#### **RP-030209**

### TSG RAN Meeting #20 Hämeenlinna, Finland, 3 - 6 June, 2003

# TitleCRs (R'99 and Rel-4/Rel-5/Rel-6 Category A) to TS 25.133 (1/2)SourceTSG RAN WG4Agenda Item7.4.3

RAN4 Tdoc	Spec	CR	R	Cat	Rel	Curr Ver	Title	Work Item
R4-020651	25.133	564	2	F	R99	3.13.0	UE soft handover delay requirements	TEI
R4-020652	25.133	565	2	А	Rel-4	4.8.0	UE soft handover delay requirements	TEI
R4-020653	25.133	566	2	Α	Rel-5	5.6.0	UE soft handover delay requirements	TEI
R4-020654	25.133	567	2	Α	Rel-6	6.1.0	UE soft handover delay requirements	TEI
R4-020594	25.133	570	1	F	R99	3.13.0		
R4-020595	25.133	571	1	A	Rel-4	4.8.0	Correction to CPICH Ec/lo in correct reporting of neighbours in AWGN propagation condition test case	TEI
R4-020596	25.133	572	1	A	Rel-5	5.6.0	Correction to CPICH Ec/lo in correct reporting of neighbours in AWGN propagation condition test case	TEI
R4-020597	25.133	573	1	A	Rel-6	6.1.0	Correction to CPICH Ec/lo in correct reporting of neighbours in AWGN propagation condition test case	TEI
R4-020422	25.133	574		F	R99	3.13.0	SFN-SFN observed time difference type 1	TEI
R4-020423	25.133	575		А	Rel-4	4.8.0	SFN-SFN observed time difference type 1	TEI
R4-020424	25.133	576		А	Rel-5	5.6.0	SFN-SFN observed time difference type 1	TEI
R4-020425	25.133	597		А	Rel-6	6.1.0	SFN-SFN observed time difference type 1	TEI
R4-020480	25.133	577		F	R99	3.13.0	Correction to CPCH RSCP Test case A.9.1.1	TEI
R4-020481	25.133	578		А	Rel-4	4.8.0	Correction to CPCH RSCP Test case A.9.1.1	TEI

RAN4 Tdoc	Spec	CR	R	Cat	Rel	Curr Ver	Title	Work Item
R4-020482	25.133	579		А	Rel-5	5.6.0	Correction to CPCH RSCP Test case A.9.1.1	TEI
R4-020483	25.133	580		А	Rel-6	6.1.0	Correction to CPCH RSCP Test case A.9.1.1	TEI

	CHANGE	REQUI	EST		CR-Form-v
<sup>#</sup> 2	<mark>5.133</mark> CR <mark>564</mark> ៖	#rev 2	ж	Current versi	<sup>on:</sup> <mark>3.13.0</mark> <sup>#</sup>
For <u>HELP</u> on using	g this form, see bottom of this p	bage or looi	k at the	e pop-up text (	over the <b>X</b> symbols.
Proposed change affe	ects: UICC apps#	ME 🗶 Ra	adio A	ccess Networl	k Core Network
Title: ೫ UI	E Soft Handover Delay require	ements			
Source: <sup># R/</sup>	AN WG4				
Work item code: % TE	El			Date: ೫	27/05/2003
Det	e <u>one</u> of the following categories: <b>F</b> (correction) <b>A</b> (corresponds to a correction <b>B</b> (addition of feature), <b>C</b> (functional modification of feature), <b>C</b> (editorial modification) tailed explanations of the above of found in 3GPP <u>TR 21.900</u> .	ature)		2 P) R96 R97 R98 R99 Rel-4 Rel-5	R99 the following releases: (GSM Phase 2) (Release 1996) (Release 1997) (Release 1998) (Release 1999) (Release 4) (Release 5) (Release 6)
Reason for change: ₩	In the soft handover delay te this test it is stated that the B target is 1%. But the BLER to the performance limit. In the requirement, see 25.101, pa when the BLER target is 1%. Therefore the test requirement fulfil the soft handover delay Furthermore since the BLEF handovers, it is not possible successfully performed. The on the rate of successfully s average BLER during a peri demodulation of cell 2 is dor . An extra time of 10 ms is at power control to adapt to that is change the testcase in order to be the successful to the sector.	BLER perfo arget shall power con aragraph 8.8 c. ent is chang <b>requiremen</b> R must be e to detect we refore it do oft handove od after cel ne. dded after c at only cell 2 not have an	rmanc be the trol col 3.1, the ged to i ats. stimate hether es not ers, ins 1 1 is re ell1 is 2 is rec impact	e shall be belo target of the in nstant BLER t e BLER shall b in average be ed during a nu r one certain s make sense t stead the requi emoved to be removed in or ceived. t on the UE or t	bw 1% when the BLER received quality, not carget performance be within 0.01±30% BLER = 0.01±30% to umber of soft soft handover is to have a requirement irement must be on the sure that rder for the inner loop
Summary of change: भ	The BLER performance red maximum BLER= 0.01 to BLER=0.01±30% to fulfil th			-	-

	The formulation of the rate of successful tests <i>"The rate of correct soft handovers observed during repeated tests shall be at least 90%."</i> is removed. The relative delay between paths of DPCH from cell 1 and cell 2 is also included in the testparameters.
Consequences if not approved:	<b>#</b> The test requirement in the appendix set a requirement that is not valid according core requirement in 25.101.
Clauses affected:	<b>%</b> A.5.1
Other specs affected:	Y       N         %       X         N       Other core specifications         X       Test specifications         X       O&M Specifications
Other comments:	# Equivalent CRs in other Releases: CR565r2 cat. A to 25.133 v4.8.0, CR566r2 cat. A to 25.133 v5.6.0, CR567r2 cat. A to 25.133 v6.1.0

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

# A.5 UTRAN Connected Mode Mobility

### A.5.1 FDD/FDD Soft Handover

### A.5.1.1 Test Purpose and Environment

The purpose of this test is to verify the requirement for the soft handover delay in CELL\_DCH state specified in section 5.1.2.

The test parameters are given in Table A.5A and A.5B below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A shall be used, and that CPICH Ec/Io and SFN-CFN observed time difference shall be reported together with Event 1A. The test consists of <u>six five</u> successive time periods, with a time duration of T1, T2, T3, T4<u>, and T5 and T6</u> respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

#### Table A.5A: General test parameters for Soft handover

Par	ameter	Unit	Value	Comment
DCH parame	DCH parameters		DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1
Power Contr	ol		On	
Target qualit	y value on	BLER	0.01	
Initial	Active cell		Cell 1	
conditions	Neighbouring cell		Cell 2	
Final condition	Active cell		Cell 2	
Reporting ra	nge	dB	3	Applicable for event 1A and 1B
Hysteresis		dB	0	
Ŵ			1	Applicable for event 1A and 1B
Reporting de threshold	activation		0	Applicable for event 1A
Time to Trigg	ger	ms	0	
Filter coeffici			0	
T1		S	5	
T2		S	3	
Т3		S	0.5	
Τ4		ms	60	This is the requirement on active set update delay, see section 5.1.2.2, where KC=1 and OC=0.
T5		<u>m</u> s	<u>10</u> 2	
<u>T6</u>		<u>S</u>	2	

Parameter	Unit		Cell 1						Cell 2					
		T1	T2	T3	T3 T4		<u>T6</u>	T1	T2	T3	T4	T5	<u>T6</u>	
CPICH_Ec/lor	dB			-1	0					-1	0			
PCCPCH_Ec/lor	dB			-1	2					-1	2			
SCH_Ec/lor	dB			-1	2					-1	2			
PICH_Ec/lor	dB			-1	5					-1	5			
DPCH_Ec/lor	dB	Note1	Note1	Not	e1	N/A	<u>N/A</u>	N/A	N/A	Note3	No	te1	Note1	
OCNS		Note2	Note2	Not	Note2		-0.94	-0.94	-0.94	Note2	Note2		Note2	
$\hat{I}_{or}/I_{oc}$	dB	0	2.91	2.91		2.91	<u>2.91</u>	-Inf	2.91	2.91	2.91		<u>2.91</u>	
I <sub>oc</sub>	dBm/ 3.84 MHz						-7	70						
CPICH_Ec/lo	dB	-13	-14	-1	4	-14	<u>-14</u>	-Inf	-14	-14	-1	4	<u>-14</u>	
Propagation Condition			AWGN											
Relative delay of paths received from cell 2 with respect to cell 1	<u>chips</u>		<u>{-148 148}</u> <u>Note 3</u>											

#### Table A.5B: Cell specific test parameters for Soft handover

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

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

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

Note 3: The relative delay of the path from cell 2 with respect to cell 1 shall always be within  $\pm$ 148 chip.

#### A.5.1.1.1 Test procedure

- 1) The test is started at the begin $\frac{1}{2}$  ning of T1.
- 2) During time period T2 an Event 1A triggered measurement report shall be sent by the UE containing the CFN-SFN observed time difference between cell 1 and cell 2.
- 3) At the beginning of T3 the downlink DPCH of cell 2 shall be activated.
- 4) UTRAN shall send a Active Set Update command with activation time now adding cell 2 to the active set. The Active Set Update message shall be sent to the UE so that the whole message is available at the UE at the beginning of T4.
- 5) At the beginning of T5 the DPCH from cell 1 shall be switched off.

### A.5.1.2 Test Requirements

The <u>measured quality on the DTCH of the UE downlink shall during T6 be</u> BLER <u>=0.01±30%</u>. <u>shall not exceed the downlink BLER target, i.e. 1%, during time period T5</u>.

