9 20 -3 -4.28 -1	-3 -9 25 -4.28 -1 -74 C6, C1	T2 Char -3 -9 25 -4,28 -1 -74 : 0; C6, C4:0; (g not not	-9 -25 -3 -4,28 -1 -22:0; C6 C6, C5:0	-9 25 -3 -4,28 -1	
PC PC FAC GInter	Timeslot  RA RF Channel  Number  CPCH Ec/lor  SCH Ec/lor  SCH Ec/lor  CNS Ec/lor  CNS Ec/lor  CPCH RSCP  Qoffset1 <sub>s.n</sub> Qhyst1 <sub>s</sub> Treselection  Sintrasearch  H measurement ccasion info  frequency TDD	dB dB dB dB dBm dB dB	-3 -9 15 -4,28 -1 -74 C4, C	T2 Char -3 -9 15 -4,28 -1 -74 1: 0; C4, C4, C5:0; (not not	T1 nnel 1  -9 15 -3 -4,28 -1  C2:0; C4 ; C4, C6:0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	<u>-9</u> <u>15</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 4,C3:0	-3 -9 20 -4.28 -1 -74 C5, C	2 Char -3 -9 20 -4,28 -1 -74 1: 0; C5, C4:0; not not	T1 nnel 2  -9 20 -3 -4,28 -1  C2:0; C: C5, C6: 0 0 sent sent	-9 20 -3 -4.28 -1	-3 -9 25 -4.28 -1 -74 C6, C1	T2 Char -3 -9 25 -4,28 -1 -74 : 0; C6, 0 (6, C4:0; not not	-9 -25 -3 -4,28 -1 -1 -22:0; C6 C6, C5:0 0 0 sent sent	-9 25 -3 -4,28 -1	
PC PC FAC GInter	Timeslot  RA RF Channel  Number  CPCH Ec/lor  SCH Ec/lor  SCH Ec/lor  CNS Ec/lor  CNS Ec/lor  CPCH RSCP  Qoffset1 <sub>s.n</sub> Qhyst1 <sub>s</sub> Treselection  Sintrasearch  H measurement ccasion info  rfrequency TDD measurement	dB dB dB dB dBm dB dB	-3 -9 15 -4,28 -1 -74 C4, C	T2 Char -3 -9 15 -4,28 -1 -74 1: 0; C4, C4, C5:0; (not not	T1 nnel 1 -9 15 -3 -4.28 -1 C2:0; C4 ; C4, C6:	<u>-9</u> <u>15</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 4,C3:0	-3 -9 20 -4.28 -1 -74 C5, C	2 Char -3 -9 20 -4,28 -1 -74 1: 0; C5, C4:0; not not	-9 -20 -3 -4.28 -1 -25, C6:00 00 sent sent	-9 20 -3 -4.28 -1	-3 -9 25 -4.28 -1 -74 C6, C1	T2 Char -3 -9 25 -4,28 -1 -74 : 0; C6, 0 (6, C4:0; not not	-9 -25 -3 -4,28 -1 -22:0; C6 C6, C5:0	-9 25 -3 -4.28 -1	
PC PC FAC GInter	Timeslot  RA RF Channel  Number  CPCH Ec/lor  SCH Ec/lor  SCH Ec/lor  CNS Ec/lor  CNS Ec/lor  CPCH RSCP  Qoffset1 <sub>s.n</sub> Qhyst1 <sub>s</sub> Treselection  Sintrasearch  H measurement ccasion info  frequency TDD	dB dB dB dBm dB dB dB	-3 -9 15 -4,28 -1 -74 C4, C	T2 Char -3 -9 15 -4,28 -1 -74 1: 0; C4, C4, C5:0; (not not	T1 nnel 1  -9 15 -3 -4,28 -1  C2:0; C4 ; C4, C6:0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	<u>-9</u> <u>15</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 4,C3:0	-3 -9 20 -4.28 -1 -74 C5, C	2 Char -3 -9 20 -4,28 -1 -74 1: 0; C5, C4:0; not not	T1 nnel 2  -9 20 -3 -4,28 -1  C2:0; C: C5, C6: 0 0 sent sent	-9 20 -3 -4.28 -1	-3 -9 25 -4.28 -1 -74 C6, C1	T2 Char -3 -9 25 -4,28 -1 -74 : 0; C6, 0 (6, C4:0; not not	-9 -25 -3 -4,28 -1 -1 -22:0; C6 C6, C5:0 0 0 sent sent	-9 25 -3 -4.28 -1	
PC PC FAC GInter	Timeslot  RA RF Channel  Number  CPCH Ec/lor  SCH Ec/lor  SCH Ec/lor  CNS Ec/lor  CNS Ec/lor  CPCH RSCP  Qoffset1 <sub>s.n</sub> Qhyst1 <sub>s</sub> Treselection  Sintrasearch  H measurement ccasion info  rfrequency TDD measurement	dB dB dB dB dBm dB dB	-3 -9 15 -4,28 -1 -74 C4, C	T2 Char -3 -9 15 -4,28 -1 -74 1: 0; C4, C4, C5:0; (not not	T1 nnel 1  -9 15 -3 -4,28 -1  C2:0; C4 ; C4, C6:0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	<u>-9</u> <u>15</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 4,C3:0	-3 -9 20 -4.28 -1 -74 C5, C	T2 Char -3 -9 20 -4,28 -1 -74 1: 0; C5, C5, C4:0; (0) not not	T1 nnel 2  -9 20 -3 -4,28 -1  C2:0; C: C5, C6: 0 0 sent sent	-9 20 -3 -4.28 -1	-3 -9 25 -4.28 -1 -74 C6, C1	T2 Char -3 -9 25 -4,28 -1 -74 : 0; C6, 0 (6, C4:0; not not	-9 -25 -3 -4,28 -1 -1 -22:0; C6 C6, C5:0 0 0 sent sent	-9 25 -3 -4.28 -1	
PC PC FAC GInter	Timeslot  RA RF Channel Number CPCH Ec/lor SCH Ec/lor SCH Ec/lor CNS Ec/lor  Îor / Ioc CPCH RSCP Qoffset1sn Qhyst1s Treselection Sintrasearch H measurement ccasion info refrequency TDD measurement indicator	dB dB dB dB dB dB dB dB dB	-3 -9 15 -4,28 -1 -74 C4, C	T2 Char -3 -9 15 -4,28 -1 -74 1: 0; C4, C4, C5:0; (not not	T1 nnel 1  -9 15 -3 -4,28 -1  C2:0; C4 ; C4, C6:0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	<u>-9</u> <u>15</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 4,C3:0	-3 -9 20 -4.28 -1 -74 C5, C	T2 Char -3 -9 20 -4,28 -1 -74 1: 0; C5, C5, C4:0; not not	T1 nnel 2  -9 20 -3 -4,28 -1  C2:0; C5 C5, C6:0 0 sent sent	-9 20 -3 -4.28 -1	-3 -9 25 -4.28 -1 -74 C6, C1	T2 Char -3 -9 25 -4,28 -1 -74 : 0; C6, 0 (6, C4:0; not not	-9 -25 -3 -4,28 -1 -1 -22:0; C6 C6, C5:0 0 0 sent sent	-9 25 -3 -4.28 -1	

Note: S-CCPCH shall not be located in TS0.

### A.5.4.2.2 Test Requirements

The cell re-selection delay is defined as the time from the beginning of time period T2, to the moment when the UE camps on Cell 2, and starts to send the CELL UPDATE message with cause value "cell reselection" in cell 2.

The cell re-selection delay shall be less than 7 s.

#### NOTE:

The cell re-selection delay can be expressed as:  $T_{reselection,inter} = T_{identify inter} + T_{SI}$ , where:

 $\underline{T}_{identify intra}$  Specified in 8.4.2.3.1, gives 5 s for this test case.

T<sub>SI</sub> Maximum repetition rate of relevant system info blocks that needs to be received by the UE to camp on a cell. 1280 ms is assumed in this test case.

This gives a total of 6,28s, allow 7 s in the test case.

# 3GPP TSG RAN WG4 Meeting #20

R4-011489

# East Brunswick, NJ, USA 12th - 16th November 2001

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# A.5.4 Cell Re-selection in CELL\_FACH

### A.5.4.1 3.84 Mcps TDD option

NOTE: The cell re selection delay is sufficiently covered by the test cases proposed in section A.4. The requirements for interruption in FACH message reception in section 5.4 is not tested. If a suitable test is evaluated it may be included in this section.

#### A.5.4.1.1 Scenario 1: TDD/TDD cell re-selection single carrier case

#### A.5.4.1.1.1 Test Purpose and Environment

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 reported in section 5.4.2.2.1. The test parameters are given in Table A.5.5 and A.5.6.

Table A.5.5: General test parameters for Cell Re-selection in CELL FACH

	Parameter Parameter	<u>Unit</u>	<u>Value</u>	<u>Comment</u>
<u>Initial</u>	Active cell		<u>Cell1</u>	
condition	Neighbour cells		Cell2, Cell3,Cell4,	
			Cell5, Cell6	
<u>Final</u>	Active cell		Cell2	
condition				
	<u>HCS</u>		Not used	
UE_TX	PWR_MAX_RACH	<u>dBm</u>	<u>21</u>	The value shall be used for all cells in the test.
	Qrxlevmin	<u>dBm</u>	<u>-102</u>	The value shall be used for all cells in the test.
Access Se	ervice Class (ASC#0)			Selected so that no additional delay is caused by
<u>- Pe</u>	ersistence value	=	<u>1</u>	the random access procedure. The value shall be
				used for all cells in the test.
	<u>T<sub>SI</sub></u>	<u>s</u>	<u>1,28</u>	The value shall be used for all cells in the test.
	<u>T1</u>	<u>s</u>	<u>15</u>	
	<u>T2</u>	<u>s</u>	<u>15</u>	

Table A.5.5A: Physical channel parameters for S-CCPCH.

<u>Parameter</u>	<u>Unit</u>	<u>Level</u>
Channel bit rate	<u>Kbps</u>	24,4
Channel symbol rate	<u>Ksps</u>	<u>12,2</u>
Slot Format #	=	<u>0</u>
Frame allocation	=	Continuous frame allocation
Midamble allocation	Ξ	Default Midamble

Table A.5.5B: Transport channel parameters for S-CCPCH

<u>Parameter</u>	<u>FACH</u>
Transport Channel Number	1
Transport Block Size	240
Transport Block Set Size	240
Transmission Time Interval	<u>20 ms</u>
Type of Error Protection	Convolutional Coding
Coding Rate	1/2
Rate Matching attribute	<u>256</u>
Size of CRC	16

