TSG-RAN Meeting #9   *TSGRP#9(00)0497*

Hawaii, US, 20 - 22 September 2000

Title: Revision of CRs on PRACH and PCPCH measurements in TS 25.133

Source: Samsung

Following discussions regarding PRACH and PCPCH in RAN #9, it was clarified that since their performance requirements are release-00 items, the corresponding accuracy sections should be removed from the original CRs (25133CR42: R4-000698, 25133CR43: R4-000617) in Tdoc RP-000400.

CHANGE REQUEST

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25.133	CR	**42r1**	Current Version:	**3.2.0**

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ ↑ *CR number as allocated by MCC support team*

For submission to:	**TSG RAN#9**	for approval	**X**	strategic		*(for SMG*
list expected approval meeting # here ↑		For information		non-strategic		*use only)*

Form: CR cover sheet, version 2 for 3GPP and SMG   *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: (U)SIM ☐ ME ☐ UTRAN / Radio **X** Core Network ☐
(at least one should be marked with an X)

Source:	RAN WG4		**Date:**	2000-09-21

Subject: CR on requirement and range of measurement for CPCH

Work item:

Category:

(only one category shall be marked with an X)

				Release:		
F	Correction	**X**		Phase 2		
A	Corresponds to a correction in an earlier release			Release 96		
B	Addition of feature			Release 97		
C	Functional modification of feature			Release 98		
D	Editorial modification			Release 99	**X**	
				Release 00		

Reason for change: Since the measurements 'Detected PCPCH access preambles' and 'Acknowledged PCPCH access preambles' are already specified in RAN1, RAN2, and RAN3 specifications, it also should be included in RAN 4 specification

Clauses affected: 8.2

Other specs affected:

Other 3G core specifications	☐	→ List of CRs:	
Other GSM core specifications	☐	→ List of CRs:	
MS test specifications	☐	→ List of CRs:	
BSS test specifications	☐	→ List of CRs:	
O&M specifications	☐	→ List of CRs:	

Other comments:

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<-------- double-click here for help and instructions on how to create a CR.

8.2.5 Transport channel BLER

The measurement period shall be equal to the [TTI] of the transport channel.

8.2.5.1 Accuracy requirement

Table 8-47

Parameter	Accuracy	Range
BLER		

8.2.5.2 Transport channel BLER measurement report mapping

The *Transport channel BLER* reporting range is from 0 to 1.
In table 8-48 the mapping of measured quantity is defined. The range in the signalling may be larger than guaranteed accuracy range.

Table 8-48

Reported value	Measured quantity value	Unit
BLER_LOG _00	Transport channel BLER = 0	-
BLER_LOG _01	-∞ < Log10(Transport channel BLER) < –4.03	-
BLER_LOG _02	-4.03 ≤ Log10(Transport channel BLER) < –3.965	-
BLER_LOG _03	-3.965 ≤ Log10(Transport channel BLER) < –3.9	-
…	…	…
BLER_LOG _61	-0.195 ≤ Log10(Transport channel BLER) < -0.13	-
BLER_LOG _62	-0.13 ≤ Log10(Transport channel BLER) < -0.065	-
BLER_LOG _63	-0.065 ≤ Log10(Transport channel BLER) ≤ 0	-

8.2.6 Physical channel BER

The measurement period shall be equal to the [TTI] of the transport channel.

8.2.6.1 Accuracy requirement

Table 8-49

Parameter	Accuracy	Range
BER	+/- 10% of the absolute BER value.	

8.2.6.2 Physical channel BER measurement report mapping

The *Physical channel BER* reporting range is from 0 to 1.
In table 8-50 the mapping of measured quantity is defined. The range in the signalling may be larger than guaranteed accuracy range.

Table 8-50

Reported value	Measured quantity value	Unit
PhCh_BER_LOG_000	Physical channel BER = 0	-
PhCh_BER_LOG_001	-∞ < Log10(Physical channel BER) < -2.06375	-
PhCh_BER_LOG_002	-2.06375 ≤ Log10(Physical channel BER) < -2.055625	-
PhCh_BER_LOG_003	-2.055625 ≤ Log10(Physical channel BER) < -2.0475	-
…	…	…
PhCh_BER_LOG_253	-0.024375 ≤ Log10(Physical channel BER) < -0.01625	-
PhCh_BER_LOG_254	-0.01625 ≤ Log10(Physical channel BER) < -0.008125	-
PhCh_BER_LOG_255	-0.008125 ≤ Log10(Physical channel BER) ≤ 0	-

8.2.7 Round trip time

The measurement period shall be [100] ms.

