TSG RAN Meeting #25   **RP-040290**
Palm Springs, US, 7 - 9 September 2004

Title	**CRs (Rel-6) to TS25.123 for corrections to Low Chip Rate TDD**
Source	**TSG RAN WG4**
Agenda Item	**8.9**

RAN4 Tdoc	Spec	CR	R	Cat	Rel	Curr Ver	Title	Work Item
R4-040551	25.123	346	1	F	Rel-6	6.2.0	Correction to measurement performance units in section 9	LCRTDD-RF
R4-040407	25.123	347		F	Rel-6	6.2.0	Correction of inconsistency between 25.123 and 25.331	LCRTDD-RF

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CHANGE REQUEST

| ⌘ | **25.123** CR **346** | ⌘**rev** **1** | ⌘ | Current version: | **6.2.0** | ⌘ |

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

Title: ⌘[H8]	Correction to measurement performance units in section 9
Source: ⌘	RAN WG4
Work item code:⌘	LCRTDD-RF	**Date:** ⌘	30/08/2004

Category: ⌘ **F**	**Release:** ⌘ Rel-6

Use <u>one</u> 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 <u>one</u> 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 are some unit errors about measurement performance in section 9.
Summary of change:⌘	The units have been corrected or added in the following tables as described: Table 9.17A: SFN-SFN from Chip to chip and Accuracy units are added Table 9.28: from dB to dBm and Accuracy units are added Table 9.28A: Timing Advance from Chips period to chip and Accuracy units are added Tables 9.33, 9.33A, 9.33B, and 9.33C: Timeslot ISCP from dB to dBm Table 9.41A: RX Timing Deviation from Chips period to chip Table 9.44AA: SYNC-UL Timing Deviation from Chips period to chip and Accuracy units are added Table 9.44J: SFN-SFN from Chip to chip Table 9.44R and 9.44S: UpPTS interference from dB to dBm Table 9.47 and 9.48: Transmitted code power from dB to dBm
Consequences if not approved: ⌘	These unit errors and lack of unit definitions will cause specificaiton confusion.

Clauses affected: ⌘	9.1, 9.2

		Y	N		
Other specs ⌘			X	Other core specifications ⌘	
affected:			X	Test specifications	
			X	O&M Specifications	

Other comments: ⌘	

How to create CRs using this form:

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9.1.1.8   SFN-SFN observed time difference

9.1.1.8.1.2   1.28 Mcps TDD option

The accuracy requirements in table 9.3B are valid under the following conditions:

P-CCPCH RSCP1,2 $\geq$ -102 dBm.

$$\left| P\text{-}CCPCH\ RSCP1 \right|_{in\ dBm} - P\text{-}CCPCH\ RSCP2 \Big|_{in\ dBm} \left| \leq 20 dB \right.$$

P-CCPCH Ec/Io $\geq$ -8 dB

DwPCH_Ec/Io $\geq$ -5 dB

Table 9.17A: SFN-SFN observed time difference accuracy

Parameter	Unit	Accuracy [chip]	Conditions Io [dBm/ 1.28 MHz]
SFN-SFN observed time difference	~~Chip~~ chip	+/-0,5 for type 1 but +/- 0.125 for type 2	-94...-50

<NEXT CHANGED SECTION>

9.1.2.1   UE transmitted power

The measurement period for CELL_DCH state and CELL_FACH state is 1 slot.

9.1.2.1.1   Absolute accuracy requirements

Table 9.28 UE transmitted power absolute accuracy

Parameter	Unit	~~PUEMAX~~ Accuracy [dB]	
		PUEMAX 24dBm	PUEMAX 21dBm
UE transmitted power=PUEMAX	dBm	+1/-3	±2
UE transmitted power=PUEMAX-1	dBm	+1,5/-3,5	±2,5
UE transmitted power=PUEMAX-2	dBm	+2/-4	±3
UE transmitted power=PUEMAX-3	dBm	+2,5/-4,5	±3,5
PUEMAX-10≤UE transmitted power<PUEMAX-3	dBm	+3/-5	±4

Note 1:   User equipment maximum output power, PUEMAX, is the maximum output power level without tolerance defined for the power class of the UE in 3GPP TS 25.102 "UTRA (UE) TDD; Radio Transmission and Reception".