Table A.5.6: Cell specific test parameters for Cell Re-selection in CELL FACH

	Parameter	Unit	<u>Cell 1</u>				Cell 2				Cell 3				
Tin	neslot Number		0 8			0 8				<u>0</u> <u>8</u>					
			T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	
UTF	RA RF Channel			Channel 1				Channel 1			Channel 1				
	<u>Number</u>														
	CPCH_Ec/lor	<u>dB</u>	<u>-3</u>	<u>-3</u>			<u>-3</u>	<u>-3</u>			<u>-3</u>	<u>-3</u>			
3	SCH_Ec/lor	<u>dB</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	
	SCH_t <sub>offset</sub>		0	0	0	0	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>10</u>	<u>10</u>	<u>10</u>	<u>10</u>	
Pl	CH_Ec/lor	dB			<u>-3</u>	<u>-3</u>			<u>-3</u>	<u>-3</u>			<u>-3</u>	<u>-3</u>	
<u>0</u>	CNS_Ec/lor	<u>dB</u>	<u>-4,28</u>	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	<u>-4,28</u>	-4,28	-4,28	-4,28	
	$\hat{I}_{or}/I_{oc}$	<u>dB</u>	9	<u>7</u>	9	<u>7</u>	<u>7</u>	9	<u>7</u>	9	<u>-1</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>	
PC	CPCH RSCP	dBm	-64	-66			-66	-64			-74	-74			
	0 "	in.	C1, C2	: 0; C1, 0	C3:0; C1	,C4:0	C2, C1	: 0: C2. C	C3:0; C2	.C4:0	C3. C	1: 0; C3,	C2:0: C	3.C4:0	
	Qoffset1 <sub>s,n</sub>	<u>dB</u>			; C1,C6:				; C2, C6:			3, C5: 0			
	Qhyst1 <sub>s</sub>	dB			0				, <u>02, 00.</u> )				, <u>00, 00.</u> )	_	
-	Treselection	<u> </u>		_	<u>9</u> 0			-	<u>9</u> 0			-	)		
9	Sintrasearch	dB		-	<u>sent</u>			_	<u>s</u> sent			_	sent		
	H measurement	<u> </u>						•				•			
	ccasion info			not	<u>sent</u>			not	<u>sent</u>		<u>not sent</u>				
		dBm/3,					l				l.				
	I <sub>oc</sub>	84 MHz		<u>-70</u>											
ļ <u></u>	Propagation						<u>AWGN</u>								
	Condition				II 4										
	Timeslot		,								<u>Cell 6</u> 0 8				
	Timesiot		<u>(</u> 	<u>/</u> T2	T1	3 T2	T1	<u>)</u> T2	<u>8</u>   T1   T2		T1	T2	T1	T2	
LITE	RA RF Channel		<u> </u>		nnel 1	12				12	<u> </u>			12	
UIR	Number			Char	<u>inei i</u>		Channel 1				Channel 1				
D(	CPCH_Ec/lor	<u>dB</u>	<u>-3</u>	<u>-3</u>			<u>-3</u>	<u>-3</u>			<u>-3</u>   <u>-3</u>				
	SCH_Ec/lor	dB	<u>-3</u> -9	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-3</u> -9	<u>-3</u> -9	<u>-9</u>	-9	<u>-3</u> -9	<u>-3</u> -9	-9	-9	
	SCH_t <sub>offset</sub>	<u>ub</u>	15	15	15	15	20	20	20	20	25	25	25	25	
	PICH_Ec/lor	dB	15	13	-3	-3	<u>20</u>	<u>20</u>	-3	-3	<u> 23</u>	<u> 23</u>	-3	-3	
	CNS_Ec/lor	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	
- 4															
	$\hat{I}_{or}/I_{oc}$	<u>dB</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>	
<u>P0</u>	CPCH RSCP	<u>dBm</u>	<u>-74</u>	<u>-74</u>			<u>-74</u>	<u>-74</u>			<u>-74</u>	<u>-74</u>			
	Qoffset1 <sub>s,n</sub>	<u>dB</u>			C2:0; C4				C2:0; C:			: 0; C6, 0			
	_		<u>C</u>	C4, C5:0;	; C4, C6:	<u>0</u>	(	C5, C4:0;	C5, C6:	<u>0</u>	(	C6, C4:0;	C6, C5:	<u>0</u>	
	Qhyst1 <sub>s</sub>	<u>dB</u>			<u>0</u>				<u>0</u>				<u>)</u>		
	<u>Treselection</u>			(	<u>0</u>			(	<u>0</u>			(	<u>)</u>		
\$	Sintrasearch	dB		not	<u>sent</u>			not	<u>sent</u>			not	<u>sent</u>		
		<u> </u>				·									
FAC	H measurement	<u></u>		not	sent			not	not sent not sent						
FAC				not	<u>sent</u>			not	<u>sent</u>			not	<u>sent</u>		
FAC	H measurement	<u>dBm/3,</u> 84 MHz		not	<u>sent</u>				<u>sent</u> 70			not	sent		
FAC o	H measurement ccasion info	<u>dBm/3,</u>		not	sent			<u>-7</u>				not	sent		

Note: S-CCPCH shall not be located in TS0.

#### A.5.4.1.1.2 Test Requirements

The cell re-selection delay is defined as the time from the beginning of time period T2, to the moment when the UE camps on Cell 2, and starts to send the CELL UPDATE message with cause value "cell reselection" in cell 2.

The cell re-selection delay shall be less than 2,5 s.

#### NOTE:

The cell re-selection delay can be expressed as:  $T_{reselection,intra} = T_{identify intra} + T_{SI}$ , where:

 $\underline{T_{identify intra}}$  Specified in 8.4.2.2.1, gives 800 ms for this test case.

<u>T<sub>SI</sub></u> Maximum repetition rate of relevant system info blocks that needs to be received by the UE to camp on a cell. 1280 ms is assumed in this test case.

This gives a total of 2,08s, allow 2,5 s in the test case.

### A.5.4.1.2 Scenario 2: TDD/TDD cell re-selection multi carrier case

#### A.5.4.1.2.1 Test Purpose and Environment

The purpose of this test is to verify the requirement for the cell re-selection delay in CELL FACH state in the multi carrier case reported in section 5.4.2.2.2. The test parameters are given in Table A.5.7 and A.5.8.

Table A.5.7: General test parameters for Cell Re-selection in CELL\_FACH

	<u>Parameter</u>	<u>Unit</u>	<u>Value</u>	<u>Comment</u>
<u>Initial</u>	Active cell		Cell1	
condition	Neighbour cells		Cell2, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		<u>Cell2</u>	
	<u>HCS</u>		Not used	
<u>UE_TX</u>	UE TXPWR MAX RACH dBm		<u>21</u>	The value shall be used for all cells in the test.
	<u>Qrxlevmin</u>	<u>dBm</u>	<u>-102</u>	The value shall be used for all cells in the test.
	Access Service Class (ASC#0) - Persistence value		1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.
	<u>T<sub>SI</sub></u>	<u>s</u>	<u>1,28</u>	The value shall be used for all cells in the test.
	<u>T1</u>	<u>s</u>	<u>15</u>	
	<u>T2</u>	S	<u>15</u>	

Table A.5.7A: Physical channel parameters for S-CCPCH.

<u>Parameter</u>	<u>Unit</u>	<u>Level</u>
Channel bit rate	<u>Kbps</u>	24,4
Channel symbol rate	<u>Ksps</u>	<u>12,2</u>
Slot Format #		<u>0</u>
Frame allocation	=	Continuous frame allocation
Midamble allocation	<u>-</u>	Default Midamble

Table A.5.7B: Transport channel parameters for S-CCPCH

<u>Parameter</u>	<u>FACH</u>
Transport Channel Number	1
Transport Block Size	<u>240</u>
Transport Block Set Size	<u>240</u>
Transmission Time Interval	<u>20 ms</u>
Type of Error Protection	Convolutional Coding
Coding Rate	1/2
Rate Matching attribute	<u>256</u>
Size of CRC	<u>16</u>

