RP-030595

Title CRs (Rel-5 and Rel-6 Category A) to TS 25.101 for HSDPA

Source TSG RAN WG4

Agenda Item 7.5.5

RAN4 Tdoc	Spec	CR	R	Cat	Rel	Curr Ver	Title	Work Item
R4-030865	25.101	275		F	Rel-5	5.8.0	Power allocation for HS-SCCH in FRC test	HSDPA-RF
R4-031075	25.101	302		Α	Rel-6	6.2.0	Power allocation for HS-SCCH in FRC test	HSDPA-RF
R4-031101	25.101	296	3	F	Rel-5	5.8.0	Clarification to HSDPA OCNS definition	HSDPA-RF
R4-031102	25.101	297	3	Α	Rel-6	6.2.0	Clarification to HSDPA OCNS definition	HSDPA-RF
R4-031077	25.101	276	1	F	Rel-5	5.8.0	Corrections of CQI reporting section	HSDPA-RF
R4-031078	25.101	303		Α	Rel-6	6.2.0	Corrections of CQI reporting section	HSDPA-RF
R4-031079	25.101	272	1	F	Rel-5	5.8.0	Correction for FRC test in Closed loop mode 1	HSDPA-RF
R4-031080	25.101	304		Α	Rel-6	6.2.0	Correction for FRC test in Closed loop mode 1	HSDPA-RF
R4-031084	25.101	273	1	F	Rel-5	5.8.0	DTX handling for CQI test in fading channel	HSDPA-RF
R4-031085	25.101	305		Α	Rel-6	6.2.0	DTX handling for CQI test in fading channel	HSDPA-RF
R4-031140	25.101	283	2	F	Rel-5	5.8.0	Additional Specification of CQI Testing for UE Capability Categories 11 and 12	HSDPA-RF
R4-031141	25.101	309	1	Α	Rel-6	6.2.0	Additional Specification of CQI Testing for UE Capability Categories 11 and 12	HSDPA-RF

R4-031079

3GPP TSG RAN WG4 (Radio) Meeting #29 San Diego, USA 17 - 21 November 2003

CHANGE REQUEST

25.101 CR 272 # rev 1 # Current version: 5.8.0

For <u>HELP</u> on using this form, see bottom of this page or look at the pop-up text over the **%** symbols.

Proposed change affects: UICC apps# ME X Radio Access Network Core Network

Title: **%** Correction for FRC test in Closed loop mode 1 Source: **# RAN WG4** Date: # 26/11/2003 ₩ F Release: % Rel-5 Category: Use one of the following releases: Use <u>one</u> of the following categories: F (correction) (GSM Phase 2) 2 A (corresponds to a correction in an earlier release) R96 (Release 1996) (Release 1997) **B** (addition of feature), R97 **C** (functional modification of feature) R98 (Release 1998) **D** (editorial modification) R99 (Release 1999) Detailed explanations of the above categories can Rel-4 (Release 4) (Release 5) be found in 3GPP TR 21.900. Rel-5 Rel-6 (Release 6)

Reason for change: # FRC performance of UE under test in Closed loop mode 1 test as specified in section 9.2.3 may depend significantly on the two parameters used in the test set up, which are:

- Closed loop timing adjustment mode
- DPCH frame offset

The assumptions about these parameters are currently missing.

Summary of change: # Additionally specify that:

- Closed loop timing adjustment mode is Mode 1
- DPCH frame offset is 0 chip

Also the following changes are made:

- The note regading performance of HS-SCCH is removed because now only STTD can be used on HS-SCCH
- [TBD] in table C.11 is replied by STTD because now only STTD can be used on HS-SCCH.
- OCNS table C.10 become table C.12
- Reference to Table C.12 are added to tables C.8, C.9, C.10, C.11
- CCPCH in table C.11 become P-CCPCH
- Value of ONCS in table C.11 also change to maintain consistency whith description in other tables

Consequences if not approved:

* FRC performance of UE under test in Closed loop mode 1 may depend significantly on particular setup of unspecified parameters.

<Isolated Impact Analysis>

This change might have impact on current minimum performance requirement if the specified values were generated based on parameters other than that

Clauses affected:	# 9.2.3, 9.2.3.1, 9.2.3.2, 9.2.3.3, C.5.1
	YN
Other specs	Street Specifications Control of the core specification Control of the core spe
affected:	Test specifications
	O&M Specifications
Other comments:	x
	Equivalent CRs in other Releases: CR304r1 cat. A to 25.101 v6.2.0

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mentined above.

- 1) Fill out the above form. The symbols above marked # contain pop-up help information about the field that they are closest to.
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- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

9.2.3 Closed Loop Diversity Performance

The closed loop transmit diversity (Mode 1) performance of the High Speed Physical Downlink Shared Channel (HS-DSCH) in multi-path fading environments are determined by the information bit throughput R.

Note: The results in Section 9.2.3 assume error free HS SCCH signalling and are subject to further review upon completion of further assessment of the transmit diversity configuration for the HS-SCCH.

9.2.3.1 Minimum requirement QPSK, Fixed Reference Channel (FRC) H-Set 1/2/3

For the parameters specified in Table 9.16, the requirements are specified in terms of a minimum information bit throughput R as shown in Table 9.17 for the DL reference channels specified in Annex A.7.1.

Table 9.16: Test Parameters for Testing QPSK FRCs H-Set 1/H-Set 2/H-Set 3

Parameter	Unit	Test 1	Test 2	Test 3
Phase reference			P-CPICH	
I_{oc}	dBm/3.84 MHz		-60	
DPCH frame offset (TDPCH,n)	Chip		<u>0</u>	
Redundancy and constellation version coding sequence			{0,2,5,6}	
Maximum number of HARQ transmission			4	
Feedback Error Rate	%		4	
Closed loop timing adjustment mode			<u>1</u>	

Table 9.17: Minimum requirement QPSK, Fixed Reference Channel (FRC) H-Set 1/2/3

Test	Propagation		Reference value	
Number	Conditions	HS-PDSCH	T-put R (kbps) *	T-put R (kbps) *
		E_c/I_{or} (dB)	\hat{I}_{or}/I_{oc} = 0 dB	\hat{I}_{or}/I_{oc} = 10 dB
1	PA3	-6	118	399
ı	1 73	-3	225	458
2	PB3	-6	50	199
2	FB3	-3	173	301
3	VA30	-6	47	204
3	VASU	-3	172	305

^{*} Notes: 1) The reference value R is for the Fixed Reference Channel (FRC) H-Set 1

9.2.3.2 Minimum requirement 16QAM, Fixed Reference Channel (FRC) H-Set 1/2/3

For the parameters specified in Table 9.18, the requirements are specified in terms of a minimum information bit throughput R as shown in Table 9.19 for the DL reference channels specified in Annex A.7.1.

²⁾ For Fixed Reference Channel (FRC) H-Set 2 the reference values for R should be scaled (multiplied by 1.5 and rounding to the nearest integer t-put in kbps, where values of i+1/2 are rounded up to i+1, i integer)s

³⁾ For Fixed Reference Channel (FRC) H-Set 3 the reference values for R should be scaled (multiplied by 3 and rounding to the nearest integer t-put in kbps, where values of i+1/2 are rounded up to i+1, i integer)

Table 9.18: Test Parameters for Testing 16-QAM FRCs H-Set 1/H-Set 2/H-Set 3

Parameter	Unit	Test 1	Test 2	Test 3	
Phase reference			P-CPICH		
I_{oc}	dBm/3.84 MHz		-60		
DPCH frame offset	Chin		0		
$(\tau_{\text{DPCH,n}})$	<u>Chip</u>		<u>0</u>		
Redundancy and					
constellation version		{6,2,1,5}			
coding sequence					
Maximum number of			4		
HARQ transmission					
Feedback Error Rate %		4			
Closed loop timing		1			
adjustment mode			<u></u>		

Table 9.19: Minimum requirement 16QAM, Fixed Reference Channel (FRC) H-Set 1/2/3

Test	Propagation	Reference value			
Number	Conditions	HS-PDSCH	T-put R (kbps) *		
		E_c/I_{or} (dB)	\hat{I}_{or}/I_{oc} = 10 dB		
1	PA3	-6	361		
'	FAS	FAS	-3	500	
2	PB3	-6	74		
2 FB3		-3	255		
3	VA30	-6	84		
3	VA30	-3	254		

* Notes:

- 1)The reference value R is for the Fixed Reference Channel (FRC) H-Set 1 2) For Fixed Reference Channel (FRC) H-Set 2 the reference values for R should be scaled (multiplied by 1.5 and rounding to the nearest integer t-put in kbps, where values of i+1/2 are rounded up to i+1, i integer)
- 3) For Fixed Reference Channel (FRC) H-Set 3 the reference values for R should be scaled (multiplied by 3 and rounding to the nearest integer t-put in kbps, where values of i+1/2 are rounded up to i+1, i integer)

9.2.3.3 Minimum requirement QPSK, Fixed Reference Channel (FRC) H-Set 4/5

For the parameters specified in Table 9.20, the requirements are specified in terms of a minimum information bit throughput R as shown in Tables 9.21 and 9.22 for the DL reference channels specified in Annex A.7.1.4 and A.7.1.5 respectively.

