

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

**RP-010066**

**Title: Agreed CRs to TS 25.225**

**Source: TSG-RAN WG1**

**Agenda item: 5.1.3**

<b>No.</b>	<b>R1 T-doc</b>	<b>Spec</b>	<b>CR</b>	<b>Rev</b>	<b>Subject</b>	<b>Cat</b>	<b>V_old</b>	<b>V_new</b>
1	R1-01-0107	25.225	023	-	Correction of the observed time difference to GSM measurement	F	3.5.0	3.6.0

## CHANGE REQUEST

⌘ **25.225 CR 023** ⌘ rev        ⌘ Current version: **3.5.0** ⌘

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>	⌘	Correction of the observed time difference to GSM measurement			
<b>Source:</b>	⌘	TSG RAN WG1			
<b>Work item code:</b>	⌘		<b>Date:</b>	⌘	15-jan-2001
<b>Category:</b>	⌘	<b>F</b>	<b>Release:</b>	⌘	R99
		<i>Use <u>one</u> of the following categories:</i> <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)		<i>Use <u>one</u> of the following releases:</i> 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)	
Detailed explanations of the above categories can be found in 3GPP TR 21.900.					

<b>Reason for change:</b>	⌘	The current measurement definition describes the reporting, not the actual measurement, and therefore has the following problems:  A frame with SFN=0 occurs very seldom, only every 40.96 s. If the actual measurement would be based on this instant, the accuracy would suffer. The sentence "...shall reflect the situation..." is ambiguous.  For the GSM multiframe timing measurement with the required precision, the SCH is used, not the FCCH. Depending on the instant when the measurement is done, the next received SCH shall be used, even if it is not at the start of the GSM multiframe. In connected mode, the SCH measurement occasions depend on the transmission gap pattern sequence given by the network.
<b>Summary of change:</b>	⌘	The relationship between actual measurement and reported value is added.
<b>Consequences if not approved:</b>	⌘	"Observed time difference to GSM" will not be usable, as implementations might differ considerably.

<b>Clauses affected:</b>	⌘	5.1.12
<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>	⌘	

## 5.1.12 Observed time difference to GSM cell

<b>Definition</b>	<p>Observed time difference to GSM cell is <u>reported as</u> the time difference <math>T_m</math> in ms, where</p> $T_m = T_{RxGSMk} - T_{RxSFN0i}$ <p><math>T_{RxSFN0i}</math>: time of start (defined by the first detected path in time) of the received frame SFN=0 of the serving TDD cell i</p> <p><math>T_{RxGSMk}</math>: time of start (<del>defined by the first detected path in time</del>) of the GSM BCCH 51-multiframe of the considered target GSM frequency k received closest in time after the time <math>T_{RxSFN0i}</math>. If the next GSM BCCH 51-multiframe is received exactly at <math>T_{RxSFN0i}</math> then <math>T_{RxGSMk} = T_{RxSFN0i}</math> (which leads to <math>T_m=0</math>). The beginning of the GSM BCCH 51-multiframe is defined as the beginning of the first tail bit of the frequency correction burst in the first TDMA-frame of the GSM BCCH 51-multiframe, i.e. the TDMA-frame following the IDLE-frame.</p> <p>The reference point for the Observed time difference to GSM cell shall be the antenna connector of the UE.</p> <p><u>The reported time difference is calculated from the actual measurement in the UE. The actual measurement shall be based on:</u></p> <p><u><math>T_{MeasGSM,j}</math>: The start of the first tail bit of the most recently received GSM SCH on frequency j</u>  <u><math>T_{MeasSFN,j}</math>: The start of the last frame received in TDD cell i before receiving the GSM SCH on frequency j</u></p> <p><u>For calculating the reported time difference, the frame lengths are always assumed to be 10 ms for UTRA and (60/13) ms for GSM.</u></p>
<b>Applicable for</b>	Idle mode, connected mode (inter-frequency)