TSG-RAN Meeting #12 *RP-010364*
Stockholm, Sweden, 12 - 15 June 2001

Title: **Agreed CR (Release 4) to TS 25.133**

Source: **TSG-RAN WG4**

Agenda item: **8.4.4**

WG4 doc	Status WG4	Spec	CR	Phase	Title	Cat	V old	V new
R4-010788	agreed	25.133	123	Rel-4	Detection and measurements of new cells not belonging to monitored set	F	4.0.0	4.1.0

3GPP TSG RAN WG4 Meeting #17 **R4-010788**

Gothenburg, Sweden 21st - 25th May 2001

CR-Form-v4

CHANGE REQUEST

⌘ **25.133** **CR** **123** ⌘ ev **-** ⌘ Current version: **4.0.0** ⌘

*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 **X** Radio Access Network **X** Core Network ☐

Title:	⌘	**Detection and measurements of new cells not belonging to monitored set**
Source:	⌘	RAN WG4
Work item code:	⌘	TEI4
Date:	⌘	2001-05-30
Category:	⌘	**F**
Release:	⌘	REL-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one 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)

Reason for change:	⌘	There are requirements for measuring on the detected set in 25.331, but there are no performance requirements
Summary of change:	⌘	Include requirements for measurements of cells not belonging to the monitored set.
Consequences if not approved:	⌘	Without these requirements it is not known by the network how much the UE do measure cells in detected set, which is not according to 25.331.

Clauses affected:	⌘	8.1.2.2
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	REL-4 only corrections from Tdoc R4-010596.

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. 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://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 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.

8.1.2.2 FDD intra frequency measurements

During the CELL_DCH state the UE shall continuously measure detected intra frequency cells and search for new intra frequency cells in the monitoring set. In case the network requests the UE to report unlisted cells, the UE shall also search for intra frequency cells outside the monitored set. If compressed mode pattern sequences are activated, intra frequency measurements can be performed between the transmission gaps simultaneously for data reception from the active set cell/s.

8.1.2.2.1 Identification of a new cell

The UE shall be able to identify a new detectable cell belonging to the monitored set within

$$T_{identify\ intra} = Max\left\{800, T_{basic\ identify\ FDD,\ intra} \cdot \frac{T_{Measurement\ Period,\ Intra}}{T_{Intra}}\right\} ms$$

when CPICH Ec/Io ≥ -20 dB, SCH_Ec/Io ≥ -20 dB and SCH_Ec/Ior is equally divided between primary synchronisation code and secondary synchronisation code. When L3 filtering is used an additional delay can be expected.

The UE shall be able to identify a new detectable cell not belonging to the monitored set within

$$T_{identify\ detected\ set} = 30s$$

when CPICH Ec/Io > -20 dB, SCH_Ec/Io > -17 dB and SCH_Ec/Ior is equally divided between primary synchronisation code and secondary synchronisation code. When L3 filtering is used an additional delay can be expected.

8.1.2.2.2 UE CPICH measurement capability

In the CELL_DCH state the measurement period for intra frequency measurements is 200 ms. When no transmission gap pattern sequence is activated, the UE shall be capable of performing CPICH measurements for 8 detected intra-frequency cells and the UE physical layer shall be capable of reporting measurements to higher layers with the measurement period of 200 ms. When one or more transmission gap pattern sequences are activated, the UE shall be capable of performing CPICH measurements for at least $Y_{measurement\ intra}$ cells , where $Y_{measurement\ intra}$ is defined in the following equation. The detectable cells, that were not measured during that measurement period, shall be measured in the following measurement periods. The measurement accuracy for all measured cells shall be as specified in the sub-clause 9.1.1 and 9.1.2.

$$Y_{measurement\ intra} = Floor\left\{X_{basic\ measurement\ FDD} \cdot \frac{T_{Intra}}{T_{Measurement\ Period,\ Intra}}\right\} \text{ cells}$$

$X_{basic\ measurement\ FDD}$= 8 (cells)

$T_{Measurement\_Period\ Intra}$= 200 ms. The measurement period for Intra frequency CPICH measurements.

T_{Intra} : This is the minimum time that is available for intra frequency measurements, during the measurement period with an arbitrarily chosen timing.

$T_{basic\_identify\_FDD,\ intra}$= 800 ms. This is the time period used in the intra frequency equation where the maximum allowed time for the UE to identify a new FDD cell is defined.

The UE shall furthermore be capable of performing CPICH measurements for at least 1 detected intra-frequency cell, in the detected set, and the UE physical layer shall be capable of reporting measurements to higher layers with the measurement period of 10 s. The measurement accuracy for all measured cells shall be as specified in the sub-clause 9.1.1 and 9.1.2.

8.1.2.2.3 Periodic Reporting

Reported measurements contained in periodically triggered measurement reports shall meet the requirements in section 9.

8.1.2.2.4 Event-triggered Periodic Reporting

Reported measurements contained in event triggered periodic measurement reports shall meet the requirements in section 9.

The first report in event triggered periodic measurement reporting shall meet the requirements specified in section 8.1.2.2.3 Event Triggered Reporting.

8.1.2.2.5 Event Triggered Reporting

Reported measurements contained in event triggered measurement reports shall meet the requirements in section 9.

The UE shall not send event triggered measurement reports, as long as the reporting criteria are not fulfilled.

The measurement reporting delay is defined as the time between any event that will trigger a measurement report until the UE starts to transmit over the Uu interface. This requirement assumes that the measurement report is not delayed by other RRC signalling on the DCCH. This measurement reporting delay excludes a delay uncertainty resulted when inserting the measurement report to the TTI of the uplink DCCH . The delay uncertainty is twice the TTI of the uplink DCCH.

Editors Note: The test cases in section A.8 will need revisions to reflect the general requirements.

The event triggered measurement reporting delay, measured without L3 filtering, shall be less than the above defined $T_{identify\ intra}$. . defined in Section 8.1.2.2.1

If a cell, which the UE has detected and measured at least once over the measurement period, becomes undetectable for a period < 5 seconds and then the cell becomes detectable again and triggers an event, the measurement reporting delay shall be less than $T_{Measurement\_Period\ Intra}$ ms provided the timing to that cell has not changed more than +/-32 chips and L3 filtering has not been used. When L3 filtering is used an additional delay can be expected.

If a cell has been detectable at least for the time period $T_{identify\_intra}$ and then enters the reporting range, the event triggered measurement reporting delay shall be less than $T_{Measurement\_Period\ Intra}$ when the L3 filter has not been used.

The event triggered measurement reporting delay on cells not belonging to monitored set, measured without L3 filtering, shall be less than the above defined $T_{identify\ detected\ set}$. defined in Section 8.1.2.2.1.