

**Status Report for WI to TSG**

**Work Item Name: NodeB synchronisation for 1.28Mcps TDD**

**SOURCE: Rapporteur**

**TSG: RAN**

**WG: WG1**

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**Ref. to WI sheet: RAN\_Work\_Items.doc**

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

This is the rapporteur's report for the status of Work Item (WI) "NodeB synchronisation for 1.28Mcps TDD" in RAN WG1/3/4.

♦ RAN WG1

Since last TSG RAN plenary meeting, two RAN WG1 meetings were held: RAN WG1#23 in Espoo and WG1#24 in Orlando.

During the WG1#23 meeting in Espoo, 5 contributions on the WI were treated in the TDD adhoc session. A flexible signalling approach for 1.28 Mcps TDD Node B sync was proposed by Siemens. Simulations and performance analysis on extended sequence were presented by Samsung and Mitsubishi respectively. Due to the lack of time chairman encouraged people to make discussion on various topics off-line.

During the WG1#24 meeting in Orlando, several contributions on the WI were treated in the TDD adhoc session. The issue that could not be solved was, whether there should be used an extended sequence or not. Since most of the companies agreed that distributed approach can be used to get reliable measurement using current SYNC-DL sequence and flexible signaling supported in UTRAN, WG1 plenary decided that there is no need to introduce extended sequence. Moreover, an LS was sent to WG3 to reply their questions on support of flexible signaling approach for Node B synchronization for 1.28 Mcps TDD.

Based on the decision, CRs to 25.224 and 25.225 were agreed to include NodeB synchronisation OTA for 1.28Mcps TDD in Rel-5 [3]. RAN WG1 work related to this WI is completed.

♦ RAN WG3

Since the last TSG RAN meeting two RAN WG3 meeting were held: meeting #26 in Voersdorf (Austria) and meeting #27 in Orlando (USA).

At RAN3#26 meeting in Voersdorf (Austria), TR R3.004 v0.4.0, which was approved at RAN3 #25, was presented for information. During RAN WG3 #26 several contributions were treated. In Chapter 6.6 of TR R3.004, it was clarified that the DL Transport Channels Synchronisation Procedure or the Node Synchronisation Procedure could be executed during preliminary phase. This open issue was closed. It was also agreed that the Flexible signalling Approach for the "steady state phase" of Node B synchronization was added into Study Areas of the TR.

At RAN3#27 meeting in Orlando (USA), TR R3.004 v0.4.1, which included all changes discussed and approved at RAN3#26 meeting, was approved as v0.5.0. Some small extensions to the "traditional" signalling approach for Node B synchronisation, which nevertheless increases the range of possible Node B synchronisation procedures that may be applied under control of the CRNC, were proposed (R3-020682 by Siemens). This represents a way how to achieve the goals of the flexible signalling approach, without introducing any new NBAP messages or other significant changes in the lub interface specifications. The associated CRs for 25.402 and 25.433 for these extensions were available as well. After presentation of document R3-020682, it was agreed that corresponding change proposals for the Study Areas section were added into TR R3.004v0.4.1 with modifications. It was not agreed immediately to also include the material for the Agreements section into the TR, because there was an alternative proposal for an "Extended SYNC\_DL Sequence" (R3-020309 by Samsung) and RAN3 had to wait for RAN1 decision on these two proposals.

On the last day of the meeting, RAN1 decided to approve the RAN1 CRs for support of the "flexible signalling" and to not approve the extended SYNC\_DL sequence. RAN1 chairman informed RAN3 about this decision. Based on

that information, it was agreed in RAN3 to launch a RAN3 email approval process for the Siemens CRs for “extended signalling” (see below) and also to include the Agreements section parts of R3-020682 into the TR, for completing the Work Item.

Also some improved wording and more accurate definitions without changing the intended meaning of the TR were agreed (R3-020683) and were added into the Study Areas section of R3.004v0.4.1.

After RAN3#27 meeting, TR R3.004 v0.5.1, which included all agreed changes, was approved as v1.0.0 by RAN WG3 by email.

During RAN WG3 #26 the following liaison was treated:

R3-020207: LS on support of flexible signalling approach for Node B synchronisation for 1.28 Mcps TDD”

R3-020271: Reply liaison on R3-020207 on Node-B synchronisation for LCR (IDC)

During RAN WG3 #27 the following liaison was treated:

R3-020746: Reply liaison on support of the flexible signalling approach for NodeB synchronisation for 1.28 Mcps TDD

After RAN WG3 #27 the following CRs related to this WI were agreed by RAN WG3 on the email reflector:

R3-020451	CR032 to 25.402 v4.3.0	Node B Synchronisation for 1.28Mcps TDD
R3-020888	CR608r2 to 25.433 v4.3.0	Node B Synchronisation for 1.28Mcps TDD

Since RAN #14 the following versions of the RAN WG3 internal TR R3.004 were approved by RAN WG3:

R3-020034: TR R3.004 V0.4.0: Node B Synchronisation for 1.28 Mcps TDD (Iub/Iur aspects)

R3-020331: TR R3.004 V0.4.1: Node B Synchronisation for 1.28 Mcps TDD (Iub/Iur aspects)

R3-020490: TR R3.004 V0.5.0: Node B Synchronisation for 1.28 Mcps TDD (Iub/Iur aspects)

R3-020886: TR R3.004 V0.5.1: Node B Synchronisation for 1.28 Mcps TDD (Iub/Iur aspects)

R3-020887: TR R3.004 V1.0.0: Node B Synchronisation for 1.28 Mcps TDD (Iub/Iur aspects)

With the agreed CRs and the final version of the internal TR R3.004 v1.0.0 the RAN WG3 work related to this WI is finalized.

♦ RAN WG4

In RAN WG4 #21, the CR for 25.123 [4] is agreed to include NodeB Synchronisation Measurement performance requirements for 1.28Mcps TDD.

RAN WG4 work related to this WI is finalised.

**List of Completed elements (for complex work items):**

**List of open issues:**

None.

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

100%.

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

RAN #15 03/2002

**References to WG’s internal documentation and/or TRs:**

1. R1-01-1348 TR25.868 version 1.1.0, NodeB synchronisation for 1.28Mcps TDD,
2. R3-020887 TR R3.004 v1.0.0, NodeB synchronisation for 1.28Mcps TDD, (Iub/Iur aspects).
3. R1-02-0474 “Rel5 CRs for WI NodeB synchronisation 1.28 Mcps TDD”
4. R4-02-0155 NodeB Synchronisation Measurement performance requirements for 1.28Mcps TDD