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

### R4-030652

	CHANGE	REQU	JEST	•		CR-Form-v7
<sup>#</sup> 25	5.133 CR 565	жrev	<b>2</b> <sup>ж</sup>	Current vers	sion: <b>4.8.0</b>	ж
For <u>HELP</u> on using	this form, see bottom of this	page or lo	ok at th	e pop-up text	t over the <b>%</b> syr	nbols.
Proposed change affec	c <b>ts:</b> UICC apps <b>೫</b> <mark></mark>	MEX	Radio A	ccess Netwo	rk 🦲 Core Ne	etwork
Title: % UE	Soft Handover Delay requir	ements				
Source: % RA	AN WG4					
Work item code: % TE	El			Date: ೫	27/05/2003	
Deta be fo	<ul> <li><u>one</u> of the following categories.</li> <li><i>F</i> (correction)</li> <li><i>A</i> (corresponds to a correction</li> <li><i>B</i> (addition of feature),</li> <li><i>C</i> (functional modification)</li> <li>ailed explanations of the above ound in 3GPP <u>TR 21.900</u>.</li> <li>In the soft handover delay to this test it is stated that the target is 1%. But the BLER the performance limit. In the requirement, see 25.101, p. when the BLER target is 1%</li> </ul>	eature) categories of eestcase, th BLER per target sha e power co aragraph 8	can ne test r formanc il be the ontrol co	2 e) R96 R97 R98 R99 Rel-4 Rel-5 Rel-6 equirement is e shall be be a target of the nstant BLER	the following rele (GSM Phase 2) (Release 1996) (Release 1997) (Release 1998) (Release 1999) (Release 4) (Release 5) (Release 5) (Release 6) s not valid. Curr low 1% when the received qualite target performation	ently in ne BLER y, not ance
	Therefore the test requirem fulfil the soft handover delay Furthermore since the BLE handovers, it is not possible successfully performed. The on the rate of successfully saverage BLER during a per demodulation of cell 2 is do	ent is char requirem R must be to detect erefore it c soft hando iod after c	ents. estimat whethe loes not vers, ins	ed during a n r one certain make sense stead the requ	umber of soft soft handover i to have a requ uirement must l	s irement
	An extra time of 10 ms is a power control to adapt to th <b>Isolated Impact:</b> This CR will change the testcase in order to	at only cel	l 2 is rec an impac	ceived. t on the UE or	the network, it o	
Summary of change: ೫	The BLER performance re maximum BLER= 0.01 to BLER=0.01±30% to fulfil t			-	-	

	The formulation of the rate of successful tests <i>"The rate of correct soft handovers observed during repeated tests shall be at least 90%."</i> is removed. The relative delay between paths of DPCH from cell 1 and cell 2 is also included in the testparameters.
Consequences if not approved:	<b>%</b> The test requirement in the appendix set a requirement that is not valid according core requirement in 25.101.
Clauses affected:	<b>%</b> A.5.1
Other specs affected:	Y       N         X       Other core specifications       %         X       Test specifications       34.121         X       O&M Specifications       34.121
Other comments:	# Equivalent CRs in other Releases: CR564r2 cat. F to 25.133 v3.13.0, CR566r2 cat. A to 25.133 v5.6.0, CR567r2 cat. A to 25.133 v6.1.0

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# A.5 UTRAN Connected Mode Mobility

### A.5.1 FDD/FDD Soft Handover

### A.5.1.1 Test Purpose and Environment

The purpose of this test is to verify the requirement for the soft handover delay in CELL\_DCH state specified in section 5.1.2.

The test parameters are given in Table A.5A and A.5B below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A shall be used, and that CPICH Ec/Io and SFN-CFN observed time difference shall be reported together with Event 1A. The test consists of <u>five-six</u> successive time periods, with a time duration of T1, T2, T3, T4<u>, and T5 and T6</u> respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

Pa	Parameter		Value	Comment
DCH parameters			DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1
Power Contro			On	
Target quality	value on DTCH	BLER	0.01	
Initial	Active cell		Cell 1	
conditions	Neighbouring cell		Cell 2	
Final condition	Active cell		Cell 2	
Reporting ran	ge	dB	3	Applicable for event 1A and 1B
Hysteresis		dB	0	
W			1	Applicable for event 1A and 1B
Reporting dea	activation threshold		0	Applicable for event 1A
Time to Trigg	er	ms	0	
Filter coefficie	ent		0	
T1		S	5	
T2		S	3	
Т3		S	0.5	
T4		ms	60	This is the requirement on active set update delay, see section 5.1.2.2, where KC=1 and OC=0.
T5		<u>m</u> s	<u>10</u> 2	
<u>T6</u>		<u>s</u>	<u>2</u>	

#### Table A.5A: General test parameters for Soft handover

Parameter	Unit			Cel	11					Ce	II 2		
		T1	T2	T3	T4	T5	<u>T6</u>	T1	T2	T3	T4	T5	<u>T6</u>
CPICH_Ec/lor	dB			-1	0					-1	0		
PCCPCH_Ec/lor	dB			-1:	2					-1	2		
SCH_Ec/lor	dB			-1:	2					-1	2		
PICH_Ec/lor	dB			-1:	5					-1	5		
DPCH_Ec/lor	dB	Note1	Note1	Not	e1	N/A	<u>N/A</u>	N/A	N/A	Note3	Not	e1	Note 1
OCNS		Note2	Note2	Not	e2	-0.94	<u>-0.94</u>	-0.94	-0.94	Note2	Not	e2	Note2
$\hat{I}_{or}/I_{oc}$	dB	0	2.91	2.9	2.91		<u>2.91</u>	-Inf	2.91	2.91	2.91		<u>2.91</u>
I <sub>oc</sub>	dBm/3. 84 MHz		-70										
CPICH_Ec/lo	dB	-13	-14	-14	4	-14	<u>-14</u>	-Inf	-14	-14	-1	4	<u>-14</u>
Propagation Condition							AW	'GN					
Relative delay of	chips						{-148 .	148}					
paths received							Not	<u>te 3</u>					
from cell 2 with													
respect to cell 1													
Note 1: The DP	CH level is	s controlle	ed by the	power co	ntrol loc	р							
	wer of the 0 PCH level is of T2.											c/lor of	Cell 1 at

Table A.5B: Cell specific test parameters for Soft handover

Note 3: The relative delay of the path from cell 2 with respect to cell 1 shall always be within ±148 chip.

#### A.5.1.1.1 Test procedure

- 1) The test is started at the begin $\frac{1}{2}$  ning of T1.
- 2) During time period T2 an Event 1A triggered measurement report shall be sent by the UE containing the CFN-SFN observed time difference between cell 1 and cell 2.
- 3) At the beginning of T3 the downlink DPCH of cell 2 shall be activated.
- 4) UTRAN shall send a Active Set Update command with activation time now adding cell 2 to the active set. The Active Set Update message shall be sent to the UE so that the whole message is available at the UE at the beginning of T4.
- 5) At the beginning of T5 the DPCH from cell 1 shall be switched off.

### A.5.1.2 Test Requirements

The <u>measured quality on the DTCH of the UE</u> downlink <u>shall during T6 be BLER=0.01±30%</u>.-<u>shall not exceed the</u> downlink <u>BLER target, i.e. 1%</u>, during time period T5.

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

	CHANGE	REQUE	ST			CR-Form-v7
<sup>#</sup> 25	5 <mark>.133</mark> CR <mark>566</mark> ៖	erev 2	# Current ve	ersion:	5.6.0	ж
For <u>HELP</u> on using	this form, see bottom of this p	age or look	at the pop-up te	ext over	the <b>೫</b> syn	nbols.
Proposed change affe	<i>cts:</i> UICC apps <b>೫</b> <mark></mark>	ME 🗙 Rac	dio Access Netv	work	Core Ne	etwork
Title: ೫ U	E Soft Handover Delay require	ments				
Source: % R/	AN WG4					
Work item code: <b>%</b> TE	El		Date:	೫ <mark>27/(</mark>	05/2003	
Deta	<ul> <li>a <u>one</u> of the following categories:</li> <li><i>F</i> (correction)</li> <li><i>A</i> (corresponds to a correction of <i>B</i> (addition of feature),</li> <li><i>C</i> (functional modification of feature),</li> <li><i>D</i> (editorial modification)</li> <li>tailed explanations of the above categories of the a</li></ul>	iture)	2	of the fol (GSM (Relea (Relea (Relea (Relea (Relea (Relea	-5 llowing rele 1 Phase 2) ase 1996) ase 1997) ase 1999) ase 1999) ase 4) ase 5) ase 6)	eases:
Reason for change: ¥	In the soft handover delay te this test it is stated that the E target is 1%. But the BLER target is 1%. But the BLER target is 1%. But the BLER target is 1% requirement, see 25.101, particular when the BLER target is 1%. Therefore the test requirement fulfil the soft handover delay a Furthermore since the BLER handovers, it is not possible successfully performed. The on the rate of successfully set average BLER during a period demodulation of cell 2 is done. An extra time of 10 ms is ad power control to adapt to that Isolated Impact: This CR will change the testcase in order to restant.	BLER perform arget shall be power contro- ragraph 8.8. Int is change requirements must be est to detect whi- refore it does of thandovers of after cell f e. ded after cell f i.	nance shall be e the target of the ol constant BLE 1, the BLER sha d to in average s. imated during a ether one certa s not make sens s, instead the re 1 is removed to 11 is removed i is received.	below 19 he receiv R target all be with be <b>BLE</b> a numbe in soft have be sure be sure n order f	% when the ved qualit t performation thin 0.01± CR= 0.01±3 er of soft andover is ve a requi- ent must be that for the inner etwork, it o	er loop
Summary of change: भ	The BLER performance rec maximum BLER= 0.01 to BLER=0.01±30% to fulfil the		-	-		

	The formulation of the rate of successful tests <i>"The rate of correct soft handovers observed during repeated tests shall be at least 90%."</i> is removed. The relative delay between paths of DPCH from cell 1 and cell 2 is also included in the testparameters.
Consequences if not approved:	<b>%</b> The test requirement in the appendix set a requirement that is not valid according core requirement in 25.101.
Clauses affected:	<b>%</b> A.5.1
Other specs affected:	Y       N         X       Other core specifications         X       Test specifications         X       O&M Specifications
Other comments:	# Equivalent CRs in other Releases: CR564r2 cat. F to 25.133 v3.13.0, CR565r2 cat. A to 25.133 v4.8.0, CR567r2 cat. A to 25.133 v6.1.0

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# A.5 UTRAN Connected Mode Mobility

### A.5.1 FDD/FDD Soft Handover

### A.5.1.1 Test Purpose and Environment

The purpose of this test is to verify the requirement for the soft handover delay in CELL\_DCH state specified in section 5.1.2.