Note 2:   UE transmitted power is the reported value.

<NEXT CHANGED SECTION>

9.1.2.2   Timing Advance (T$_{ADV}$) for 1.28 Mcps TDD

This measurement refers to TS25.225 subsection 5.1.14.

9.1.2.2.1   Accuracy requirements

Table 9.28A

Parameter	Unit	Accuracy [chip]	Conditions
			Range [chips]
Timing Advance	~~C~~chip~~s period~~	+/- 0.125	0, …, 255.875

<NEXT CHANGED SECTION>

9.2.1.2   Timeslot ISCP

The measurement period shall be 100 ms.

9.2.1.2.1   Absolute accuracy requirements

9.2.1.2.1.1   3.84 Mcps TDD Option

Table 9.33: Timeslot ISCP Intra frequency absolute accuracy for Wide Area BS

Parameter	Unit	Accuracy [dB]		Conditions
		Normal conditions	Extreme conditions	Io [dBm/3.84 MHz]
Timeslot ISCP	dBm	± 6	± 9	-105..-74

Table 9.33A: Timeslot ISCP Intra frequency absolute accuracy for Local Area BS

Parameter	Unit	Accuracy [dB]		Conditions
		Normal conditions	Extreme conditions	Io [dBm/3.84 MHz]
Timeslot ISCP	dBm	± 6	± 9	-91..-60

9.2.1.2.1.2   1.28 Mcps TDD Option

Table 9.33B: Timeslot ISCP Intra frequency absolute accuracy for Wide Area BS

Parameter	Unit	Accuracy [dB]		Conditions
		Normal conditions	Extreme conditions	Io [dBm/1.28 MHz]
Timeslot ISCP	dBm	± 6	± 9	-105..-74

Table 9.33C: Timeslot ISCP Intra frequency absolute accuracy for Local Area BS

Parameter	Unit	Accuracy [dB]		Conditions
		Normal conditions	Extreme conditions	Io [dBm/1.28 MHz]
Timeslot ISCP	dBm	± 6	± 9	-91..-60

<NEXT CHANGED SECTION>

9.2.1.6   RX Timing Deviation

The measurement period shall be 100 ms.

9.2.1.6.1   Accuracy requirements

9.2.1.6.1.1   3.84 Mcps TDD option

Table 9.41: RX Timing Deviation accuracy

Parameter	Unit	Accuracy [chip]	Conditions
			Range [chips]
RX Timing Deviation	chip	+/- 0,5	-256, …, 256

9.2.1.6.1.2   1.28 Mcps TDD option

Table 9.41A: RX Timing Deviation accuracy

Parameter	Unit	Accuracy [chip]	Conditions
			Range [chips]
RX Timing Deviation	~~C~~chip~~s period~~	+/- 0.125	-16, ..., 16

<NEXT CHANGED SECTION>

9.2.1.10   SYNC-UL Timing Deviation for 1.28 Mcps

This measurement refers to TS25.225 subsection 5.2.8.1.

9.2.1.10.1   Accuracy requirements

Table 9.44AA

Parameter	Unit	Accuracy [chip]	Conditions
			Range [chips]
SYNC-UL Timing Deviation	chip~~s period~~	+/- 0.125	0, …, 255.875

<NEXT CHANGED SECTION>

9.2.1.12   SFN-SFN observed time difference

The measurement period shall be 100 ms.

