Technical Specification Group, Radio Access Network ***TSGR#5 (99)564***
Meeting #5, Korea, 6 - 8 October 1999

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 future releases'.

Table 1. UE measurements

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

		difference between cells for LCS" *(and between FDD and TDD cells to be considered)*	*UTRA cells on different frequency)*
Observed time difference to GSM cell	Observed time difference to GSM cell	*To be added*	Observed time difference to target cell on different frequency *(to be considered for GSM cells only)*
UE Rx-Tx time difference	*To be added in future releases*	UE RxTx Timing	*To be considered in case of LCS for future releases*

Table 2. UTRAN measurements

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