The test parameters are given in Table A.5A and A.5B below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A shall be used, and that CPICH Ec/Io and SFN-CFN observed time difference shall be reported together with Event 1A. The test consists of <u>five-six</u> successive time periods, with a time duration of T1, T2, T3, T4, <u>and T5 and T6</u> respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

Par	ameter	Unit	Value	Comment		
DCH parame	eters		DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1		
Power Contr	ol		On			
Target qualit DTCH	y value on	BLER	0.01			
Initial	Active cell		Cell 1			
conditions	Neighbouring cell		Cell 2			
Final condition	I Active cell		Cell 2			
Reporting ra	nge	dB	3	Applicable for event 1A and 1B		
Hysteresis		dB	0			
W			1	Applicable for event 1A and 1B		
Reporting de threshold	activation		0	Applicable for event 1A		
Time to Trigg	ger	ms	0			
Filter coeffici	ent		0			
T1		S	5			
T2		S	3			
Т3		S	0.5			
Τ4		ms	60	This is the requirement on active set update delay, see section 5.1.2.2, where KC=1 and OC=0.		
T5		<u>m</u> s	2 <u>10</u>			
T6		S	2			

#### Table A.5A: General test parameters for Soft handover

Parameter	Unit			Ce	ll 1			Cell 2					
		T1	T2	T3	T4	T5	<u>T6</u>	T1	T2	T3	T4	T5	<u>T6</u>
CPICH_Ec/lor	dB			-1	0					-1	0		
PCCPCH_Ec/lor	dB		-12 -12										
SCH_Ec/lor	dB			-1	2					-1	2		
PICH_Ec/lor	dB			-1	5					-1	5		
DPCH_Ec/lor	dB	Note1	Note1	No	te1	N/A	<u>N/A</u>	N/A	N/A	Note3	Not	e1	Note1
OCNS		Note2	Note2	No	te2	-0.94	<u>-0.94</u>	-0.94	-0.94	Note2	Not	e2	Note2
$\hat{I}_{or}/I_{oc}$	dB	0	2.91	2.9	91	2.91	<u>2.91</u>	-Inf	2.91	2.91	2.9	91	<u>2.91</u>
I <sub>oc</sub>	dBm/3. 84 MHz		-70										
CPICH_Ec/lo	dB	-13	-14	-1	4	-14	<u>-14</u>	-Inf	-14	-14	-1	4	<u>-14</u>
Propagation							AW	/GN					
Condition													
Relative delay of	<u>chips</u>						<u>{-148 .</u>	148}					
paths received							<u>No</u>	<u>te 3</u>					
from cell 2 with													
respect to cell 1													
Note 1: The DP	CH level is	s controlle	ed by the	power co	ontrol loc	р							
Note 2: The pov	wer of the (	OCNS ch	annel tha	at is adde	d shall n	nake the	otal pow	er from th	ne cell to	be equal	to I <sub>or</sub>		
	CH level is											c/lor of	Cell 1 at

the end of T2. Note 3: The relative delay of the path from cell 2 with respect to cell 1 shall always be within ±148 chip.

#### A.5.1.1.1 Test procedure

- 1) The test is started at the beginning of T1.
- 2) During time period T2 an Event 1A triggered measurement report shall be sent by the UE containing the CFN-SFN observed time difference between cell 1 and cell 2.
- 3) At the beginning of T3 the downlink DPCH of cell 2 shall be activated.
- 4) UTRAN shall send a Active Set Update command with activation time now adding cell 2 to the active set. The Active Set Update message shall be sent to the UE so that the whole message is available at the UE at the beginning of T4.
- 5) At the beginning of T5 the DPCH from cell 1 shall be switched off.

### A.5.1.2 Test Requirements

The <u>measured quality on the DTCH of the UE</u> downlink <u>shall during T6 be BLER = $0.01\pm30\%$ </u>. shall not exceed the downlink BLER target, i.e. 1%, during time period T5.

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

### R4-030654

	CHANGE	REQL	JEST	•		CR-Form-v7
<sup>#</sup> 25	<mark>.133</mark> CR <mark>567</mark>	ж <b>rev</b>	<mark>2</mark> <sup>ж</sup>	Current vers	<sup>sion:</sup> 6.1.0	ж
For <u>HELP</u> on using	this form, see bottom of this	page or lo	ok at th	e pop-up text	over the X syr	nbols.
Proposed change affec	cts: UICC apps₩	MEX	Radio A	ccess Netwo	rk Core Ne	etwork
Title: % UE	Soft Handover Delay requir	ements				
Source: % RA	NWG4					
Work item code: % TE	il			Date: ೫	27/05/2003	
Deta be fo	one of the following categories: <b>F</b> (correction) <b>A</b> (corresponds to a correction <b>B</b> (addition of feature), <b>C</b> (functional modification of fe <b>D</b> (editorial modification) ailed explanations of the above of bound in 3GPP <u>TR 21.900</u> . <b>In the soft handover delay to</b> this test it is stated that the target is 1%. But the BLER the performance limit. In the requirement, see 25.101, page	in an earlie ature) categories o estcase, th BLER pert target sha power co	ne test r formanc il be the ontrol co	2 e) R96 R97 R98 R99 Rel-4 Rel-5 Rel-6	the following rele (GSM Phase 2) (Release 1996) (Release 1997) (Release 1998) (Release 1999) (Release 4) (Release 5) (Release 5) (Release 6) s not valid. Curr low 1% when the received qualite target performation	ently in ne BLER y, not ance
	when the BLER target is 1% Therefore the test requirem fulfil the soft handover delay Furthermore since the BLEF handovers, it is not possible successfully performed. The on the rate of successfully s average BLER during a per demodulation of cell 2 is do	ent is char requirem R must be to detect erefore it c soft hando iod after c	ents. estimat whethe loes not vers, ins	ted during a n r one certain t make sense stead the requ	umber of soft soft handover i to have a requ uirement must l	s irement
	An extra time of 10 ms is a power control to adapt to th <b>Isolated Impact:</b> This CR will change the testcase in order to	dded after at only cel 1 not have a	l 2 is re an impac	ceived. et on the UE or	the network, it c	
Summary of change: ೫	The BLER performance re maximum BLER= 0.01 to BLER=0.01±30% to fulfil th			-	-	

	The formulation of the rate of successful tests <i>"The rate of correct soft handovers observed during repeated tests shall be at least 90%."</i> is removed. The relative delay between paths of DPCH from cell 1 and cell 2 is also included in the testparameters.
Consequences if not approved:	<b>%</b> The test requirement in the appendix set a requirement that is not valid according core requirement in 25.101.
Clauses affected:	<b>%</b> A.5.1
Other specs affected:	Y       N         X       Other core specifications         X       Test specifications         X       O&M Specifications
Other comments:	# Equivalent CRs in other Releases: CR564r2 cat. F to 25.133 v3.13.0, CR565r2 cat. A to 25.133 v4.8.0, CR566r2 cat. A to 25.133 v5.6.0

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

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

# A.5 UTRAN Connected Mode Mobility

### A.5.1 FDD/FDD Soft Handover

### A.5.1.1 Test Purpose and Environment

The purpose of this test is to verify the requirement for the soft handover delay in CELL\_DCH state specified in section 5.1.2.

The test parameters are given in Table A.5A and A.5B below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A shall be used, and that CPICH Ec/Io and SFN-CFN observed time difference shall be reported together with Event 1A. The test consists of <u>five-six</u> successive time periods, with a time duration of T1, T2, T3, T4<u>, and T5 and T6</u> respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

Par	ameter	Unit	Value	Comment		
DCH parame	eters		DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1		
Power Contro	ol		On			
Target quality	y value on	BLER	0.01			
Initial	Active cell		Cell 1			
conditions	Neighbouring cell		Cell 2			
Final condition	Active cell		Cell 2			
Reporting rai	nge	dB	3	Applicable for event 1A and 1B		
Hysteresis		dB	0			
W			1	Applicable for event 1A and 1B		
Reporting de threshold	activation		0	Applicable for event 1A		
Time to Trigg	ger	ms	0			
Filter coeffici	ent		0			
T1		S	5			
T2		S	3			
T3		S	0.5			
Τ4		ms	60	This is the requirement on active set update delay, see section 5.1.2.2, where KC=1 and OC=0.		
T5		S	2			

#### Table A.5A: General test parameters for Soft handover

Parameter	Unit			Cel	11					Cel	12		
		T1	T2	T3	T4	T5	<u>T6</u>	T1	T2	T3	T4	T5	<u>T6</u>
CPICH_Ec/lor	dB			-1	0					-1	0		
PCCPCH_Ec/lor	dB		-12 -12										
SCH_Ec/lor	dB			-1	2					-1	2		
PICH_Ec/lor	dB			-1	5					-1	5		
DPCH_Ec/lor	dB	Note1	Note1	Not	e1	N/A	N/A	N/A	N/A	Note3	Not	e1	Note1
OCNS		Note2	Note2	Not	e2	-0.94	-0.94	-	-0.94	Note2	Not	e2	Note2
								0.941					
$\hat{I}_{or}/I_{oc}$	dB	0	2.91	2.9	91	2.91	<u>2.91</u>	-Inf	2.91	2.91	2.9	)1	<u>2.91</u>
I <sub>oc</sub>	dBm/3. 84 MHz						-7	70					
CPICH_Ec/lo	dB	-13	-14	-1	4	-14	-14	-Inf	-14	-14	-1-	4	<u>-14</u>
Propagation Condition							AW	'GN					
Relative delay of	<u>chips</u>		<u>{-148 148}</u>										
paths received from cell 2 with			Note 3										
respect to cell 1													
Note 1: The DF	CH level is	s controlle	ed by the	power co	ntrol loc	р							

#### Table A.5B: Cell specific test parameters for Soft handover

Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to I<sub>or</sub>

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

Note 3: The relative delay of the path from cell 2 with respect to cell 1 shall always be within ±148 chip.

#### A.5.1.1.1 Test procedure

- 1) The test is started at the beginning of T1.
- 2) During time period T2 an Event 1A triggered measurement report shall be sent by the UE containing the CFN-SFN observed time difference between cell 1 and cell 2.
- 3) At the beginning of T3 the downlink DPCH of cell 2 shall be activated.
- 4) UTRAN shall send a Active Set Update command with activation time now adding cell 2 to the active set. The Active Set Update message shall be sent to the UE so that the whole message is available at the UE at the beginning of T4.
- 5) At the beginning of T5 the DPCH from cell 1 shall be switched off.

### A.5.1.2 Test Requirements

The measured quality on the DTCH of the UE downlink <u>shall during T6 be BLER =  $0.01\pm30\%$ </u>. shall not exceed the downlink BLER target, i.e. 1%, during time period T5.