Table 9.20: Test Parameters for Testing QPSK FRCs H-Set 4/H-Set 5

Parameter	Unit	Test 1	Test 2	Test 3
Phase reference			P-CPICH	
I_{oc}	dBm/3.84 MHz	-60		
DPCH frame offset (TDPCH,n)	Chip		<u>0</u>	
Redundancy and constellation version coding sequence			{0,2,5,6}	
Maximum number of HARQ transmission			4	
Feedback Error Rate	%		4	
Closed loop timing adjustment mode			<u>1</u>	

Table 9.21: Minimum requirement QPSK, Fixed Reference Channel (FRC) H-Set 4

Test	Propagation		Reference value		
Number	Conditions	HS-PDSCH	T-put R (kbps) *	T-put R (kbps) *	
		E_c/I_{or} (dB)	\hat{I}_{or}/I_{oc} = 0 dB	\hat{I}_{or}/I_{oc} = 10 dB	
1	PA3	-6	114	398	
'	FAS	-3	223	457	
2	PB3	-6	43	196	
	FB3	-3	167	292	
3	VA30	-6	40	199	
3	V A30	-3	170	305	
* Notes: 1) The reference value R is for the Fixed Reference Channel (FRC) H-Set 4					

Table 9.22: Minimum requirement QPSK, Fixed Reference Channel (FRC) H-Set 5

Test	Propagation		Reference value		
Number	Conditions	HS-PDSCH	T-put R (kbps) *	T-put R (kbps) *	
		E_c/I_{or} (dB)	\hat{I}_{or}/I_{oc} = 0 dB	\hat{I}_{or} / I_{oc} = 10 dB	
1	PA3	-6	177	599	
'	FAS	-3	338	687	
2	PB3	-6	75	299	
	1 00	-3	260	452	
2	3 VA30	-6	71	306	
3		-3	258	458	
* Notes:	1) The reference value R is for the Fixed Reference Channel (FRC) H-Set 5				

...... Current Text continue here......

C.5 HSDPA DL Physical channels

C.5.1 Downlink Physical Channels connection set-up

Table C.8 is applicable for the measurements for tests in subclause 9.2.1 and 9.3. Table C.9 is applicable for the measurements for tests in subclause 9.2.2. Table C.10 is applicable for the measurements for tests in subclause 9.2.3. Table C.11 is applicable for the measurements for tests in subclause 9.4.

Table C.8: Downlink physical channels for HSDPA receiver testing for Single Link performance.

Physical Channel	Parameter	Value	Note
P-CPICH	P-CPICH_Ec/lor	-10dB	
P-CCPCH	P-CCPCH_Ec/lor	-12dB	Mean power level is shared with SCH.
SCH	SCH_Ec/lor	-12dB	Mean power level is shared with P-CCPCH – SCH includes P- and S-SCH, with power split between both. P-SCH code is S_dl,0 as per TS25.213 S-SCH pattern is scrambling code group 0
PICH	PICH_Ec/lor	-15dB	
DPCH	DPCH_Ec/lor	Test-specific	12.2 kbps DL reference measurement channel as defined in Annex A.3.1
HS-SCCH_1	HS-SCCH_Ec/lor	Test-specific	Specifies fraction of Node-B radiated power transmitted when TTI is active (i.e. due to minimum inter-TTI interval).
HS-SCCH_2	HS-SCCH_Ec/lor	DTX'd	No signalling scheduled, or power radiated, on this HS-SCCH, but signalled to the UE as present.
HS-SCCH_3	HS-SCCH_Ec/lor	DTX'd	As HS-SCCH_2.
HS-SCCH_4	HS-SCCH_Ec/lor	DTX'd	As HS-SCCH_2.
HS-PDSCH	HS-PDSCH_Ec/lor	Test-specific	
OCNS		Necessary power so that total transmit power spectral density of Node B (lor) adds to one	OCNS interference consists of 6 dedicated data channels as specified in table C.10c.12 .

Table C.9: Downlink physical channels for HSDPA receiver testing for Open Loop Transmit Diversity performance.

Physical Channel	Parameter	Value	Note
P-CPICH (antenna 1)	P-CPICH_Ec1/lor	-13dB	1. Total P-CPICH_Ec/lor = -10dB
P-CPICH (antenna 2)	P-CPICH_Ec2/lor	-13dB	
P-CCPCH (antenna 1)	P-CCPCH_Ec1/lor	-15dB	1. STTD applied. 2. Total P-CCPCH Ec/lor is -12dB.
P-CCPCH (antenna 2)	P-CCPCH_Ec2/lor	-15dB	2. Total P-CCPCH Ec/lor is =12ab.
SCH (antenna 1/2)	SCH_Ec/lor	-12dB	TSTD applied. Power divided equally between primary and secondary SCH.
PICH (antenna 1)	PICH_Ec1/lor	-18dB	1. STTD applied.
PICH (antenna 2)	PICH_Ec2/lor	-18dB	2. Total PICH Ec/lor is –15dB.
DPCH	DPCH_Ec/lor	Test-specific	1. STTD applied.
HS-SCCH_1	HS-SCCH_Ec/lor	Test-specific	STTD applied. Specifies fraction of Node-B radiated power transmitted when TTI is active (i.e. due to minimum inter-TTI interval).
HS-SCCH_2	HS-SCCH_Ec/lor	DTX'd	UE assumes STTD applied. No signalling scheduled, or power radiated, on this HS-SCCH, but signalled to the UE as present.
HS-SCCH_3	HS-SCCH_Ec/lor	DTX'd	1. As HS-SCCH_2.
HS-SCCH_4	HS-SCCH_Ec/lor	DTX'd	2. As HS-SCCH_2.
HS-PDSCH	HS-PDSCH_Ec/lor	Test-specific	1. STTD applied.
OCNS		Necessary	1. STTD applied.
OONE		power so that total transmit power spectral density of Node B (Ior) adds to one	 Balance of power I_{or} of the Node-B is assigned to OCNS Power divided equally between antennas. OCNS interference consists of 6 dedicated data channels as specified in table C.12.

Table C.10: Downlink physical channels for HSDPA receiver testing for Closed Loop. Transmit Diversity (Mode-1) performance.

Physical Channel	Parameter	Value	Note
P-CPICH (antenna 1)	P-CPICH_Ec1/lor	-13dB	1. Total P-CPICH_Ec/lor = -10dB
P-CPICH (antenna 2)	P-CPICH_Ec2/lor	-13dB	
P-CCPCH (antenna 1)	P-CCPCH_Ec1/lor	-15dB	1. STTD applied.
P-CCPCH (antenna 2)	P-CCPCH_Ec2/lor	-15dB	2. Total P-CCPCH Ec/lor is –12dB.
SCH (antenna 1/2)	SCH_Ec/lor	-12dB	TSTD applied. Power divided equally between primary and secondary SCH.
PICH (antenna 1)	PICH_Ec1/lor	-18dB	1. STTD applied.
PICH (antenna 2)	PICH_Ec2/lor	-18dB	2. Total PICH Ec/lor is –15dB.
DPCH	DPCH_Ec/lor	Test-specific	1. CL1 applied.
HS-SCCH_1	HS-SCCH_Ec/lor	Test-specific	Figure 1. [TBD] STTD applied. Specifies fraction of Node-B radiated power transmitted when TTI is active (i.e. due to minimum inter-TTI interval).
HS-SCCH_2	HS-SCCH_Ec/lor	DTX'd	UE assumes [TBD]STTD applied. No signalling scheduled, or power radiated, on this HS-SCCH, but signalled to the UE as present.
HS-SCCH_3	HS-SCCH_Ec/lor	DTX'd	1. As HS-SCCH_2.
HS-SCCH_4	HS-SCCH_Ec/lor	DTX'd	2. As HS-SCCH_2.
HS-PDSCH	HS-PDSCH_Ec/lor	Test-specific	1. CL1 applied.
OCNS		Necessary	1. STTD applied.
		power so that total transmit power spectral density of Node B (lor) adds to one	2. Balance of power I_{or} of the Node-B is assigned to OCNS 3. Power divided equally between antennas. 4. OCNS interference consists of 6 dedicated data channels as specified in table C.12.

Table C.11: Downlink physical channels for HSDPA receiver testing for HS-SCCH detection performance

Parameter	Units	Value	Comment
CPICH E_c/I_{or}	dB	-10	
$\underline{P-}CCPCH\ E_c/I_{or}$	dB	-12	Mean power level is shared with SCH.
SCH E_c/I_{or}	dB	-12	Mean power level is shared with P-CCPCH – SCH includes P- and S-SCH, with power split between both. P-SCH code is S_dl,0 as per TS25.213 S-SCH pattern is scrambling code group 0
PICH E_c/I_{or}	dB	-15	
HS-DSCH-1 E_c/I_{or}	dB	-10	HS-DSCH associated with HS-SCCH-1
HS-DSCH-2 E_c/I_{or}	dB	DTX	HS-DSCH associated with HS-SCCH-2
HS-DSCH-3 E_c/I_{or}	dB	DTX	HS-DSCH associated with HS-SCCH-3
HS-DSCH-4 E_c/I_{or}	dB	DTX	HS-DSCH associated with HS-SCCH-4
$DPCH\ E_c/I_{\mathit{or}}$	dB	-8	12.2 kbps DL reference measurement channel as defined in Annex A.3.1
HS-SCCH-1 E_c/I_{or}	dB	Test Specific	All HS-SCCH's allocated equal E_c/I_{or} .
HS-SCCH-2 E_c/I_{or}	dB		Specifies E_{c} / I_{or} when TTI is active.
HS-SCCH-3 E_c/I_{or}	dB		
HS-SCCH-4 E_c/I_{or}	dB		
OCNS E_c/I_{or}	dB	Necessary power so that total transmit power spectral density of Node B (Ior) adds to oneRemaining power at Node B (including HS- SCCH power allocation when HS-SCCH's inactive).	OCNS interference consists of 6 dedicated data channels as specified in table C.10 C.12.

