TSG RAN Meeting #19 **RP-030033**
Birmingham, United Kingdom, 11 - 14 March, 2003

Title **CRs (Rel-4 and Rel-5 Category A) to TS 25.123**
Source **TSG RAN WG4**
Agenda Item **8.4.4**

RAN4 Tdoc	Spec	CR	R	Cat	Rel	Curr Ver	Title	Work Item
R4-020047	25.123	291		F	Rel-4	4.7.0	Total received power density definition for TDD BS	TEI4
R4-020048	25.123	292		A	Rel-5	5.3.0	Total received power density definition for TDD BS	TEI4

3GPP TSG RAN WG4 (Radio) Meeting #26 **R4-030047**

Madrid, Spain 17 - 22 February, 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.123** **CR** **291** ⌘ **rev** ⌘ Current version: **4.7.0** ⌘

*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 ☐ Radio Access Network ☒ Core Network ☐

Title:	⌘	Total received power density definition for TDD BS
Source:	⌘	RAN WG4
Work item code:	⌘	TEI4
Date:	⌘	04/03/2003
Category:	⌘	**F**
Release:	⌘	Rel-4

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.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	The current parameter for the UTRAN measurement is defined to be Io which is the total received power density as measured at the UE antenna connector. Corresponding parameter for the BS is missing.
Summary of change:	⌘	Addition of new parameter Iob, the total received power density, including signal and interference, as measured at the BS antenna connector. This change is also clarifying that the reference point for the UTRAN RTWB measurement is BS antenna connector.
Consequences if not approved:	⌘	There will be no definition for the total received power density at the BS antenna connector. Isolated Impact Analysis: Addition of new parameter Iob which was missing in the specification Would not affect implementations behaving like indicated in the CR, would affect implementations interpreting the corrected definition otherwise. Would not affect implementations interpreting the current definition to be the total received power density at the BS antenna connector.

Clauses affected:	⌘	3.2; 9.2.1.3; 9.2.1.4			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘ TS 25.225. Reference point has been defined to be the BS antenna connector instead of UE antenna connector in RAN#18
			X	Test specifications	

	X	O&M Specifications

Other comments: ⌘ Equivalent CRs in other Releases: CR292 cat. A to 25.123 v5.3.0

How to create CRs using this form:

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

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

3.2 Symbols

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

[…]	Values included in square bracket must be considered for further studies, because it means that a decision about that value was not taken.
$\frac{DPCH\_E_c}{I_{or}}$	The ratio of the transmit energy per PN chip of the DPCH to the total transmit power spectral density at the Node B antenna connector.
E_c	Average energy per PN chip.
$\frac{\boldsymbol{E_c}}{\boldsymbol{I_{or}}}$	The ratio of the average transmit energy per PN chip for different fields or physical channels to the total transmit power spectral density at the Node B antenna connector.
I_o	The total received power spectral density, including signal and interference, as measured at the UE antenna connector.
Iob	The total received power density, including signal and interference, as measured at the BS antenna connector.
$\boldsymbol{I_{oc}}$	The power spectral density (integrated in a noise bandwidth equal to the chip rate and normalized to the chip rate) of a band limited white noise source (simulating interference from cells, which are not defined in a test procedure) as measured at the UE antenna connector.
$\boldsymbol{I_{or}}$	The total transmit power spectral density (integrated in a bandwidth of (1+α) times the chip rate and normalized to the chip rate) of the down link signal at the Node B antenna connector.
$\hat{\boldsymbol{I}}_{\boldsymbol{or}}$	The received power spectral density (integrated in a bandwidth of (1+α) times the chip rate and normalized to the chip rate) of the down link signal as measured at the UE antenna connector.
$\frac{OCNS\_E_c}{I_{or}}$	The ratio of the average transmit energy per PN chip for the OCNS to the total transmit power spectral density at the Node B antenna connector.
$\frac{PICH\_E_c}{I_{or}}$	The ratio of the average transmit energy per PN chip for the PICH to the total transmit power spectral density at the Node B antenna connector.
$\frac{PCCPCH\_E_c}{I_{or}}$	The ratio of the average transmit energy per PN chip for the PCCPCH to the total transmit power spectral density at the Node B antenna connector.
$\frac{SCH\_E_c}{I_{or}}$	The ratio of the average transmit energy per PN chip for the SCH to the total transmit power spectral density at the Node B antenna connector. The transmit energy per PN chip for the SCH is averaged over the 256 chip duration when the SCH is present in the time slot
PENALTY_TIME	Defined in TS 25.304
Qhyst	Defined in TS 25.304
$Qoffset_{s,n}$	Defined in TS 25.304
Qqualmin	Defined in TS 25.304
Qrxlevmin	Defined in TS 25.304
Sintersearch	Defined in TS 25.304
Sintrasearch	Defined in TS 25.304
SsearchRAT	Defined in TS 25.304
T1	Time period 1
T2	Time period 2
TEMP_OFFSET	Defined in TS 25.304
Treselection	Defined in TS 25.304
UE_TXPWR_MAX_RACH	Defined in TS 25.304

<NEXT CHANGED SECTION>

9.2.1.3 Received Total Wide Band Power

The measurement period shall be 100 ms.