Table A.5.8: Cell specific test parameters for Cell Re-selection in CELL FACH

	Parameter	Unit	Cell 1				Cell 2				Cell 3			
Tin	neslot Number	·	(			3	0 8				<u>0</u> <u>8</u>			
			<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>				<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>
UTF	A RF Channel		Channel 1				Channel 2				Char	nel 1		
	<u>Number</u>													
	CPCH_Ec/lor	<u>dB</u>	<u>-3</u>	<u>-3</u>			<u>-3</u>	<u>-3</u>			<u>-3</u>	<u>-3</u>		
	SCH_Ec/lor	<u>dB</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>	<u>-9</u>
	SCH toffset		<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>5</u>	<u>5</u>	5	<u>5</u>	<u>10</u>	<u>10</u>	<u>10</u>	<u>10</u>
	CH_Ec/lor	<u>dB</u>	4.00	-4,28         -4,28         -4,28         -4,28			4.00	4.00	<u>-3</u>	<u>-3</u>	4.00	4.00	<u>-3</u>	<u>-3</u>
	CNS_Ec/lor	<u>dB</u>	<u>-4,28</u>	<u>-4,28</u>	<u>-4,28</u>	<u>-4,28</u>	<u>-4,28</u>	<u>-4,28</u>	<u>-4,28</u>	<u>-4,28</u>	<u>-4,28</u>	<u>-4,28</u>	<u>-4,28</u>	<u>-4,28</u>
	$\frac{\hat{I}_{or}/I_{oc}}{}$	<u>dB</u>	<u>9</u>	<u>3</u>	<u>9</u>	<u>3</u>	<u>3</u>	<u>9</u>	<u>3</u>	<u>9</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>
PC	CPCH RSCP	<u>dBm</u>	<u>-64</u>	<u>-70</u>			<u>-70</u>	<u>-64</u>			<u>-74</u>	<u>-74</u>		
	Qoffset1 <sub>s,n</sub>	dB			C3:0; C1				C3:0; C2			1: 0; C3,		
			_(		; C1,C6:	<u>0</u>	<u>C</u>		; C2, C6:	<u>0</u>	<u>C</u>	C3, C5: 0		<u>0</u>
	Qhyst1 <sub>s</sub>	<u>dB</u>		_	<u> </u>			_	<u>0</u>				2	
<u> </u>	reselection	15			<u>)</u>				<u>)</u>			_	<u>)</u>	
	Sintrasearch	dB			sent				sent		-		sent	
	intersearch	<u>dB</u>		<u>not</u>	<u>sent</u>			not	<u>sent</u>		-	not	<u>sent</u>	
	H measurement ccasion info			not	<u>sent</u>			not	<u>sent</u>			not	<u>sent</u>	
	-frequency TDD													
<u>m</u>	<u>reasurement</u>			<u>TR</u>	<u>UE</u>			<u>TR</u>	<u>UE</u>		<u>TRUE</u>			
	indicator	ID /0												
	$I_{oc}$	<u>dBm/3,</u> <u>84 MHz</u>						<u>-70</u>						
<u> </u>	Propagation						<u>AWGN</u>							
	Condition										Call C			
	Time a start		,		<u>II 4</u>	•	Cell 5				<u>Cell 6</u> 0 8			,
	Timeslot		0 8			<u> </u>	0 8							
LITE			<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>
UTF	RA RF Channel			<u>T2</u>				<u>T2</u>				<u>T2</u>		
	RA RF Channel Number	dB	<u>T1</u>	T2 Chan	<u>T1</u>		<u>T1</u>	T2 Char	<u>T1</u>		<u>T1</u>	T2 Char	<u>T1</u>	
<u>PC</u>	RA RF Channel Number CPCH Ec/lor	dB dB	<u>T1</u>	T2 Chan	<u>T1</u> nnel 1	<u>T2</u>	<u>T1</u>	<u>T2</u> Char	<u>T1</u> nnel 2	<u>T2</u>	<u>T1</u>	<u>T2</u> Char	<u>T1</u> nnel 2	<u>T2</u>
<u>PC</u>	RA RF Channel Number		<u>T1</u>	T2 Chan	<u>T1</u>		<u>T1</u>	T2 Char	<u>T1</u>		<u>T1</u>	T2 Char	<u>T1</u>	<u>T2</u>
<u>PC</u>	RA RF Channel Number CPCH Ec/lor SCH Ec/lor SCH toffset PICH Ec/lor	dB dB	<u>T1</u> -3 -9	<u>T2</u> Chan -3 -9 15	T1 nnel 1  -9 15 -3	-9 15 -3	<u>-3</u> -9 20	T2 Char -3 -9 20	<u>T1</u> nnel 2 -9 20 -3	<u>-9</u> <u>20</u> -3	<u>-3</u> -9 25	T2 Char -3 -9 25	T1 nnel 2 -9 25 -3	<u>T2</u> -9  25  -3
<u>PC</u>	RA RF Channel Number CPCH Ec/lor SCH Ec/lor SCH toffset PICH Ec/lor CNS Ec/lor	<u>dB</u>	<u>T1</u> -3 -9	<u>T2</u> Chan	<u>T1</u> nnel 1 -9 15	<u>T2</u> -9 15	<u>T1</u> -3  -9	<u>T2</u> Char -3 -9	<u>T1</u> nnel 2 -9 20	<u>-9</u>	<u>T1</u> -3 -9	<u>T2</u> Char	<u>T1</u> nnel 2  -9 25	<u>T2</u> -9 25
<u>PC</u>	RA RF Channel Number CPCH Ec/lor SCH Ec/lor SCH toffset PICH Ec/lor	dB dB	<u>-3</u> -9 15	<u>T2</u> Chan -3 -9 15	T1 nnel 1  -9 15 -3	-9 15 -3	<u>-3</u> -9 20	T2 Char -3 -9 20	<u>T1</u> nnel 2 -9 20 -3	<u>-9</u> <u>20</u> -3	<u>-3</u> -9 25	T2 Char -3 -9 25	T1 nnel 2 -9 25 -3	-9 25 -3
PC	RA RF Channel Number CPCH Ec/lor SCH Ec/lor SCH toffset PICH Ec/lor CNS Ec/lor	dB dB dB	<u>-3</u> -9 15	T2 Chan -3 -9 15	T1 nnel 1  -9 15 -3 -4,28	<u>-9</u> <u>15</u> <u>-3</u> <u>-4,28</u>	<u>-3</u> <u>-9</u> <u>20</u> -4,28	T2 Char -3 -9 20	T1 nnel 2 -9 20 -3 -4,28	<u>-9</u> <u>20</u> <u>-3</u> <u>-4,28</u>	<u>-3</u> <u>-9</u> <u>25</u> -4,28	<u>T2</u> Char -3 -9 25 -4,28	<u>T1</u> nnel 2 <u>-9</u> <u>25</u> <u>-3</u> <u>-4,28</u>	-9 25 -3 -4,28
PC PC	RA RF Channel Number CPCH Ec/lor SCH Ec/lor SCH toffset PICH Ec/lor CNS Ec/lor $\hat{I}_{or}/I_{oc}$ CCPCH RSCP	dB dB dB dB dB	-3 -9 15 -4,28 -1 -74 C4, C	T2 Char -3 -9 15 -4,28 -1 -74 1: 0; C4,	T1	<u>-9</u> <u>15</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 4,C3:0	-4,28 -74 -74 -5, C	T2 Char -3 -9 20 -4,28 -1 -74 1: 0; C5,	T1 nnel 2  -9 20 -3 -4,28 -1  C2:0; C:	<u>-9</u> <u>20</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 5,C3:0	-4,28 -1 -74	T2 Char -3 -9 25 -4,28 -1	<u>-9</u> <u>25</u> <u>-3</u> <u>-4,28</u>	-9 25 -3 -4,28 -1
PC PC	RA RF Channel Number CPCH Ec/lor SCH Ec/lor SCH toffset PICH Ec/lor CNS Ec/lor $\hat{I}_{or}/I_{oc}$	dB dB dB dB dB dB dB dBm	-3 -9 15 -4,28 -1 -74 C4, C	T2 Char -3 -9 15 -4,28 -1 -74 1: 0; C4,	<u>-9</u> 15 -3 -4,28	<u>-9</u> <u>15</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 4,C3:0	-4,28 -74 -74 -5, C	T2 Char -3 -9 20 -4,28 -1 -74 1: 0; C5,	-9 20 -3 -4,28	<u>-9</u> <u>20</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 5,C3:0	-3 -9 25 -4,28 -1 -74 C6, C1	T2 Char -3 -9 25 -4,28 -1 -74	T1 nnel 2  -9 25 -3 -4,28 -1  C2:0; C6	-9 -25 -3 -4,28 -1
PC PC	RA RF Channel Number CPCH Ec/lor SCH Ec/lor SCH toffset PICH Ec/lor CNS Ec/lor CPCH RSCP Qoffset1 <sub>s,n</sub> Qhyst1 <sub>s</sub>	dB dB dB dB dB	-3 -9 15 -4,28 -1 -74 C4, C	T2 Char -3 -9 15 -4,28 -1 -74 1: 0; C4, C4, C5:0;	T1	<u>-9</u> <u>15</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 4,C3:0	-4,28 -74 -74 -5, C	T2 Char -3 -9 20 -4,28 -1 -74 1: 0; C5, C5, C4:0;	T1 nnel 2  -9 20 -3 -4.28  -1  C2:0; C: C5, C6:	<u>-9</u> <u>20</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 5,C3:0	-3 -9 25 -4,28 -1 -74 C6, C1	T2 Char -3 -9 25 -4,28 -1 -74 : 0; C6, 0	T1 nnel 2 -9 25 -3 -4,28 -1 C2:0; C6 C6, C5:	-9 -25 -3 -4,28 -1
<u>PC</u>	RA RF Channel Number CPCH Ec/lor SCH Ec/lor SCH toffset PICH Ec/lor CNS Ec/lor CPCH RSCP Qoffset1s,n Qhyst1s Treselection	dB dB dB dB dB dBm dBM	-3 -9 15 -4,28 -1 -74 C4, C	T2 Char -3 -9 15 -4,28 -1 -74 1: 0; C4, C4, C5:0;	T1 nnel 1  -9 15 -3 -4,28  -1  C2:0; C4 ; C4, C6:	<u>-9</u> <u>15</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 4,C3:0	-4,28 -74 -74 -5, C	T2 Char -3 -9 20 -4,28 -1 -74 1: 0; C5, C5, C4:0;	T1 nnel 2  -9 20 -3 -4,28 -1  C2:0; C: C5, C6:	<u>-9</u> <u>20</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 5,C3:0	-3 -9 25 -4,28 -1 -74 C6, C1	T2 Char -3 -9 25 -4,28 -1 -74 : 0; C6, 0 (6, C4:0;	T1 nnel 2  -9 25 -3 -4,28 -1  C2:0; C6 C6, C5:	-9 -25 -3 -4,28 -1
<u>PC</u>	RA RF Channel Number CPCH Ec/lor SCH Ec/lor SCH toffset PICH Ec/lor CNS Ec/lor $\hat{I}_{or}/I_{oc}$ CPCH RSCP Qoffset1s,n Qhyst1s Treselection Sintrasearch	dB dB dB dB dBm dB dB	-3 -9 15 -4,28 -1 -74 C4, C	T2 Chan -3 -9 15 -4,28 -1 -74 1: 0; C4, C4, C5:0;	T1 nnel 1  -9 15 -3 -4,28  -1  C2:0; C4 ; C4, C6:	<u>-9</u> <u>15</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 4,C3:0	-4,28 -74 -74 -5, C	T2 Char -3 -9 20 -4,28 -1 -74 1: 0; C5, C5, C4:0;	T1 nnel 2  -9 20 -3 -4,28 -1  C2:0; C: C5, C6:	<u>-9</u> <u>20</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 5,C3:0	-3 -9 25 -4,28 -1 -74 C6, C1	T2 Char -3 -9 25 -4,28 -1 -74 : 0; C6, 0 (6, C4:0;	T1 nnel 2  -9 -5 -3 -4,28 -1  C2:0; C6 C6, C5:0  sent	-9 -25 -3 -4,28 -1
PC PC	RA RF Channel Number CPCH Ec/lor SCH Ec/lor SCH toffset PICH Ec/lor CNS Ec/lor $\hat{I}_{or}/I_{oc}$ CPCH RSCP Qoffset1s Teselection Sintrasearch	dB dB dB dB dB dBm dBM	-3 -9 15 -4,28 -1 -74 C4, C	T2 Chan -3 -9 15 -4,28 -1 -74 1: 0; C4, C4, C5:0;	T1 nnel 1  -9 15 -3 -4,28  -1  C2:0; C4 ; C4, C6:	<u>-9</u> <u>15</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 4,C3:0	-4,28 -74 -74 -5, C	T2 Char -3 -9 20 -4,28 -1 -74 1: 0; C5, C5, C4:0;	T1 nnel 2  -9 20 -3 -4,28 -1  C2:0; C: C5, C6:	<u>-9</u> <u>20</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 5,C3:0	-3 -9 25 -4,28 -1 -74 C6, C1	T2 Char -3 -9 25 -4,28 -1 -74 : 0; C6, 0 (6, C4:0;	T1 nnel 2  -9 25 -3 -4,28 -1  C2:0; C6 C6, C5:	-9 -25 -3 -4,28 -1
PC PC FAC	RA RF Channel Number CPCH Ec/lor SCH Ec/lor SCH toffset PICH Ec/lor CNS Ec/lor $\hat{I}_{or}/I_{oc}$ CPCH RSCP Qoffset1s,n Qhyst1s Treselection Sintrasearch	dB dB dB dB dBm dB dB	-3 -9 15 -4,28 -1 -74 C4, C	T2 Chan -3 -9 15 -4,28 -1 -74 1: 0; C4, C4, C5:0;	T1 nnel 1  -9 15 -3 -4,28  -1  C2:0; C4 ; C4, C6:	<u>-9</u> <u>15</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 4,C3:0	-4,28 -74 -74 -5, C	T2 Char -3 -9 20 -4,28 -1 -74 1: 0; C5, C5, C4:0;	T1 nnel 2  -9 20 -3 -4,28 -1  C2:0; C: C5, C6:	<u>-9</u> <u>20</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 5,C3:0	-3 -9 25 -4,28 -1 -74 C6, C1	T2 Char -3 -9 25 -4.28 -1 -74 : 0; C6, C6 C6, C4:0;	T1 nnel 2  -9 -5 -3 -4,28 -1  C2:0; C6 C6, C5:0  sent	
PC PC Inter	RA RF Channel Number CPCH Ec/lor SCH Ec/lor SCH Ec/lor CNS Ec/lor CNS Ec/lor CPCH RSCP Qoffset1s,n Qhyst1s Treselection Sintrasearch H measurement ccasion info -frequency TDD	dB dB dB dB dBm dB dB	-3 -9 15 -4,28 -1 -74 C4, C	T2 Chan -3 -9 15 -4,28 -1 -74 1: 0; C4, C4, C5:0; (not not not not not not not not not not	T1 nnel 1  -9 15 -3 -4,28 -1  C2:0; C4 C4, C6: 0 0 sent sent	<u>-9</u> <u>15</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 4,C3:0	-4,28 -74 -74 -5, C	T2 Char -3 -9 20 -4,28 -1 -74 1: 0; C5, C5, C4:0; not not	T1 nnel 2  -9 20 -3 -4,28 -1  C2:0; C: C5, C6: 0 0 sent sent	<u>-9</u> <u>20</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 5,C3:0	-3 -9 25 -4,28 -1 -74 C6, C1	T2 Char -3 -9 25 -4,28 -1 -74 : 0; C6, 0 C6, C4:0; not not	T1 nnel 2  -9 -25 -3 -4,28 -1  C2:0; C6 C6, C5:0 0 sent sent	
PC PC Inter	RA RF Channel Number CPCH Ec/lor SCH Ec/lor SCH toffset PICH Ec/lor CNS Ec/lor $\hat{I}_{or}/I_{oc}$ CCPCH RSCP Qoffset1s,n Qhyst1s Treselection Sintrasearch Intersearch H measurement ccasion info requency TDD leasurement	dB dB dB dB dBm dB dB	-3 -9 15 -4,28 -1 -74 C4, C	T2 Chan -3 -9 15 -4,28 -1 -74 1: 0; C4, C4, C5:0; (not not not not not not not not not not	T1 nnel 1  -9 15 -3 -4,28  -1  C2:0; C4 C4, C6:0 0 sent sent	<u>-9</u> <u>15</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 4,C3:0	-4,28 -74 -74 -5, C	T2 Char -3 -9 20 -4,28 -1 -74 1: 0; C5, C5, C4:0; not not	T1 nnel 2  -9 20 -3 -4.28  -1  C2:0; C: C5, C6: 0 0 sent sent	<u>-9</u> <u>20</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 5,C3:0	-3 -9 25 -4,28 -1 -74 C6, C1	T2 Char -3 -9 25 -4,28 -1 -74 : 0; C6, 0 C6, C4:0; not not		
PC PC Inter	RA RF Channel Number CPCH Ec/lor SCH Ec/lor SCH Ec/lor CNS Ec/lor CRECHOR CPCH RSCP CPCH RSCP Qoffset1s,n Qhyst1s Treselection Sintrasearch Sintrasearch H measurement ccasion info frequency TDD leasurement indicator	dB	-3 -9 15 -4,28 -1 -74 C4, C	T2 Chan -3 -9 15 -4,28 -1 -74 1: 0; C4, C4, C5:0; (not not not not not not not not not not	T1 nnel 1  -9 15 -3 -4,28 -1  C2:0; C4 C4, C6: 0 0 sent sent	<u>-9</u> <u>15</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 4,C3:0	-4,28 -74 -74 -5, C	T2 Char -3 -9 20 -4,28 -1 -74 1: 0; C5, C5, C4:0; not not	T1 nnel 2  -9 20 -3 -4,28 -1  C2:0; C5 C5, C6:0 0 sent sent	<u>-9</u> <u>20</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 5,C3:0	-3 -9 25 -4,28 -1 -74 C6, C1	T2 Char -3 -9 25 -4,28 -1 -74 : 0; C6, 0 C6, C4:0; not not	T1 nnel 2  -9 -25 -3 -4,28 -1  C2:0; C6 C6, C5:0 0 sent sent	
PC PC S S S S S S Inter	RA RF Channel Number CPCH Ec/lor SCH Ec/lor SCH toffset PICH Ec/lor CNS Ec/lor $\hat{I}_{or}/I_{oc}$ CCPCH RSCP Qoffset1s,n Qhyst1s Treselection Sintrasearch Intersearch H measurement ccasion info requency TDD leasurement	dB dB dB dB dB dB dB dB dB	-3 -9 15 -4,28 -1 -74 C4, C	T2 Chan -3 -9 15 -4,28 -1 -74 1: 0; C4, C4, C5:0; (not not not not not not not not not not	T1 nnel 1  -9 15 -3 -4,28 -1  C2:0; C4 C4, C6: 0 0 sent sent	<u>-9</u> <u>15</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 4,C3:0	-4,28 -74 -74 -5, C	T2 Char -3 -9 20 -4,28 -1 -74 1: 0; C5, C5, C4:0; not not	T1 nnel 2  -9 20 -3 -4,28 -1  C2:0; C: C5, C6: 0 0 sent sent	<u>-9</u> <u>20</u> <u>-3</u> <u>-4,28</u> <u>-1</u> 5,C3:0	-3 -9 25 -4,28 -1 -74 C6, C1	T2 Char -3 -9 25 -4,28 -1 -74 : 0; C6, 0 C6, C4:0; not not	T1 nnel 2  -9 -25 -3 -4,28 -1  C2:0; C6 C6, C5:0 0 sent sent	-9 -25 -3 -4,28 -1

Note: S-CCPCH shall not be located in TS0.

