TSG-RAN meeting #19 RP-030012
March 11-14, Birmingham, GB

# Status Report for WI to TSG

## Work Item Name: MIMO processing for HSDPA

**SOURCE: Rapporteur** **TSG: RAN** **WG: 1**

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**Ref. to WI sheet: RAN_Work_Items.doc**

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

¨**RAN WG1:**
Since the last RAN plenary meeting #18 in December, the 3GPP-3GPP2 Spatial Channel Model AdHoc Group (SCM AHG) has held four conference calls (December 19, January 30, February 13, February 27) and held a meeting in San Diego, California on January 8-9, 2003 (concurrent with 3GPP2 TSG-C WG3). The following items have been addressed by the SCM AHG:

*System channel model*. Parameters for all three environments (urban macrocell, suburban macrocell, suburban microcell) have been fully specified, including additional features including antenna cross-polarization, far scatterer clusters (for bad urban environments), urban canyon model (for modelling highly correlated angles of arrival), and line of site models (for Ricean fading).

*System level simulation methodology.* There have been discussions to include a description of a minimum mean-squared error (MMSE) receiver into SCM text, accounting for intercell interference, and determination of path delays for receiver implementation. However, there is no common agreement whether this receiver issue is in SCM or only in RAN1 scope.

A draft of the TR 25.996 based on the latest SCM AHG text was presented in February at the RAN1#31 meeting for information [1]. Because of the SCM AHG work, the MIMO TR 25.876 [2] has not been updated.

In RAN1#30, RAN1 discussed and agreed upon the inclusion of UTRA TDD mode in the MIMO WI description. The update WI sheet is available in [3].

**RAN WG2:**
The WI has not been treated yet.
**RAN WG3:**
The WI has not been treated yet.
**RAN WG4:**
No new developments.

## List of completed elements:

- Requirements
- Link level channel model (25.996)
- System level channel model: some corrections may be required (25.996).
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## List of open issues:

- Text descriptions of MIMO proposals
- Evaluation methodology (including reference results)
- Evaluation of MIMO proposals
- Impacts to UE and UTRAN implementation.
- Impacts to physical layer operation.
- Conclusion

## Estimates of the level of completion (when possible):

40%

## WI completion date review resulting from the discussion at the working group:

09/2003 (TSG-RAN#21)

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

[1] R1-03347, "Spatial Channel Model for Multiple-Input Multiple-Output Simulations. TR 25.996", Rapporteur, WG1#31 Tokyo, Japan.
[2] RP-020240, "Multiple-Input Multiple-Output Antenna Processing for HSDPA", TR 25.876 v1.1.0
[3] RP-030148, "Update MIMO WI sheet," Rapporteur.