8.2.7.1 Absolute accuracy requirement

Table 8-51

Parameter	Accuracy	Range
RTT	+/- 0.5 chip	[876, …, 2923.75] chips

8.2.7.2 Round trip time measurement report mapping

The *Round trip time* reporting range is from 876.00 ... 2923.50 chip.
In table 8-52 the mapping of measured quantity is defined. The range in the signalling may be larger than guaranteed accuracy range.

Table 8-52

Reported value	Measured quantity value	Unit
RT_TIME_0000	Round trip time < 876.00	chip
RT_TIME_0001	876.00 ≤ Round trip time < 876.25	chip
RT_TIME_0002	876.25 ≤ Round trip time < 876.50	chip
RT_TIME_0003	876.50 ≤ Round trip time < 876.75	chip
…	…	…
RT_TIME_8188	2922.75 ≤ Round trip time < 2923.00	chip
RT_TIME_8189	2923.00 ≤ Round trip time < 2923.25	chip
RT_TIME_8190	2923.25 ≤ Round trip time < 2923.50	chip
RT_TIME_8191	2923.50 ≤ Round trip time	chip

8.2.8 Transport Channel BER

The measurement period shall be equal to the [TTI] of the transport channel.

8.2.8.1 Accuracy requirement

Table 8-53

Parameter	Accuracy	Range
TrpBER	+/- []% of the absolute BER value.	

8.2.8.2 Transport channel BER measurement report mapping

The *Transport channel BER* reporting range is from 0 to 1.
In table 8-54 the mapping of measured quantity is defined. The range in the signalling may be larger than guaranteed accuracy range.

Table 8-54

Reported value	Measured quantity value	Unit
TrCh_BER_LOG_000	Transport channel BER = 0	-
TrCh_BER_LOG_001	$-\infty <$ Log10(Transport channel BER) < -2.06375	-
TrCh_BER_LOG_002	$-2.06375 \leq$ Log10(Transport channel BER) < -2.055625	-
TrCh_BER_LOG_003	$-2.055625 \leq$ Log10(Transport channel BER) < -2.0475	-
…	…	…
TrCh_BER_LOG_253	$-0.024375 \leq$ Log10(Transport channel BER) < -0.01625	-
TrCh_BER_LOG_254	$-0.01625 \leq$ Log10(Transport channel BER) < -0.008125	-
TrCh_BER_LOG_255	$-0.008125 \leq$ Log10(Transport channel BER) ≤ 0	-

8.2.9 UTRAN GPS Timing of Cell Frames for LCS

Requirement	[ ] chips period.

8.2.9.1 UTRAN GPS timing of Cell Frames for LCS measurement report mapping

The reporting range is for UTRAN GPS timing of Cell Frames for LCS is from 0 ... 2319360000000 chip.
In table 8-55 the mapping of measured quantity is defined.

Table 8-55

Reported value	Measured quantity value	Unit
GPS_TIME_00000000000000	UTRAN GPS timing of Cell Frames for LCS < 0.125	chip
GPS_TIME_00000000000001	0.125 ≤ UTRAN GPS timing of Cell Frames for LCS < 0.250	chip
GPS_TIME_00000000000002	0.250 ≤ UTRAN GPS timing of Cell Frames for LCS < 0.375	chip
…	…	…
GPS_TIME_18554879999997	2319359999999.625 ≤ UTRAN GPS timing of Cell Frames for LCS < 2319359999999.750	chip
GPS_TIME_18554879999998	2319359999999.750 ≤ UTRAN GPS timing of Cell Frames for LCS < 2319359999999.875	chip
GPS_TIME_18554879999999	2319 359999 999.875 ≤ UTRAN GPS timing of Cell Frames for LCS < 2319360000000.000	chip

8.2.10 Propagation delay

8.2.10.1 Accuracy requirement

Parameter	Accuracy	Range
PropDelay	+/- [] chip	

8.2.10.2 Propagation delay measurement report mapping

The *Propagation delay* reporting range is from 0 ... 765 chip.
In table 8-56 the mapping of measured quantity is defined. The range in the signalling may be larger than guaranteed accuracy range.