C.5.2 OCNS Definition

The selected channelization codes and relative power levels for OCNS transmission during for HSDPA performance assessment are defined in Table C.10. The selected codes are designed to have a single length-16 parent code.

Table C.10C.12: OCNS definition for HSDPA receiver testing.

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

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

9.3.2 Fading propagation conditions

The reporting accuracy of the channel quality indicator (CQI) under fading environments is determined by the BLER performance using the transport format indicated by the reported CQI median.

In calculating BLER, for an HARQ process, if an odd number of consecutive DTXs are reported, the corresponding packets and one subsequent packet shall be discarded from BLER calculation. If an even number of consecutive DTXs are reported, the corresponding packets shall be discarded from BLER calculation.

The specified requirements may be subject to further simulations to verify assumptions.

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R4-030865

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

9.2 Demodulation of HS-DSCH (Fixed Reference Channel)

The performance requirement for a particular UE belonging to certain HS-DSCH category are determined according to Table 9.1.

Table 9.1: Mapping between HS-DSCH category and FRC

HS-DSCH category	Corresponding requirement
Category 1	H-Set 1
Category 2	H-Set 1
Category 3	H-Set 2
Category 4	H-Set 2
Category 5	H-Set 3
Category 6	H-Set 3
Category 11	H-Set 4
Category 12	H-Set 5

During the Fixed Reference Channel tests the behaviour of the Node-B emulator in response to the ACK/NACK signalling field of the HS-DPCCH is specified in Table 9.1A:

Table 9.1A: Node-B Emulator Behaviour in response to ACK/NACK/DTX

HS-DPCCH ACK/NACK Field State	Node-B Emulator Behaviour
ACK	ACK: new transmission using 1 st redundancy and constellation version (RV)
NACK	NACK: retransmission using the next RV (up to the maximum permitted number or RV's)
DTX	DTX: retransmission using the RV previously transmitted to the same H-ARQ process

Note: Performance requirements in this section assume a sufficient power allocation to HS-SCCH_1 so that probability of reporting DTX is very low.

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		CHANG	E REQ	UE	ST	_		CR-Form-v7
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	OHANGE REQUEST	
ж 2	5.101 CR 276	
For <u>HELP</u> on using	g this form, see bottom of this page or look at the pop-up text over the % symbols.	
Proposed change affe	cts: UICC appsж ME X Radio Access Network Core Network Core Network Core Network ■ Core Network	(
Title: # C	orrections of CQI reporting section	
Source: # F	AN WG4	
Work item code: ₩	SDPA-RF Date: 第 26/11/2003	
Category: # F	Release: ₩ Rel-5	
0)	e <u>one</u> of the following categories:	
	F (correction) 2 (GSM Phase 2) A (corresponds to a correction in an earlier release) R96 (Release 1996)	
	B (addition of feature), R97 (Release 1997)	
	C (functional modification of feature) R98 (Release 1998)	
Do	D (editorial modification)R99 (Release 1999)tailed explanations of the above categories canRel-4 (Release 4)	
	found in 3GPP TR 21.900. Rel-5 (Release 5)	
	Rel-6 (Release 6)	
		_
Reason for change:	The value of measurement power offset Γ to be signalled to the UE under test currently unspecified. This may lead to different test results if different Γ is use	
		Ju.
Summary of change:	ı	
	difference in dB between HS-DSCH and CPICH power in the test set up and is	s
	specified in .	
	Also HS-SCCH is replaced by HS-SCCH_1 to maintain the consistency with	
	Tables C.8, C.9, C.10.	
	Also PER is repalced by BLER to maintain the consistency with other sections	S.
Consequences if not approved:	Undefined measurement power offset Γ may lead to different test results.	
	<isolated analysis="" impact=""></isolated>	
	No impact is seen if current specified values were generated according to abo	ve
	interpretation i.e. Γ is set equal to the difference in dB between HS-DSCH and	k
	CPICH power.	
Clauses affected:	€ 9.3.1.1, 9.3.1.2, 9.3.2.1, 9.3.2.2	
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Other comments:	*

Equivalent CRs in other Releases: CR303r1 cat. A to 25.101 v6.2.0

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

2 References

[7]

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.
- [1] (void)
 [2] ITU-R Recommendation SM.329-9: "Spurious emissions".
 [3] (void)
 [4] 3GPP TS 25.433: "UTRAN Iub Interface NBAP Signalling".
 [5] ETSI ETR 273: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Improvement of radiated methods of measurement (using test sites) and evaluation of the corresponding measurement uncertainties; Part 1: Uncertainties in the measurement of mobile radio equipment characteristics; Sub-part 2: Examples and annexes".
 [6] 3GPP TS 45.004: "Digital cellular telecommunications system (Phase 2+); Modulation".

3GPP TS 25.331: "Radio Resource Control (RRC); Protocol Specification"

9.3 Reporting of Channel Quality Indicator

9.3.1 AWGN propagation conditions

The reporting accuracy of channel quality indicator (CQI) under AWGN environments is determined by the reporting variance and the BLER performance using the transport format indicated by the reported CQI median.

9.3.1.1 Minimum Requirement – UE capability categories 1-6

For the parameters specified in Table 9.23, the reported CQI value shall be in the range of +/-2 of the reported median more than 90% of the time. If the HS-PDSCH packet error rate (PER)BLER using transport format indicated by median CQI is less than 0.1, PER-BLER using transport format indicated by (median CQI +2) shall be larger than 0.1. If the HS-PDSCH packet error rate (PER)BLER using transport format indicated by median CQI is larger than 0.1, PER BLER using transport format indicated by (median CQI -1) shall be less than 0.1.

Table 9.23: Test Parameter for CQI: categories 1-6

Parameter	Unit	Test 1	Test 2	Test 3			
\hat{I}_{or} / I_{oc}	dB	0	5	10			
I_{oc}	dBm/3.84 MHz		-60				
Phase reference	-		P-CPICH				
$HS ext{-}PDSCHE_c/I_{or}(^*)$	dB		-3				
$\frac{HS ext{-SCCH}}{HS ext{-SCCH_1}}E_c/I_{or}$	dB		-10				
$DPCH\ E_c/I_{or}$	dB		-10				
Maximum number of H-ARQ transmission	-	1					
Number of HS-SCCH set to be monitored	-	1					
CQI feedback cycle	ms	2					
CQI repetition factor	-	1					
HS-DSCH transmission pattern	-	"XOOXOOX" to incorporate inter-TTI=3 UEs, where "X" indicates TTI in which HS PDSCH is allocated to the UE, and "O" indicates DTX					
Note2: IF for HS-PDSCH is configured according to the reported CQI statistics. TF based on median CQI, median CQI -1, median CQI+2 are used. Other physical channel parameters are configured according to the CQI maping table described in TS25.214							

9.3.1.2 Minimum Requirement – UE capability categories 11,12

For the parameters specified in Table 9.24, the reported CQI value shall be in the range of +/-2 of the reported median more than 90% of the time. If the HS-PDSCH packet error rate (PER)-BLER using transport format indicated by median CQI is less than 0.1, PER-BLER using transport format indicated by (median CQI +2) shall be larger than 0.1. If the HS-PDSCH packet error rate (PER)BLER using transport format indicated by median CQI is larger than 0.1, PER BLER using transport format indicated by (median CQI -1) shall be less than 0.1.

Table 9.24: Test Parameter for CQI: categories 11,12

Parameter	Unit	Test 1	Test 2			
\hat{I}_{or} / I_{oc}	dB	0	5			
I_{oc}	dBm/3.84 MHz	-6	0			
Phase reference	-	P-CP	rICH			
$HS ext{-}PDSCHE_c/I_{or}(^*)$	dB	-3	3			
$\frac{HS\text{-SCCH}}{HS\text{-SCCH_1}} E_c/I_{or}$	dB	-10				
DPCH E_c/I_{or}	dB	-1	0			
Maximum number of H-ARQ transmission	-	1				
Number of HS-SCCH set to be monitored	-	1				
CQI feedback cycle	ms	2				
CQI repetition factor	-	1				
HS-DSCH transmission pattern	-	"XOOXOOX", where which HS-PDSCH UE, and "O" ir	is allocated to the			
	power offset "Γ" is cor	nfigured by RRC accor	dingly and as			
Note2: TF for HS-PDSCH is configured according to the reported CQI statistics. TF based on median CQI, median CQI -1, median CQI+2 are used. Other physical channel parameters are configured according to the CQI maping						

9.3.2 Fading propagation conditions

The reporting accuracy of the channel quality indicator (CQI) under fading environments is determined by the BLER performance using the transport format indicated by the reported CQI median.

The specified requirements may be subject to further simulations to verify assumptions.

table described in TS25.214

9.3.2.1 Minimum Requirement – UE capability categories 1-6

For the parameters specified in Table 9.25, the requirements are specified in terms of maximum BLERs at particular reported CQIs when transmitting a fixed transport format given by the CQI median as shown in Table 9.26. The BLER at a particular reported CQI is obtained by associating a particular CQI reference measurement period with HS-PDSCH subframe overlapping with the end of this CQI reference measurement period and calculating the fraction of erroneous HS-PDSCH subframes.