9.2.1.12.1   Accuracy requirements

9.2.1.12.1.1   3.84 Mcps TDD option

Table 9.44I: SFN-SFN observed time difference accuracy

Parameter	Unit	Accuracy [chip]	Conditions
			Range [chips]
SFN-SFN observed time difference	chip	+/-0,5	−1280 ... +1280

9.2.1.12.1.2   1.28 Mcps TDD option

Table 9.44J: SFN-SFN observed time difference accuracy

| Parameter | Unit | Accuracy [chip] | Conditions |
			Range [chips]
SFN-SFN observed time difference	~~Chip~~ chip	+/- 0.125	−432 ... +432

<NEXT CHANGED SECTION>

9.2.1.15   UpPTS interference (1.28Mcps TDD)

The measurement period shall be 100 ms.

9.2.1.15.1   Absolute accuracy requirements

Table 9.44R: UpPTS interference Intra frequency absolute accuracy for Wide Area BS

| Parameter | Unit | Accuracy [dB] | | Conditions |
		Normal conditions	Extreme conditions	Io [dBm/1.28 MHz]
UpPTS interference	dBm	$\pm$ 6	$\pm$ 9	-105..-74

Table 9.44S: UpPTS interference Intra frequency absolute accuracy for Local Area BS

| Parameter | Unit | Accuracy [dB] | | Conditions |
		Normal conditions	Extreme conditions	Io [dBm/1.28 MHz]
UpPTS interference	dBm	$\pm$ 6	$\pm$ 9	-91..-60

<NEXT CHANGED SECTION>

9.2.2.2   Transmitted code power

The measurement period shall be 100 ms.

9.2.2.2.1   Absolute accuracy requirements

Table 9.47: Transmitted code power absolute accuracy

| Parameter | Unit | Accuracy [dB] | Conditions |
			Range
Transmitted code power	dBm	$\pm$ 3	Over the full range

9.2.2.2.2   Relative accuracy requirements

The relative accuracy of transmitted code power is defined as the transmitted code power measured at one dedicated radio link compared to the transmitted code power measured from a different dedicated radio link in the same cell.

Table 9.48: Transmitted code power relative accuracy

Parameter	Unit	Accuracy [dB]	Conditions
			Range
Transmitted code power	dBm	± 2	Over the full range

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CHANGE REQUEST

⌘   **25.123** CR **347**   ⌘**rev**   ⌘ Current version: **6.2.0** ⌘

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

Title: ⌘	Correction of inconsistency between 25.123 and 25.331.	
Source: ⌘	RAN WG4	
Work item code: ⌘	LCRTDD-RF	***Date:*** ⌘ 30/08/2004

Category: ⌘ **F**	***Release:*** ⌘ Rel-6

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   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 is an inconsistency between 25.123 and 25.331. In 25. 331, paragraph 8.6.7.5 the following is specified `"only BSIC-verified GSM cells shall be included in the measurement report, in case "BSIC verification is required"` But in 25.123, paragraph 8.1A.2.5.2 it is stated that "Non verified BSIC shall be indicated in the measurement report.."
Summary of change: ⌘	The inconsistency between 25.331 and 25.123 is removed in 25.123 and changed to reference 25.331.
Consequences if not approved: ⌘	Inconsistencies of requirements between 25.123 and 25.331 are kept. Thereby it is not clear what shall be reported.

Clauses affected: ⌘	8.1A.2.5.2

	Y	N		
Other specs affected: ⌘			Other core specifications	⌘
			Test specifications	
			O&M Specifications	

Other comments: ⌘	

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8.1A.2.5   GSM measurements

The requirements in this section shall apply to UE supporting 1.28Mcps TDD and GSM.

Measurements on GSM cells can be requested with BSIC verified or BSIC non-verified.

1) For a UE requiring idle intervals to perform GSM measurements. In CELL_DCH state when signalled by UTRAN and when idle intervals are used, the UE shall continuously measure GSM cells and search for new GSM cells given in the monitored set.

2) For a UE not requiring idle intervals to perform GSM measurements:

- the UE shall measure all GSM cells present in the monitored set

- the relevant requirements for GSM dedicated mode when a TCH channel is assigned in TS 45.008 shall apply. This is further detailed in the following sub-sections.