Table 8-56

Reported value	Measured quantity value	Unit
PROP_DELAY_000	0 ≤ Propagation delay < 3	chip
PROP_DELAY_001	3 ≤ Propagation delay < 6	chip
PROP_DELAY_002	6 ≤ Propagation delay < 9	chip
…	…	…
PROP_DELAY_252	756 ≤ Propagation delay < 759	chip
PROP_DELAY_253	759 ≤ Propagation delay < 762	chip
PROP_DELAY_254	762 ≤ Propagation delay < 765	chip
PROP_DELAY_255	765 ≤ Propagation delay	chip

8.2.11 Detected PCPCH access preambles

The measurement period shall be 20 ms.

8.2.11.1 Detected PCPCH access preambles measurement report mapping

The *Detected PCPCH access preambles* reporting range is 0 … 240.
In Table 8-58, the mapping of measured quantity is defined. The range in the signalling may be larger than the guaranteed accuracy range.

Table 8-58

Reported value	Measured quantity value	Unit
DETECT_PCPCH_AP_000	Detected PCPCH access preambles = 0	-
DETECT_PCPCH_AP _001	Detected PCPCH access preambles = 1	-
DETECT_PCPCH_AP _002	Detected PCPCH access preambles = 2	-
…	…	…
DETECT_PCPCH_AP _237	Detected PCPCH access preambles = 237	-
DETECT_PCPCH_AP _238	Detected PCPCH access preambles = 238	-
DETECT_PCPCH_AP _239	Detected PCPCH access preambles = 239	-
DETECT_PCPCH_AP _240	Detected PCPCH access preambles = 240	-

8.2.12 Acknowledged PCPCH access preambles

The measurement period shall be 20 ms.

8.2.12.1 Acknowledged PCPCH access preambles measurement report mapping

The *Acknowledged PCPCH access preambles* reporting range is 0 … 15.
In Table 8-60, the mapping of measured quantity is defined. The range in the signalling may be larger than the guaranteed accuracy range.

Table 8-60

Reported value	Measured quantity value	Unit
ACK_PCPCH_AP_00	Acknowledged PCPCH access preambles = 0	-
ACK_PCPCH_AP _01	Acknowledged PCPCH access preambles = 1	-
ACK_PCPCH_AP _02	Acknowledged PCPCH access preambles = 2	-
…	…	…
ACK_PCPCH_AP _12	Acknowledged PCPCH access preambles = 12	-
ACK_PCPCH_AP _13	Acknowledged PCPCH access preambles = 13	-
ACK_PCPCH_AP _14	Acknowledged PCPCH access preambles = 14	-
ACK_PCPCH_AP _15	Acknowledged PCPCH access preambles = 15	-

9 UE parallel measurements

9.1 General

The UE shall be able to perform parallel measurements according to table 9-2.
In addition to the requirements in table 9-2 the UE shall in parallel, in state CELL_DCH, also be able to measure and report the quantities according to table 9-1.

Table 9-1

Measurement quantity	Number of parallel measurements possible to request from the UE
Transport channel BLER	[1] per TrCh
UE transmitted power	[1]
UE Rx-Tx time difference	[1] including timing to all radio links in active set
SFN-SFN observed time difference type 2	[]
UE GPS Timing of Cell Frames for LCS	[]

Editors Note: The presence of the measurements for location services needs to be revised.

9.2 Parallel Measurement Requirements

Table 9-2 shall be read as follows:

    If the UE receives a neighbour list of

    not more than X1 cells on Freq. #0 and

    not more than X2 cells on Freq. #1 and

    not more than X3 cells on Freq. #2 and

    not more than X4 GSM cells,

        the UE L1 shall be able to deliver

        Y1 CPICH measurements on Freq. #0 and

        Y2 CPICH measurements on Freq. #1 and

        Y3 CPICH measurements on Freq. #2 and

        Y4 UTRAN carrier RSSI measurements on Freq. #0 and

        Y5 UTRAN carrier RSSI measurements on Freq. #1 and

        Y6 UTRAN carrier RSSI measurements on Freq. #2 and

        Y7 GSM carrier RSSI measurements (BSIC verified)

        Y8 GSM carrier RSSI measurements (BSIC non-verified)

with the periodicity given by the measurement periods in section 8 and accuracy requirements given in section 8. Xn and Yn are numbers taken from the same column in Table 9-2.