Table 9.25: Test Parameters for CQI test in fading: categories 1-6

Parameter	Parameter Unit		Test 2	
$HS ext{-}PDSCHE_c/I_{or}$ (*)	dB	-8	-4	
\hat{I}_{or} / I_{oc}	dB	0	5	
I_{oc}	dBm/3.84 MHz	-6	60	
Phase reference	-	P-CF	PICH	
$\frac{HS\text{-SCCH}\; 1}{HS\text{-SCCH}\; 1}\; E_c/I_{or}$	dB	-8.5		
$DPCH\ E_c/I_{or}$	dB	-6		
Maximum number of H-ARQ transmission	-	1		
Number of HS-SCCH set to be monitored	-	1		
CQI feedback cycle	ms	2		
CQI repetition factor	-	1		
HS-DSCH transmission pattern	-	"XOOXOOX" to incorporate inter-TTI=3 UEs, where "X" indicates TTI in which HS-PDSCH is allocated to the UE, and "O" indicates DTX		
Propagation Channel		Cas	se 8	
Note1: Measurement power offset "Γ" is configured by RRC accordingly and as defined in [7]				

Note2: TF for HS-PDSCH is configured according to the reported CQI statistics.

TF based on median CQI is used. Other physical channel parameters are configured according to the CQI maping table described in TS25.214

Table 9.26: Minimum requirement for CQI test in fading for categories 1-6

Reported CQI	Maximum BLER				
Reported CQI	Test 1	Test2			
CQI median	60%	60%			
CQI median + 3	15%	15%			

9.3.2.2 Minimum Requirement – UE capability categories 11,12

For the parameters specified in Table 9.27, the requirements are specified in terms of BLERs at particular reported CQIs when a fixed transport format given by CQI median as shown in Table 9.28. The BLER at a particular reported CQI is obtained by associating a particular CQI reference measurement period with HS-PDSCH subframe overlapping with the end of this CQI reference measurement period and calculating the fraction of erroneous HS-PDSCH subframes.

Table 9.27: Test Parameters for CQI test in fading: categories 11-12

Parameter	Unit	Test 1			
$HS ext{-}PDSCHE_c/I_{or}(^*)$	dB	-8			
\hat{I}_{or} / I_{oc}	dB	0			
I_{oc}	dBm/3.84 MHz	-60			
Phase reference	-	P-CPICH			
$\frac{HS\text{-SCCH}\; 1}{HS\text{-SCCH}\; 1} E_c/I_{or}$	dB	-8.5			
DPCH E_c/I_{or}	dB	-6			
Maximum number of H-ARQ transmission	-	1			
Number of HS-SCCH set to be monitored	-	1			
CQI feedback cycle	ms	2			
CQI repetition factor	-	1			
HS-DSCH transmission pattern	•	"XOOXOOX" to incorporate inter-TTI=3 UEs, where "X" indicates TTI in which HS-PDSCH is allocated to the UE, and "O" indicates DTX			
Propagation Channel		Case 8			
Note1: Measurement power offset "\Gamma" is configured by RRC accordingly and as defined in [7] Note2: TF for HS-PDSCH is configured according to the reported					

TF for HS-PDSCH is configured according to the reporte CQI statistics. TF based on median CQI is used. Other physical channel parameters are configured according to the

CQI maping table described in TS25.214

Table 9.28: Minimum requirement for CQI test in fading for categories 11-12

Reported CQI	Maximum BLER
Reported CQ1	Test 1
CQI median	60%
CQI median + 3	15%

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

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

9.3.1.2 Minimum Requirement – UE capability categories 11,12

For the parameters specified in Table 9.24, the reported CQI value shall be in the range of +/-2 of the reported median more than 90% of the time. If the HS-PDSCH (BLER) using transport format indicated by median CQI is less than 0.1, BLER using transport format indicated by (median CQI +2) shall be larger than 0.1. If the HS-PDSCH (BLER) using transport format indicated by median CQI is larger than 0.1, BLER using transport format indicated by (median CQI -1) shall be less than 0.1.

Table 9.24: Test Parameter for CQI: categories 11,12

Paramete	•	Unit	Test 1	Test 2	Test 3
\hat{I}_{or}/I_{oc}		dB	0	5	<u>10</u>
I_{oc}		dBm/3.84 MHz		-60	
Phase refere	nce	-		P-CPICH	
$HS ext{-}PDSCHE_c$ /	I _{or} (*)	dB		-3	
HS-SCCH_1 E	$_{c}$ / I_{or}	dB		-10	
DPCH E_c/I	or	dB		-10	
Maximum numl H-ARQ transmi		-	1		
Number of HS-S0 to be monitor		-	1		
CQI feedback	cycle	ms	2		
CQI repetition f	actor	-	1		
HS-DSCH transr pattern	nission	-	"XOOXOOX" to incorporate inter-TTI=3 UEs, where "X" indicates TTI in which HS- PDSCH is allocated to the UE, and "O" indicates DTX		
Note1: Measurement power offset "\Gamma" is configured by RRC accordingly and and as defined in [7] Note2: TF for HS-PDSCH is configured according to the reported CQI statistics. TF based on median CQI, median CQI -1, median CQI+2 are used. Other physical channel parameters are configured according to the CQI maping table described in TS25.214					

Minimum Requirement – UE capability categories 11,12 9.3.2.2

For the parameters specified in Table 9.27, the requirements are specified in terms of BLERs at particular reported CQIs when a fixed transport format given by CQI median as shown in Table 9.28. The BLER at a particular reported CQI is obtained by associating a particular CQI reference measurement period with HS-PDSCH subframe overlapping with the end of this CQI reference measurement period and calculating the fraction of erroneous HS-PDSCH subframes.

Table 9.27: Test Parameters for CQI test in fading: categories 11-12

Parameter	Unit	Test 1	Test 2	
$HS ext{-}PDSCHE_c/I_{or}$ (*)	dB	-8	<u>-4</u>	
\hat{I}_{or} / I_{oc}	dB	0	<u>5</u>	
I_{oc}	dBm/3.84 MHz	-6	00	
Phase reference	-	P-CF	PICH	
HS-SCCH_1 E_c/I_{or}	dB	-8	.5	
DPCH E_c/I_{or}	dB	-6		
Maximum number of H-ARQ transmission	-	1		
Number of HS-SCCH set to be monitored	-	1		
CQI feedback cycle	ms	2		
CQI repetition factor	-	1		
HS-DSCH transmission pattern	-	"XOOXOOX" to incorporate inter-TTI=3 UEs, where "X" indicates TTI in which HS-PDSCH is allocated to the UE, and "O" indicates DTX		
Propagation Channel		Cas	se 8	
Note1: Measurement power offset "Γ" is configured by RRC accordingly and as defined in [7]				

Note2:

TF for HS-PDSCH is configured according to the reported CQI statistics.
TF based on median CQI is used. Other physical channel parameters are configured according to the CQI maping table described in TS25.214

Table 9.28: Minimum requirement for CQI test in fading for categories 11-12

Reported CQI	Maximum BLER				
Reported CQ1	Test 1	Test2			
CQI median	60%	<u>60%</u>			
CQI median + 3	15%	<u>60%</u>			

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Source:	₩ RA	N WG	4										
Work item code:	₩ HS	DPA-	RF						D	ate: ೫	26/	11/2003	
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- 1) Fill out the above form. The symbols above marked \(\mathbb{H} \) contain pop-up help information about the field that they are closest to.
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- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

C.5.2 OCNS Definition

The selected channelization codes and relative power levels for OCNS transmission during for HSDPA performance assessment are defined in Table C.10. The selected codes are designed to have a single length-16 parent code.

Table C.10: OCNS definition for HSDPA receiver testing.

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

Note 1 The relative level setting specified in dB refers only to the relationship between the OCNS channels. The level of the OCNS channels relative to the Ior of the complete signal is a function of the power of the other channels in the signal with the intention that the power of the group of OCNS channels is used to make the total signal add up to 1.

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R4-031102

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	CHANGE REQUEST						
¥	25.101 CR 297 #rev 3 #	Current version: 6.2.0 **					
For <u>HELP</u> on us	sing this form, see bottom of this page or look at the	e pop-up text over the % symbols.					
Proposed change a		ccess Network Core Network					
Title: #	Correction to HSDPA OCNS definition						
Source: #	RAN WG4						
Work item code: 第	HSDPA-RF	Date: 第 <mark>26/11/2003</mark>					
Reason for change Summary of change	definition. This change is done to be consisted OCNS that already existed in table C.6. This used but removes an inconsistency with table	R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6) sistent with the standard OCNS ent with the method of defining change has no impact on the levels e C.6 which has caused confusion. c channels is normalized to the of 6 dB. A note is added to table OCNS channels are relative to each ive to lor depending on which signal					
Consequences if not approved:	# The change in table C.10 does not alter the learn removes inconsistency in how they were defined to the change in table C.10 does not alter the learn removes inconsistency in how they were defined to the change in table C.10 does not alter the learn removes inconsistency in how they were defined to the change in table C.10 does not alter the learn removes inconsistency in how they were defined to the change in table C.10 does not alter the learn removes inconsistency in how they were defined to the change in table C.10 does not alter the learn removes inconsistency in how they were defined to the change in table C.10 does not alter the learn removes inconsistency in how they were defined to the change in table C.10 does not alter the learn removes inconsistency in how they were defined to the change in table C.10 does not alter the learn removes in table C.10 does not alter the learn removes in table C.10 does not alter the learn removes in table C.10 does not alter the learn removes in table C.10 does not alter the learn removes in table C.10 does not alter the learn removes in table C.10 does not alter the learn removes alter the learn						
Clauses affected:							
Other specs affected:	Y N X Other core specifications Test specifications O&M Specifications 34.12	21					
Other comments:	# Equivalent CRs in other Releases: CR296r3	cat. F to 25.101 v5.8.0					

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

C.5.2 OCNS Definition

The selected channelization codes and relative power levels for OCNS transmission during for HSDPA performance assessment are defined in Table C.10. The selected codes are designed to have a single length-16 parent code.

