

**Source:** Measurements drafting group  
**Title:** Report on measurements for FDD and TDD in UTRA specifications  
**Document for:** Approval  
**Agenda Item:**

## Introduction

A drafting group met Oct. 6 in the evening in order to harmonize the names of the physical measurements in the various 25.xxx specifications.

The work was based on the names currently used in the specifications 25.215 v3.0.0, 25.225 v 3.0.0 and 25.302 v3.0.0. Furthermore, for 25.302 also the changes in name due to the latest discussions in WG2 have been taken into account. These names are shown in Table 1 and Table 2, rows 2-4.

## Results

In row 1 the tables below show a proposal for a common name to be used (at least) throughout all RAN specifications. During the harmonization process some measurements have been identified, that are missing and some that are mismatched. It was decided for these cases to give a recommendation how to proceed:

- The obviously missing measurements are marked as 'to be added'. This applies for 'PCCPCH RSCP' and 'Observed time difference to GSM cell' in 25.215 and 'UE Rx-Tx time difference' in 25.302.
- Two timing measurements in 25.215 are proposed to be merged under the name 'SFN-SFN observed time difference'. However, there will be two types of that measurement with different resolution and range.
- Measurements that are not present in some specifications but require further technical discussions are marked as 'To be considered'. Some were not felt to be necessary for Rel. 99 and are therefore marked as 'To be considered for Rel. 00'.

**Table 1. UE measurements**

<b>Proposed new name</b>	<b>Current name in 25.302 incl. CR's</b>	<b>Current name in 25.215 v3.0.0</b>	<b>Current name in 25.225 v3.0.0</b>
<b>CPICH Ec/No</b>	CPICH RX Ec/I0	CPICH Ec/N0	CPICH Ec/No
<b>CPICH SIR</b>	CPICH Rx SIR	<i>Under discussion</i>	<i>Under discussion</i>
<b>CPICH RSCP</b>	CPICH Rx RSCP	CPICH RSCP	CPICH RSCP
<b>PCCPCH RSCP</b>	<i>To be added</i>	<i>To be added</i>	PCCPCH RSCP
<b>Timeslot ISCP</b>	CPICH Rx ISCP	<i>N/A</i>	ISCP
<b>CPICH ISCP</b>	CPICH Rx ISCP	<i>To be considered</i>	ISCP
<b>SIR</b>	DPCH SIR	SIR	DPCH / PDSCH SIR
<b>RSCP</b>	<i>To be considered</i>	DPCCH RSCP	DPCH / PDSCH RSCP
<b>UTRA carrier RSSI</b>	UTRA Cell Signal strength (RSSI)	UTRA carrier RSSI	UTRA carrier RSSI
<b>GSM carrier RSSI</b>	GSM Signal strength	GSM carrier RSSI	GSM carrier RSSI
<b>Transport channel BLER</b>	Transport CH BLER	Transport CH BLER	DCH / DSCH transport CH BLER
<b>Physical channel BER</b>	Physical CH BER	Physical CH BER	DPCH / PDSCH Physical CH BER
<b>UE transmitted power</b>	UE Tx Power	UE TX Power	UE TX Power
<b>CFN-SFN observed time difference</b>	Observed time difference to UTRA cell	CFN-SFN observed time difference	<i>N/A</i>
<b>SFN-SFN observed time difference</b>	SFN-SFN Observed time difference	"SFN-SFN observed time difference" and "Relative timing"	Observed time difference to target cell on same frequency <i>(to be considered also for</i>

		difference between cells for LCS" (and between FDD and TDD cells to be considered)	UTRA cells on different frequency)
<b>Observed time difference to GSM cell</b>	Observed time difference to GSM cell	<i>To be added</i>	Observed time difference to target cell on different frequency (to be considered for GSM cells only)
<b>UE Rx-Tx time difference</b>	<i>To be added in Rel. 00</i>	UE RxTx Timing	<i>To be considered in case of LCS for Rel. 00</i>

**Table 2. UTRAN measurements**

<b>Proposed new name</b>	<b>Current name in 25.302 &amp; 25.103</b>	<b>Current name in 25.215 v3.0.0</b>	<b>Current name in 25.225 v3.0.0</b>
<b>Transmitted carrier power</b>	Total Tx Power	Total Transmitted Power	UTRAN total transmit power
<b>Transmitted code power</b>	Code Tx Power	Transmitted Code Power	UTRAN transmitted code power
<b>RSSI</b>	UL load	RSSI	RSSI
<b>Transport channel BLER</b>	Transport CH BLER	Transport CH BLER	DCH / USCH transport CH BLER
<b>Physical channel BER</b>	Physical CH BER	Physical CH BER	DPCH / PUSCH physical CH BER
<b>SIR</b>	<i>To be considered</i>	SIR	DPCH / PUSCH SIR
<b>Time of arrival</b>	Time of Arrival (TOA)	<i>To be considered for Rel 00</i>	<i>To be considered for Rel 00</i>
<b>Frequency offset</b>	Frequency Offset (FO)	<i>To be considered for Rel 00</i>	<i>To be considered for Rel 00</i>
<b>Round trip time</b>	<i>To be considered for Rel 00</i>	Round Trip Time (RTT)	<i>To be considered for Rel 00</i>
<b>RX timing deviation</b>	RX timing deviation (TDD only)	N/A	Received timing deviation
<b>Timeslot ISCP</b>	RX ISCP (TDD only)	N/A	ISCP
<b>RSCP</b>	RX RSCP(TDD only)	N/A	"DPCH / PUSCH RSCP", "PRACH RSCP"

## **Proposed way forward for the Working Groups**

The structure of Tables 1 and 2 should be adopted in all working groups, with UE and UTRAN measurements separated as proposed.

### **RAN WG1**

- Align structure and naming.
- Investigate feasibility and definition of measurements that are defined in WG2, but not in WG1.

### **RAN WG2**

- Align structure and naming.
- Consider the need and purpose of measurements that are defined in WG1, but not in WG2.
- Especially consider the "averaging" and/or "filtering" aspects of the measurements.

### **RAN WG3**

- Align structure and naming.

### **RAN WG4**

- Align structure and naming.
- Define requirements for the measurements based on relevant RF scenarios.

There is today a lack of input on measurements in all working groups. TSG RAN should encourage Working Groups 1, 2, 3 and 4 to increase their activity on the subject, since measurements are an essential part of Release 99. Companies contributing should ensure a co-ordinated effort between the WGs.