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

### R4-030594

	CHANGE REQUEST											
ж		<mark>25.133</mark>	CR <mark>5</mark>	70	жrev	1	ж	Current ver	sion:	<mark>3.13.0</mark>	ж	
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: UICC apps <b>#</b> ME X Radio Access Network Core Network												
Title:	ж		n to CPIC test case		correct re	portir	ng of	neighbours	in AV	VGN propa	gation	
Source:	ж	RAN WG	4									
Work item code.	: X	TEI						Date: 8	€ <mark>27</mark>	7/05/2003		
Category:		Use <u>one</u> of F (cor A (col B (ad C (fur D (ed	rrection) rresponds a dition of fea nctional mo itorial modi planations	<i>dification of fo</i> <i>fication)</i> of the above	n in an ea eature)			2	f the f (GS (Re) (Re) (Re) (Re) (Re)	99 following rele M Phase 2) lease 1996) lease 1998) lease 1999) lease 4) lease 5) lease 6)	eases:	

Reason for change: %	There is no margin taken into account for this testcase for period T2.
	The CPICH Ec/lo in Cell 1 period T2 is set to -13 dB and the CPICH Ec/lo in Cell 2 was set to -15 dB. The reporting range is 4 dB. This meets the measurement accuracy requirement of 2 dB however no margin is given which could cause UE's to fail if on the border since uncertainly have not been taken into account. Therefore the CPICH Ec/lo in Cell 2 period T2 is changed to -14.5 dB giving a margin of 0.5 dB. Typically other testcases take into account a 0.5 dB margin.
Summary of change: #	Changed the CPICH Ec/lo parameter to increase by a factor of 0.5 dB to include the margin in Cell 2 for time period T2.
	This CR has an isolated impact, as this is a correction to a testcase.
Consequences if % not approved:	It is possible for UE's on the border to fail this testcase if no margin is specified.
Clauses affected: #	A.8.2
Other specs %	Y     N       X     Other core specifications     %       X     Test specifications     34.121
	X     O&M Specifications
Other comments: %	

Equivalent CRs in other Releases: CR571r1 cat. A to 25.133 v4.8.0, CR572r1 cat. A to 25.133 v5.6.0, CR573r1 cat. A to 25.133 v6.1.0

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

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

### A.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 and section 8.1.2.3.

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

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

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

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

Parameter	Unit	(	Cell 1		12	Cell 3		
		T1	T2	T1	T2	T1	T2	
UTRA RF Channel Number		Ch	annel 1	Chan	nel 1	Char	nnel 2	
CPICH_Ec/lor	dB	-10		-10		-10		
PCCPCH_Ec/lor	dB	-12		-12		-12		
SCH_Ec/lor	dB	-12		-12		-12		
PICH_Ec/lor	dB	-15		-15		-15		
DPCH_Ec/lor	dB	-17		N/A		N/A		
OCNS		-1.049		-0.941		-0.941		
$\hat{I}_{or}/I_{oc}$	dB	0	4 <u>.395.4</u> 2	- Infinity	2.39 <u>3.9</u> 2	-1.8	-1.8	
I <sub>oc</sub>	dBm/3.84 MHz	-70		-7	0	-70		
CPICH_Ec/lo	dB	-13	-13	- Infinity	- <del>15</del> 14.5	-14	-14	
Propagation Condition				AWGN				

### R4-030595

CHANGE REQUEST											
æ	25.133	CR <mark>571</mark>	жrev	1	ж	Current vers	<sup>ion:</sup> <b>4.8.0</b>	) <del>.</del> #			
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:	UICC apps <b>#</b>	MEX	Rad	lio A	ccess Networ	k Core N	Jetwork			
Title: ¥	condition	n to CPICH Ec/lo in test case	correct rep	oortin	g of	neighbours in	AWGN prop	agation			
Source: #	RAN WG	4									
Work item code: भ्र	TEI					Date: #	27/05/2003				
Category: ¥	F (cor A (cor B (add C (fun D (edd Detailed ex	the following categori rection) responds to a correct dition of feature), actional modification of itorial modification) planations of the abov 3GPP <u>TR 21.900</u> .	ion in an eai f feature)		leas	2 R96 R97 R98 R99 R99 Rel-4	Rel-4 the following re (GSM Phase 2 (Release 1996 (Release 1997 (Release 1998 (Release 4) (Release 5) (Release 6)	?) )) ))			

Reason for change: %	There is no margin taken into account for this testcase for period T2.
	The CPICH Ec/lo in Cell 1 period T2 is set to -13 dB and the CPICH Ec/lo in Cell 2 was set to -15 dB. The reporting range is 4 dB. This meets the measurement accuracy requirement of 2 dB however no margin is given which could cause UE's to fail if on the border since uncertainly have not been taken into account. Therefore the CPICH Ec/lo in Cell 2 period T2 is changed to -14.5 dB giving a margin of 0.5 dB. Typically other testcases take into account a 0.5 dB margin.
Summary of change: #	Changed the CPICH Ec/lo parameter to increase by a factor of 0.5 dB to include the margin in Cell 2 for time period T2.
	Isolated impact:
	This CR has an isolated impact, as this is a correction to a testcase.
Consequences if %	It is possible for UE's on the border to fail this testcase if no margin is specified.
not approved:	
Clauses affected: %	A.8.2
	YN
Other specs %	
affected:	X   Test specifications   34.121
	X O&M Specifications
Other comments: %	

Equivalent CRs in other Releases: CR570r1 cat. F to 25.133 v3.13.0, CR572r1 cat. A to 25.133 v5.6.0, CR573r1 cat. A to 25.133 v6.1.0

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

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

### A.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 and section 8.1.2.3.

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

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

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

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

Parameter	Unit	Cell 1		Ce	ll 2	Cell 3		
		T1	T2	T1	T2	T1	T2	
UTRA RF Channel Number		Cha	nnel 1	Chan	nel 1	Chai	nnel 2	
CPICH_Ec/lor	dB	-10		-10		-10		
PCCPCH_Ec/lor	dB	-12		-12		-12		
SCH_Ec/lor	dB	-12		-12		-12		
PICH_Ec/lor	dB	-15		-15		-15		
DPCH_Ec/lor	dB	-17		N/A		N/A		
OCNS		-1.049		-0.941		-0.941		
$\hat{I}_{or}/I_{oc}$	dB	0	4 <u>.395.4</u> 2	- Infinity	2.39 <u>3.9</u> 2	-1.8	-1.8	
I <sub>oc</sub>	dBm/3.84 MHz		-	-70		-	70	
CPICH_Ec/lo	dB	-13	-13	- Infinity	- <del>15</del> 14.5	-14	-14	
Propagation Condition				AWGN				

æ	25.133	CR <mark>572</mark>	жrev	1	ж	Current vers	ion: 5	<b>.6.0</b>	ж		
For <mark>HELP</mark> on u	ising this fo	rm, see bottom of th	is page or	look a	at th	e pop-up text	over th	e ೫ syr	nbols.		
Proposed change	affects:	UICC apps <b>೫</b>	MEX	Rad	lio A	ccess Networ	'k 📃 (	Core Ne	etwork		
Title: #	••••••	n to CPICH Ec/lo in test case	correct rep	oortin	g of	neighbours in	AWGN	N propa	gation		
Source: #	RAN WG	4									
Work item code: %	TEI					Date: ¥	27/05	/2003			
Category: ¥	Use <u>one</u> of F (cor A (co B (ad C (fur D (ed Detailed ex	the following categoria rection) rresponds to a correcta dition of feature), actional modification of itorial modification) planations of the abov 3GPP <u>TR 21.900</u> .	ion in an eai feature)		leas	e) R96 R97 R98 R99 Rel-4		wing rele Phase 2) ie 1996) ie 1997) ie 1998) ie 1999) ie 4) ie 5)	pases:		

Reason for change: %	There is no margin taken into account for this testcase for period T2.
	The CPICH Ec/lo in Cell 1 period T2 is set to -13 dB and the CPICH Ec/lo in Cell 2 was set to -15 dB. The reporting range is 4 dB. This meets the measurement accuracy requirement of 2 dB however no margin is given which could cause UE's to fail if on the border since uncertainly have not been taken into account. Therefore the CPICH Ec/lo in Cell 2 period T2 is changed to -14.5 dB giving a margin of 0.5 dB. Typically other testcases take into account a 0.5 dB margin.
Summary of change: #	Changed the CPICH Ec/lo parameter to increase by a factor of 0.5 dB to include
	the margin in Cell 2 for time period T2.
	Isolated impact:
	This CR has an isolated impact, as this is a correction to a testcase.
Consequences if %	It is possible for UE's on the border to fail this testcase if no margin is specified.
not approved:	
Olevere effected	
Clauses affected: #	A.8.2
	YN
Other specs %	
affected:	X     Test specifications     34.121       X     O&M Specifications     34.121
Other comments: %	

Equivalent CRs in other Releases: CR570r1 cat. F to 25.133 v3.13.0, CR571r1 cat. A to 25.133 v4.8.0, CR573r1 cat. A to 25.133 v6.1.0

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

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

### A.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 and section 8.1.2.3.

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

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

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

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

Parameter	Unit	Cell 1		Ce	ll 2	Cell 3		
		T1	T2	T1	T2	T1	T2	
UTRA RF Channel Number		Cha	nnel 1	Chan	nel 1	Chai	nnel 2	
CPICH_Ec/lor	dB	-10		-10		-10		
PCCPCH_Ec/lor	dB	-12		-12		-12		
SCH_Ec/lor	dB	-12		-12		-12		
PICH_Ec/lor	dB	-15		-15		-15		
DPCH_Ec/lor	dB	-17		N/A		N/A		
OCNS		-1.049		-0.941		-0.941		
$\hat{I}_{or}/I_{oc}$	dB	0	4 <u>.395.4</u> 2	- Infinity	2.39 <u>3.9</u> 2	-1.8	-1.8	
I <sub>oc</sub>	dBm/3.84 MHz		-	-70		-	70	
CPICH_Ec/lo	dB	-13	-13	- Infinity	- <del>15</del> 14.5	-14	-14	
Propagation Condition				AWGN				

### R4-030597

			C	CHANG	EREC	QUE	ST				CR-Form-v7
ж		25.13	3 CR	573	жrev	1	ж	Current ver	sion:	6.1.0	ж
For <u>HELP</u> of	n us	sing this f	orm, see	bottom of th	is page o	r look	at th	e pop-up tex	t over	<sup>·</sup> the ೫ syr	nbols.
Proposed chang	Proposed change affects: UICC apps # ME X Radio Access Network Core Network										
Title:	ж		on to CF n test ca	PICH Ec/lo in se	correct re	eportir	ng of	neighbours i	n AW	GN propa	gation
Source:	Ж	RAN W	G4								
Work item code	: Ж	TEI						Date: ೫	3 <mark>27</mark> ,	/05/2003	
Category:		F (cd A (c B (a C (fu D (e Detailed e	orrection) orrespond ddition of unctional I ditorial m explanatio	owing categorie ds to a correcti feature), modification of odification) ns of the abov <u>FR 21.900</u> .	ion in an ea feature)			2	f the fo (GSI (Rele (Rele (Rele (Rele (Rele	H-6 M Phase 2) Pase 1996) Pase 1997) Pase 1998) Pase 1999) Pase 4) Pase 5) Pase 6)	eases:

Reason for change: ೫	There is no margin taken into account for this testcase for period T2.
	The CPICH Ec/lo in Cell 1 period T2 is set to -13 dB and the CPICH Ec/lo in Cell 2 was set to -15 dB. The reporting range is 4 dB. This meets the measurement accuracy requirement of 2 dB however no margin is given which could cause UE's to fail if on the border since uncertainly have not been taken into account. Therefore the CPICH Ec/lo in Cell 2 period T2 is changed to -14.5 dB giving a margin of 0.5 dB. Typically other testcases take into account a 0.5 dB margin.
Summary of change: #	Changed the CPICH Ec/lo parameter to increase by a factor of 0.5 dB to include the margin in Cell 2 for time period T2.
	Isolated impact:
	This CR has an isolated impact, as this is a correction to a testcase.
Consequences if %	It is possible for UE's on the border to fail this testcase if no margin is specified.
not approved:	
Clauses affected: %	A.8.2
	YN
Other specs #	
affected:	X   Test specifications   34.121
	X O&M Specifications
Other comments: #	