Table C.10: OCNS definition for HSDPA receiver testing.

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

Note 1 The relative level setting specified in dB refers only to the relationship between the OCNS channels. The level of the OCNS channels relative to the Ior of the complete signal is a function of the power of the other channels in the signal with the intention that the power of the group of OCNS channels is used to make the total signal add up to 1.

3GPP TSG RAN WG4 (Radio) Meeting #29

R4-031075

San Diego, USA 17 - 21 November 2003

CHANGE REQUEST											
*	25	.101	CR 30	2	жrev		æ	Current v	ersion:	6.2.0	ж
For <u>HELP</u> on using this form, see bottom of this page or look at the pop-up text over the % symbols.											
Proposed change	affec	ts:	UICC apps	₩	MEX	Rac	dio A	ccess Net	work	Core No	etwork
Title: #	Pov	ver all	ocation for	HS-SCCI	l in FRC	test					
Source: #	RA	N WG	4								
Work item code: ₩	HS	DPA-F	RF					Date.	: ¥ <mark>26</mark>	/11/2003	
Category: # A											
Reason for change	o∙ 9£	Curr	ent power	allocation	to DPCH	<u>я</u> нс	-80	CH 1 in F	RC tost	s are left a	e "Tost-
Reason for change	<i>.</i> 00	spec	ent power fific" but ha rent DTX re	s not beer	n defined.	Unde	efine	d HS-SCC	H_1 pc	wer may I	
Summary of chang	ge:	to H	proposed to S-SCCH_1	to ensure	low DTX	repo	rting	rate.			
Consequences if not approved:	Ж	and thus impact the result of the test.									
		<isolated analysis="" impact=""> No impact on specified performance is seen if the performance were generated with sufficient power setup for HS-SCCH_1.</isolated>									
Clauses affected:	ж	9.2									
Other specs affected:	*	YN	Other cor Test spec			æ					
Other comments:	Ж	Equi	valent CRs	in other F	Releases:	CR2	75 ca	at. F to 25	.101 v5	.8.0	

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9.2 Demodulation of HS-DSCH (Fixed Reference Channel)

The performance requirement for a particular UE belonging to certain HS-DSCH category are determined according to Table 9.1.

Table 9.1: Mapping between HS-DSCH category and FRC

HS-DSCH category	Corresponding requirement
Category 1	H-Set 1
Category 2	H-Set 1
Category 3	H-Set 2
Category 4	H-Set 2
Category 5	H-Set 3
Category 6	H-Set 3
Category 11	H-Set 4
Category 12	H-Set 5

During the Fixed Reference Channel tests the behaviour of the Node-B emulator in response to the ACK/NACK signalling field of the HS-DPCCH is specified in Table 9.1A:

Table 9.1A: Node-B Emulator Behaviour in response to ACK/NACK/DTX

HS-DPCCH ACK/NACK Field State	Node-B Emulator Behaviour
ACK	ACK: new transmission using 1 st redundancy and constellation version (RV)
NACK	NACK: retransmission using the next RV (up to the maximum permitted number or RV's)
DTX	DTX: retransmission using the RV previously transmitted to the same H-ARQ process

Note: Performance requirements in this section assume a sufficient power allocation to HS-SCCH_1 so that probability of reporting DTX is very low.

R4-031078

3GPP TSG RAN WG4 (Radio) Meeting #29

			01144:2		— ^				CR-Form-v
			CHANG	E REQ	UES	T			
ж	25.10	1 CR	303	жrev	9	€ (Current versi	6.2.0	#
For <u>HELP</u> on	using this	form, see	e bottom of th	is page or	look at	the _i	pop-up text	over the % sy	mbols.
Proposed change	affects:	UICC a	apps #	ME X	Radio	Acc	cess Networ	k Core N	letwork
Title: ៖	Correct	ions of (CQI reporting	section					
Source:	RAN W	'G4							
Work item code: 8	€ HSDPA	\-RF					Date: %	26/11/2003	
Reason for chang	F (c A (d B (a C (f D (e Detailed be found Detailed be found Detailed be found Detailed be found Detailed be found	correction, correspond didition of continuational rectional rectional rectional rectional rections of the continuation of the	ds to a correctif feature), modification of modification) ons of the abov TR 21.900. of measurements pecified. The different measurement of that measurements are described. The different of the correction of t	ent power conis may lear	offset I d to dif ver offs	ase)	Use one of the 2 R96 R97 R98 R99 Rel-4 Rel-5 Rel-6 De signalled ont test result To be signal CH power in the signal	s if different I lled to the UE the test set up	ler test is is used.
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Clauses affected:	% 9.3	3.1.1, 9.3	3.1.2, 9.3.2.1,	9.3.2.2					
Other specs affected:	¥	Test	r core specific specifications	3	¥				

Ж

Other comments:

Equivalent CRs in other Releases: CR276 cat. F to 25.101 v5.8.0

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

2 References

[7]

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.
- [1] (void)
 [2] ITU-R Recommendation SM.329-9: "Spurious emissions".
 [3] (void)
 [4] 3GPP TS 25.433: "UTRAN Iub Interface NBAP Signalling".
 [5] ETSI ETR 273: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Improvement of radiated methods of measurement (using test sites) and evaluation of the corresponding measurement uncertainties; Part 1: Uncertainties in the measurement of mobile radio equipment characteristics; Sub-part 2: Examples and annexes".
 [6] 3GPP TS 45.004: "Digital cellular telecommunications system (Phase 2+); Modulation".

3GPP TS 25.331: "Radio Resource Control (RRC); Protocol Specification"

9.3 Reporting of Channel Quality Indicator

9.3.1 AWGN propagation conditions

The reporting accuracy of channel quality indicator (CQI) under AWGN environments is determined by the reporting variance and the BLER performance using the transport format indicated by the reported CQI median.

9.3.1.1 Minimum Requirement – UE capability categories 1-6

For the parameters specified in Table 9.23, the reported CQI value shall be in the range of +/-2 of the reported median more than 90% of the time. If the HS-PDSCH packet error rate (PER)BLER using transport format indicated by median CQI is less than 0.1, PER-BLER using transport format indicated by (median CQI +2) shall be larger than 0.1. If the HS-PDSCH packet error rate (PER)BLER using transport format indicated by median CQI is larger than 0.1, PER BLER using transport format indicated by (median CQI -1) shall be less than 0.1.

Table 9.23: Test Parameter for CQI: categories 1-6

Parameter	Unit	Test 1	Test 2	Test 3
\hat{I}_{or} / I_{oc}	dB	0	5	10
I_{oc}	dBm/3.84 MHz		-60	
Phase reference	-		P-CPICH	
$HS ext{-}PDSCHE_c/I_{or}(^*)$	dB		-3	
$\frac{HS ext{-SCCH}}{HS ext{-SCCH_1}}E_c/I_{or}$	dB		-10	
$DPCH\ E_c/I_{or}$	dB		-10	
Maximum number of H-ARQ transmission	-	1		
Number of HS-SCCH set to be monitored	-	1		
CQI feedback cycle	ms	2		
CQI repetition factor	-	1		
HS-DSCH transmission pattern	-	"XOOXOOX" to incorporate inter-TTI=3 UEs, where "X" indicates TTI in which HS- PDSCH is allocated to the UE, and "O" indicates DTX		
	wer offset "Γ" is co	nfigured by R	RC accordingly	and as defined
Note2: TF for HS-PDSCH is configured according to the reported CQI statistics. TF based on median CQI, median CQI -1, median CQI+2 are used. Other physical channel parameters are configured according to the CQI maping table described in TS25.214				

9.3.1.2 Minimum Requirement – UE capability categories 11,12

For the parameters specified in Table 9.24, the reported CQI value shall be in the range of +/-2 of the reported median more than 90% of the time. If the HS-PDSCH packet error rate (PER) BLER using transport format indicated by median CQI is less than 0.1, PER BLER using transport format indicated by (median CQI +2) shall be larger than 0.1. If the HS-PDSCH packet error rate (PER)BLER using transport format indicated by median CQI is larger than 0.1, PER BLER using transport format indicated by (median CQI -1) shall be less than 0.1.

