TSG-RAN Working Group 1 meeting #9
Dresden, Germany
November 30 – December 3, 1999

***TSGR1#9(99)k10***

**Agenda item:** AH 17
**Source:** Panasonic
**Title:** CR 25.215-019: Measurements to support PE based positioning
**Document for:** Decision

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1. Introduction

The Positioning Elements method has been presented to WG1 (TSGR1#8(99)G57) and to WG2 (WG2 R2-(99)E48). There has been no objection to the principle which calls for more – than is possible with base stations - reference points to which OTDOA measurements can be related. Simulation results will be presented in due course and they will be used as the basis for optimizing the operating parameters of PEs (such as Tx power and repetition patterns for the associated codes). This method will not be operational in Release 99 due to the lack of explicit signaling to support it and its use will only be optional. It is however beneficial to have the supporting L1 measurements supported in Release 99. The measurements do not impose additional complexity to the UE as relative timing measurements are already supported and the PE codes are generated by the same process used for the SSC codes.

**3GPP TSG RAN WG1 Meeting #9**
**Dresden, Germany, Nov 30 – Dec 3, 1999**

***Document* R1-99k10**
*e.g. for 3GPP use the format TP-99xxx*
*or for SMG, use the format P-99-xxx*

# CHANGE REQUEST

*Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.*

| 25.215 | CR | 019 | Current Version: | 3.0.0 |
|---|---|---|---|---|

*GSM (AA.BB) or 3G (AA.BBB) specification number ↑* *↑ CR number as allocated by MCC support team*

| For submission to: | TSG-RAN #6 | for approval | X | strategic | | (for SMG use only) |
|---|---|---|---|---|---|---|
| *list expected approval meeting # here ↑* | | for information | | non-strategic | | |

*Form: CR cover sheet, version 2 for 3GPP and SMG* *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

**Proposed change affects:** (U)SIM [ ] ME [X] UTRAN / Radio [ ] Core Network [ ]
*(at least one should be marked with an X)*

**Source:** Panasonic **Date:** 1999-11-30

**Subject:** Measurements to support PE based positioning

**Work item:**

**Category:** *(only one category shall be marked with an X)*

| | | |
|---|---|---|
| F | Correction | |
| A | Corresponds to a correction in an earlier release | |
| B | Addition of feature | X |
| C | Functional modification of feature | |
| D | Editorial modification | |

**Release:**

| | |
|---|---|
| Phase 2 | |
| Release 96 | |
| Release 97 | |
| Release 98 | |
| Release 99 | X |
| Release 00 | |

**Reason for change:** Define a measurement capability that allows the Ues to make use of additional elements that can optionally be deployed by an operator in order to increase positioning accuracy or to obtain positioning in geographical locations where other methods may not work.

**Clauses affected:** 5.1 UE measurement abilities

**Other specs affected:**

| | | |
|---|---|---|
| Other 3G core specifications | [ ] | → List of CRs: |
| Other GSM core specifications | [ ] | → List of CRs: |
| MS test specifications | [ ] | → List of CRs: |
| BSS test specifications | [ ] | → List of CRs: |
| O&M specifications | [ ] | → List of CRs: |

**Other comments:**

help.doc

<--------- double-click here for help and instructions on how to create a CR.

### 5.1.13 UE Rx-Tx time difference

| | |
|---|---|
| Definition | The difference in time between the UE uplink DPCCH/DPDCH frame transmission and the first significant path, of the downlink DPCH frame from the measured radio link. Measurement shall be made for each cell included in the active set.<br>Note: The definition of "first significant path" needs further elaboration. |
| **Applicable for** | Connected Intra |
| **Range/mapping** | Always positive. |

### 5.1.14 Positioning_Element-BCCH Rx time difference

| | |
|---|---|
| Definition | The difference in time between the first significant path of the downlink BCCH frame of the cell to which it is camped on and of the first significant path of one of the 240 (256 chip) codes that may be transmitted by a Positioning Element (PE). The codes that need to be detected by the UE are the codes that remain after the 16 SSC codes have been removed from the 256 codes generated by the procedure described in TS25.213 section 5.2.3.1<br>Measurements shall be made for all codes for which information is made available.<br>Note: The definition of "first significant path" needs further elaboration. |
| **Applicable for** | Idle, Connected |
| **Range/mapping** | Time difference is given with a resolution of 0.5 chip with the range [0, …, 38399] chips |