Equivalent CRs in other Releases: CR570r1 cat. F to 25.133 v3.13.0, CR571r1 cat. A to 25.133 v4.8.0, CR572r1 cat. A to 25.133 v5.6.0

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

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

### A.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 and section 8.1.2.3.

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

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

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

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

Parameter	Unit	Cell 1		Cel	12	Cell 3		
		T1	T2	T1	T2	T1	T2	
UTRA RF Channel Number		Char	nnel 1	Chan	nel 1	Char	nnel 2	
CPICH_Ec/lor	dB	-10		-10		-10		
PCCPCH_Ec/lor	dB	-12		-12		-12		
SCH_Ec/lor	dB	-12		-12		-12		
PICH_Ec/lor	dB	-15		-15		-15		
DPCH_Ec/lor	dB	-17		N/A		N/A		
OCNS		-1.049		-0.941		-0.941		
$\hat{I}_{or}/I_{oc}$	dB	0	4.39 <u>5.4</u> 2	- Infinity	<del>2.39<u>3.9</u> 2</del>	-1.8	-1.8	
I <sub>oc</sub>	dBm/3.84 MHz		-	70		-70		
CPICH_Ec/lo	dB	-13	-13	- Infinity	- <del>15</del> 14.5	-14	-14	
Propagation Condition				AWGN				

### Paris, France 19 - 23 May, 2003

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ж	25	.133	CR	574	5	# <b>rev</b>		ж	Current ver	sion:	3.13.	0 <sup>ж</sup>
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Proposed change	affec	ts: I	IICC a	pps <b>%</b>	1	MEX	Rad	dio A	ccess Netwo	ork	Core N	letwork
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Source: #		N WG							.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
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Work item code: #	IE								Date: 3	5 <mark>27</mark>	/05/2003	
Category: ж	F								Release: 🕯			
				wing cate	egories:				Use <u>one</u> o			
			rection) respon	ds to a col	rrection	in an ea	rlior ra	aleas	2 e) R96		M Phase 2 ease 1996	
				feature),	1 CCIION	in an ea		10030	R97		ease 1990 ease 1997	
		C (fun	ctional i	modificatio		ature)			R98	(Rel	ease 1998	Ś)
				odification		, .			R99		ease 1999	))
				ns of the a		ategorie	s can		Rel-4 Rel-5		ease 4) ease 5)	
	Deit		JULL	<u>IN 21.900</u>	<u>.</u>				Rel-6		ease 5)	
Reason for change	e: Ж			ection 5. or CELL			obse	rved	time differer	nce ty	pe 1 is no	ot
Summary of chang	ye: %	The C	CELL_C	CH state	have be	en remo	oved f	rom S	SFN-SFN obs	erved	time differ	ence type 1
	-			nt requirer								
Consequences if	ж	The	require	ments a	nd test	case for	SFN	-SFN	l observed ti	me d	ifference	type 1
not approved:									ent abilities			
		Isola	ted im	oact:								
					ated im	pact, as	s this	is a	correction of	a mis	salignmer	nt
		betw	een sp	ecificatio	ons.							
Clauses affected:	ж	01	0101	.1, A.9, A	015	1 1						
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Other specs	ж	X		core spe		ions	ж					
affected:		X		specificat								
		X	O&M	Specifica	ations							
Other comments:	ж											

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

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

to 25.133 v5.6.0, CR597 cat. A to 25.133 v6.1.0

Equivalent CRs in other Releases: CR575 cat. A to 25.133 v4.8.0, CR576 cat. A

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

# 9 Measurements Performance Requirements

One of the key services provided by the physical layer is the measurement of various quantities which are used to trigger or perform a multitude of functions. Both the UE and the UTRAN are required to perform a variety of measurements. The physical layer measurement model and a complete list of measurements is specified in TS 25.302 "Services Provided by Physical Layer". The physical layer measurements for FDD are described and defined in TS25.215 "Physical layer - Measurements (FDD)". In this clause for each measurement the relevant requirements on the measurement period, reporting range, granularity and performance in terms of accuracy are specified.

The accuracy requirements in this clause are applicable for AWGN radio propagation conditions.

## 9.1 Measurement Performance for UE

The requirements in this clause are applicable for a UE:

- in state CELL\_DCH and/or state CELL\_FACH.
- performing measurements according to section 8.
- that is synchronised to the cell that is measured.

The reported measurement result after layer 1 filtering shall be an estimate of the average value of the measured quantity over the measurement period. The reference point for the measurement result after layer 1 filtering is referred to as point B in the measurement model described in TS25.302.

The accuracy requirements in this clause are valid for the reported measurement result after layer 1 filtering. The accuracy requirements are verified from the measurement report at point D in the measurement model having the layer 3 filtering disabled.

NOTE: It needs to be clarified how the accuracy requirements shall be handled when the UE is measuring on cells using IPDL.

### 9.1.8 SFN-SFN observed time difference

#### 9.1.8.1 SFN-SFN observed time difference type 1

NOTE: This measurement is for identifying time difference between two cells.

#### 9.1.8.1.1 Measurement requirement

The measurement period for CELL\_DCH state can be found in sub clause 8.1.2.2. The measurement period for CELL\_FACH state can be found in sub clause 8.4.2.2.

The accuracy requirement in table 9.19 is valid under the following conditions:

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

$$\begin{aligned} \left| CPICH \_RSCP1 \right|_{in \, dBm} - CPICH \_RSCP2 \right|_{in \, dBm} \right| &\leq 20 dB \\ \frac{I_o}{\left(\hat{I}_{or}\right)} \right|_{in \, dB} - \left( \frac{CPICH \_E_c}{I_{or}} \right) \right|_{in \, dB} &\leq 20 dB \\ \frac{I_o}{\left(\hat{I}_{or}\right)} \right|_{in \, dB} - \left( \frac{P - CCPCH \_E_c}{I_{or}} \right) \right|_{in \, dB} \text{ is low enough to ensure successful SFN decoding.} \end{aligned}$$

# A.9 Measurement Performance Requirements

Unless explicitly stated:

- Reported measurements shall be within defined range in 90 % of the cases.
- Measurement channel is 12.2 kbps as defined in TS 25.101 annex A, sub-clause A.3.1. This measurement channel is used both in active cell and cells to be measured.
- Physical channels used as defined in TS 25.101 annex C.
- Cell 1 is the active cell<u>when in CELL\_DCH</u> state.
- Single task reporting.
- Power control is active.

### A.9.1.5 SFN-SFN observed time difference

### A.9.1.5.1 SFN-SFN observed time difference type 1

#### A.9.1.5.1.1 Test Purpose and Environment

The purpose of this test is to verify that the SFN-SFN observed time difference type 1 measurement accuracy is within the specified limits. This test will verify the requirements in section 9.1.8.1.

During the test the timing difference between Cell 1 and 2 can be set to value from 0...9830399 chips.

In this case all cells are in the same frequency. Table A.9.8 defines the limits of signal strengths and code powers, where the requirements are applicable.

#### Table A.9.8: SFN-SFN observed time difference type 1 Intra frequency test parameters

Parameter	Unit	Cell 1	Cell 2			
UTRA RF Channel number		Channel 1	Channel 1			
CPICH_Ec/lor	dB	-10	-10			
PCCPCH_Ec/lor	dB	-12	-12			
SCH_Ec/lor	dB	-12	-12			
PICH_Ec/lor	dB	-15	-15			
DPCH_Ec/lorS-CCPCH_Ec/lor	dB	- <del>15</del> 12	- <del>15</del> 12			
OCNS	dB	- <del>1.11<u>1.29</u></del>	- <del>1.11</del> <u>1.29</u>			
Îor/loc	dB	10.5	10.5			
loc	dBm/ 3.84 MHz	<i>Io -13.7 dB = loc,</i> Note 1	<i>Io -13.7 dB = loc,</i> Note 1			
Range 1:lo	dBm/3.84 MHz	-9470	-9470			
Range 2: lo		-9450	-9450			
Propagation condition	-	AWGN				
NOTE 1: <i>loc</i> level shall be adjusted according the total signal power spectral density <i>lo</i> at receiver input and the geometry factor <i>lor/loc</i> .						

#### A.9.1.5.1.2 Test Requirements

The SFN-SFN observed time difference type 1 measurement accuracy shall meet the requirements in section 9.1.8.1

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æ	25	. <mark>133</mark>	CR	575	ж	rev		ж	Current ve	ersior	<sup>n:</sup> <b>4.8</b>	<b>.0</b> <sup>೫</sup>	B
For <u>HELP</u> on u	ising t	his for	m, see	bottom o	of this pa	ige or	look	at the	e pop-up te	ext ov	ver the ¥	symb	ols.
Proposed change a				pps೫	-				ccess Netv	vork	Cor	e Netw	vork
Title: ¥	Cor	rectio	n to SF	N-SFN o	bserved	time o	differe	ence	type 1				
Source: ೫	RA	N WG	4										
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Reason for change	e: Ж			ection 5.7 or CELL_			obse	rved	time differe	ence	type 1 is	s not	
Summary of chang	уе: Ж			CH state				rom S	SFN-SFN ob	serve	d time di	fference	e type 1
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		This				act, as	this	is a d	correction o	of a m	nisalignr	nent	
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Other specs affected:	ж	Y N X X X	Test s	core spe specificat Specifica	ions	ns	Ħ						
Other comments:	ж												

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

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

to 25.133 v5.6.0, CR597 cat. A to 25.133 v6.1.0

Equivalent CRs in other Releases: CR574 cat. F to 25.133 v3.13.0, CR576 cat. A

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

# 9 Measurements Performance Requirements

One of the key services provided by the physical layer is the measurement of various quantities which are used to trigger or perform a multitude of functions. Both the UE and the UTRAN are required to perform a variety of measurements. The physical layer measurement model and a complete list of measurements is specified in TS 25.302 "Services Provided by Physical Layer". The physical layer measurements for FDD are described and defined in TS25.215 "Physical layer - Measurements (FDD)". In this clause for each measurement the relevant requirements on the measurement period, reporting range, granularity and performance in terms of accuracy are specified.

The accuracy requirements in this clause are applicable for AWGN radio propagation conditions.

## 9.1 Measurement Performance for UE

The requirements in this clause are applicable for a UE:

- in state CELL\_DCH and/or state CELL\_FACH.
- performing measurements according to section 8.
- that is synchronised to the cell that is measured.