#### A.5.4.1.2.2 Test Requirements

The cell re-selection delay is defined as the time from the beginning of time period T2, to the moment when the UE camps on Cell 2, and starts to send the CELL UPDATE message with cause value "cell reselection" in cell 2.

The cell re-selection delay shall be less than 7 s.

#### NOTE:

The cell re-selection delay can be expressed as:  $T_{reselection,inter} = T_{identify inter} + T_{SI}$ , where:

<u>T<sub>identify intra</sub></u> Specified in 8.4.2.3.1, gives 5 s for this test case.

T<sub>SI</sub> Maximum repetition rate of relevant system info blocks that needs to be received by the UE to camp on a cell. 1280 ms is assumed in this test case.

This gives a total of 6,28s, allow 7 s in the test case.

# 3GPP TSG RAN WG4 Meeting #20

R4-011447

# East Brunswick, NJ, USA 12th - 16th November 2001

	CHANGE REQUEST
*	25.123 CR 127  # ev - # Current version: 3.7.0 #
For <u><b>HELP</b></u> on us	sing this form, see bottom of this page or look at the pop-up text over the X symbols.
Proposed change a	ffects: 第 (U)SIM ME/UE X Radio Access Network Core Network
Title:	Correction to test requirement for URA_PCH test cases
Source: #	RAN WG4
Work item code: ₩	- Date: 第 12/11/2001
	Release: # Rel99  Use one of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification) P (editorial modification)  D (editorial modification)  D (editorial modification)  D (editorial modification)  D (editorial modification)  Release: # Rel99  Use one of the following releases: 2 (GSM Phase 2)  R96 (Release 1996)  R97 (Release 1997)  R98 (Release 1998)  R99 (Release 1999)  R99 (Release 1999)  REL-4 (Release 4)  REL-5 (Release 5)
Reason for change:	Currently, the 8 sec cell re-selection delay in URA_PCH state is defined from the beginning of time period T2 to the moment when the UE starts to send the CELL UPDATE message with cause value "cell reselection".  However, it should be the URA UPDATE message with URA update cause value "change of URA" that is sent on RACH.
Summary of change	e: # Correction of URA_PCH test requirements such that UE shall send the URA UPDATE instead of the CELL UPDATE message.
Consequences if not approved:	## False end condition in URA PCH test cases. URA PCH scenario 1 and 2 not testable.  Isolated Impact Analysis:  Correction to a function where the specification was containing some contradictions.  Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.
Clauses affected:	¥ A.5.6.1, A.5.6.2
Other specs affected:	# - Other core specifications # Test specifications O&M Specifications
Other comments:	<b>x</b> -

How to create CRs using this form:

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

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

# A.5.6 Cell Re-selection in URA\_PCH

## A.5.6.1 Scenario 1: TDD/TDD cell re-selection single carrier case

### A.5.6.1.1 Test Purpose and Environment

This test is to verify the requirement for the cell re-selection delay in URA\_PCH state in section 5.56.2.

This scenario implies the presence of 1 carrier and 6 cells as given in Table A.5.5 and A.5.6.

Cell1 and Cell2 shall belong to different UTRAN Registration Areas (URA).

Table A.5.5: General test parameters for Cell Re-selection single carrier multi-cell case

	Parameter	Unit	Value	Comment
Initial	Active cell		Cell1	
condition	Neighbour cells		Cell2, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		Cell2	
	HCS		Not used	
UE_TX	PWR_MAX_RACH	dBm	21	The value shall be used for all cells in the test.
	Qrxlevmin	dBm	-102	The value shall be used for all cells in the test.
	ervice Class (ASC#0) ersistence value		1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.
	T <sub>SI</sub>		1.28	The value shall be used for all cells in the test.
DR	RX cycle length	S	1.28	The value shall be used for all cells in the test.
	T1	S	15	
	T2	S	15	

Table A.5.6: Cell re-selection single carrier multi-cell case

Parameter	Unit	Cell 1			Cell 2				Cell 3				
Timeslot Number		0 8			3	(	0 8			(	0	8	3
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1				Channel 1			Channel 1				
PCCPCH_Ec/lor	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/lor	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t <sub>offset</sub>		0	0	0	0	5	5	5	5	10	10	10	10
PICH_Ec/lor	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/lor	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28
$\hat{I}_{or}/I_{oc}$	dB	9	7	9	7	7	9	7	9	-1	-1	-1	-1
PCCPCH RSCP	dBm	-64	-66			-66	-64			-74	-74		
Qoffset1 <sub>s,n</sub>	dB			C3:0; C <sup>2</sup> ; C1,C6:0				C3:0; C2; C2, C6:			1: 0; C3, 3, C5: 0		
Qhyst1 <sub>s</sub>	dB		(	)			(	)			(	)	
Treselection	S		(	)		0				0			
Sintrasearch	dB		not	sent		not sent				not sent			
			Ce	II 4		Cell 5			Cell 6				
Timeslot		C		,	3	0 8			3	0 8			3
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel			Chan	nel 1		Channel 1				Channel 1			
Number				11101 1									
PCCPCH_Ec/lor	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/lor	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t <sub>offset</sub>		15	15	15	15	20	20	20	20	25	25	25	25
PICH_Ec/lor	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/lor	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28
$\hat{I}_{or}/I_{oc}$	dB	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
PCCPCH RSCP	dBm	-74	-74			-74	-74			-74	-74		
Qoffset1 <sub>s,n</sub>	dB			C4, C2:05:0; C4,				C2:0; C5 C5, C6:			1: 0; C6, C6, C4:0;		
Qhyst1 <sub>s</sub>	dB	0				0					(		
Treselection	S		(	)			(	)			(	)	
Sintrasearch	dB		not	sent			not	sent			not	sent	
$I_{oc}$	dBm/3, 84 MHz						-7	70					
Propagation Condition							AW	'GN					

### A.5.6.1.2 Test Requirements

The cell re-selection delay is defined as the time from the beginning of time period T2, to the moment when the UE camps on Cell 2, and starts to send the <u>CELL-URA UPDATE</u> message with <u>URA update</u> cause <u>value</u> "<del>cell reselectionchange of URA"</del> in cell 2.

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

#### NOTE:

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

 $T_{evaluateTDD}$  A DRX cycle length of 1280ms is assumed for this test case, this leads to a  $T_{evaluateTDD}$  of 6.4s

according to Table 4.1 in section 4.2.2.7.

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.

## A.5.6.2 Scenario 2: TDD/TDD cell re-selection multi carrier case

### A.5.6.2.1 Test Purpose and Environment

This test is to verify the requirement for the cell re-selection delay in CELLURA\_PCH state in section 5.6.2.

This scenario implies the presence of 1 carrier and 6 cells as given in Table A.5.7 and A.5.8.

Table A.5.7: General test parameters for Cell Re-selection in Multi carrier case

	Parameter	Unit	Value	Comment			
Initial	Active cell		Cell1				
condition	Neighbour cells		Cell2, Cell3,Cell4, Cell5, Cell6				
Final condition	Active cell		Cell2				
	HCS		Not used				
UE_TX	(PWR_MAX_RACH	dBm	21	The value shall be used for all cells in the test.			
	Qrxlevmin	dBm	-102	The value shall be used for all cells in the test.			
	Access Service Class (ASC#0) - Persistence value		1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.			
	T <sub>SI</sub> s		1.28	The value shall be used for all cells in the test.			
DF	RX cycle length	S	1.28	The value shall be used for all cells in the test.			
	T1	S	30				
	T2	S	15				

Table A.5.8: Cell re-selection multi carrier multi cell case

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

### A.5.6.2.2 Test Requirements

The cell re-selection delay is defined as the time from the beginning of time period T2, to the moment when the UE camps on Cell 2, and starts to send the <u>CELLURA</u> UPDATE message with <u>URA update</u> cause <u>value</u> "eell reselectionchange of <u>URA</u>" in cell 2.

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

#### NOTE:

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

 $T_{evaluateTDD}$  A DRX cycle length of 1280ms is assumed for this test case, this leads to a  $T_{evaluateTDD}$  of 6.4s

according to Table 4.1 in section 4.2.2.7.

T<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.

# 3GPP TSG RAN WG4 Meeting #20

R4-011490

# East Brunswick, NJ, USA 12th - 16th November 2001

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# A.5.6 Cell Re-selection in URA\_PCH

## A.5.6.1 Scenario 1: TDD/TDD cell re-selection single carrier case

### A.5.6.1.1 Test Purpose and Environment

### A.5.6.1.1.1 for 3.84Mcps TDD option

This test is to verify the requirement for the cell re-selection delay in URA\_PCH state in section 5.56.2.

This scenario implies the presence of 1 carrier and 6 cells as given in Table A.5.9 and A.5.10.

Cell1 and Cell2 shall belong to different UTRAN Registration Areas (URA).

Table A.5.9: General test parameters for Cell Re-selection single carrier multi-cell case

Para	meter	Unit	Value	Comment
Initial condition			Cell1	
	Neighbour cells		Cell2, Cell3,Cell4,	
			Cell5, Cell6	
Final condition	Active cell		Cell2	
H	HCS		Not used	
UE_TXPWR	UE_TXPWR_MAX_RACH		21	The value shall be used for all cells in the test.
Qrxle	evmin	dBm	-102	The value shall be used for all cells in the test.
Access Service	Class (ASC#0)			Selected so that no additional delay is caused by
- Persiste	nce value		1	the random access procedure. The value shall be
				used for all cells in the test.
Т	SI	S	1.28	The value shall be used for all cells in the test.
DRX cycle length		S	1.28	The value shall be used for all cells in the test.
T	1	S	15	
T	2	S	15	

Table A.5.10: Cell re-selection single carrier multi-cell case

Parameter	Unit	Cell 1				Cell 2				Cell 3			
Timeslot Number		0 8			3	0 8			0			3	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1			Channel 1			Channel 1					
PCCPCH_Ec/lor	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/lor	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t <sub>offset</sub>		0	0	0	0	5	5	5	5	10	10	10	10
PICH_Ec/lor	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/lor	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28
$\hat{I}_{or}/I_{oc}$	dB	9	7	9	7	7	9	7	9	-1	-1	-1	-1
PCCPCH RSCP	dBm	-64	-66			-66	-64			-74	-74		
Qoffset1 <sub>s,n</sub>	dB	C1, C2: 0; C1, C3:0; C1,C4:0 C1, C5:0; C1,C6:0			C2, C1: 0; C2, C3:0; C2,C4:0 C2, C5: 0; C2, C6:0				C3, C1: 0; C3, C2:0; C3,C4:0 C3, C5: 0; C3, C6:0				
Qhyst1 <sub>s</sub>	dB		0 0						0				
Treselection	S	0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
		Cell 4				Cell 5				Cell 6			
Timeslot			)	,	3	0 8			0 8			-	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel			Char	nel 1		Channel 1				Channel 1			
Number													
PCCPCH_Ec/lor	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/lor	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t <sub>offset</sub>		15	15	15	15	20	20	20	20	25	25	25	25
PICH_Ec/lor	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/lor	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28
$\hat{I}_{or}/I_{oc}$	dB	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
PCCPCH RSCP	dBm	-74	-74			-74	-74			-74	-74		
Qoffset1 <sub>s,n</sub>	dB			C2:0; C4 C4, C6:		C5, C1: 0; C5, C2:0; C5,C3:0 C5, C4:0; C5, C6:0				C6, C1: 0; C6, C2:0; C6,C3:0 C6, C4:0; C6, C5:0			
Qhyst1 <sub>s</sub>	dB	0				0				0			
Treselection	s	0				0					(	)	
Sintrasearch	dB		not sent not sent not se						sent				
$I_{oc}$	dBm/3, 84 MHz		-70										
Propagation Condition			AWGN										

A.5.6.1.1.2 for 1.28Mcps TDD option

(void)

#### A.5.6.1.2 Test Requirements

#### A.5.6.1.2.1 for 3.84Mcps TDD option

The cell re-selection delay is defined as the time from the beginning of time period T2, to the moment when the UE camps on Cell 2, and starts to send the <u>CELL\_URA\_UPDATE</u> message with <u>URA\_update\_cause\_value\_"eell\_reselectionchange\_of\_URA"</u> in cell 2.

