Status Report for WI to TSG HSDPA RF

Work Item Name: High Speed Downlink Packet Access (HSDPA) –RF Radio Transmission/Reception, System Performance Requirements and Conformance Testing

SOURCE: Rapporteur (Edgar Fernandes, Motorola)   **TSG:** RAN   **WG:** 4

E-mail address rapporteur: edgar.fernandes@motorola.com

Ref. to WI sheet: 43: High Speed Downlink Packet Access (HSDPA)

Progress Report since the last TSG:
    RAN WG 4 has held 1 meeting since the work item status was last presented to TSG RAN #17.
- For FDD 31 (FDD UE) contributions were provided and 2 CR(s) were approved for TS25.101.
- For 1,28 Mcps TDD option, 8 contributions were provided and 1 CR was approved for TS25.102
- For 3.84 Mcps TDD option 13 contributions were provided and 2 CR (s) were approved for TS25.102

a)   HSDPA status for FDD10 companies presented simulations results; Lucent, NTT DoCoMo, NEC, Sony, Nokia, Ericsson, NEC, Motorola, Qualcomm and Panasonic. This is unlike previous RAN4 work items and indicates a strong interest in this work item. This large interest can lead to a longer delay in timescales due to simulator alignment and consensus reaching but can only be of benefit in terms of the performance specification

Main issues were
1. Alignment of simulations due 'reaching a common understanding of CQI definition'.
2. Late addition of 2 new QPSK only classes at the last RAN – agreement on simulation assumptions
3. A number of new issues raised and additional requirements not previously identified have been added. For example, RAN1 is still progressing the definition of CQI behaviour in the presence of both open- and closed-loop transmit diversity. Also, the reference soft buffer sizes for CQI reporting have only just been agreed in RAN1.

In order to progress this work a number of action points were agreed which depending on progress may need a physical HSDPA ad-hoc in Jan 2003 to achieve closure for the next RAN meeting.

List of open issues in TS25.101: (Most the issue are already work in progress**)**

Nos.	Description	Status
1	FRC performance requirement (Class 11,12 - QPSK only)	Open Reference channel agreed, so simulations can be started and we can agree on a CR for next RAN4#26.
2	FRC - verification of error free HS-SCCH	Open Companies verifying that error-free HS-SCCH performance is achievable under Pedestrian-A 3km/h channel
3	FRC Tx diversity (open loop)	Open Results presented without impairments; this topic can be closed during RAN4#26.
4	FRC Tx diversity (closed loop)	Open Results presented without impairments; this topic can be closed during RAN4#26.
5	VRC performance requirements (UE Classes 1-6, 11-12)	Open Require alignment of simulation results based on clarification of revised CQI definition received from RAN1.
6	Augmentative VRC (A-VRC) (UE Classes 1-6, 11-12)	Open New methodology for CQI assessment proposed. Add parallel requirements if needed and satisfactory.

7	Maximum RX power at UE	Open Proposed that some kind of maximum Received power test is required for QPSK/16QAM Work should be completed at RAN4#26.
8	Maximum Tx power – HS-DPCCH	Open Companies to assess impact of additional HS-DPCCH code on HSPDA Tx PAR.
9	HS-SCCH performance (no diversity)	Open - possible REL6 No test currently identified.
10	HS-SCCH performance (open loop)	Open - possible REL6 No test currently identified.
11	HS-SCCH performance (closed loop)	Open - possible REL6 No test currently identified.

b)   HSDPA status for 1,28 Mcps TDD option

4 companies contributed to this part of the WI (Motorola, Panasonic, Samsung and Siemens). Further simulation results for FRC requirement were presented and a corresponding CR was agreed for 25.102,which closes this aspect of the WI. Simulation assumptions for VRC were presented and agreed. Finalisation of VRC is expected for RAN4#26.

List of open issues in TS25.102 for 1,28 Mcps TDD option:

Nos.	Description	Status
1	VRC performance requirement	Open Reference channel agreed, so simulations can be started and we can agree on a CR for next RAN4#26.

c)   HSDPA status for 3,84 Mcps TDD option

1 company contributed to this part of the WI (Inter-Digital). Further simulation results for FRC requirement were presented and a corresponding CR was agreed for 25.102, which closes this aspect of the WI. Simulation assumptions for VRC were presented and agreed. Simulation results for VRC were presented and a corresponding CR was agreed for 25.102, which closes this aspect of the WI

List of open issues in TS25.102 for the 3,84 Mcps TDD option:
-        None

Estimates of the level of completion (when possible):

90 %

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

TSG-RAN meeting #19 (March 2003)

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

TR 25.850 V2.2.1 (2002-11)