The reported measurement result after layer 1 filtering shall be an estimate of the average value of the measured quantity over the measurement period. The reference point for the measurement result after layer 1 filtering is referred to as point B in the measurement model described in TS25.302.

The accuracy requirements in this clause are valid for the reported measurement result after layer 1 filtering. The accuracy requirements are verified from the measurement report at point D in the measurement model having the layer 3 filtering disabled.

NOTE: It needs to be clarified how the accuracy requirements shall be handled when the UE is measuring on cells using IPDL.

### 9.1.8 SFN-SFN observed time difference

### 9.1.8.1 SFN-SFN observed time difference type 1

NOTE: This measurement is for identifying time difference between two cells.

#### 9.1.8.1.1 Measurement requirement

The measurement period for CELL\_DCH state can be found in sub clause 8.1.2.2. The measurement period for CELL\_FACH state can be found in sub clause 8.4.2.2.

The accuracy requirement in table 9.19 is valid under the following conditions:

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

$$\begin{aligned} \left| CPICH \_RSCP1 \right|_{in \, dBm} - CPICH \_RSCP2 \right|_{in \, dBm} \right| &\leq 20 dB \\ \frac{I_o}{\left(\hat{I}_{or}\right)} \right|_{in \, dB} - \left( \frac{CPICH \_E_c}{I_{or}} \right) \right|_{in \, dB} &\leq 20 dB \\ \frac{I_o}{\left(\hat{I}_{or}\right)} \right|_{in \, dB} - \left( \frac{P - CCPCH \_E_c}{I_{or}} \right) \right|_{in \, dB} \text{ is low enough to ensure successful SFN decoding.} \end{aligned}$$

CR page 4

# A.9 Measurement Performance Requirements

Unless explicitly stated:

- Reported measurements shall be within defined range in 90 % of the cases.
- Measurement channel is 12.2 kbps as defined in TS 25.101 annex A, sub-clause A.3.1. This measurement channel is used both in active cell and cells to be measured.
- Physical channels used as defined in TS 25.101 annex C.
- Cell 1 is the active cell<u>when in CELL\_DCH</u> state.
- Single task reporting.
- Power control is active.

### A.9.1.5 SFN-SFN observed time difference

### A.9.1.5.1 SFN-SFN observed time difference type 1

#### A.9.1.5.1.1 Test Purpose and Environment

The purpose of this test is to verify that the SFN-SFN observed time difference type 1 measurement accuracy is within the specified limits. This test will verify the requirements in section 9.1.8.1.

During the test the timing difference between Cell 1 and 2 can be set to value from 0...9830399 chips.

In this case all cells are in the same frequency. Table A.9.8 defines the limits of signal strengths and code powers, where the requirements are applicable.

#### Table A.9.8: SFN-SFN observed time difference type 1 Intra frequency test parameters

Parameter	Unit	Cell 1	Cell 2			
UTRA RF Channel number		Channel 1	Channel 1			
CPICH_Ec/lor	dB	-10	-10			
PCCPCH_Ec/lor	dB	-12	-12			
SCH_Ec/lor	dB	-12	-12			
PICH_Ec/lor	dB	-15	-15			
DPCH_Ec/lorS-CCPCH_Ec/lor	dB	- <del>15</del> 12	- <del>15</del> 12			
OCNS	dB	- <del>1.11<u>1.29</u></del>	- <del>1.11</del> <u>1.29</u>			
Îor/loc	dB	10.5	10.5			
loc	dBm/ 3.84 MHz	<i>Io -13.7 dB = loc,</i> Note 1	<i>lo -13.7 dB = loc,</i> Note 1			
Range 1:lo	dBm/3.84 MHz	-9470	-9470			
Range 2: lo		-9450	-9450			
Propagation condition	-	AWGN				
NOTE 1: <i>loc</i> level shall be adjusted according the total signal power spectral density <i>lo</i> at receiver input and the geometry factor <i>lor/loc</i> .						

#### A.9.1.5.1.2 Test Requirements

The SFN-SFN observed time difference type 1 measurement accuracy shall meet the requirements in section 9.1.8.1

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	CHANGE REQUEST	CR-Form-v7
ж	25.133 CR 576 *rev *	Current version: <b>5.6.0</b> *
For <u>HELP</u> on us	ing this form, see bottom of this page or look at the	pop-up text over the X symbols.
Proposed change a		ccess Network Core Network
Title: ¥	Correction to SFN-SFN observed time difference t	type 1
Source: ೫	RAN WG4	
Work item code: #	TEI	Date: # 27/05/2003
Category: %	Use <u>one</u> of the following categories: <b>F</b> (correction) <b>A</b> (corresponds to a correction in an earlier release, <b>B</b> (addition of feature), <b>C</b> (functional modification of feature) <b>D</b> (editorial modification) Detailed explanations of the above categories can be found in 3GPP <u>TR 21.900</u> .	R97       (Release 1997)         R98       (Release 1998)         R99       (Release 1999)         Rel-4       (Release 4)         Rel-5       (Release 5)         Rel-6       (Release 6)
Summary of change	applicable for CELL_DCH state.	
Consequences if not approved:	* The requirements and testcase for SFN-SFN would not be aligned with the UE measurements and testcase for SFN-SFN would not be aligned with the UE measurements and testcase for SFN-SFN would not be aligned with the UE measurements and testcase for SFN-SFN would not be aligned with the UE measurements and testcase for SFN-SFN would not be aligned with the UE measurements and testcase for SFN-SFN would not be aligned with the UE measurements and testcase for SFN-SFN would not be aligned with the UE measurements and testcase for SFN-SFN would not be aligned with the UE measurements and testcase for SFN-SFN would not be aligned with the UE measurements and testcase for SFN-SFN would not be aligned with the UE measurements and testcase for SFN-SFN would not be aligned with the UE measurements and testcase for SFN-SFN would not be aligned with the UE measurements and testcase for SFN-SFN would not be aligned with the UE measurements and testcase for SFN-SFN would not be aligned with the UE measurements and testcase for SFN-SFN would not be aligned with the UE measurements and testcase for SFN-SFN would not be aligned with the UE measurements and testcase for SFN-SFN would not be aligned with the UE measurements and testcase for SFN-SFN would not be aligned with the UE measurements and testcase for SFN-SFN would not be aligned with the UE measurements and testcase for SFN-SFN would not be aligned with the UE measurements and testcase for SFN-SFN would not be aligned with the UE measurements and testcase for SFN-SFN would not be aligned with the UE measurements and testcase for SFN-SFN would not be aligned with the UE measurements and testcase for SFN-SFN would not be aligned with the UE measurements and testcase for SFN-SFN would not be aligned with the UE measurements and testcase for SFN-SFN would not be aligned with the UE measurements and testcase for SFN-SFN would not be aligned with the UE measurements and testcase for SFN-SFN would not be aligned with the UE measurements and testcase for SFN-SFN would not b	ent abilities defined in 25.215.
Clauses affected:	<b>%</b> 9.1, 9.1.8.1.1, A.9, A.9.1.5.1.1	
Other specs affected:	YNXOther core specifications%XTest specificationsXO&M Specifications	
Other comments:	<b>%</b>	

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

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

to 25.133 v4.8.0, CR597 cat. A to 25.133 v6.1.0

Equivalent CRs in other Releases: CR574 cat. F to 25.133 v3.13.0, CR575 cat. A

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

# 9 Measurements Performance Requirements

One of the key services provided by the physical layer is the measurement of various quantities which are used to trigger or perform a multitude of functions. Both the UE and the UTRAN are required to perform a variety of measurements. The physical layer measurement model and a complete list of measurements is specified in TS 25.302 "Services Provided by Physical Layer". The physical layer measurements for FDD are described and defined in TS25.215 "Physical layer - Measurements (FDD)". In this clause for each measurement the relevant requirements on the measurement period, reporting range, granularity and performance in terms of accuracy are specified.

The accuracy requirements in this clause are applicable for AWGN radio propagation conditions.

## 9.1 Measurement Performance for UE

The requirements in this clause are applicable for a UE:

- in state CELL\_DCH and/or state CELL\_FACH.
- performing measurements according to section 8.
- that is synchronised to the cell that is measured.

The reported measurement result after layer 1 filtering shall be an estimate of the average value of the measured quantity over the measurement period. The reference point for the measurement result after layer 1 filtering is referred to as point B in the measurement model described in TS25.302.

The accuracy requirements in this clause are valid for the reported measurement result after layer 1 filtering. The accuracy requirements are verified from the measurement report at point D in the measurement model having the layer 3 filtering disabled.

NOTE: It needs to be clarified how the accuracy requirements shall be handled when the UE is measuring on cells using IPDL.

### 9.1.8 SFN-SFN observed time difference

#### 9.1.8.1 SFN-SFN observed time difference type 1

NOTE: This measurement is for identifying time difference between two cells.

#### 9.1.8.1.1 Measurement requirement

The measurement period for CELL\_DCH state can be found in sub clause 8.1.2.2. The measurement period for CELL\_FACH state can be found in sub clause 8.4.2.2.

The accuracy requirement in table 9.19 is valid under the following conditions:

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

$$\begin{aligned} \left| CPICH \_RSCP1 \right|_{in \, dBm} - CPICH \_RSCP2 \right|_{in \, dBm} \right| &\leq 20 dB \\ \frac{I_o}{\left(\hat{I}_{or}\right)} \right|_{in \, dB} - \left( \frac{CPICH \_E_c}{I_{or}} \right) \right|_{in \, dB} &\leq 20 dB \\ \frac{I_o}{\left(\hat{I}_{or}\right)} \right|_{in \, dB} - \left( \frac{P - CCPCH \_E_c}{I_{or}} \right) \right|_{in \, dB} \text{ is low enough to ensure successful SFN decoding.} \end{aligned}$$

# A.9 Measurement Performance Requirements

Unless explicitly stated:

- Reported measurements shall be within defined range in 90 % of the cases.
- Measurement channel is 12.2 kbps as defined in TS 25.101 annex A, sub-clause A.3.1. This measurement channel is used both in active cell and cells to be measured.
- Physical channels used as defined in TS 25.101 annex C.
- Cell 1 is the active cell<u>when in CELL\_DCH</u> state.
- Single task reporting.
- Power control is active.

### A.9.1.5 SFN-SFN observed time difference

### A.9.1.5.1 SFN-SFN observed time difference type 1

#### A.9.1.5.1.1 Test Purpose and Environment

The purpose of this test is to verify that the SFN-SFN observed time difference type 1 measurement accuracy is within the specified limits. This test will verify the requirements in section 9.1.8.1.

During the test the timing difference between Cell 1 and 2 can be set to value from 0...9830399 chips.

In this case all cells are in the same frequency. Table A.9.8 defines the limits of signal strengths and code powers, where the requirements are applicable.