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

NOTE:

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

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

T<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.

#### A.5.6.1.2.2 for 1.28Mcps TDD option

(void)

### A.5.6.2 Scenario 2: TDD/TDD cell re-selection multi carrier case

### A.5.6.2.1 Test Purpose and Environment

#### A.5.6.2.1.1 for 3.84Mcps TDD option

This test is to verify the requirement for the cell re-selection delay in CELLURA\_PCH state in section 5.6.2.

This scenario implies the presence of 1 carrier and 6 cells as given in Table A.5.11 and A.5.12.

Table A.5.11: General test parameters for Cell Re-selection in Multi carrier case

Para	Parameter		Value	Comment
Initial condition	Active cell		Cell1	
	Neighbour cells		Cell2, Cell3,Cell4, Cell5, Cell6	
Final condition	ndition Active cell		Cell2	
Н	HCS		Not used	
UE_TXPWR	_MAX_RACH	dBm	21	The value shall be used for all cells in the test.
Qrxle	evmin	dBm	-102	The value shall be used for all cells in the test.
	e Class (ASC#0) ence 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.
7	SI	S	1.28	The value shall be used for all cells in the test.
DRX cyc	cle length	S	1.28	The value shall be used for all cells in the test.
٦	T1	S	30	
7	Γ2	S	15	

Table A.5.12: Cell re-selection multi carrier multi cell case

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

A.5.6.2.1.2 1.28Mcps TDD option

(void)

#### A.5.6.2.2 Test Requirements

#### A.5.6.2.2.1 3.84Mcps TDD option

The cell re-selection delay is defined as the time from the beginning of time period T2, to the moment when the UE camps on Cell 2, and starts to send the <u>CELL-URA UPDATE</u> message with <u>URA update cause value "eell reselection change of URA"</u> in cell 2.

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

NOTE:

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

 $T_{evaluate\,TDD} \qquad \quad A \; DRX \; cycle \; length \; of \; 1280 ms \; is \; assumed \; for \; this \; test \; case, \; this \; leads \; to \; a \; T_{evaluate\;TDD} \; of \; 6.4 s$ 

according to Table 4.1 in section 4.2.2.7.

 $T_{SI}$  Maximum repetition period of relevant system info blocks that needs to be received by the UE to

camp on a cell. 1280 ms is assumed in this test case.

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

#### A.5.6.2.2.2 1.28Mcps TDD option

(void)

# East Brunswick, NJ, USA 12th - 16th November 2001

CHANGE REQUEST										
*	25.123 CR 129 * ev - *	Current version: 3.7.0 **								
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.										
Proposed change affects:    (U)SIM ME/UE X Radio Access Network X Core Network ■										
Title: Ж	Correction of RSSI relative accuracy requiremen	ts								
Source: #	RAN WG4									
Work item code: 第		Date:    12/11/2001								
Category:	Release: # Rel99  Use one of the following releases: 2 (GSM Phase 2) re) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)									
Reason for change	The UTRA carrier RSSI Inter frequency re relative measurement capability of the of RF UTRA carrier RSSI Inter frequency relative FDD for must be identical to allow for command, FDD, FDD, and FDD/TDD UEs. The proposition accuracy requirements between TDD and FD	hardware of the UE. Therefore, the accuracy requirements for TDD and non RF hardware implementation for sed change aligns the measurement								
Summary of chang	Relative accuracy requirement for UTRA cadb for normal and +/-8 to +/-11dB for extreme									
Consequences if not approved:	accuracy in TDD and FDD. This inconst requirements. Placing an excessive accuracy	Inconstant relative accuracy requirements for UTRA carrier RSSI measurement accuracy in TDD and FDD. This inconstancy will impact the RF hardware requirements. Placing an excessive accuracy requirement on the RF hardware for TDD relative to FDD, such that hardware meeting the FDD requirements may not meet the TDD requirements.								
	Isolated Impact Analysis:									
	Correction to a function where the s contradictions.	pecification was containing some								
	Would not affect implementations behaving implementations supporting the corrected fur									
Clauses affected:	₩ 9.1.1.4									
Other specs affected:	# - Other core specifications # Test specifications O&M Specifications									

### 9.1.1.4 UTRA carrier RSSI

Note: The purpose of measurement is for Inter-frequency handover evaluation.

The measurement period for CELL\_DCH state can be found in section 8.

### 9.1.1.4.1 Absolute accuracy requirement

Absolute accuracy case only one carrier is applied.

Table 9.11 UTRA carrier RSSI Inter frequency absolute accuracy

Parameter	Unit	Accura	Conditions		
Parameter	Onit	Normal condition	Extreme condition	lo [dBm]	
LITDA Comica DOOL	dB	± 4	± 7	-9470	
UTRA Carrier RSSI	dB	± 6	± 9	-9450	

### 9.1.1.4.2 Relative accuracy requirement

Relative accuracy requirement is defined as active cell frequency UTRAN RSSI compared to measured other frequency UTRAN RSSI level

The accuracy requirements in table 9.12 are valid under the following condition:

| Channel 1\_Io -Channel 2\_Io | < 20 dB.

Table 9.12 UTRA carrier RSSI Inter frequency relative accuracy

Parameter	Unit	Accura	Conditions	
Parameter	Onit	Normal condition	Extreme condition	lo [dBm]
UTRA Carrier RSSI	dB	± <del>5</del> 7	± <u>811</u>	-9470

### 9.1.1.4.3 Range/mapping

The reporting range for UTRA carrier RSSI is from -100 ...-25 dBm.

In table 9.13 mapping of the measured quantity is defined. Signalling range may be larger than the guaranteed accuracy range.

**Table 9.13** 

Reported value	Measured quantity value	Unit
UTRA_carrier_RSSI_LEV _00	UTRA carrier RSSI < -100	dBm
UTRA_carrier_RSSI_LEV _01	-100 ≤ UTRA carrier RSSI < -99	dBm
UTRA_carrier_RSSI_LEV _02	-99 ≤ UTRA carrier RSSI < -98	dBm
•••		
UTRA_carrier_RSSI_LEV _74	-27 ≤ UTRA carrier RSSI < -26	dBm
UTRA_carrier_RSSI_LEV _75	-26 ≤ UTRA carrier RSSI < -25	dBm
UTRA_carrier_RSSI_LEV _76	-25 ≤ UTRA carrier RSSI	dBm

# 3GPP TSG RAN WG4 Meeting #20

# R4-011618

	CHANGE REQUEST	CR-Form-v4
*	25.123 CR 130 # ev - #	Current version: 4.2.0
For <u>HELP</u> on u	sing this form, see bottom of this page or look at th	ne pop-up text over the % symbols.
Proposed change	affects: 第 (U)SIM ME/UE X Radio A	ccess Network X Core Network
Title: Ж	Correction of RSSI relative accuracy requiremen	ts
Source: #	RAN WG4	
Work item code: ∺		Date:    12/11/2001
Category:	Wese one of the following categories:  F (correction)  A (corresponds to a correction in an earlier release B (addition of feature),  C (functional modification of feature)  D (editorial modification)  Detailed explanations of the above categories can be found in 3GPP TR 21.900.	Release: # Rel-4  Use one of the following releases: 2 (GSM Phase 2)  se) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)
Reason for change	The UTRA carrier RSSI Inter frequency re relative measurement capability of the of RF UTRA carrier RSSI Inter frequency relative FDD for must be identical to allow for command, FDD, FDD, and FDD/TDD UEs. The proposition accuracy requirements between TDD and FD	hardware of the UE. Therefore, the accuracy requirements for TDD and mon RF hardware implementation for sed change aligns the measurement
Summary of chang	Relative accuracy requirement for UTRA cadb for normal and +/-8 to +/-11dB for extremental	
Consequences if not approved:	Inconstant relative accuracy requirements f accuracy in TDD and FDD. This inconst requirements. Placing an excessive accuracy TDD relative to FDD, such that hardware memeet the TDD requirements.	ancy will impact the RF hardware y requirement on the RF hardware for
	Isolated Impact Analysis:	
	Correction to a function where the s contradictions.	pecification was containing some
	Would not affect implementations behaving implementations supporting the corrected fur	
Clauses affected:	₩ 9.1.1.4	
Other specs affected:	# Other core specifications Test specifications O&M Specifications	

### 9.1.1.4 UTRA carrier RSSI

Note: The purpose of measurement is for Inter-frequency handover evaluation.

The measurement period for CELL\_DCH state can be found in section 8.

### 9.1.1.4.1 Absolute accuracy requirement

Absolute accuracy case only one carrier is applied.

Table 9.11 UTRA carrier RSSI Inter frequency absolute accuracy

Parameter	Unit	Accura	Conditions		
Parameter	Onit	Normal condition	Extreme condition	lo [dBm]	
LITEA Corrier DCCI	dB	± 4	± 7	-9470	
UTRA Carrier RSSI	dB	± 6	± 9	-9450	

### 9.1.1.4.2 Relative accuracy requirement

Relative accuracy requirement is defined as active cell frequency UTRAN RSSI compared to measured other frequency UTRAN RSSI level

The accuracy requirements in table 9.12 are valid under the following condition:

| Channel 1\_Io -Channel 2\_Io | < 20 dB.

Table 9.12 UTRA carrier RSSI Inter frequency relative accuracy

Parameter	Unit	Accura	Conditions	
Parameter	Onit	Normal condition	Extreme condition	lo [dBm]
UTRA Carrier RSSI	dB	± <del>5</del> 7	± <u>811</u>	-9470

### 9.1.1.4.3 Range/mapping

The reporting range for UTRA carrier RSSI is from -100 ...-25 dBm.

In table 9.13 mapping of the measured quantity is defined. Signalling range may be larger than the guaranteed accuracy range.

**Table 9.13** 

Reported value	Measured quantity value	Unit
UTRA_carrier_RSSI_LEV_00	UTRA carrier RSSI < -100	dBm
UTRA_carrier_RSSI_LEV _01	-100 ≤ UTRA carrier RSSI < -99	dBm
UTRA_carrier_RSSI_LEV _02	-99 ≤ UTRA carrier RSSI < -98	dBm
UTRA_carrier_RSSI_LEV _74	-27 ≤ UTRA carrier RSSI < -26	dBm
UTRA_carrier_RSSI_LEV _75	-26 ≤ UTRA carrier RSSI < -25	dBm
UTRA carrier RSSLLEV 76	-25 < LITRA carrier RSSI	dBm

# 3GPP TSG RAN WG4 Meeting #20

# R4-011469

	CHANGE REQUEST
*	25.123 CR 131
For <u>HELP</u> on us	sing this form, see bottom of this page or look at the pop-up text over the \ symbols.
Proposed change a	affects:    ### (U)SIM
Title: #	Corrections to TDD/TDD inter-frequency test cases in Annex A
Source: #	RAN WG4
Work item code: ₩	- Date: 第 12/11/2001
Category: Ж	F Use one of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification) P (editorial modification)  D (editorial modification)  D (editorial modification)  P (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)
Reason for change	The P-CCPCH RSCP inter-frequency relative accuracy requirement has been changed to +/-6dB in WG4#17. A correction is needed for inter-frequency TDD/TDD cell-re-selection test cases and and the test case for correct event reporting for TDD inter-frequency neighbour cells in A.8.2 in order to reflect the changed requirements onto inter-frequency relative accuracy of the P-CCPCH RSCP measurement.
Summary of chang	e: # P-CCPCH RSCP levels adjusted to meet changed P-CCPCH RSCP accuracy requirement.
Consequences if not approved:	Unrealistic evaluation requirements for TDD/TDD Inter-frequency cell-re-selection test cases and test for correct event reporting of inter-frequency TDD neighbour cells in A.8.2.  Isolated impact analysis:  Correction to to a function, where the specification contains contradictions.
	It would not affect implementations behaving like indicated in the CR, would affect
	implementations supporting the corrected functionality otherwise.
Clauses affected:	₩ A.4.2.2, A.5.5.2, A.5.6.2, A.8.2
Other specs affected:	# - Other core specifications # Test specifications O&M Specifications
Other comments:	<b>x</b> -

# A.4.2.2 Scenario 2: TDD/TDD cell re-selection multi carrier case

### A.4.2.2.1 Test Purpose and Environment

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

This scenario implies the presence of 2 carriers and 6 cells as given in Table A.4.3 and A.4.4. Cell 1 and cell 2 shall belong to different Location Areas.

