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(R4-010451, to TSG-RAN) LS on 3GPP Vocabulary document TR 21.905

Title: LS on 3GPP Vocabulary document TR21.905

From: TSG RAN WG4

To: TSG RAN, TSG SA, TSG SA WG1

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1. INTRODUCTION

Vocabulary document TR 21.905 was discussed both in TSG RAN#10 and TSG SA#10. It was decided that TSG RAN WG4 will review the vocabulary document and will advice both TSG RAN and TSG SA on how to proceed with TR21.905. TSG RAN WG4 would like to inform the outcome of its discussions.

2. DISCUSSION

TSG RAN WG4 acknowledges that a consistent, comprehensive vocabulary is a very useful and powerful tool, but recognises that it can also be equally misleading and harmful if the content is not reviewed by all parties. In the discussion TSG RAN WG4 came to the following conclusions:

- It might be useful to remind all working groups about the existing update procedure and how important it is for working groups to review the content of TR21.905 against their technical specifications.
- The scope of TR 21.905 could be clarified to narrow down the content to include only definitions, symbols and abbreviations that are used in several 3GPP documents. Terminology used in a single technical document can still be defined in section 'Definitions, symbols and abbreviations' of that document.
- To improve the usability, each entry could have an identified parent document or main reference, in which the term is further defined or at least used in right context. This is especially useful for abbreviations, which often are not self-explanatory, even if spelled out. Some examples are given in the annex.

3. OPEN ITEMS

3.1 BASE STATION

While reviewing the vocabulary document, TSG RAN WG4 noticed that there is no definition for 'Base Station' or 'Base Transceiver Station', even though an abbreviation for both exists. However, the following related definitions are given:

Node B: A logical node responsible for radio transmission / reception in one or more cells to/from the User Equipment. Terminates the Iub interface towards the RNC.

Uplink: An "uplink" is a unidirectional radio link for the transmission of signals from a UE to a base station, from a Mobile Station to a mobile base station or from a mobile base station to a base station.

UTRAN access point: A conceptual point within the UTRAN performing radio transmission and reception. A UTRAN access point is associated with one specific cell, i.e. there exists one UTRAN access point for each cell. It is the UTRAN-side end point of a radio link.

TSG RAN WG4 would like to ask TSG RAN SA WG1 to consider the following questions related to the definitions above.

- What is the relation of 'base station', 'base transceiver station', 'Node B' and 'UTRAN access point' in the definitions above?
- Which is the preferred term 'base station' or 'base transceiver station' and its definition in UTRAN?
- What is a 'mobile base station', its relation to 'base station' and proper definition for it?

3.2 CELL

The following definitions are given for 'cell' and 'sector':

Cell: Radio network object that can be uniquely identified by a User Equipment from a (cell) identification that is broadcasted over a geographical area from one UTRAN Access Point. A Cell is either FDD or TDD mode.

Sector: A "sector" is a sub-area of a cell. All sectors within one cell are served by the same base station. A radio link within a sector can be identified by a single logical identification belonging to that sector.

It is not clear to TSG RAN WG4 what is the relation of 'cell' and 'sector' based on the given definitions.

3.3 TIME DIVISION DUPLEX UTRA ACCESS MODE 1.28 MCPS OPTION

Time Division Duplex UTRA access mode 1.28 Mcps option will be introduced in 3GPP Rel-4, which is essentially different from 3.84 Mcps option. However, a number of specifications currently refer only to TDD. TSG RAN WG4 believes it would be useful to define and agree on consistent definitions for these two options, to be used in all specifications. TSG RAN WG4 gives the following proposal to start discussion on proper definitions:

TDD: Time Division Duplex

UTRA-TDD: Time Division Duplex UTRA Radio access mode (Includes UTRA-NTDD and UTRA-WTDD)

UTRA-NTDD: Time Division Duplex UTRA access mode 1.28 Mcps option

UTRA-WTDD: Time Division Duplex UTRA access mode 3.84 Mcps option

NTDD: Narrow TDD – the 1.28 Mcps chip rate UTRA-TDD option

WTDD: Wide TDD – the 3.84 Mcps chip rate UTRA-TDD option

4. CONCLUSION

TSG RAN WG4 has considered how the quality and usability of vocabulary document could be improved and would like to give its advice to TSG RAN and TSG SA, as requested. It should also be noted that any attempt to improve the document requires commitment and effort from all TSGs and working groups. In addition, TSG RAN WG4 has started to review the vocabulary document, and its comments are attached in the annex 1.