Table 9-2: UE Layer 1 parallel measurement capability

Scenario (see annex B)			1a	2b	2c	3a	4b	4c
Neigbour list size	X1	Freq #0	[32]	[24]	[24]	[24]	[24]	[24]
	X2	Freq #1	[0]	[12]	[12]	[0]	[12]	[12]
	X3	Freq #2	[0]	[0]	[12]	[0]	[0]	[12]
	X4	GSM (any band / carrier)	[0]	[0]	[0]	[20] Note4	[12]	[8]
Parallell measurement requirements	Y1	CPICH meas. Freq#0	[6]	[6]	[6]	[6]	[6]	[6]
	Y2	CPICH meas. Freq#1	[0]	[6]	[4]	[0]	[6]	[3]
	Y3	CPICH meas. Freq#2	[0]	[0]	[4]	[0]	[0]	[3]
	Y4	UTRAN carrier RSSI Freq #0	[1]	[1]	[1]	[1]	[1]	[1]
	Y5	UTRAN carrier RSSI Freq #1	[0]	[1]	[1]	[0]	[1]	[1]
	Y6	UTRAN carrier RSSI Freq #2	[0]	[0]	[1]	[0]	[0]	[1]
	Y7	GSM RSSI, BSIC non-verified	[0]	[0]	[0]	[]	[]	[]
	Y8	GSM RSSI, BSIC verified	[0]	[0]	[0]	[]	[]	[]

Note 1:   Although table 9-2 puts requirements on L1, these requirements can be verified from L3 with a filter coefficient =0, in the higher layer filter.

Note 2:   Compressed mode reference pattern 2.1 is assumed for the requirements in table 9-2. If other compressed mode patterns are used, the UE L1 shall deliver as many measurements as possible.

Note 3:   In table 9-2, CPICH measurements can be either the CPICH Ec/Io or the CPICH RSCP measurement.

Note 4:   This figure will be checked after the BSIC definition is resolved.

CHANGE REQUEST

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25.133	CR	**43r1**		Current Version:	**3.2.0**

GSM (AA.BB) or 3G (AA.BBB) specification number ↑   *↑ CR number as allocated by MCC support team*

For submission to:	**TSG RAN#9**	for approval	**X**	strategic		*(for SMG*
list expected approval meeting # here ↑		For information		non-strategic		*use only)*

Form: CR cover sheet, version 2 for 3GPP and SMG   The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc

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Proposed change affects: (U)SIM ☐   ME **X**   UTRAN / Radio **X**   Core Network ☐
(at least one should be marked with an X)

Source:	RAN WG4	**Date:**	2000-09-21

Subject:	Inclusion of UTRAN measurements in 25.133

Work item:	

Category: F   Correction   **X**   **Release:**

F	Correction	**X**	Phase 2
A	Corresponds to a correction in an earlier release		Release 96
B	Addition of feature		Release 97
C	Functional modification of feature		Release 98
D	Editorial modification		Release 99 **X**
			Release 00

(only one category shall be marked with an X)

Reason for change:	In R3-001811 Liaison Statement on measurements WG4 are asked by WG3 to include the relevant requirements on the Acknowledged PRACH preambles and SIR$_{error}$ measurements in their specifications (25.133) for release-99. The requirements for these measurements are currently present in 25.433 (NBAP) and the measurements are defined in 25.215. This CR includes the two measurements in 25.133 with the requirements currently defined in 25.433.

Clauses affected:	8.2

Other specs affected:	Other 3G core specifications	☐	→ List of CRs:	
	Other GSM core specifications	☐	→ List of CRs:	
	MS test specifications	☐	→ List of CRs:	
	BSS test specifications	☐	→ List of CRs:	
	O&M specifications	☐	→ List of CRs:	

Other comments:	

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8.2.2 SIR

The measurement period shall be 80 ms.

8.2.2.1 Accuracy requirement

Table 8-40

Parameter	Accuracy	Range
SIR	± 3 dB	For -7<SIR<20 dB when RSSI > -105 dBm

8.2.2.2 SIR measurement report mapping

The reporting range for *SIR* is from -11 ... 20 dB.
In table 8-41 the mapping of measured quantity is defined. The range in the signalling may be larger than guaranteed accuracy range.

Table 8-41

Reported value	Measured quantity value	Unit
UTRAN_SIR_00	$SIR < -11.0$	dB
UTRAN_SIR_01	$-11.0 \leq SIR < -10.5$	dB
UTRAN_SIR_02	$-10.5 \leq SIR < -10.0$	dB
…	…	…
UTRAN_SIR_61	$19.0 \leq SIR < 19.5$	dB
UTRAN_SIR_62	$19.5 \leq SIR < 20.0$	dB
UTRAN_SIR_63	$20.0 \leq SIR$	dB

8.2.3 SIR$_{error}$

The measurement period shall be 80 ms.