#### Table A.9.8: SFN-SFN observed time difference type 1 Intra frequency test parameters

Parameter	Unit	Cell 1	Cell 2			
UTRA RF Channel number		Channel 1	Channel 1			
CPICH_Ec/lor	dB	-10	-10			
PCCPCH_Ec/lor	dB	-12	-12			
SCH_Ec/lor	dB	-12	-12			
PICH_Ec/lor	dB	-15	-15			
DPCH_Ec/lorS-CCPCH_Ec/lor	dB	- <del>15</del> 12	- <del>15</del> 12			
OCNS	dB	- <del>1.11<u>1.29</u></del>	- <del>1.11</del> <u>1.29</u>			
Îor/loc	dB	10.5	10.5			
loc	dBm/ 3.84 MHz	<i>Io -13.7 dB = loc,</i> Note 1	<i>Io -13.7 dB = loc,</i> Note 1			
Range 1:lo	dBm/3.84 MHz	-9470	-9470			
Range 2: lo		-9450	-9450			
Propagation condition	-	AWGN				
NOTE 1: <i>loc</i> level shall be adjusted according the total signal power spectral density <i>lo</i> at receiver input and the geometry factor <i>lor/loc</i> .						

#### A.9.1.5.1.2 Test Requirements

The SFN-SFN observed time difference type 1 measurement accuracy shall meet the requirements in section 9.1.8.1

## Paris, France 19 - 23 May, 2003

	CHANG	E REQUES	CR-Form-v7
æ	25.133 CR 57	77 <b>%rev</b> *	Current version: <b>3.13.0</b> *
For <mark>HELP</mark> on u	sing this form, see bottom of	this page or look at t	he pop-up text over the X symbols.
Proposed change	affects: UICC apps <b>#</b>	ME 🗙 Radio /	Access Network Core Network
Title: ೫	Correction to CPCH RSCP	Test case A.9.1.1	
Source: ೫	RAN WG4		
Work item code: ೫	TEI		Date: # 27/05/2003
Category: #	F Use <u>one</u> of the following categor F (correction) A (corresponds to a correction) B (addition of feature), C (functional modification) D (editorial modification) Detailed explanations of the above be found in 3GPP <u>TR 21.900</u> . 2:  St The loc and CPICH RS can correctly implement	ction in an earlier relea of feature) ove categories can SCP values are corre	R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6) ected in order to make sure that T1
Summary of chang	Isolated Impact Analysis	<u>s:</u> UE and UTRAN imp	ected in the CPICH RSCP Test 3.
Consequences if not approved:	tolerances caused by t	est equipment uncer	ase correctly when also test tainties are applied. Furthernore, this uirement to fail the test case.
Clauses affected:	<b>%</b> A.9.1.1.1.1		
Other specs affected:	Y       N         X       Other core speci         X       Test specification         X       O&M Specification	ns TS	34.121
Other comments:	# Equivalent CRs in other to 25.133 v5.6.0, CR58		cat. A to 25.133 v4.8.0, CR579 cat. A 6.1.0

How to create CRs using this form:

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

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

## A.9.1.1 CPICH RSCP

### A.9.1.1.1 Test Purpose and Environment

The purpose of this test is to verify that the CPICH RSCP measurement accuracy is within the specified limits. This test will verify the requirements in section 9.1.1.

### A.9.1.1.1.1 Intra frequency test parameters

In this case all cells are on the same frequency. Both CPICH RSCP intra frequency absolute and relative accuracy requirements are tested by using test parameters in Table A.9.1.

Parameter	Unit	Tes	st 1	Te	st 2	Tes	st 3
Parameter	Unit	Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2
UTRA RF Channel number		Char	nel 1	Char	nel 1	Channel 1	
CPICH_Ec/lor	dB	-1	10	-*	10	-1	0
PCCPCH_Ec/lor	dB	-1	2	-*	12	-1	2
SCH_Ec/lor	dB	-1	12	-'	12	-1	2
PICH_Ec/lor	dB	-1	15	-15		-15	
DPCH_Ec/lor	dB	-15	-	-15	-	-15	-
OCNS_Ec/lor	dB	-1.11	-0.94	-1.11	-0.94	-1.11	-0.94
loc	dBm/ 3.84 MHz	-75	5.4	-59.98		-97. <mark>47<mark>52</mark></mark>	
Îor/loc	dB	4	0	9	0	0	-6.53
CPICH RSCP, Note 1	dBm	-81.5	-85.5	-60.98	-69.88	- 107. <u>47</u> <del>5</del>	-114.0
Io, Note 1	dBm/3.84 MHz	-69		-50		-94	
Propagation condition	-	AWGN		AWGN		AWGN	
NOTE 1: CPICH RSCP and lo are not settable para	ameters themselves.		•				

Table A.9.1: CPICH RSCP Intra frequency test parameters

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

## Paris, France 19 - 23 May, 2003

	CHANGE REQUEST
æ	<b>25.133</b> CR <b>578 # rev #</b> Current version: <b>4.8.0 #</b>
For <u>HELP</u> on u	sing this form, see bottom of this page or look at the pop-up text over the <b>#</b> symbols.
Proposed change a	affects: UICC apps <b>#</b> ME X Radio Access Network Core Network
Title: %	Correction to CPCH RSCP Test case A.9.1.1
Source: ж	RAN WG4
Work item code: %	TEI Date: % 27/05/2003
Category: %	
Summary of chang	can correctly implement the CPICH RSCP test case "Test3".         re: #       The loc and CPICH RSCP values are corrected in the CPICH RSCP Test 3.         Isolated Impact Analysis:         The CR does not affect UE and UTRAN implementations, since it only corrects a test case not the actual core requirement.
Consequences if not approved:	# T1 may not be able to implement the test case correctly when also test tolerances caused by test equipment uncertainties are applied. Furthernore, this may cause a terminal fulfilling the core requirement to fail the test case.
Clauses affected:	¥ A.9.1.1.1.1
Other specs affected:	Y       N         %       X         Other core specifications       %         X       Test specifications         X       0&M Specifications
Other comments:	# Equivalent CRs in other Releases: CR577 cat. F to 25.133 v3.13.0, CR579 cat. A to 25.133 v5.6.0, CR580 cat. A to 25.133 v6.1.0

How to create CRs using this form:

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

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

## A.9.1.1 CPICH RSCP

### A.9.1.1.1 Test Purpose and Environment

The purpose of this test is to verify that the CPICH RSCP measurement accuracy is within the specified limits. This test will verify the requirements in section 9.1.1.

### A.9.1.1.1.1 Intra frequency test parameters

In this case all cells are on the same frequency. Both CPICH RSCP intra frequency absolute and relative accuracy requirements are tested by using test parameters in Table A.9.1.

Parameter	Unit	Tes	st 1	Te	st 2	Tes	st 3
Parameter	Unit	Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2
UTRA RF Channel number		Char	nel 1	Char	nel 1	Channel 1	
CPICH_Ec/lor	dB	-1	10	-*	10	-1	0
PCCPCH_Ec/lor	dB	-1	2	-*	12	-1	2
SCH_Ec/lor	dB	-1	12	-'	12	-1	2
PICH_Ec/lor	dB	-1	15	-15		-15	
DPCH_Ec/lor	dB	-15	-	-15	-	-15	-
OCNS_Ec/lor	dB	-1.11	-0.94	-1.11	-0.94	-1.11	-0.94
loc	dBm/ 3.84 MHz	-75	5.4	-59.98		-97. <mark>47<mark>52</mark></mark>	
Îor/loc	dB	4	0	9	0	0	-6.53
CPICH RSCP, Note 1	dBm	-81.5	-85.5	-60.98	-69.88	- 107. <u>47</u> <del>5</del>	-114.0
Io, Note 1	dBm/3.84 MHz	-69		-50		-94	
Propagation condition	-	AWGN		AWGN		AWGN	
NOTE 1: CPICH RSCP and lo are not settable para	ameters themselves.		•				

Table A.9.1: CPICH RSCP Intra frequency test parameters

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

### R4-030482

## Paris, France 19 - 23 May, 2003

	СНА	NGE REQUE	CR-Form-v7
ж	25.133 CR	579	# Current version: <b>5.6.0</b> #
For <u>HELP</u> on us	sing this form, see bottor	m of this page or look	at the pop-up text over the $lpha$ symbols.
Proposed change a	nffects: UICC apps೫[	ME X Rad	dio Access Network Core Network
Title: ೫	Correction to CPCH R	SCP Test case A.9.1.	1
Source: ೫	RAN WG4		
Work item code: %	TEI		Date: # 27/05/2003
Category: ೫	A Use <u>one</u> of the following ca F (correction) A (corresponds to a d B (addition of feature C (functional modificat D (editorial modificat Detailed explanations of the be found in 3GPP <u>TR 21.9</u>	correction in an earlier re e), ation of feature) ion) ne above categories can	R97 (Release 1997) R98 (Release 1998) R99 (Release 1999)
Reason for change		H RSCP values are c ement the CPICH RS	orrected in order to make sure that T1 CP test case "Test3".
Summary of chang	e: # The loc and CPIC	H RSCP values are c	orrected in the CPICH RSCP Test 3.
Consequences if not approved:	tolerances caused	by test equipment ur	st case correctly when also test ncertainties are applied. Furthernore, this requirement to fail the test case.
Clauses affected:	<b>%</b> A.9.1.1.1.1		
Other specs affected:	YN		TS34.121
Other comments:		other Releases: CR5 CR580 cat. A to 25.13	677 cat. F to 25.133 v3.13.0, CR578 cat. A 33 v6.1.0

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

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

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

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

## A.9.1.1 CPICH RSCP

### A.9.1.1.1 Test Purpose and Environment

The purpose of this test is to verify that the CPICH RSCP measurement accuracy is within the specified limits. This test will verify the requirements in section 9.1.1.

### A.9.1.1.1.1 Intra frequency test parameters

In this case all cells are on the same frequency. Both CPICH RSCP intra frequency absolute and relative accuracy requirements are tested by using test parameters in Table A.9.1.