8.1A.2.5.1   GSM carrier RSSI

1) For a UE requiring idle intervals to perform GSM measurements

An UE supporting GSM measurements using idle intervals shall meet the minimum number of GSM RSSI carrier measurements specified in table 8.1A.

In the CELL_DCH state the measurement period, $T_{\text{Measurement Period, GSM}}$, for the GSM carrier RSSI measurement is 480 ms.

The UE shall meet the measurement accuracy requirements stated for RXLEV in TS 45.008, when the given measurement time allows the UE to the take at least 3 GSM carrier RSSI samples per GSM carrier in the monitored set during the measurement period.

Table 8.1A

Idle Interval Length (timeslots)	Number of GSM carrier RSSI samples in each idle interval
3	1
4	2
5	3

For the description of the idle intervals see Annex A of 25.225.
In case the UE is not able to acquire the required number of samples per GSM carrier during one measurement period, the UE shall measure as many GSM carriers as possible during that measurement period using at least 3 samples per GSM carrier. The GSM carriers that were not measured during that measurement period shall be measured in the following measurement periods. This means that, in this particular case, the L1 reporting period to higher layers of a GSM neighbour can be a multiple of the measurement period.

2) For a UE not requiring idle intervals to perform GSM measurements

The samples allocated to each carrier shall as far as possible be uniformly distributed over each measurement period. At least 3 received signal level measurement samples are required per RSSI value. The measurement period is 480 ms.

8.1A.2.5.2 BSIC verification

1) For a UE requiring idle intervals to perform GSM measurements

The procedure for BSIC verification on a GSM cell can be divided into the following two tasks:

1) Initial BSIC identification
Includes searching for the BSIC and decoding the BSIC for the first time when there is no knowledge about the relative timing between the TDD and GSM cell. The UE shall trigger the initial BSIC identification within the available idle intervals. The requirements for Initial BSIC identification can be found in section 8.1A.2.5.2.1,"Initial BSIC identification".

2) BSIC re-confirmation
Tracking and decoding the BSIC of a GSM cell after initial BSIC identification is performed. The UE shall trigger the BSIC re-confirmation within the available idle intervals. The requirements for BSIC re-confirmation can be found in section 8.1A.2.5.2.2, "BSIC re-confirmation".

Measurements on a GSM cell can be requested with BSIC verified or BSIC non-verified. If GSM measurements are requested with BSIC verified the UE shall be able to report the GSM cells with BSIC verified for those cells where the verification of BSIC has been successful.

The UE shall use the last available GSM carrier RSSI measurement results for arranging GSM cells in signal strength order for performing BSIC identification. The UE shall perform event evaluation for event-triggered reporting after the BSIC has been verified for a GSM cell. The UE shall use the last available GSM carrier RSSI measurement results in event evaluation and event-triggered reporting. Periodic reports shall be triggered according to Sections 8.6.7.5 and 8.6.7.6 of [16]. the given reporting period even if the BSIC of a GSM cell has not been verified. Non verified BSIC shall be indicated in the measurement report.

The BSIC of a GSM cell is considered to be "verified" if the UE has decoded the SCH of the BCCH carrier and identified the BSIC at least one time (initial BSIC identification) and from that moment the BSIC shall be re-confirmed at least once every $T_{re\text{-}confirm\ abort}$ seconds. Otherwise the BSIC of the GSM cell is considered as "non-verified". The time requirement for initial BSIC identification, $T_{identify\ abort}$, and the BSIC re-confirmation interval $T_{re\text{-}confirm\ abort}$ can be found in the sections below.

The UE shall be able to perform BSIC verification at levels down to the reference sensitivity level or reference interference levels as specified in TS 45.005.

2) For a UE not requiring idle intervals to perform GSM measurements

If a BSIC is decoded and matches the expected value, it is considered as "verified", else it is considered as "non verified".

The UE shall be able to perform BSIC verification at levels down to the reference sensitivity level or reference interference levels as specified in TS 45.005.