Note: The measurement period is the same as for the SIR measurement in section 8.2.2. SIR$_{error}$ is calculated from SIR and SIR$_{target}$, see TS 25.215..

8.2.3.1 Accuracy requirement

Table x-y

Parameter	Accuracy	Range
SIR$_{error}$	± 3 dB	The accuracy requirement for SIR$_{error}$ is valid for SIR within the guaranteed accuarcy range specified in section 8.2.2.

Note: The accuracy requirement for SIR$_{error}$ is the same as for the SIR measurement specified in section 8.2.2. SIR$_{error}$ is calculated from SIR and SIR$_{target}$, see TS 25.215.

8.2.3.2 SIR$_{error}$ measurement report mapping

The reporting range for *SIR$_{error}$* is from -31 ... 31 dB.
In table x-y the mapping of measured quantity is defined. The range in the signalling may be larger than the guaranteed accuracy range.

Table x-y

Reported value	Measured quantity value	Unit
UTRAN_SIR_ERROR_000	$SIR_{error} < -31.0$	dB
UTRAN_SIR_ERROR_001	$-31.0 \leq SIR_{error} < -30.5$	dB
UTRAN_SIR_ERROR_002	$-30.5 \leq SIR_{error} < -30.0$	dB
…	…	…

Reported value	Measured quantity value	Unit
UTRAN_SIR_ERROR_062	$-0.5 \leq SIR_{error} < 0.0$	dB
UTRAN_SIR_ERROR_063	$0.0 \leq SIR_{error} < 0.5$	dB
…	…	…
UTRAN_SIR_ERROR_123	$30.0 \leq SIR_{error} < 30.5$	dB
UTRAN_SIR_ERROR_124	$30.5 \leq SIR_{error} < 31.0$	dB
UTRAN_SIR_ERROR_125	$31.0 \leq SIR_{error}$	dB

8.2.43   Transmitted carrier power

The measurement period shall be [100] ms.

8.2.43.1   Relative accuracy requirement

Table 8-42

Parameter	Accuracy	Range
Ptot	± 5% units	For 5% ≤ Transmitted carrier power ≤95%

8.2.43.2   Transmitted carrier power measurement report mapping

The reporting range for *Transmitted carrier power* is from 0 ... 100 %.
In table 8-43 the mapping of measured quantity is defined. The range in the signalling may be larger than guaranteed accuracy range.

Table 8-43

Reported value	Measured quantity value	Unit
UTRAN_TX_POWER _000	Transmitted carrier power = 0	%
UTRAN_TX_POWER _001	0 < Transmitted carrier power ≤ 1	%
UTRAN_TX_POWER _002	1 < Transmitted carrier power ≤ 2	%
UTRAN_TX_POWER _003	2 < Transmitted carrier power ≤ 3	%
…	…	…
UTRAN_TX_POWER _098	97 < Transmitted carrier power ≤ 98	%
UTRAN_TX_POWER _099	98 < Transmitted carrier power ≤ 99	%
UTRAN_TX_POWER _100	99 < Transmitted carrier power ≤ 100	%

8.2.54   Transmitted code power

The measurement period shall be [100] ms.

8.2.54.1   Absolute accuracy requirement

Table 8-44

Parameter	Accuracy	Range
Pcode	± 3 dB	Over the full range

8.2.54.2   Relative accuracy requirement

Table 8-45

Parameter	Accuracy	Range
Io	± 2 dB	Over the full range

8.2.5~~4~~.3   Transmitted code power measurement report mapping

The reporting range for *Transmitted code power* is from -10 ... 46 dBm.
In table 8-46 the mapping of measured quantity is defined. The range in the signalling may be larger than guaranteed accuracy range.

Table 8-46

Reported value	Measured quantity value	Unit
UTRAN_CODE_POWER _010	-10.0 ≤ Transmitted code power < -9.5	dBm
UTRAN_CODE_POWER _011	-9.5 ≤ Transmitted code power < -9.0	dBm
UTRAN_CODE_POWER _012	-9.0 ≤ Transmitted code power < -8.5	dBm
…	…	…
UTRAN_CODE_POWER _120	45.0 ≤ Transmitted code power < 45.5	dBm
UTRAN_CODE_POWER _121	45.5 ≤ Transmitted code power < 46.0	dBm
UTRAN_CODE_POWER _122	46.0 ≤ Transmitted code power < 46.5	dBm

8.2.6~~5~~   Transport channel BLER

The measurement period shall be equal to the [TTI] of the transport channel.

