TSG RAN Meeting #21 **RP-030418**
Frankfurt, Germany, 16 - 19 September 2003

Title **CRs (Rel-5 and Rel-6 Category A) to TS 25.101 under WI "TEI5"**
Source **TSG RAN WG4**
Agenda Item **7.5.5**

RAN4 Tdoc	Spec	CR	R	Cat	Rel	Curr Ver	Title	Work Item
R4-020785	25.101	269		F	Rel-5	5.7.0	Correction of CR 160 implementation for Correction of power terms and definitions	TEI5
R4-020786	25.101	270		A	Rel-6	6.1.0	Correction of CR 160 implementation for Correction of power terms and definitions	TEI5

3GPP TSG RAN WG4 (Radio) Meeting #28 **R4-030785**

Sophia Antipolis, France 18 - 22 August 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.101** **CR** **269** ⌘ **rev** ⌘ Current version: **5.7.0** ⌘

*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:	⌘	Correction of CR 160 implementation for Correction of power terms and definitions
Source:	⌘	RAN WG4
Work item code:	⌘	TEI5
Date:	⌘	08/09/2003
Category:	⌘	**F**
Release:	⌘	Rel-5

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:	⌘	There was an error in the content and implementation of CR 160, which this CR corrects.
Summary of change:	⌘	Missing Note 2 is added to section 3.1 This was in the equivalent CRs 157 and 159 for R99 and rel-4 but was omitted from CR 160. This brings Rel-5 into line with R99 and Rel-4. Changed “average power” to “RRC filtered mean power” in section 6.5.1 Power on/off ratio. This was in the original CR 160 but was not implemented in version 5.2.0.
Consequences if not approved:	⌘	Release 5 and later releases will be inconsistent with R99 and Rel-4 which will cause unnecessary confusion.

Clauses affected:	⌘	A.9.1.1.1			
Other specs affected:	⌘	**Y** / **N**	Other core specifications	⌘	34.121
		X /	Test specifications		
		/ **X**	O&M Specifications		
Other comments:	⌘	Equivalent CRs in other Releases: CR270 cat. A to 25.101 v6.1.0			

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.

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.

3 Definitions, symbols and abbreviations

3.1 Definitions

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

Power Spectral Density: The units of Power Spectral Density (PSD) are extensively used in this document. PSD is a function of power versus frequency and when integrated across a given bandwidth, the function represents the mean power in such a bandwidth. When the mean power is normalised to (divided by) the chip-rate it represents the mean energy per chip. Some signals are directly defined in terms of energy per chip, (DPCH_E_c, E_c, OCNS_E_c and S-CCPCH_E_c) and others defined in terms of PSD (I_o, I_{oc}, I_{or} and $\hat{I}_{or}$). There also exist quantities that are a ratio of energy per chip to PSD (DPCH_E_c/I_{or}, E_c/I_{or} etc.). This is the common practice of relating energy magnitudes in communication systems.
It can be seen that if both energy magnitudes in the ratio are divided by time, the ratio is converted from an energy ratio to a power ratio, which is more useful from a measurement point of view. It follows that an energy per chip of X dBm/3.84 MHz can be expressed as a mean power per chip of X dBm. Similarly, a signal PSD of Y dBm/3.84 MHz can be expressed as a signal power of Y dBm.

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

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

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

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

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

NOTE 2: The roll-off factor α is defined in section 6.8.1.

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

6.5 Transmit ON/OFF power

6.5.1 Transmit OFF power

Transmit OFF power is defined as the RRC filtered mean ~~average~~ power when the transmitter is off. The transmit OFF power state is when the UE does not transmit except during UL compressed mode.

6.5.1.1 Minimum requirement

The transmit OFF power is defined as the RRC filtered mean power in a duration of at least one timeslot excluding any transient periods. The requirement for the transmit OFF power shall be less than –56 dBm.

3GPP TSG RAN WG4 (Radio) Meeting #28 **R4-030786**

Sophia Antipolis, France 18 - 22 August 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.101** **CR** **270** ⌘ **rev** ⌘ Current version: **6.1.0** ⌘

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Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Correction of Rel-5 CR 160 implementation for Correction of power terms and definitions
Source:	⌘	RAN WG4
Work item code:	⌘	TEI5
Date:	⌘	08/09/2003
Category:	⌘	**A**
Release:	⌘	Rel-6

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Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
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Reason for change:	⌘	There was an error in the content and implementation of Rel-5 CR 160, which this CR corrects. The error was incorporated into the first version of release 6.
Summary of change:	⌘	Missing Note 2 is added to section 3.1 This was in the equivalent CRs 157 and 159 for R99 and rel-4 but was omitted from CR 160. This brings Rel-5 into line with R99 and Rel-4. Changed “average power” to “RRC filtered mean power” in section 6.5.1 Power on/off ratio. This was in the original CR 160 but was not implemented in version 5.2.0.
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			X	Other core specifications	⌘
		X		Test specifications	34.121
			X	O&M Specifications	
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