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

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

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

Parameter	Unit		Се	II 1		Cell 2				Cell 3			
Timeslot Number		d	)	8	3	(	0 8		3	0		8	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number			Chan	inel 1	l		Char	nel 2			Char	nnel 1	
PCCPCH_Ec/lor	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/lor	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t <sub>offset</sub>		0	0	0	0	5	5	5	5	10	10	10	10
PICH_Ec/lor	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/lor	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28
$ \hat{I}_{or}/I_{oc} $	dB	<del>3</del> 6	0	<del>3</del> 6	0	0	<del>3</del> 6	0	<del>3</del> 6	-3	-3	-3	-3
РФСРСН RSCP	dBm	- <del>70</del> 67	-73			-73	- <del>70</del> 67			-76	-76		
Qoffset		C	)	(	)	(	0	(	)	(	0	(	)
Qhyst		C	0 0			0 0			0 0			)	
Treselection	S	C	0		0 0		0		0		0		
Sintrasearch	dB	not s	sent	not	sent	not sent not sent			not sent not sent				
			Се	II 4		Cell 5				Cell 6			
Timeslot		C	)	8	8 0		8		0		8		
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number			Chan	nel 1		Channel 2			Channel 2				
PCCPCH_Ec/lor	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/lor	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t <sub>offset</sub>		15	15	15	15	20	20	20	20	25	25	25	25
PICH_Ec/lor	dB			-3	-3			-3	-3			-3	-3
OCNS	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28
$\hat{I}_{or}/I_{oc}$	dB	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3
PCCPCH RSCP	dBm	-76	-76			-76	-76			-76	-76		
Qoffset		C	)	(	)	(	)	(	)	(	0	(	)
Qhyst		C	)	(	)	(	0	(	)	(	0	(	)
Treselection	S	C			)		0	(			0		)
Sintrasearch	dB	not s	sent	not	sent	not	sent	not	sent	not	sent	not	sent
$I_{oc}$	dBm/3, 84 MHz		-70										
Propagation Condition			AWGN										

<next changed section>

# A.5.5.2 Scenario 2: TDD/TDD cell re-selection multi carrier case

### A.5.5.2.1 Test Purpose and Environment

This test is to verify the requirement for the cell re-selection delay in CELL\_PCH state in section 5.5.2.

This scenario implies the presence of 1 carrier and 6 cells as given in Table A.5.3 and A.5.4.

Table A.5.3: General test parameters for Cell Re-selection in Multi carrier case

	Parameter	Unit	Value	Comment		
Initial	Active cell		Cell1			
condition	ondition Neighbour cells		Cell2, Cell3,Cell4, Cell5, Cell6			
Final condition	Active cell		Cell2			
	HCS		Not used			
UE_TX	E_TXPWR_MAX_RACH dBm		21	The value shall be used for all cells in the tes		
	Qrxlevmin	dBm	-102	The value shall be used for all cells in the test.		
	Service Class (ASC#0) ersistence value		1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.		
	T <sub>SI</sub>		T <sub>SI</sub> s		1.28	The value shall be used for all cells in the test.
DRX cycle length		S	1.28	The value shall be used for all cells in the test.		
	T1	S	30			
	T2	S	15			

Table A.5.4: Cell re-selection multi carrier multi cell case

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

<next changed section>

# A.5.6.2 Scenario 2: TDD/TDD cell re-selection multi carrier case

### A.5.6.2.1 Test Purpose and Environment

This test is to verify the requirement for the cell re-selection delay in CELL\_PCH state in section 5.6.2.

This scenario implies the presence of 1 carrier and 6 cells as given in Table A.5.7 and A.5.8.

Table A.5.7: General test parameters for Cell Re-selection in Multi carrier case

	Parameter	Unit	Value	Comment
Initial	Active cell		Cell1	
condition	Neighbour cells		Cell2, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		Cell2	
	HCS		Not used	
UE_T>	(PWR_MAX_RACH	dBm	21	The value shall be used for all cells in the test.
	Qrxlevmin	dBm	-102	The value shall be used for all cells in the test.
	Access Service Class (ASC#0) - Persistence value		1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.
T <sub>SI</sub>		S	1.28	The value shall be used for all cells in the test.
DI	DRX cycle length		1.28	The value shall be used for all cells in the test.
	T1	S	30	
	T2	S	15	

Table A.5.8: Cell re-selection multi carrier multi cell case

Parameter	Unit		Ce	II 1			Се	II 2		Cell 3				
Timeslot Number		0		3	3	0 8			(	)		3		
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	
UTRA RF Channel			Channel 1			Channel 2			Channel 1					
Number									ı		- 1			
PCCPCH_Ec/lor	dB	-3	-3			-3	-3			-3	-3			
SCH_Ec/lor	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	
SCH_t <sub>offset</sub>		0	0	0	0	5	5	5	5	10	10	10	10	
PICH_Ec/lor	dB			-3	-3			-3	-3			-3	-3	
OCNS_Ec/lor	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	
$ \hat{I}_{or}/I_{oc} $	dB	<del>3</del> 6	0	<del>3</del> 6	0	0	<del>3</del> 6	0	<del>3</del> 6	-3	-3	-3	-3	
PCCPCH RSCP	dBm	- <del>70</del> 67	-73			-73	- <del>70</del> 67			-76	-76			
Qoffset1 <sub>s,n</sub>	dB			C1, C3: C5:0; C1,				C2, C3: 5:0; C2,				C2:0; C3; C6:		
Qhyst1 <sub>s</sub>	dB	,		)		,		)				0		
Treselection	S		(	)			(	)			(	0		
Sintrasearch	dB		not	sent			not	sent			not	sent		
Sintersearch	dB		not	sent		not sent				not sent				
			Ce	II 4			Ce	II 5			Ce	II 6		
Timeslot		C	)	3	3	(	)	3	3	0 8			3	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	
UTRA RF Channel Number			Chan	nel 1		Channel 2				Char	nnel 2			
PCCPCH_Ec/lor	dB	-3	-3			-3	-3			-3	-3	1		
SCH_Ec/lor	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	
SCH_t <sub>offset</sub>	QD.	15	15	15	15	20	20	20	20	25	25	25	25	
PICH_Ec/lor	dB	10	13	-3	-3	20	20	-3	-3	20	2.5	-3	-3	
OCNS_Ec/lor	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	
$\hat{I}_{or}/I_{oc}$	dB	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	
PCCPCH RSCP	dBm	-76	-76			-76	-76			-76	-76			
Qoffset1 <sub>s,n</sub>	dB	C4, C	C4, C1: 0; C4, C2:0; C4,C3:0 C4, C5:0; C4, C6:0					C2:0; C5				C2:0; C6; C6, C5:		
Qhyst1 <sub>s</sub>	dB	0				C5, C4:0; C5, C6:0				`		0		
Treselection	S	0				0				0				
Sintrasearch	dB	not sent				not sent				not sent				
Sintersearch	dB	not sent				not sent						sent		
$I_{oc}$	dBm/3, 84 MHz	-70												
Propagation Condition			AWGN											

<next changed section>

# A.8.2 TDD inter frequency measurements

### A.8.2.1 Correct reporting of neighbours in AWGN propagation condition

### A.8.2.1.1 Test Purpose and Environment

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

This test will derive that the terminal makes correct reporting of an event Cell 1 is the active cell, Cell 2 is a neighbour cell on the used frequency. The power level on Cell 1 is kept constant and the power level of Cell 2 is changed using "change of best cell event" General test parameters are given in the table A.8.2A below and they are signalled from test device. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 2C shall be used. P-CCPCH RSCP of the best cell has to be reported together with Event 2C reporting. New measurement control information, which defines neighbour cells etc., is always sent before the event starts.

The cell specific test parameters are shown in Table A.8.2B.

Table A.8.2A: General test parameters for correct reporting of TDD inter frequency neighbours in AWGN propagation condition

Parameter	Unit	Value	Comment
DPCH parameters		DL Reference Measurement Channel	As specified in TS 25.102 section A.
active cell		12.2 kbps	The DPCH is located in an other timeslot than 0 or 8
Power Control		On	
Active cell		Cell 1	
Threshold non used	dB	-71	Absolute P-CCPCH RSCP threshold
frequency			for event 2C
Hysteresis	dB	0	
Time to Trigger	ms	0	
Filter coefficient		0	
Monitored cell list		24 on channel 1	Measurement control information is
size		16 on channel 2	sent before T1 starts.
T1	S	10	
T2	S	10	

Table A.8.2B: Cell Specific Parameters for Correct Reporting of inter frequency Neighbours in AWGN Propagation Condition

Parameter	Unit		Ce	II 1		Cell 2				
Timeslot Number		(	)	8	8	(	)	8		
		T1	T2	T1	T2	T1	T2	T1	T2	
UTRA RF Channel Number			Char	nel 1		Channel 2				
P-CCPCH_Ec/lor	dB	-3	-3			-3	-3			
SCH_Ec/lor	dB	-9	-9	-9	-9	-9	-9	-9	-9	
SCH_t <sub>offset</sub>		0	0	0	0	15	15	15	15	
PICH_Ec/lor				-3	-3			-3	-3	
OCNS		-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	
$\hat{I}_{or}/I_{oc}$	dB	3	3	3	3	-Infinity	<del>6</del> 9	-Infinity	<del>6</del> 9	
$I_{oc}$	dBm/3. 84 MHz	-70								
PCCPCH_RSCP	dB	-70	-70			-Infinity	-6 <mark>7</mark> 4			
Propagation Condition			AWGN							

NOTE: The DPCH of all cells are located in an other timeslot than 0 or 8

# 3GPP TSG RAN WG4 Meeting #20

R4-011493

	CHANGE REQUEST
*	25.123 CR 132
For <u>HELP</u> on u	sing this form, see bottom of this page or look at the pop-up text over the X symbols.
Proposed change a	affects:    ### (U)SIM    ME/UE    ** Radio Access Network    ** Core Network    ** Core Network    ** Network
Title: #	Corrections to 3.84 Mcps UTRA TDD/TDD inter-frequency test cases in Annex A
Source: #	RAN WG4
Work item code: <sup>ૠ</sup>	- Date: 第 12/11/2001
Category:	ARelease: №Rel-4Use 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 be found in 3GPP TR 21.900.REL-4 (Release 4)
Reason for change	The P-CCPCH RSCP inter-frequency relative accuracy requirement has been changed to +/-6dB in WG4#17. A correction is needed for 3.84 Mcps UTRA TDD inter-frequency TDD/TDD cell-re-selection test cases and and the test case for correct event reporting for TDD inter-frequency neighbour cells in A.8.2.1 in order to reflect the changed requirements onto inter-frequency relative accuracy of the P-CCPCH RSCP measurement.
Summary of chang	e: # P-CCPCH RSCP levels adjusted to meet changed P-CCPCH RSCP accuracy requirement.
Consequences if not approved:	Unrealistic evaluation requirements for 3.84 Mcps UTRA TDD/TDD Interfrequency cell-re-selection test cases and test for correct event reporting of interfrequency TDD neighbour cells in A.8.2.1.  Isolated impact analysis:  Correction to to a function, where the specification contains contradictions.  It would not affect implementations behaving like indicated in the CR, would affect
	implementations supporting the corrected functionality otherwise.
Clauses affected:	# A.4.2.2.1.1, A.5.5.2.1.1, A.5.6.2.1.1, A.8.2.1.1
Other specs Affected:	# - Other core specifications # Test specifications O&M Specifications
Other comments:	₩ -

# A.4.2.2 Scenario 2: TDD/TDD cell re-selection multi carrier case

### A.4.2.2.1 Test Purpose and Environment

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

### A.4.2.2.1.1 3.84 Mcps TDD option

This scenario implies the presence of 2 carriers and 6 cells as given in Table A.4.3 and A.4.4. Cell 1 and cell 2 shall belong to different Location Areas.

