

**TSG-RAN Meeting #11**  
**Palm Springs, CA, U.S.A., 13-16 March 2001**

**RP-010101**

**Title:** CRs (Rel-4) for WI "NodeB Synchronisation for TDD"

**Source:** TSG-RAN WG4

**Agenda item:** 6.6.7

**WI Acronym:** RANimp-Nbsync

Doc-2nd-Level	Spec	CR	Subject	Cat	Version-	Version-
R4-010045	25.123	36	NodeB Synchronisation Measurements performance requirements	B	3.4.0	4.0.0

Vienna, Austria 19th - 23rd February 2001

CR-Form-v3

**CHANGE REQUEST**
 ⌘ **25.123 CR 36** ⌘ rev **-** ⌘ Current version: **3.4.0** ⌘

 For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

**Proposed change affects:** ⌘ (U)SIM  ME/UE  Radio Access Network  Core Network 

<b>Title:</b>	⌘ NodeB Synchronisation Measurements performance requirements		
<b>Source:</b>	⌘ RAN WG4		
<b>Work item code:</b>	⌘ RANimp-Nbsync	<b>Date:</b>	⌘ 23-26 Jan2001
<b>Category:</b>	⌘ <b>B</b>	<b>Release:</b>	⌘ REL-4
Use <u>one</u> of the following categories: <b>F</b> (essential correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (Addition of feature), <b>C</b> (Functional modification of feature) <b>D</b> (Editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900.		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)	

<b>Reason for change:</b>	⌘ Missing ranges/mappings and accuracy requirements for TDD NodeB Synchronisation Burst Timing and SIR.
<b>Summary of change:</b>	⌘
<b>Consequences if not approved:</b>	⌘ Unfinished/incomplete requirements

<b>Clauses affected:</b>	⌘		
<b>Other specs affected:</b>	<input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	⌘	
<b>Other comments:</b>	⌘		

**How to create CRs using this form:**
 Comprehensive information and tips about how to create CRs can be found at: [http://www.3gpp.org/3G\\_Specs/CRs.htm](http://www.3gpp.org/3G_Specs/CRs.htm). Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://www.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

### 9.2.1.10 Node B Synchronisation

Cell synchronisation burst timing is the time of start (defined by the first detected path in time) of the cell sync burst of a neighbouring cell. Type 1 is used for the initial phase of Node B synchronization. Type 2 is used for the steady-state phase of Node B synchronization. Both have different range.

The reference point for the cell sync burst timing measurement shall be the Rx antenna connector.

#### 9.2.1.10.1 Cell Synchronisation burst timing Type1 and Type 2

**Table 9.32**

<u>Parameter</u>	<u>Unit</u>	<u>Accuracy [chip]</u>	<u>Conditions</u>
<i>Cell Synchronisation burst timing</i>	chip	[+/-0,5 for both type 1 and type 2]	

#### 9.2.1.10.2 Range/mapping Type 1

The reporting range for Cell Synchronisation burst timing type 1 is from -131072 to +131072 chips with 1/4 chip resolution.

In table 9.33 the mapping of measured quantity is defined for burst type 1.

**Table 9.33**

<u>Reported value</u>	<u>Measured quantity value</u>	<u>Unit</u>
<u>Burst TIME TYPE1 0000000</u>	$-131072 \leq \text{burst timing Type 2} < -131071.75$	chip
<u>Burst TIME TYPE1 0000001</u>	$-131071.75 \leq \text{burst timing Type 2} < -131071.5$	chip
<u>Burst TIME TYPE1 0000002</u>	$-131071.5 \leq \text{burst timing Type 2} < -131071.25$	chip
...	...	...
<u>Burst TIME TYPE1 1048473</u>	$-131071.25 \leq \text{burst timing Type 2} < 131071.5$	chip
<u>Burst TIME TYPE1 1048574</u>	$-131071.5 \leq \text{burst timing Type 2} < 131071.75$	chip
<u>Burst TIME TYPE1 1048575</u>	$-131071.75 \leq \text{burst timing Type 2} < 131072$	chip

#### 9.2.1.10.3 Range/mapping Type 2

The reporting range for Cell Synchronisation burst timing type 2 is from -16 to +16 chips with 1/8 chip resolution. In table 9.34 the mapping of measured quantity is defined for burst type 2.

**Table 9.34**

<u>Reported value</u>	<u>Measured quantity value</u>	<u>Unit</u>
<u>Burst TIME TYPE2 0000</u>	$-16 \leq \text{burst timing Type 2} < -15.875$	chip
<u>Burst TIME TYPE2 0001</u>	$-15.875 \leq \text{burst timing Type 2} < -15.750$	chip
<u>Burst TIME TYPE2 0002</u>	$-15.750 \leq \text{burst timing Type 2} < -15.625$	chip
...	...	...
<u>Burst TIME TYPE2 0253</u>	$15.625 \leq \text{burst timing Type 2} < 15.750$	chip
<u>Burst TIME TYPE2 0254</u>	$15.750 \leq \text{burst timing Type 2} < 15.875$	chip
<u>Burst TIME TYPE2 0255</u>	$15.875 \leq \text{burst timing Type 2} < 16$	chip

#### 9.2.1.10.4 Cell Synchronisation burst SIR Type1 and Type2

Signal to Interference Ratio for the cell sync burst, defined according to TS25.225.

The reference point for the cell synchronisation burst SIR shall be the Rx antenna connector.

**Table 9.35**

<u>Parameter</u>	<u>Unit</u>	<u>Accuracy [dB]</u>		<u>Conditions</u>
		<u>Normal conditions</u>	<u>Extreme conditions</u>	
<u>Cell Synchronisation burst SIR</u>	<u>dB</u>	<u>±3 dB for both type 1 and 2</u>	<u>[ ]</u>	

#### 9.2.1.10.5 Range/Mapping for Type1 and Type 2

The reporting range for SIR is from 0 ... 60 dB with a resolution of 2dB.

In table 9.36 mapping of the measured quantity is defined. Signalling range may be larger than the guaranteed accuracy range.

**Table 9.36**

<u>Reported value</u>	<u>Measured quantity value</u>	<u>Unit</u>
<u>UE SIR_00</u>	<u>SIR &lt; 0</u>	<u>dB</u>
<u>UE SIR_01</u>	<u>0 ≤ SIR &lt; 2</u>	<u>dB</u>
<u>UE SIR_02</u>	<u>2 ≤ SIR &lt; 4</u>	<u>dB</u>
<u>...</u>	<u>...</u>	<u>...</u>
<u>UE SIR_29</u>	<u>56 ≤ SIR &lt; 58</u>	<u>dB</u>
<u>UE SIR_30</u>	<u>58 ≤ SIR &lt; 60</u>	<u>dB</u>
<u>UE SIR_31</u>	<u>60 ≤ SIR</u>	<u>dB</u>