8.2.6~~5~~.1   Accuracy requirement

Table 8-47

Parameter	Accuracy	Range
BLER		

8.2.6~~5~~.2   Transport channel BLER measurement report mapping

The *Transport channel BLER* reporting range is from 0 to 1.
In table 8-48 the mapping of measured quantity is defined. The range in the signalling may be larger than guaranteed accuracy range.

Table 8-48

Reported value	Measured quantity value	Unit
BLER_LOG _00	Transport channel BLER = 0	-
BLER_LOG _01	-∞ < Log10(Transport channel BLER) < –4.03	-
BLER_LOG _02	-4.03 ≤ Log10(Transport channel BLER) < –3.965	-
BLER_LOG _03	-3.965 ≤ Log10(Transport channel BLER) < –3.9	-
…	…	…
BLER_LOG _61	-0.195 ≤ Log10(Transport channel BLER) < -0.13	-
BLER_LOG _62	-0.13 ≤ Log10(Transport channel BLER) < -0.065	-
BLER_LOG _63	-0.065 ≤ Log10(Transport channel BLER) ≤ 0	-

8.2.7~~6~~   Physical channel BER

The measurement period shall be equal to the [TTI] of the transport channel.

8.2.7~~6~~.1   Accuracy requirement

Table 8-49

Parameter	Accuracy	Range
BER	+/- 10% of the absolute BER value.	

8.2.7~~6~~.2   Physical channel BER measurement report mapping

The *Physical channel BER* reporting range is from 0 to 1.

In table 8-50 the mapping of measured quantity is defined. The range in the signalling may be larger than guaranteed accuracy range.

Table 8-50

Reported value	Measured quantity value	Unit
PhCh_BER_LOG_000	Physical channel BER = 0	-
PhCh_BER_LOG_001	-∞ < Log10(Physical channel BER) < -2.06375	-
PhCh_BER_LOG_002	-2.06375≤ Log10(Physical channel BER) < -2.055625	-
PhCh_BER_LOG_003	-2.055625 ≤ Log10(Physical channel BER) < -2.0475	-
…	…	…
PhCh_BER_LOG_253	-0.024375 ≤ Log10(Physical channel BER) < -0.01625	-
PhCh_BER_LOG_254	-0.01625 ≤ Log10(Physical channel BER) < -0.008125	-
PhCh_BER_LOG_255	-0.008125 ≤ Log10(Physical channel BER) ≤ 0	-

8.2.87 Round trip time

The measurement period shall be [100] ms.

8.2.87.1 Absolute accuracy requirement

Table 8-51

Parameter	Accuracy	Range
RTT	+/- 0.5 chip	[876, …, 2923.75] chips

8.2.87.2 Round trip time measurement report mapping

The *Round trip time* reporting range is from 876.00 ... 2923.50 chip.
In table 8-52 the mapping of measured quantity is defined. The range in the signalling may be larger than guaranteed accuracy range.

Table 8-52

Reported value	Measured quantity value	Unit
RT_TIME_0000	Round trip time < 876.00	chip
RT_TIME_0001	876.00 ≤ Round trip time < 876.25	chip
RT_TIME_0002	876.25 ≤ Round trip time < 876.50	chip
RT_TIME_0003	876.50 ≤ Round trip time < 876.75	chip
…	…	…
RT_TIME_8188	2922.75 ≤ Round trip time < 2923.00	chip
RT_TIME_8189	2923.00 ≤ Round trip time < 2923.25	chip
RT_TIME_8190	2923.25 ≤ Round trip time < 2923.50	chip
RT_TIME_8191	2923.50 ≤ Round trip time	chip

8.2.98 Transport Channel BER

The measurement period shall be equal to the [TTI] of the transport channel.

8.2.98.1 Accuracy requirement

Table 8-53

Parameter	Accuracy	Range
TrpBER	+/- []% of the absolute BER value.	

8.2.98.2 Transport channel BER measurement report mapping

The *Transport channel BER* reporting range is from 0 to 1.