Table 9.24: Test Parameter for CQI: categories 11,12

Parameter	Unit	Test 1	Test 2		
\hat{I}_{or} / I_{oc}	dB	0	5		
I_{oc}	dBm/3.84 MHz	-6	0		
Phase reference	-	P-CP	ICH		
$HS ext{-}PDSCHE_{c}/I_{or}(^{*})$	dB	-3	3		
$\frac{HS\text{-SCCH}}{HS\text{-SCCH_1}} E_c/I_{or}$	dB	-1	0		
$DPCH\ E_c/I_{or}$	dB	-10			
Maximum number of H-ARQ transmission	-	1			
Number of HS-SCCH set to be monitored	-	1			
CQI feedback cycle	ms	2			
CQI repetition factor	-	1			
HS-DSCH transmission pattern	-	"XOOXOOX", where "X" indicates T which HS-PDSCH is allocated to UE, and "O" indicates DTX			
Note1: Measurement power offset "T" is configured by RRC accordingly and as defined in [7] Note2: TF for HS-PDSCH is configured according to the reported CQI statistics. TF					
based on median CQI, median CQI -1, median CQI+2 are used. Other					

physical channel parameters are configured according to the CQI maping

table described in TS25.214

9.3.2 Fading propagation conditions

The reporting accuracy of the channel quality indicator (CQI) under fading environments is determined by the BLER performance using the transport format indicated by the reported CQI median.

The specified requirements may be subject to further simulations to verify assumptions.

9.3.2.1 Minimum Requirement – UE capability categories 1-6

For the parameters specified in Table 9.25, the requirements are specified in terms of maximum BLERs at particular reported CQIs when transmitting a fixed transport format given by the CQI median as shown in Table 9.26. The BLER at a particular reported CQI is obtained by associating a particular CQI reference measurement period with HS-PDSCH subframe overlapping with the end of this CQI reference measurement period and calculating the fraction of erroneous HS-PDSCH subframes.

Table 9.25: Test Parameters for CQI test in fading: categories 1-6

Parameter	Unit	Test 1	Test 2	
$HS ext{-}PDSCHE_c/I_{or}$ (*)	dB	-8	-4	
\hat{I}_{or} / I_{oc}	dB	0	5	
I_{oc}	dBm/3.84 MHz	-6	60	
Phase reference	-	P-CF	PICH	
$\frac{HS\text{-SCCH}\; 1}{HS\text{-SCCH}\; 1}\; E_c/I_{or}$	dB	-8.5		
$DPCH\ E_c/I_{or}$	dB	-6		
Maximum number of H-ARQ transmission	-	1		
Number of HS-SCCH set to be monitored	-	1		
CQI feedback cycle	ms	2		
CQI repetition factor	-	1		
HS-DSCH transmission pattern	-	"XOOXOOX" to incorporate inter-TTI=3 UEs, where "X" indicates TTI in which HS-PDSCH is allocated to the UE, and "O" indicates DTX		
Propagation Channel Case 8				
Note1: Measurement power offset "Γ" is configured by RRC accordingly and as defined in [7]				

Note2: TF for HS-PDSCH is configured according to the reported CQI statistics.

TF based on median CQI is used. Other physical channel parameters are configured according to the CQI maping table described in TS25.214

Table 9.26: Minimum requirement for CQI test in fading for categories 1-6

Reported CQI	Maximum BLER		
Reported CQ1	Test 1	Test2	
CQI median	60%	60%	
CQI median + 3	15%	15%	

9.3.2.2 Minimum Requirement – UE capability categories 11,12

For the parameters specified in Table 9.27, the requirements are specified in terms of BLERs at particular reported CQIs when a fixed transport format given by CQI median as shown in Table 9.28. The BLER at a particular reported CQI is obtained by associating a particular CQI reference measurement period with HS-PDSCH subframe overlapping with the end of this CQI reference measurement period and calculating the fraction of erroneous HS-PDSCH subframes.

Table 9.27: Test Parameters for CQI test in fading: categories 11-12

Parameter	Unit	Test 1		
$HS ext{-}PDSCHE_c/I_{or}(^*)$	dB	-8		
\hat{I}_{or} / I_{oc}	dB	0		
I_{oc}	dBm/3.84 MHz	-60		
Phase reference	-	P-CPICH		
$\frac{HS\text{-SCCH}\; 1}{HS\text{-SCCH}\; 1} E_c/I_{or}$	dB	-8.5		
DPCH E_c/I_{or}	dB	-6		
Maximum number of H-ARQ transmission	-	1		
Number of HS-SCCH set to be monitored	-	1		
CQI feedback cycle	ms	2		
CQI repetition factor	-	1		
HS-DSCH transmission pattern	-	"XOOXOOX" to incorporate inter-TTI=3 UEs, where "X" indicates TTI in which HS-PDSCH is allocated to the UE, and "O" indicates DTX		
Propagation Channel		Case 8		
Note1: Measurement power offset "Г" is configured by RRC accordingly and as defined in [7] Note2: TF for HS-PDSCH is configured according to the reported				

TF for HS-PDSCH is configured according to the reported CQI statistics. TF based on median CQI is used. Other Note2:

physical channel parameters are configured according to the

CQI maping table described in TS25.214

Table 9.28: Minimum requirement for CQI test in fading for categories 11-12

Reported CQI	Maximum BLER
Reported CQ1	Test 1
CQI median	60%
CQI median + 3	15%

R4-031080

3GPP TSG RAN WG4 (Radio) Meeting #29 San Diego, USA 17 - 21 November 2003

		CHAN	GE REQUI	EST	-		CR-Form-v7
×	25.101	CR <mark>304</mark>	жrev	ж	Current version:	6.2.0	¥

For <u>HELP</u> on using this form, see bottom of this page or look at the pop-up text over the **%** symbols.

ME X Radio Access Network Core Network Proposed change affects: UICC apps Title: **%** Correction for FRC test in Closed loop mode 1 Source: **# RAN WG4** Date: 第 26/11/2003 **⋇** A Release: # Rel-6 Category: Use one of the following categories: Use one of the following releases: (GSM Phase 2) F (correction) 2 **A** (corresponds to a correction in an earlier release) R96 (Release 1996) (Release 1997) **B** (addition of feature), R97 **C** (functional modification of feature) R98 (Release 1998) **D** (editorial modification) R99 (Release 1999) Detailed explanations of the above categories can Rel-4 (Release 4) (Release 5) be found in 3GPP TR 21.900. Rel-5

Reason for change: # FRC performance of UE under test in Closed loop mode 1 test as specified in section 9.2.3 may depend significantly on the two parameters used in the test set up, which are:

- Closed loop timing adjustment mode
- DPCH frame offset

The assumptions about these parameters are currently missing.

Summary of change: # Additionally specify that:

- Closed loop timing adjustment mode is Mode 1
 - DPCH frame offset is 0 chip

Also the following changes are made:

 The note regading performance of HS-SCCH is removed because now only STTD can be used on HS-SCCH

Rel-6

(Release 6)

- [TBD] in table C.11 is replied by STTD because now only STTD can be used on HS-SCCH.
- OCNS table C.10 become table C.12
- Reference to Table C.12 are added to tables C.8, C.9, C.10, C.11
- CCPCH in table C.11 become P-CCPCH
- Value of ONCS in table C.11 also change to maintain consistency whith description in other tables

Consequences if not approved:

FRC performance of UE under test in Closed loop mode 1 may depend significantly on particular setup of unspecified parameters.

<Isolated Impact Analysis>

This change might have impact on current minimum performance requirement if the specified values were generated based on parameters other than that

Clauses affected:	# 9.2.3, 9.2.3.1, 9.2.3.2, 9.2.3.3, C.5.1
	YN
Other specs	Street Specifications Control of the core specification Control of the core spe
affected:	Test specifications
	O&M Specifications
Other comments:	x
	Equivalent CRs in other Releases: CR272 cat. F to 25.101 v5.8.0

How to create CRs using this form:

mentined above.

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

9.2.3 Closed Loop Diversity Performance

The closed loop transmit diversity (Mode 1) performance of the High Speed Physical Downlink Shared Channel (HS-DSCH) in multi-path fading environments are determined by the information bit throughput R.

Note: The results in Section 9.2.3 assume error free HS SCCH signalling and are subject to further review upon completion of further assessment of the transmit diversity configuration for the HS-SCCH.

9.2.3.1 Minimum requirement QPSK, Fixed Reference Channel (FRC) H-Set 1/2/3

For the parameters specified in Table 9.16, the requirements are specified in terms of a minimum information bit throughput R as shown in Table 9.17 for the DL reference channels specified in Annex A.7.1.

Table 9.16: Test Parameters for Testing QPSK FRCs H-Set 1/H-Set 2/H-Set 3

Parameter	Unit	Test 1	Test 2	Test 3
Phase reference			P-CPICH	
I_{oc}	dBm/3.84 MHz		-60	
DPCH frame offset	Ohim		0	
$(\tau_{DPCH,n})$	<u>Chip</u>		<u>0</u>	
Redundancy and		{0,2,5,6}		
constellation version				
coding sequence				
Maximum number of			4	
HARQ transmission			4	
Feedback Error Rate	%		4	
Closed loop timing			1	
adjustment mode			<u></u>	

Table 9.17: Minimum requirement QPSK, Fixed Reference Channel (FRC) H-Set 1/2/3

Test	Propagation	Reference value				
Number	Conditions	HS-PDSCH	HS-PDSCH T-put R (kbps) *			
		E_c/I_{or} (dB)	\hat{I}_{or}/I_{oc} = 0 dB	\hat{I}_{or}/I_{oc} = 10 dB		
1	PA3	-6	118	399		
'	FAS	-3	225	458		
2	PB3	-6	50	199		
	F D3	-3	173	301		
3	VA30	-6	47	204		
3	VASU	-3	172	305		

^{*} Notes: 1) The reference value R is for the Fixed Reference Channel (FRC) H-Set 1

9.2.3.2 Minimum requirement 16QAM, Fixed Reference Channel (FRC) H-Set 1/2/3

For the parameters specified in Table 9.18, the requirements are specified in terms of a minimum information bit throughput R as shown in Table 9.19 for the DL reference channels specified in Annex A.7.1.