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

	Parameter		Value	Comment
Initial	Active cell		Cell1	
condition	Neighbour cells		Cell2, Cell3,Cell4,	
			Cell5, Cell6	
Final condition	Active cell		Cell2	
	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.
DF	RX cycle length	S	1.28	The value shall be used for all cells in the test.
	T1	S	15	
	T2	S	15	

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

Parameter	Unit		Cell 1			Cell 2				Cell 3			
Timeslot Number		Q	)		8	0		8	8		0	8	3
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number			Channel 1			Char	nnel 2	I		Char	nnel 1		
PCCPCH_Ec/lor	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/lor	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t <sub>offset</sub>	1 42	0	0	0	0	5	5	5	5	10	10	10	10
PICH_Ec/lor	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/lor	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28
$\hat{I}_{or}/I_{oc}$	dB	<del>3</del> 6	0	<del>3</del> 6	0	0	<del>3</del> 6	0	3 <u>6</u>	-3	-3	-3	-3
1 or / 1 oc	ub	<u> <del>9</del>0</u>	0	<u> <del>9</del>0</u>	U	0	<u> </u>	0	<u> </u>	-3	-3	-3	-3
P¢CPCH RSCP	dBm	- <del>70</del> 67	-73			-73	- <del>70</del> 67			-76	-76		
Qoffset		C	)	(	0	(	Ö	(	)	(	0	(	)
Qhyst		C	)	(	0	(	)	(	)	(	0	(	)
Treselection	s	C					)	(	0	0			
Sintrasearch	dB	not s	sent	not	sent	not	sent	not	sent	not	sent	not sent	
Timeslot		O	Ce		<b></b> 8	0 8			3		Ce 	8	
rimosiot				Ì		· ·							
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number			Char	nel 1			Channel 2			Channel 2			
PCCPCH_Ec/lor	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/lor	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t <sub>offset</sub>	1 42	15	15	15	15	20	20	20	20	25	25	25	25
PICH_Ec/lor	dB	10	10	-3	-3	20	20	-3	-3	20	20	-3	-3
OCNS	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28
$\hat{I}_{or}/I_{oc}$	dB	-4,20	-4,20	-4,20	-4,20	-4,20	-4,20	-4,20	-4,20	-4,20	-4,20	-4,20	-4,28
PCCPCH RSCP	dBm	-76	-76			-76	-76			-76	-76		
	ubili	-70	-70			-70	-70			-70	-70		
Qoffset		C		(	0	(	)	(	)	(	0	(	)
Qhyst		C			0								
Treselection	S	C											
Sintrasearch	dB	not sent not sent not sent not sent not sent not sent							sent				
$I_{oc}$	dBm/3, 84 MHz		-70										
Propagation Condition			AWGN										

<next changed section>

# A.5.5.2 Scenario 2: TDD/TDD cell re-selection multi carrier case

### A.5.5.2.1 Test Purpose and Environment

### A.5.5.2.1.1 for 3.84Mcps TDD option

This test is to verify the requirement for the cell re-selection delay in CELL\_PCH state in section 5.5.2.

This scenario implies the presence of 1 carrier and 6 cells as given in Table A.5.7 and A.5.8.

Table A.5.7: General test parameters for Cell Re-selection in Multi carrier case

	Parameter	Unit	Value	Comment
Initial	Active cell		Cell1	
condition	Neighbour cells		Cell2, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		Cell2	
	HCS		Not used	
UE_TX	PWR_MAX_RACH	dBm	21	The value shall be used for all cells in the test.
	Qrxlevmin	dBm	-102	The value shall be used for all cells in the test.
	Access Service Class (ASC#0) - Persistence value		1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.
T <sub>SI</sub>		S	1.28	The value shall be used for all cells in the test.
DF	RX cycle length	S	1.28	The value shall be used for all cells in the test.
	T1	S	30	
	T2	S	15	

Table A.5.8: Cell re-selection multi carrier multi cell case

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

<next changed section>

# A.5.6.2 Scenario 2: TDD/TDD cell re-selection multi carrier case

### A.5.6.2.1 Test Purpose and Environment

### A.5.6.2.1.1 for 3.84Mcps TDD option

This test is to verify the requirement for the cell re-selection delay in CELL\_PCH state in section 5.6.2.

This scenario implies the presence of 1 carrier and 6 cells as given in Table A.5.11 and A.5.12.

Table A.5.11: General test parameters for Cell Re-selection in Multi carrier case

	Parameter	Unit	Value	Comment
Initial	Active cell		Cell1	
condition	Neighbour cells		Cell2, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		Cell2	
	HCS		Not used	
UE_T>	KPWR_MAX_RACH	dBm	21	The value shall be used for all cells in the test.
	Qrxlevmin	dBm	-102	The value shall be used for all cells in the test.
	Access Service Class (ASC#0) - Persistence value		1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.
T <sub>SI</sub>		S	1.28	The value shall be used for all cells in the test.
DI	RX cycle length	S	1.28	The value shall be used for all cells in the test.
	T1	S	30	
	T2	s	15	

Table A.5.12: Cell re-selection multi carrier multi cell case

Parameter	Unit		Cell 1 Cell 2 Cell 3								II 3		
Timeslot Number		C	0 8			0 8			(	0 8			
		T1	T1 T2 T1 T2			T1	T2	T2 T1 T2			T2	T1	T2
UTRA RF Channel			Channel 1			Channel 2				Channel 1			
Number			Channer				Criar	iriei z			Criai	illel i	
PCCPCH_Ec/lor	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/lor	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t <sub>offset</sub>		0	0	0	0	5	5	5	5	10	10	10	10
PICH_Ec/lor	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/lor	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28
$ \hat{I}_{or}/I_{oc} $	dB	<u> 36</u>	0	<del>3</del> 6	0	0	<del>3</del> 6	0	<u> 36</u>	-3	-3	-3	-3
PCCPCH RSCP	dBm	- <del>70</del> 67	-73			-73	- <del>70</del> 67			-76	-76		
Qoffset1 <sub>s.n</sub>	dB			C1, C3:				C2, C3:				C2:0; C	
Quiseris,n	uБ	C1,C	4:0C1, C	5:0; C1,	C6:0	C2,C	4:0C2, C	5:0; C2,	C6:0	(	C3, C5:0	; C3, C6:	0
Qhyst1 <sub>s</sub>	dB			)			(	)			(	0	
Treselection	S		(	)			(	)			(	0	
Sintrasearch	dB		not	sent			not	sent			not	sent	
Sintersearch	dB			sent		not sent						sent	
			Ce				Ce	II 5			Ce	II 6	
Timeslot		C			3		)	8			)		3
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number			Char	nel 1		Channel 2					Char	nnel 2	
PCCPCH_Ec/lor	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/lor	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t <sub>offset</sub>		15	15	15	15	20	20	20	20	25	25	25	25
PICH_Ec/lor	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/lor	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28
$\hat{I}_{or}/I_{oc}$	dB	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3
PCCPCH RSCP	dBm	-76	-76			-76	-76			-76	-76		
Qoffset1 <sub>s,n</sub>	dB	C4, C1: 0; C4, C2:0; C4,C3:0 C4, C5:0; C4, C6:0						C2:0; C5 C5, C6:				C2:0; C0; C6; C6, C5:	
Qhyst1 <sub>s</sub>	dB			)				)	<u> </u>	`		) 0	
Treselection	S			)		0						0	
Sintrasearch	dB		not	sent		not sent				not sent			
Sintersearch	dB		not sent not sent									sent	
$I_{oc}$	dBm/3, 84 MHz	-70											
Propagation Condition			AWGN										

<next changed section>

# A.8.2 TDD inter frequency measurements

### A.8.2.1 Correct reporting of neighbours in AWGN propagation condition

### A.8.2.1.1 Test Purpose and Environment

#### A.8.2.1.1.1 for 3.84Mcps TDD option

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

This test will derive that the terminal makes correct reporting of an event Cell 1 is the active cell, Cell 2 is a neighbour cell on the used frequency. The power level on Cell 1 is kept constant and the power level of Cell 2 is changed using "change of best cell event" General test parameters are given in the table A.8.2A below and they are signalled from test device. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 2C shall be used. P-CCPCH RSCP of the best cell has to be reported together with Event 2C reporting. New measurement control information, which defines neighbour cells etc., is always sent before the event starts.

The cell specific test parameters are shown in Table A.8.2B.

Table A.8.2A: General test parameters for correct reporting of TDD inter frequency neighbours in AWGN propagation condition

Parameter	Unit	Value	Comment
DPCH parameters		DL Reference Measurement Channel	As specified in TS 25.102 section A.
active cell		12.2 kbps	The DPCH is located in an other
			timeslot than 0 or 8
Power Control		On	
Active cell		Cell 1	
Threshold non used	dB	-71	Absolute P-CCPCH RSCP threshold
frequency			for event 2C
Hysteresis	dB	0	
Time to Trigger	ms	0	
Filter coefficient		0	
Monitored cell list		24 on channel 1	Measurement control information is
size		16 on channel 2	sent before T1 starts.
T1	S	10	
T2	S	10	

Table A.8.2B: Cell Specific Parameters for Correct Reporting of inter frequency Neighbours in AWGN Propagation Condition

Parameter	Unit		Се	II 1		Cell 2					
Timeslot Number		(	)	3	8	(	)	8			
		T1	T2	T1	T2	T1	T2	T1	T2		
UTRA RF Channel Number			Char	nel 1		Channel 2					
P-CCPCH_Ec/lor	dB	-3	-3			-3	-3				
SCH_Ec/lor	dB	-9	-9	-9	-9	-9	-9	-9	-9		
SCH_t <sub>offset</sub>		0	0	0	0	15	15	15	15		
PICH_Ec/lor				-3	-3			-3	-3		
OCNS		-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28		
$\hat{I}_{or}/I_{oc}$	dB	3	3	3	3	-Infinity	<u>69</u>	-Infinity	<del>6</del> 9		
$I_{oc}$	dBm/3. 84 MHz	-70									
PCCPCH_RSCP	dB	-70	-70			-Infinity	-6 <del>7</del> 4				
Propagation Condition		AWGN									

NOTE: The DPCH of all cells are located in an other timeslot than 0 or 8

# 3GPP TSG RAN WG4 Meeting #20

# R4-011470

CHANGE REQUEST												
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Source:	RA	N WG	4									
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Other comments:	¥	-										

### 9.1.1.5 GSM carrier RSSI

Note: This measurement is for handover between UTRAN and GSM.

The requirements in this section are valid for terminals supporting this capability.

The measurement period for CELL\_DCH state can be found in section 8.1.2.5. The measurement period for CELL FACH state can be found in section 8.4.2.5.

If the UE, in CELL DCH state, does not need compressed mode idle intervals to perform GSM measurements, the measurement accuracy requirements for RXLEV in GSM 05.08 shall apply.

If the UE, in CELL\_DCH state needs idle intervals to perform GSM measurements, the measurement accuracy requirement is stated in section 8.1.2.5.

If the UE, in CELL\_FACH state, does not need measurement occasions and/or idle intervals to perform GSM measurements, the measurement accuracy requirements for RXLEV in GSM 05.08 shall apply.

If the UE, in CELL FACH state needs measurement occasions and/or idle intervals to perform GSM measurements, the measurement accuracy requirement is stated in section 8.4.2.5.

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

# 3GPP TSG RAN WG4 Meeting #20

# R4-011494

	CHANGE REQUEST
*	25.123 CR 134
For <u>HELP</u> on u	sing this form, see bottom of this page or look at the pop-up text over the X symbols.
Proposed change	nffects: 第 (U)SIM ME/UE X Radio Access Network X Core Network
Title: 第	Correction to GSM carrier RSSI
Source: #	RAN WG4
Work item code: 第	- Date: 第 12/11/2001
Category: 第	ARelease:
Reason for change	References to GSM carrier RSSI measurement period and required accuracies in CELL_DCH and CELL_FACH state are missing or incomplete. Removal of Compressed Mode reference.
Summary of chang	e: # Inclusion of references to GSM carrier RSSI accuracy requirement and measurement period for CELL_DCH and CELL_FACH state.
Consequences if not approved:	Misleading text and missing references in specification on GSM carrier RSSI measurement period and accuracy.  Isolated impact analysis:  This CR is a correction to a function, GSM carrier RSSI measurement, where the specification is ambiguous or not sufficiently explicit.  It would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.
Clauses affected:	<b>第 9.1.1.5</b>
Other specs affected:	# - Other core specifications # - Test specifications - O&M Specifications
Other comments:	<b>ж</b> -

### 9.1.1.5 GSM carrier RSSI

Note: This measurement is for handover between UTRAN and GSM.

The requirements in this section are valid for terminals supporting this capability.

The measurement period for CELL\_DCH state can be found in section 8.1.2.5 and 8.1A.2.5. The measurement period for CELL FACH state can be found in section 8.4.2.5 and 8.4A.2.5.

If the UE, in CELL DCH state, does not need compressed mode idle intervals to perform GSM measurements, the measurement accuracy requirements for RXLEV in TS 45.008 shall apply.

If the UE, in CELL\_DCH state needs idle intervals to perform GSM measurements, the measurement accuracy requirement is stated in section 8.1.2.5 and 8.1A.2.5.

If the UE, in CELL\_FACH state, does not need measurement occasions and/or idle intervals to perform GSM measurements, the measurement accuracy requirements for RXLEV in TS 45.008 shall apply.

If the UE, in CELL FACH state needs measurement occasions and/or idle intervals to perform GSM measurements, the measurement accuracy requirement is stated in section 8.4.2.5 and and 8.4A.2.5.

The reporting range and mapping specified for RXLEV in TS 45.008 shall apply.