3GPP

In table 8-54 the mapping of measured quantity is defined. The range in the signalling may be larger than guaranteed accuracy range.

Table 8-54

Reported value	Measured quantity value	Unit
TrCh_BER_LOG_000	Transport channel BER = 0	-
TrCh_BER_LOG_001	$-\infty < $ Log10(Transport channel BER) < -2.06375	-
TrCh_BER_LOG_002	$-2.06375 \leq$ Log10(Transport channel BER) < -2.055625	-
TrCh_BER_LOG_003	$-2.055625 \leq$ Log10(Transport channel BER) < -2.0475	-
…	…	…
TrCh_BER_LOG_253	$-0.024375 \leq$ Log10(Transport channel BER) < -0.01625	-
TrCh_BER_LOG_254	$-0.01625 \leq$ Log10(Transport channel BER) < -0.008125	-
TrCh_BER_LOG_255	$-0.008125 \leq$ Log10(Transport channel BER) ≤ 0	-

8.2.109 UTRAN GPS Timing of Cell Frames for LCS

Requirement	[ ] chips period.

8.2.109.1 UTRAN GPS timing of Cell Frames for LCS measurement report mapping

The reporting range is for UTRAN GPS timing of Cell Frames for LCS is from 0 ... 2319360000000 chip.
In table 8-55 the mapping of measured quantity is defined.

Table 8-55

Reported value	Measured quantity value	Unit
GPS_TIME_00000000000000	UTRAN GPS timing of Cell Frames for LCS $<$ 0.125	chip
GPS_TIME_00000000000001	$0.125 \leq$ UTRAN GPS timing of Cell Frames for LCS $<$ 0.250	chip
GPS_TIME_00000000000002	$0.250 \leq$ UTRAN GPS timing of Cell Frames for LCS $<$ 0.375	chip
…	…	…
GPS_TIME_18554879999997	$2319359999999.625 \leq$ UTRAN GPS timing of Cell Frames for LCS $<$ 2319359999999.750	chip
GPS_TIME_18554879999998	$2319359999999.750 \leq$ UTRAN GPS timing of Cell Frames for LCS $<$ 2319359999999.875	chip
GPS_TIME_18554879999999	$2319\ 359999\ 999.875 \leq$ UTRAN GPS timing of Cell Frames for LCS $<$ 2319360000000.000	chip

8.2.110 Propagation delay

8.2.110.1 Accuracy requirement

Parameter	Accuracy	Range
PropDelay	+/- [] chip	

8.2.110.2 Propagation delay measurement report mapping

The *Propagation delay* reporting range is from 0 ... 765 chip.
In table 8-56 the mapping of measured quantity is defined. The range in the signalling may be larger than guaranteed accuracy range.

Table 8-56

Reported value	Measured quantity value	Unit
PROP_DELAY_000	$0 \leq$ Propagation delay < 3	chip
PROP_DELAY_001	$3 \leq$ Propagation delay < 6	chip
PROP_DELAY_002	$6 \leq$ Propagation delay < 9	chip

…	…	…
PROP_DELAY_252	756 ≤ Propagation delay < 759	chip
PROP_DELAY_253	759 ≤ Propagation delay < 762	chip
PROP_DELAY_254	762 ≤ Propagation delay < 765	chip
PROP_DELAY_255	765 ≤ Propagation delay	chip

8.2.12 Acknowledged PRACH preambles

The measurement period shall be 20 ms.

8.2.12.1 Acknowledged PRACH preambles measurement report mapping

The *Acknowledged PRACH preambles* reporting range is from 0 ... 240 acknowledgements.
In table x-y the mapping of measured quantity is defined. The range in the signalling may be larger than the guaranteed accuracy range.

Table x-y

Reported value	Measured quantity value	Unit
ACK_PRACH_PREAMPLE_000	Acknowledged PRACH preambles = 0	-
ACK_PRACH_PREAMPLE_001	Acknowledged PRACH preambles = 1	-
ACK_PRACH_PREAMPLE_002	Acknowledged PRACH preambles = 2	-
…	…	…
ACK_PRACH_PREAMPLE_237	Acknowledged PRACH preambles = 237	-
ACK_PRACH_PREAMPLE_238	Acknowledged PRACH preambles = 238	-
ACK_PRACH_PREAMPLE_239	Acknowledged PRACH preambles = 239	-
ACK_PRACH_PREAMPLE_240	Acknowledged PRACH preambles = 240	-