ANNEX 1

Terms and definitions

~~**Average Transmitter Power Per Traffic Channel (dBm):** The mean of the total transmitted power over an entire transmission period.~~

Maximum output Power: For UE, ~~T~~this refers to the measure of average power at the maximum power setting (TS25.101,TS25.102). For FDD BS, the mean power level per carrier of the base station measured at the antenna connector in a specified reference condition (TS25.104). For TDD BS this refers to the measure of power when averaged over the transmit timeslot at the maximum power setting (TS25.105).

~~**Maximum Total Transmitter Power (dBm):** The aggregate maximum transmit power of all channels.~~

Power control dynamic range: The difference between the maximum and the minimum transmit output power of a code channel for a specified reference condition (TS25.104).

Rated output power: For FDD BS, rated output power is the mean power level per carrier that the manufacturer has declared to be available at the antenna connector (TS25.104).) For TDD BS rated output power is the mean power level per carrier over an active timeslot that the manufacturer has declared to be available at the antenna connector (TS25.105).

Total power dynamic range: The difference between the maximum and the minimum total transmit output power for a specified reference condition (TS25.104).

Minimum transmit power: The minimum controlled output power of the TDD BS is when the power control setting is set to a minimum value. This is when the power control indicates a minimum transmit output power is required (TS25.105).

Equations

$DPCH\_E_c$	Average energy per PN chip for DPCH.	TS25.101
$\frac{DPCH\_E_c}{I_{or}}$	~~The ratio of the received energy per PN chip of the DPCH to the total transmit power spectral density at the BS antenna connector.~~ The ratio of the transmit energy per PN chip of the DPCH to the total transmit power spectral density at the Node B antenna connector.	TS25.101 TS25.102
$\frac{\Sigma DPCH\_E_c}{I_{or}}$	The ratio of the sum DPCH_Ec for one for one service in case of multicode to the total transmit power spectral density of the downlink at the BS antenna connector.	TS25.102
~~E_b~~	~~Average energy per information bit for the PCCPCH, SCCPCH and DPCH, at the UE antenna connector.~~	
$\frac{E_b}{N_t}$	~~The ratio of combined received energy per information bit to the effective noise power spectral density for the PCCPCH, SCCPCH and DPCH at the UE antenna connector. Following items are calculated as overhead: pilot, TPC, TFCI, CRC, tail, repetition, convolution coding and turbo coding.~~	
$\frac{E_c}{I_{or}}$	The ratio of the average transmit energy per PN chip for different fields or physical channels to the total transmit power spectral density.	TS25.101
E_c	Average energy per PN chip.	TS25.101
F_{uw}	Frequency of unwanted signal	
I_o	The total received power spectral density, including signal and interference, as measured at the UE antenna connector.	TS25.101
I_{oc}	The power spectral density of a band limited white noise source (simulating interference from cells, which are not defined in a test procedure~~simulating interference from other cells~~) as measured at the UE antenna connector.	TS25.101 TS25.102
I_{or}	The total transmit power spectral density of the down ~~Forward~~ link at the Node B ~~base station~~ antenna connector.	TS25.101
$\hat{I}_{or}$	The received power spectral density of the down ~~Forward~~ link as measured at the UE antenna connector.	TS25.101
~~N_t~~	~~The effective noise power spectral density at the UE antenna connector.~~	
$OCNS\_E_c$	Average energy per PN chip for the OCNS.	TS25.101
$\frac{OCNS\_E_c}{I_{or}}$	The ratio of the average transmit energy per PN chip for the OCNS to the total transmit power spectral density.	TS25.101
$PCCPCH\ \frac{E_c}{I_o}$	The ratio of the received PCCPCH energy per chip to the total received power spectral density at the UE antenna connector.	TS25.101
$\frac{PCCPCH\_E_c}{I_{or}}$	The ratio of the average transmit energy per PN chip for the PCCPCH to the total transmit power spectral density.	TS25.101
~~$SCCPCH$~~	~~Secondary Common Control Physical Channel.~~	
$SCCPCH\_E_c$	Average energy per PN chip for SCCPCH.	TS25.101