

Status Report for SI to TSG

Study Item Name: Analysis of OFDM for UTRAN enhancement

SOURCE: Rapporteur (Sarah Boumendil, Nortel Networks)

TSG: RAN **WG:** 1

E-mail address rapporteur: boumendi@nortelnetworks.com

Ref. to SI sheet: RAN_Study_Items.doc

Progress Report since the last TSG (for all involved WGs):

RAN1 #32:

- Several (20) contributions for the OFDM study have been submitted prior to the meeting, covering a lot of different aspects: Reference scenario for capacity evaluation, simulation methodology, simulation results, UE impact, UE complexity analysis, etc.
- The revised text proposal for Section 6.2, defining a framework for the definition of physical channels for an OFDM carrier has been revised and accepted.
- The text proposal addressing the compliance to the UMTS spectral emission mask has been revised and accepted.
- A text proposal defining a reference HSDPA-only WCDMA system scenario for high-speed data capacity evaluation has been defined and included in the TR. It has been clarified that that this scenario is purely speculative and is only necessary to compare the performance of WCDMA to that of OFDM for high-speed data services.
- Contributions presenting performance evaluation for different aspects have been presented and discussed: link-level performance for OFDM with the two sets of parameters, link-level and system-level performance with OFDM and WCDMA (Rake and G-Rake) and link-level performance of OFDM with modulation diversity. Divergent opinions remain on the simulation methodology to be used for system-level evaluations.
- Contributions addressing the UE impact (processing complexity and RF impact) have been submitted but not covered during the meeting. Other contributions addressing physical channel definitions, multiplexing and frequency re-use aspects have been also submitted but not covered.

List of Completed elements (for complex work items):

- Documentation of OFDM fundamentals
- Sets of reference parameters
- Link and system level simulation assumptions

List of open issues:

- Some elements of simulation methodology
- Physical Channel definition and mapping of transport channels onto physical channels
- Performance evaluation
- Compatibility and impact evaluation (including UE complexity analysis)

Estimates of the level of completion (when possible):

35-40%

SI completion date review resulting from the discussion at the working group:

RAN#22 (Dec 03)

References to WG's internal documentation and/or TRs:

[1] R1-030632, TR25.892, Analysis of OFDM for UTRAN enhancement, version 0.2.1.