²⁾ For Fixed Reference Channel (FRC) H-Set 2 the reference values for R should be scaled (multiplied by 1.5 and rounding to the nearest integer t-put in kbps, where values of i+1/2 are rounded up to i+1, i integer)s

³⁾ For Fixed Reference Channel (FRC) H-Set 3 the reference values for R should be scaled (multiplied by 3 and rounding to the nearest integer t-put in kbps, where values of i+1/2 are rounded up to i+1, i integer)

Table 9.18: Test Parameters for Testing 16-QAM FRCs H-Set 1/H-Set 2/H-Set 3

Parameter	Unit	Test 1	Test 2	Test 3
Phase reference		P-CPICH		
I_{oc}	dBm/3.84 MHz	-60		
DPCH frame offset (TDPCH.n)	Chip	<u>0</u>		
Redundancy and constellation version coding sequence			{6,2,1,5}	
Maximum number of HARQ transmission		4		
Feedback Error Rate	%	4		
Closed loop timing adjustment mode		1		

Table 9.19: Minimum requirement 16QAM, Fixed Reference Channel (FRC) H-Set 1/2/3

Test	Propagation	Reference value				
Number	Conditions	HS-PDSCH	T-put R (kbps) *			
		E_c/I_{or} (dB)	\hat{I}_{or}/I_{oc} = 10 dB			
1	PA3	-6	361			
'	FAS	FAS	-3	500		
2	PB3	-6	74			
2	FBS	-3	255			
3	VA30	-6	84			
3	VA30	-3	254			

Notes:

- 1)The reference value R is for the Fixed Reference Channel (FRC) H-Set 1 2) For Fixed Reference Channel (FRC) H-Set 2 the reference values for R should be scaled (multiplied by 1.5 and rounding to the nearest integer t-put in kbps, where values of i+1/2 are rounded up to i+1, i integer)
- 3) For Fixed Reference Channel (FRC) H-Set 3 the reference values for R should be scaled (multiplied by 3 and rounding to the nearest integer t-put in kbps, where values of i+1/2 are rounded up to i+1, i integer)

9.2.3.3 Minimum requirement QPSK, Fixed Reference Channel (FRC) H-Set 4/5

For the parameters specified in Table 9.20, the requirements are specified in terms of a minimum information bit throughput R as shown in Tables 9.21 and 9.22 for the DL reference channels specified in Annex A.7.1.4 and A.7.1.5 respectively.

Table 9.20: Test Parameters for Testing QPSK FRCs H-Set 4/H-Set 5

Parameter	Unit	Test 1	Test 2	Test 3
Phase reference			P-CPICH	
I_{oc}	dBm/3.84 MHz		-60	
DPCH frame offset (TDPCH,n)	Chip		<u>0</u>	
Redundancy and constellation version coding sequence			{0,2,5,6}	
Maximum number of HARQ transmission			4	
Feedback Error Rate	%		4	
Closed loop timing adjustment mode			<u>1</u>	

Table 9.21: Minimum requirement QPSK, Fixed Reference Channel (FRC) H-Set 4

Test	Propagation	Reference value						
Number	Conditions	HS-PDSCH	T-put R (kbps) *	T-put R (kbps) *				
		E_c/I_{or} (dB)	\hat{I}_{or}/I_{oc} = 0 dB	\hat{I}_{or}/I_{oc} = 10 dB				
1	PA3	-6	114	398				
'	FAS	-3	223	457				
2	PB3	-6	43	196				
	FB3	-3	167	292				
3	VA30 -6		40	199				
3	VASU	-3	170	305				
* Notes:	1) The reference	value R is for the Fixed Ref	erence Channel (FRC) H-Set	4				

Table 9.22: Minimum requirement QPSK, Fixed Reference Channel (FRC) H-Set 5

Test	Propagation	Reference value						
Number	Conditions	HS-PDSCH	T-put R (kbps) *	T-put R (kbps) *				
		E_c/I_{or} (dB)	\hat{I}_{or}/I_{oc} = 0 dB	\hat{I}_{or}/I_{oc} = 10 dB				
1	PA3	-6	177	599				
'	FAS	-3	338	687				
2	PB3	-6	75	299				
	1 00	-3 26		452				
3	VA30 -6		71	306				
3	V A30	-3	258	458				
* Notes:	1) The reference	value R is for the Fixed Ref	erence Channel (FRC) H-Set	5				

...... Current Text continue here......

C.5 HSDPA DL Physical channels

C.5.1 Downlink Physical Channels connection set-up

Table C.8 is applicable for the measurements for tests in subclause 9.2.1 and 9.3. Table C.9 is applicable for the measurements for tests in subclause 9.2.2. Table C.10 is applicable for the measurements for tests in subclause 9.2.3. Table C.11 is applicable for the measurements for tests in subclause 9.4.

Table C.8: Downlink physical channels for HSDPA receiver testing for Single Link performance.

Physical Channel	Parameter	Value	Note
P-CPICH	P-CPICH_Ec/lor	-10dB	
P-CCPCH	P-CCPCH_Ec/lor	-12dB	Mean power level is shared with SCH.
SCH	SCH_Ec/lor	-12dB	Mean power level is shared with P-CCPCH – SCH includes P- and S-SCH, with power split between both. P-SCH code is S_dl,0 as per TS25.213 S-SCH pattern is scrambling code group 0
PICH	PICH_Ec/lor	-15dB	
DPCH	DPCH_Ec/lor	Test-specific	12.2 kbps DL reference measurement channel as defined in Annex A.3.1
HS-SCCH_1	HS-SCCH_Ec/lor	Test-specific	Specifies fraction of Node-B radiated power transmitted when TTI is active (i.e. due to minimum inter-TTI interval).
HS-SCCH_2	HS-SCCH_Ec/lor	DTX'd	No signalling scheduled, or power radiated, on this HS-SCCH, but signalled to the UE as present.
HS-SCCH_3	HS-SCCH_Ec/lor	DTX'd	As HS-SCCH_2.
HS-SCCH_4	HS-SCCH_Ec/lor	DTX'd	As HS-SCCH_2.
HS-PDSCH	HS-PDSCH_Ec/lor	Test-specific	
OCNS		Necessary power so that total transmit power spectral density of Node B (lor) adds to one	OCNS interference consists of 6 dedicated data channels as specified in table C.10 .

Table C.9: Downlink physical channels for HSDPA receiver testing for Open Loop Transmit Diversity performance.

Physical Channel	Parameter	Value	Note
P-CPICH (antenna 1)	P-CPICH_Ec1/lor	-13dB	1. Total P-CPICH_Ec/lor = -10dB
P-CPICH (antenna 2)	P-CPICH_Ec2/lor	-13dB	
P-CCPCH (antenna 1)	P-CCPCH_Ec1/lor	-15dB	1. STTD applied. 2. Total P-CCPCH Ec/lor is -12dB.
P-CCPCH (antenna 2)	P-CCPCH_Ec2/lor	-15dB	2. Total P-CCPCH Ec/lor is =12ab.
SCH (antenna 1/2)	SCH_Ec/lor	-12dB	TSTD applied. Power divided equally between primary and secondary SCH.
PICH (antenna 1)	PICH_Ec1/lor	-18dB	1. STTD applied.
PICH (antenna 2)	PICH_Ec2/lor	-18dB	2. Total PICH Ec/lor is –15dB.
DPCH	DPCH_Ec/lor	Test-specific	1. STTD applied.
HS-SCCH_1	HS-SCCH_Ec/lor	Test-specific	STTD applied. Specifies fraction of Node-B radiated power transmitted when TTI is active (i.e.
HS-SCCH_2	HS-SCCH_Ec/lor	DTX'd	due to minimum inter-TTI interval). 1. UE assumes STTD applied. 2. No signalling scheduled, or power radiated, on this HS-SCCH, but signalled to the UE as present.
HS-SCCH_3	HS-SCCH Ec/lor	DTX'd	1. As HS-SCCH_2.
HS-SCCH_4	HS-SCCH_Ec/lor	DTX'd	2. As HS-SCCH_2.
HS-PDSCH	HS-PDSCH_Ec/lor	Test-specific	1. STTD applied.
OCNS		Necessary	1. STTD applied.
		power so that total transmit power spectral density of Node B (lor) adds to one	2. Balance of power I_{or} of the Node-B is assigned to OCNS 3. Power divided equally between antennas. 4. OCNS interference consists of 6 dedicated data channels as specified in table C.12.

Table C.10: Downlink physical channels for HSDPA receiver testing for Closed Loop. Transmit Diversity (Mode-1) performance.