# 3GPP TSG RAN WG4 Meeting #20

R4-011491

CHANGE REQUEST								
×	25.123 CR 135							
For <u><b>HELP</b></u> on u	ng this form, see bottom of this page or look at the pop-up text over the   ℜ symbols.							
Proposed change	fects: 第 (U)SIM ME/UE X Radio Access Network Core Network							
Title: Ж	Requirements for TFC selection at UE maximum power							
Source: #	RAN WG4							
Work item code: ₩	- Date: 第 12/11/2001							
Category: 第	Release:  Rel99  Ise one of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) P (editorial modification)  Release:  Rel99  Use one of the following releases: 2 (GSM Phase 2)  R96 (Release 1996)  R97 (Release 1997)  R98 (Release 1998)  R99 (Release 1999)  Retailed explanations of the above categories can effound in 3GPP TR 21.900.  Release 5)							
Reason for change	Requirement on TFC selection at UE maximum power is currently missing for 3.8 Mcps UTRA TDD option.  The UE monitors the state for each TFC based on its required Tx power versu the maximum UE Tx power. A TFC is either supported, in excess-power of blocked. Whenever the UE estimates that a certain TFC would require mor power than the maximum Tx power, it limits the usage of TFC's for the assigne TFS, according to section 11.4 in TS25.321 in order to make it possible for the network operator to maximise the coverage.  Requirements for TFC selection at UE maximum power have already bee introduced for UTRA FDD R99 and 1.28 Mcps UTRA TDD in REL-4.							
Summary of chang	Requirement on UE TFC selection is added for 3.84 Mcps UTRA TDD option.							
Consequences if not approved:	Missing requirement.  Isolated impact analysis:  This CR is a correction to an existing function, TFC selection at UE maximum power, where the specification is not sufficiently explicit and where a requirement is missing.  It would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.							
Clauses affected: Other specs affected:	<ul> <li>** New sections 6A.2, 6A.3</li> <li>** Other core specifications</li> <li>Test specifications</li> <li>O&amp;M Specifications</li> </ul>							

Other comments:

\*\* Note that no final value has been agreed upon yet for T<sub>notify</sub> = [15]ms in TS25.133, section 6.4.2 and in TS25.123, section 6A.2.2 that is needed for finalizing the current requirements on TFC selection in UE in both specifications.

# 6A.2 Transport format combination selection in UE

### 6A.2.1 Introduction

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

### 6A.2.2 Requirements

The UE shall continuously evaluate based on the *Elimination*, *Recovery* and *Blocking* criteria defined below, how TFCs can be used for the purpose of TFC selection. The evaluation shall be performed using the estimated UE transmit power of a given TFC. The UE transmit power estimation shall be made using the UE transmitted power measured over the measurement period and the gain factors of the corresponding TFC.

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

MAC in the UE shall indicate the available bitrate for each logical channel to upper layers within [15 ms] from the moment the *Elimination* criterion was fulfilled.

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

MAC in the UE shall indicate the available bitrate for each logical channel to upper layers within T<sub>notify</sub> from the moment the *Recovery* criterion was fulfilled.

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

$$(T_{\text{notify}} + T_{\text{modify}} + T_{\text{L1 proc}})$$
.

where:

T<sub>notify</sub> equals [15] ms, and

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

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

Tadapt\_max equals MAX(Tadapt\_1, Tadapt\_2, ..., Tadapt\_N), and

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

 $\underline{T_{adapt\ n}}$  equals the time it takes for higher layers to provide data to MAC in a new supported bitrate, for logical channel n. Table 6.1 defines  $\underline{T_{adapt}}$  times for different services. For services where no codec is used  $\underline{T_{adapt}}$  shall be considered to be equal to 0 ms.

Table 6A.1: Tadant

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

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

The Maximum UE transmitter power is defined as follows

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

### where

- Maximum allowed UL TX Power is set by UTRAN and defined in [16], and
- UE maximum transmit power is defined by the UE power class, and specified in [5].

# 6A.3 Maximum allowed UL TX Power

### 6A.3.1 Introduction

<u>UTRAN may limit the power the UE is using on the uplink by setting the maximum allowed UL TX power IE defined in TS25.331.</u>

### 6A.3.2 Requirements

For each measurement period, the UE shall with the use of the UE transmitted power measurement, estimate if it has reached the Maximum allowed UL TX Power or not. With tolerances as defined for the UE transmitted power measurement accuracy (section 9.1.2.1), the UE output power shall not exceed the Maximum allowed UL TX Power, as set by the UTRAN.

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Proposed chang	ge at	ffec	ts: #	(U)S	IM	ME/	ΊΕ	X	Rac	lio Ac	cess	Netwo	rk	Core N	let	work
Title:	H	Red	quireme	ents for	TFC s	electio	n at	UE r	naxii	num	powe	r for 3.	84 M	cps UTR	ΑТ	DD
Source:	Ħ	RA	N WG4	1												
Work item code:	: <b>#</b>	-									E	Date: 9	€ 12	/11/2001		
Category:	[	Use <u>.</u> Deta	F (corre A (corre B (adda C (fund D (edite iled exp	he follovection) responds ition of fetional morial morial morial	s to a co eature), nodification dification s of the	orrection ion of fe n) above	n in a eatur	e)			Use 2 e) i	ase: 8 9 <u>one</u> 0 2 R96 R97 R98 R99 REL-4	of the for (GS) (Rel (Rel (Rel (Rel (Rel	el-4 ollowing re M Phase 2 ease 1990 ease 1990 ease 1990 ease 4) ease 5)	2) 3) 7) 3)	ses:
Reason for change:  Requirement on TFC selection at UE maximum power is currently missing for 3.84 Mcps UTRA TDD option.  The UE monitors the state for each TFC based on its required Tx power versus the maximum UE Tx power. A TFC is either supported, in excess-power or blocked. Whenever the UE estimates that a certain TFC would require more power than the maximum Tx power, it limits the usage of TFC's for the assigned TFS, according to section 11.4 in TS25.321 in order to make it possible for the network operator to maximise the coverage.  Requirements for TFC selection at UE maximum power have already been introduced for UTRA FDD R99 and 1.28 Mcps UTRA TDD in REL-4.											versus ower or e more ssigned for the					
Summary of cha	nge	e: #	Requir	ement	on UE	TFC se	elect	tion is	s add	ded fo	or 3.84	4 Mcps	UTR	RA TDD c	ptic	on.
Consequences i not approved:	if	**	Isolate Correct specifi Would	cation v	ct Anal a fur was mis	lysis: nction, ssing p olemen	UE roce	TF( edura ons b	C seal tex	election t or ru	on at ules. ike ind	maxii	d in th	power, ne CR, w		
Clauses affected	d:	ж	6A.2, 6	6A.3												
Other specs affected:		*	- Te - O8	her core st spec &M Spe	ificatior cificatio	ns ons		ж								
Other comments	s:	ж	Note th	nat no f	inal val	lue has	hee	en ac	reec	Luno	n vet f	or T	:6. = [1	51ms in 7	TS2	5 133

section 6.4.2 and in TS25.123, section 6A.2.2 that is needed for finalizing the current requirements on TFC selection in UE in both specifications.

# 6A.2 Transport format combination selection in UE for 1.28Mcps TDD option

### 6A.2.1 Introduction

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

### 6A.2.2 Requirements

#### 6A.2.2.1 3.84 Mcps option

The UE shall continuously evaluate based on the *Elimination*, *Recovery* and *Blocking* criteria defined below, how TFCs can be used for the purpose of TFC selection. The evaluation shall be performed using the estimated UE transmit power of a given TFC. The UE transmit power estimation shall be made using the UE transmitted power measured over the measurement period and the gain factors of the corresponding TFC.

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

MAC in the UE shall indicate the available bitrate for each logical channel to upper layers within [15 ms] from the moment the *Elimination* criterion was fulfilled.

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

 $\underline{MAC}$  in the UE shall indicate the available bitrate for each logical channel to upper layers within  $\underline{T}_{notify}$  from the moment the *Recovery* criterion was fulfilled.

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

$$(T_{notify} + T_{modify} + T_{L1\_proc})$$
.

#### where:

T<sub>notify</sub> equals [15] ms, and

 $T_{modify}$  equals MAX( $T_{adapt\_max}$ ,  $T_{TTL}$ ), and

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

Tadapt\_max equals MAX(Tadapt\_1, Tadapt\_2, ..., Tadapt\_N), and

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

T<sub>adapt n</sub> equals the time it takes for higher layers to provide data to MAC in a new supported bitrate, for logical channel n. Table 6.1 defines T<sub>adapt</sub> times for different services. For services where no codec is used T<sub>adapt</sub> shall be considered to be equal to 0 ms.

Table 6A.1: Tadapt

Service	$T_{\text{adapt}}$ [ms]
AMR	<u>40</u>

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

The Maximum UE transmitter power is defined as follows

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

#### where

Maximum allowed UL TX Power is set by UTRAN and defined in [16], and

UE maximum transmit power is defined by the UE power class, and specified in [5].

### 6A.2.2.2 1.28 Mcps option

The UE shall continuously evaluate based on the *Limited TFC Set* and *Recovered TFC Set* criteria defined below, which TFCs of the given TFC set it can support. The evaluation shall be performed using the estimated UE transmit power of a corresponding TFC. The UE transmit power estimation shall be made using the UE transmitted power measured over the measurement period and the gain factors of the corresponding TFC.

The UE shall consider the *Limited TFC Set* criterion for a TFC to be fulfilled if the estimated UE transmit power of a certain TFC has been evaluated as greater than the Maximum UE transmitter power for at least X measurement periods out of Y successive measurement periods. If the *Limited TFC Set* criterion for a TFC is fulfilled, the MAC in the UE shall consider that the TFC cannot be supported in TFC selection.

MAC in the UE shall indicate the available bitrate for each logical channel to upper layers within [15 ms] from the moment the *Limited TFC Set* criterion has been fulfilled.

If the *Limited TFC Set* criterion is fulfilled for a TFC the UE shall:

- at the latest, block that TFC from usage at the start of the longest uplink TTI after the period ( $T_{\text{notify}} + T_{\text{modify}} + T_{\text{L1 proc}}$ ) from the moment when the *Limited TFC Set* criterion was fulfilled.

#### where:

T<sub>notify</sub> equals [15] ms, and

 $T_{modify}$  equals  $MAX(T_{adapt\_max}, T_{TTI})$ , and

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

 $T_{adapt\_max}$  equals MAX( $T_{adapt\_1}$ ,  $T_{adapt\_2}$ , ...,  $T_{adapt\_N}$ ), and

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

 $T_{adapt\_n}$  equals the time it takes for higher layers to provide data to MAC in a new supported bitrate, for logical channel n. Table 6.1 defines  $T_{adapt}$  times for different services. For services where no codec is used  $T_{adapt}$  shall be considered to be equal to 0 ms.

Table 6.1: T<sub>adapt</sub>

Service	T <sub>adapt</sub> [ms]
AMR	40

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

The Maximum UE transmitter power is defined as follows

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

#### where

Maximum allowed UL TX Power is set by UTRAN and defined in [16], and

UE maximum transmit power is defined by the UE power class, and specified in [5].

The UE shall consider the *Recovered TFC Set* criterion for a TFC to be fulfilled if the UE has evaluated for at least Y successive measurement periods that the estimated UE transmit power for that TFC has not been greater than the Maximum UE transmitter power.

It shall be considered that a TFC which fulfilled the *Recovered TFC Set* criterion can be supported for TFC selection. This TFC shall no longer be blocked.

MAC in the UE shall indicate the available bitrate for each logical channel to upper layers within  $T_{notify}$  from the moment the *Recovered TFC Set* criterion has been fulfilled.

# 6A.3 Maximum allowed UL TX Power for 1.28Mcps TDD option

### 6A.3.1 Introduction

UTRAN may limit the power the UE is using on the uplink by setting the maximum allowed UL TX power IE defined in TS25.331.

### 6A.3.2 Requirements

#### 6A.3.2.1 3.84 Mcps option

For each measurement period, the UE shall with the use of the UE transmitted power measurement, estimate if it has reached the Maximum allowed UL TX Power or not. With tolerances as defined for the UE transmitted power measurement accuracy (section 9.1.2.1.1), the UE output power shall not exceed the Maximum allowed UL TX Power, as set by the UTRAN.

### 6A.3.2.2 1.28 Mcps option

For each measurement period, the UE shall with the use of the UE transmitted power measurement, estimate if it has reached the Maximum allowed UL TX Power or not. With tolerances as defined for the UE transmitted power measurement accuracy (section 9.1.2.1.21), the UE output power shall not exceed the Maximum allowed UL TX Power, as set by the UTRAN.