Parameter	Unit	Tes	st 1	Te	st 2	Tes	st 3
Parameter	Unit	Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2
UTRA RF Channel number		Char	nel 1	Char	nel 1	Channel 1	
CPICH_Ec/lor	dB	-1	10	-*	10	-1	0
PCCPCH_Ec/lor	dB	-1	2	-*	12	-1	2
SCH_Ec/lor	dB	-1	12	-'	12	-1	2
PICH_Ec/lor	dB	-1	15	-15		-15	
DPCH_Ec/lor	dB	-15	-	-15	-	-15	-
OCNS_Ec/lor	dB	-1.11	-0.94	-1.11	-0.94	-1.11	-0.94
loc	dBm/ 3.84 MHz	-75	5.4	-59.98		-97. <mark>47<mark>52</mark></mark>	
Îor/loc	dB	4	0	9	0	0	-6.53
CPICH RSCP, Note 1	dBm	-81.5	-85.5	-60.98	-69.88	- 107. <u>47</u> <del>5</del>	-114.0
Io, Note 1	dBm/3.84 MHz	-69		-50		-94	
Propagation condition	-	AWGN		AWGN		AWGN	
NOTE 1: CPICH RSCP and lo are not settable para	ameters themselves.		•				

Table A.9.1: CPICH RSCP Intra frequency test parameters

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

### R4-030483

### Paris, France 19 - 23 May, 2003

CR-Form-v7					
ж					
	<b>25.133</b> CR <b>580 # rev #</b> Current version: 6.1.0 <b>#</b>				
For <u>HELP</u> of	n using this form, see bottom of this page or look at the pop-up text over the $m{st}$ symbo	ols.			
Proposed chang	e affects: UICC apps # ME 🗙 Radio Access Network Core Netwo	ork			
Title:	Correction to CPCH RSCP Test case A.9.1.1				
Source:	<b>%</b> RAN WG4				
Work item code	第         TEI         Date: %         27/05/2003				
Category: Reason for char	<b>% A Release: %</b> Rel-6         Use <u>one</u> of the following categories:       Use <u>one</u> of the following release       2       (GSM Phase 2) <b>A</b> (corresponds to a correction in an earlier release)       R96       (Release 1996)       B <b>B</b> (addition of feature),       R97       (Release 1997) <b>C</b> (functional modification of feature)       R98       (Release 1998) <b>D</b> (editorial modification)       R99       (Release 1999)         Detailed explanations of the above categories can       Rel-4       (Release 4)         be found in 3GPP <u>TR 21.900</u> .       Rel-5       (Release 5) <b>Rel-6</b> (Release 6)       Rel-6       (Release 6)				
Summary of cha	nge: # The loc and CPICH RSCP values are corrected in the CPICH RSCP Test 3				
Consequences i not approved:	<ul> <li>f % T1 may not be able to implement the test case correctly when also test tolerances caused by test equipment uncertainties are applied. Furthernore, may cause a terminal fulfilling the core requirement to fail the test case.</li> </ul>	, this			
Clauses affected	<b>/:</b> ೫ A.9.1.1.1.1				
Other specs affected:	Y       N         X       Other core specifications       %         X       Test specifications       TS34.121         X       O&M Specifications       V				
Other comments	5. ¥				

Equivalent CRs in other Releases: CR577 cat. F to 25.133 v3.13.0, CR578 cat. A to 25.133 v4.8.0, CR579 cat. A to 25.133 v5.6.0

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

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

- 1) Fill out the above form. The symbols above marked **#** contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be

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

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

## A.9.1.1 CPICH RSCP

### A.9.1.1.1 Test Purpose and Environment

The purpose of this test is to verify that the CPICH RSCP measurement accuracy is within the specified limits. This test will verify the requirements in section 9.1.1.

### A.9.1.1.1.1 Intra frequency test parameters

In this case all cells are on the same frequency. Both CPICH RSCP intra frequency absolute and relative accuracy requirements are tested by using test parameters in Table A.9.1.

Deremeter	Unit	Tes	st 1	Test 2		Test 3	
Parameter	Unit	Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2
UTRA RF Channel number		Channel 1		Channel 1		Channel 1	
CPICH_Ec/lor	dB	-10		-10		-10	
PCCPCH_Ec/lor	dB	-12		-12		-12	
SCH_Ec/lor	dB	-12		-12		-12	
PICH_Ec/lor	dB	-15		-15		-15	
DPCH_Ec/lor	dB	-15	-	-15	-	-15	-
OCNS_Ec/lor	dB	-1.11	-0.94	-1.11	-0.94	-1.11	-0.94
loc	dBm/ 3.84 MHz	-75.54		-59.98		-97. <mark>47<mark>52</mark></mark>	
Îor/loc	dB	4	0	9	0	0	-6.53
CPICH RSCP, Note 1	dBm	-81.5	-85.5	-60.98	-69.88	- 107. <u>47</u> <del>5</del>	-114.0
Io, Note 1	dBm/3.84 MHz	-69		-50		-94	
Propagation condition	-	AWGN		AWGN		AWGN	
NOTE 1: CPICH RSCP and lo are not settable para	ameters themselves.		•				

Table A.9.1: CPICH RSCP Intra frequency test parameters

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

### R4-030425

### Paris, France 19 - 23 May, 2003

CHANGE REQUEST									Form-v7				
ж	25	. <mark>133</mark>	CR	597	8	<b>∉rev</b>		ж	Current ve	rsion:	6.1.0	) <sup>#</sup>	
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 a	affect	ts: l	JICC a	pps <b>#</b>		ME	Rad	dio A	ccess Netw	ork	Core	Netwo	ork
Title: ೫	Cor	rectio	n to SF	N-SFN (	bserve	d time	differe	ence	type 1				
Source: % RAN WG4													
Work item code: %	TEI								Date:	<mark>₩ 27</mark>	/05/2003	3	
Category: %	Α								Release:	₩ Re	el-6		
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Reason for change: % In 25.215 section 5.1.9, SFN-SFN observed time difference type 1 is not													
Reason for change	. њ			or CELL			obse	rveu	ume amere	nce ty	perisi	οι	
Summary of chang	e: #			CH state				rom S	FN-SFN obs	erved	time diffe	rence	type 1
Consequences if not approved:	ж								l observed t ent abilities				1
		This				pact, a	s this	is a (	correction o	f a mis	salignme	nt	
Clauses affected:	ж	9.1	9.1.8 1	.1, A.9, A	9.15	1.1							
Other specs affected:	ж	Y N X X X X	Other Test	core sp specifica Specifica	ecificati tions		ж						
Other comments:	ж												

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

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

to 25.133 v4.8.0, CR576 cat. A to 25.133 v5.6.0

Equivalent CRs in other Releases: CR574 cat. F to 25.133 v3.13.0, CR575 cat. A

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

## 9 Measurements Performance Requirements

One of the key services provided by the physical layer is the measurement of various quantities which are used to trigger or perform a multitude of functions. Both the UE and the UTRAN are required to perform a variety of measurements. The physical layer measurement model and a complete list of measurements is specified in TS 25.302 "Services Provided by Physical Layer". The physical layer measurements for FDD are described and defined in TS25.215 "Physical layer - Measurements (FDD)". In this clause for each measurement the relevant requirements on the measurement period, reporting range, granularity and performance in terms of accuracy are specified.

The accuracy requirements in this clause are applicable for AWGN radio propagation conditions.

## 9.1 Measurement Performance for UE

The requirements in this clause are applicable for a UE:

- in state CELL\_DCH and/or state CELL\_FACH.
- performing measurements according to section 8.
- that is synchronised to the cell that is measured.

The reported measurement result after layer 1 filtering shall be an estimate of the average value of the measured quantity over the measurement period. The reference point for the measurement result after layer 1 filtering is referred to as point B in the measurement model described in TS25.302.

The accuracy requirements in this clause are valid for the reported measurement result after layer 1 filtering. The accuracy requirements are verified from the measurement report at point D in the measurement model having the layer 3 filtering disabled.

NOTE: It needs to be clarified how the accuracy requirements shall be handled when the UE is measuring on cells using IPDL.

### 9.1.8 SFN-SFN observed time difference

### 9.1.8.1 SFN-SFN observed time difference type 1

NOTE: This measurement is for identifying time difference between two cells.

#### 9.1.8.1.1 Measurement requirement

The measurement period for CELL\_DCH state can be found in sub clause 8.1.2.2. The measurement period for CELL\_FACH state can be found in sub clause 8.4.2.2.

The accuracy requirement in table 9.19 is valid under the following conditions:

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

$$\begin{aligned} \left| CPICH \_RSCP1 \right|_{in \, dBm} - CPICH \_RSCP2 \right|_{in \, dBm} \right| &\leq 20 dB \\ \frac{I_o}{\left(\hat{I}_{or}\right)} \right|_{in \, dB} - \left( \frac{CPICH \_E_c}{I_{or}} \right) \right|_{in \, dB} &\leq 20 dB \\ \frac{I_o}{\left(\hat{I}_{or}\right)} \right|_{in \, dB} - \left( \frac{P - CCPCH \_E_c}{I_{or}} \right) \right|_{in \, dB} \text{ is low enough to ensure successful SFN decoding.} \end{aligned}$$

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# A.9 Measurement Performance Requirements

Unless explicitly stated:

- Reported measurements shall be within defined range in 90 % of the cases.
- Measurement channel is 12.2 kbps as defined in TS 25.101 annex A, sub-clause A.3.1. This measurement channel is used both in active cell and cells to be measured.
- Physical channels used as defined in TS 25.101 annex C.
- Cell 1 is the active cell when in CELL\_DCH state.
- Single task reporting.
- Power control is active.

### A.9.1.5 SFN-SFN observed time difference

### A.9.1.5.1 SFN-SFN observed time difference type 1

#### A.9.1.5.1.1 Test Purpose and Environment

The purpose of this test is to verify that the SFN-SFN observed time difference type 1 measurement accuracy is within the specified limits. This test will verify the requirements in section 9.1.8.1.

During the test the timing difference between Cell 1 and 2 can be set to value from 0...9830399 chips.

In this case all cells are in the same frequency. Table A.9.8 defines the limits of signal strengths and code powers, where the requirements are applicable.

#### Table A.9.8: SFN-SFN observed time difference type 1 Intra frequency test parameters

Parameter	Unit	Cell 1	Cell 2				
UTRA RF Channel number		Channel 1	Channel 1				
CPICH_Ec/lor	dB	-10	-10				
PCCPCH_Ec/lor	dB	-12	-12				
SCH_Ec/lor	dB	-12	-12				
PICH_Ec/lor	dB	-15	-15				
DPCH_Ec/lorS-CCPCH_Ec/lor	dB	- <del>15</del> 12	- <del>15</del> 12				
OCNS	dB	- <del>1.11<u>1.29</u></del>	- <del>1.11</del> <u>1.29</u>				
Îor/loc	dB	10.5	10.5				
loc	dBm/ 3.84 MHz	<i>Io -13.7 dB = loc,</i> Note 1	<i>Io -13.7 dB = loc,</i> Note 1				
Range 1:lo	dBm/3.84 MHz	-9470	-9470				
Range 2: lo		-9450	-9450				
Propagation condition	-	AWGN					
NOTE 1: <i>loc</i> level shall be adjusted according the total signal power spectral density <i>lo</i> at receiver input and the geometry factor <i>lor/loc</i> .							

#### A.9.1.5.1.2 Test Requirements

The SFN-SFN observed time difference type 1 measurement accuracy shall meet the requirements in section 9.1.8.1