Physical Channel	Parameter	Value	Note
P-CPICH (antenna 1)	P-CPICH_Ec1/lor	-13dB	1. Total P-CPICH_Ec/lor = -10dB
P-CPICH (antenna 2)	P-CPICH_Ec2/lor	-13dB	
P-CCPCH (antenna 1)	P-CCPCH_Ec1/lor	-15dB	1. STTD applied.
P-CCPCH (antenna 2)	P-CCPCH_Ec2/lor	-15dB	2. Total P-CCPCH Ec/lor is –12dB.
SCH (antenna 1/2)	SCH_Ec/lor	-12dB	TSTD applied. Power divided equally between primary and secondary SCH.
PICH (antenna 1)	PICH_Ec1/lor	-18dB	1. STTD applied.
PICH (antenna 2)	PICH_Ec2/lor	-18dB	2. Total PICH Ec/lor is –15dB.
DPCH	DPCH_Ec/lor	Test-specific	1. CL1 applied.
HS-SCCH_1	HS-SCCH_Ec/lor	Test-specific	[TBD]STTD applied. Specifies fraction of Node-B radiated power transmitted when TTI is active (i.e. due to minimum inter-TTI interval).
HS-SCCH_2	HS-SCCH_Ec/lor	DTX'd	UE assumes [TBD]STTD applied. No signalling scheduled, or power radiated, on this HS-SCCH, but signalled to the UE as present.
HS-SCCH_3	HS-SCCH_Ec/lor	DTX'd	1. As HS-SCCH_2.
HS-SCCH_4	HS-SCCH_Ec/lor	DTX'd	2. As HS-SCCH_2.
HS-PDSCH	HS-PDSCH_Ec/lor	Test-specific	1. CL1 applied.
OCNS		Necessary	1. STTD applied.
		power so that total transmit power spectral density of Node B (lor) adds to one	2. Balance of power I_{or} of the Node-B is assigned to OCNS 3. Power divided equally between antennas. 4. OCNS interference consists of 6 dedicated data channels as specified in table C.12.

Table C.11: Downlink physical channels for HSDPA receiver testing for HS-SCCH detection performance

Parameter	Units	Value	Comment
CPICH E_c/I_{or}	dB	-10	
$\underline{P-}CCPCH\ E_c/I_{or}$	dB	-12	Mean power level is shared with SCH.
SCH E_c/I_{or}	dB	-12	Mean power level is shared with P-CCPCH – SCH includes P- and S-SCH, with power split between both. P-SCH code is S_dl,0 as per TS25.213 S-SCH pattern is scrambling code group 0
PICH E_c/I_{or}	dB	-15	
HS-DSCH-1 E_c/I_{or}	dB	-10	HS-DSCH associated with HS-SCCH-1
HS-DSCH-2 E_c/I_{or}	dB	DTX	HS-DSCH associated with HS-SCCH-2
HS-DSCH-3 E_c/I_{or}	dB	DTX	HS-DSCH associated with HS-SCCH-3
HS-DSCH-4 E_c/I_{or}	dB	DTX	HS-DSCH associated with HS-SCCH-4
$DPCH\ E_c/I_{\mathit{or}}$	dB	-8	12.2 kbps DL reference measurement channel as defined in Annex A.3.1
HS-SCCH-1 E_c/I_{or}	dB	Test Specific	All HS-SCCH's allocated equal $E_c/I_{or}.$
HS-SCCH-2 E_c/I_{or}	dB		Specifies E_{c}/I_{or} when TTI is active.
HS-SCCH-3 E_c/I_{or}	dB		
HS-SCCH-4 E_c/I_{or}	dB		
OCNS E_c/I_{or}	dB	Necessary power so that total transmit power spectral density of Node B (lor) adds to one Remaining power at Node B (including HS-SCCH power allocation when HS-SCCH's inactive).	OCNS interference consists of 6 dedicated data channels as specified in table C.10 C.12.

C.5.2 OCNS Definition

The selected channelization codes and relative power levels for OCNS transmission during for HSDPA performance assessment are defined in Table C.10. The selected codes are designed to have a single length-16 parent code.

Table C.10C.12: OCNS definition for HSDPA receiver testing.

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

R4-031085

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		CHANGE	REQ	UES	T		CR-Form-v7
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*	25.101 CR 305	urrent version: 6.2.0 **
	201101	0.2.0
For <u>HELP</u> on us	sing this form, see bottom of this page or look at the p	op-up text over the % symbols.
Proposed change a	affects: UICC apps 畿 ME X Radio Acce	ess Network Core Network
Title: ₩	DTX handling for CQI test in fading channel	
Source: #	RAN WG4	
Work item code: ₩	HSDPA-RF	Date: ₩ 26/11/2003
	Use one of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900.	
Summary of chang		and one subsequent packet shall number of consecutive DTXs are
Consequences if not approved:	## Different Node B emulator whith different DTX I result. <isolated analysis="" impact=""> Impact on specifed performance requiremnents requirements were generated based on sufficial that the DTX report rate was low.</isolated>	s should be negligible if the current
Clauses affected:	₩ 9.3.2	
Other specs affected:	Y N Other core specifications Test specifications O&M Specifications	

Equivalent CRs in other Releases: CR273 cat. F to 25.101 v5.8.0

How to create CRs using this form:

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

9.3.2 Fading propagation conditions

The reporting accuracy of the channel quality indicator (CQI) under fading environments is determined by the BLER performance using the transport format indicated by the reported CQI median.

In calculating BLER, for an HARQ process, if an odd number of consecutive DTXs are reported, the corresponding packets and one subsequent packet shall be discarded from BLER calculation. If an even number of consecutive DTXs are reported, the corresponding packets shall be discarded from BLER calculation.

The specified requirements may be subject to further simulations to verify assumptions.

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			СН	ANGE	REQ	UE	ST				CR-Form-v7
×	25	.101	CR 30	9	жrev	1	*	Current vers	sion:	6.2.0	*
For HELP on using this form, see bottom of this page or look at the pop-up text over the % symbols.											
Proposed change affects: UICC apps# ME X Radio Access Network Core Network											
Title:	8 Add	ditional	Specificat	tion of CQ	I Testing t	for UE	E Cap	pability Cate	gories	11 and 1	2
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- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/. For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

9.3.1.2 Minimum Requirement – UE capability categories 11,12

For the parameters specified in Table 9.24, the reported CQI value shall be in the range of +/-2 of the reported median more than 90% of the time. If the HS-PDSCH (BLER) using transport format indicated by median CQI is less than 0.1, BLER using transport format indicated by (median CQI +2) shall be larger than 0.1. If the HS-PDSCH (BLER) using transport format indicated by median CQI is larger than 0.1, BLER using transport format indicated by (median CQI -1) shall be less than 0.1.

Table 9.24: Test Parameter for CQI: categories 11,12

Parameter	Unit	Test 1	Test 2	Test 3	
\hat{I}_{or} / I_{oc}	dB	0	5	<u>10</u>	
I_{oc}	dBm/3.84 MHz	-60			
Phase reference	-	P-CPICH			
$HS ext{-}PDSCHE_c/I_{or}(^*)$	dB	-3			
$HS ext{-SCCH_1}E_c/I_{or}$	dB	-10			
DPCH E_c/I_{or}	dB	-10			
Maximum number of H-ARQ transmission	-	1			
Number of HS-SCCH set to be monitored	-	1			
CQI feedback cycle	ms	2			
CQI repetition factor	-	1			
HS-DSCH transmission pattern	-	"XOOXOOX" to incorporate inter-TTI=3 UEs, where "X" indicates TTI in which HS- PDSCH is allocated to the UE, and "O" indicates DTX			
Note1: Measurement power offset "Γ" is configured by RRC accordingly and as defined					
in [7] Note2: TF for HS-PDSCH is configured according to the reported CQI statistics. TF based on median CQI, median CQI -1, median CQI+2 are used. Other physical channel parameters are configured according to the CQI maping table described in TS25.214					

9.3.2.2 Minimum Requirement – UE capability categories 11,12

For the parameters specified in Table 9.27, the requirements are specified in terms of BLERs at particular reported CQIs when a fixed transport format given by CQI median as shown in Table 9.28. The BLER at a particular reported CQI is obtained by associating a particular CQI reference measurement period with HS-PDSCH subframe overlapping with the end of this CQI reference measurement period and calculating the fraction of erroneous HS-PDSCH subframes.

Table 9.27: Test Parameters for CQI test in fading: categories 11-12

Parameter	Unit	Test 1	Test 2		
$HS ext{-}PDSCHE_c/I_{or}$ (*)	dB	-8	<u>-4</u>		
\hat{I}_{or} / I_{oc}	dB	0	<u>5</u>		
I_{oc}	dBm/3.84 MHz	-60			
Phase reference	-	P-CPICH			
HS-SCCH_1 E_c/I_{or}	dB	-8.5			
$DPCH\ E_{c}/I_{or}$	dB	-6			
Maximum number of H-ARQ transmission	-	1			
Number of HS-SCCH set to be monitored	-	1			
CQI feedback cycle	ms	2			
CQI repetition factor	-	1			
HS-DSCH transmission pattern	-	"XOOXOOX" to incorporate inter-TTI=3 UEs, where "X" indicates TTI in which HS-PDSCH is allocated to the UE, and "O" indicates DTX			
Propagation Channel		Cas	se 8		
Note1: Measurement power offset "Γ" is configured by RRC accordingly and as					

defined in [7]
TF for HS-PDSCH is configured according to the reported CQI statistics. Note2:

TF based on median CQI is used. Other physical channel parameters are

configured according to the CQI maping table described in TS25.214

Table 9.28: Minimum requirement for CQI test in fading for categories 11-12

Reported CQI	Maximum BLER		
Reported CQ1	Test 1	Test2	
CQI median	60%	<u>60%</u>	
CQI median + 3	15%	<u>15%</u>	