9.2.1.3.1 Absolute accuracy requirements

9.2.1.3.1.1 3.84 Mcps TDD Option

Table 9.35: RECEIVED TOTAL WIDE BAND POWER Intra frequency absolute accuracy

Parameter	Unit	Accuracy [dB]	Conditions
			Iob [dBm/3.84 MHz]
~~RECEIVED TOTAL WIDE BAND POWER~~Iob	dBm/3.84 MHz	± 4	-105..-74

9.2.1.3.1.2 1.28 Mcps TDD Option

Table 9.35A: RECEIVED TOTAL WIDE BAND POWER Intra frequency absolute accuracy

Parameter	Unit	Accuracy [dB]	Conditions
			Iob [dBm/1.28MHz]
~~RECEIVED TOTAL WIDE BAND POWER~~Iob	dBm/1.28 MHz	± 4	-105..-74

9.2.1.3.2 Range/mapping

The reporting range for *RECEIVED TOTAL WIDE BAND POWER* is from -112 ... -50 dBm.

In table 9.36 mapping of the measured quantity is defined. Signalling range may be larger than the guaranteed accuracy range.

Table 9.36

Reported value	Measured quantity value	Unit
RECEIVED TOTAL WIDE BAND POWER_LEV _000	RECEIVED TOTAL WIDE BAND POWER < –112,0	dBm
RECEIVED TOTAL WIDE BAND POWER_LEV _001	-112,0 ≤ RECEIVED TOTAL WIDE BAND POWER < –111,9	dBm
RECEIVED TOTAL WIDE BAND POWER_LEV _002	-111,9 ≤ RECEIVED TOTAL WIDE BAND POWER < –111,8	dBm
…	…	…
RECEIVED TOTAL WIDE BAND POWER_LEV _619	-50,2 ≤ RECEIVED TOTAL WIDE BAND POWER < -50,1	dBm
RECEIVED TOTAL WIDE BAND POWER_LEV _620	-50,1 ≤ RECEIVED TOTAL WIDE BAND POWER < -50,0	dBm
RECEIVED TOTAL WIDE BAND POWER_LEV _621	-50,0 ≤ RECEIVED TOTAL WIDE BAND POWER	dBm

9.2.1.4 SIR

The measurement period shall be 80 ms.

9.2.1.4.1 Absolute accuracy requirements

9.2.1.4.1.1 3.84 Mcps TDD Option

Table 9.37: SIR Intra frequency absolute accuracy

Parameter	Unit	Accuracy [dB]	Conditions Range
SIR	dB	± 3	For 0<SIR<20 dB when Iob > -105 dBm/3.84MHz
SIR	dB	+/-(3 - SIR)	For -7<SIR<0 dB when Iob > -105 dBm/3.84MHz

9.2.1.4.1.2 1.28 Mcps TDD Option

Table 9.37A: SIR Intra frequency absolute accuracy

Parameter	Unit	Accuracy [dB]	Conditions Range
SIR	dB	± 3	For 0<SIR<20 dB when Iob > -105 dBm/1.28MHz
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9.2.1.4.2 Range/mapping

The reporting range for *SIR* is from -11 ... 20 dB.

In table 9.38 mapping of the measured quantity is defined. Signalling range may be larger than the guaranteed accuracy range.

Table 9.38

Reported value	Measured quantity value	Unit
UTRAN_SIR_00	SIR < –11,0	dB
UTRAN_SIR_01	-11,0 ≤ SIR < –10,5	dB
UTRAN_SIR_02	-10,5 ≤ SIR < –10,0	dB
…	…	…
UTRAN_SIR_61	19,0 ≤ SIR < 19,5	dB
UTRAN_SIR_62	19,5 ≤ SIR < 20,0	dB
UTRAN_SIR_63	20,0 ≤ SIR	dB

3GPP TSG RAN WG4 (Radio) Meeting #26 **R4-030048**

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CR-Form-v7

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Source:	⌘	RAN WG4
Work item code:	⌘	TEI4
Date:	⌘	04/03/2003
Category:	⌘	**A**
Release:	⌘	Rel-5

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9.2.1.3.1 Absolute accuracy requirements

9.2.1.3.1.1 3.84 Mcps TDD Option

Table 9.35: RECEIVED TOTAL WIDE BAND POWER Intra frequency absolute accuracy for Wide Area BS

Parameter	Unit	Accuracy [dB]	Conditions
			Iob [dBm/3.84 MHz]
Iob~~RECEIVED TOTAL WIDE BAND POWER~~	dBm/3.84 MHz	± 4	-105..-74

Table 9.35A: RECEIVED TOTAL WIDE BAND POWER Intra frequency absolute accuracy for Local Area BS

Parameter	Unit	Accuracy [dB]	Conditions
			Iob [dBm/3.84MHz]
Iob~~RECEIVED TOTAL WIDE BAND POWER~~	dBm/3.84 MHz	± 4	-91..-60

9.2.1.3.1.2 1.28 Mcps TDD Option

Table 9.35B: RECEIVED TOTAL WIDE BAND POWER Intra frequency absolute accuracy for Wide Area BS

Parameter	Unit	Accuracy [dB]	Conditions
			Iob [dBm/1.28MHz]
Iob~~RECEIVED TOTAL WIDE BAND POWER~~	dBm/1.28 MHz	± 4	-105..-74

Table 9.35C: RECEIVED TOTAL WIDE BAND POWER Intra frequency absolute accuracy for Local Area BS

Parameter	Unit	Accuracy [dB]	Conditions
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Iob~~RECEIVED TOTAL WIDE BAND POWER~~	dBm/1.28 MHz	± 4	-91..-60

9.2.1.3.2 Range/mapping

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9.2.1.4.1.2 1.28 Mcps TDD Option

Table 9.37A: SIR Intra frequency absolute accuracy

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