**3GPP TSG-RAN WG4 Meeting #111 *R4-2407880***

Fukuoka City, Fukuoka, Japan, 20th - 24th May, 2024

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.133** | **CR** | **DraftCR** | **rev** |  | **Current version:** | **18.5.0** |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network |  |

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|  | | | | | | | | | | |
| ***Title:*** | [2-14] Draft CR on Measurement Accuracy for SL PRS-RSRPP | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | OPPO | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_pos\_enh2-Perf | | | | |  | ***Date:*** | | | 2024-05-13 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-18 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change 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](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Based on work split for Rel-18 positoning enhancements (R4-2406382), the accuracy requirements for SL PRS-RSRPP need to be introduced. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Introduce the accuracy requirements for SL PRS-RSRPP measurements. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The accuracy requirements for SL PRS-RSRPP will be imcompleted. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | (new)10.4A.5.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | | **X** |  | Test specifications | | | | TS 38.533 | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

**------------ START OF CHANGE 1--------------**

#### 10.4A.5.2 SL-RSRPP accuracy requirements

##### 10.4A.5.2.1 Introduction

The requirements in clause 10.4A.5.2 shall apply provided the UE has received *SL-TDOA-RequestLocationInformation or SL-AOA-RequestLocationInformation or SL-TOA-RequestLocationInformation or SL-RTT-RequestLocationInformation* from LMF or another UE via SLPP requesting the UE to measure and report SL PRS-RSRPP measurements defined in TS 38.215 [4].

The requirements in Clause 10.4A.5.2 apply for the first path PRS-RSRP measurement.

##### 10.4A.5.2.2 Measurement Accuracy Requirements

###### 10.4A.5.2.2.2 Absolute SL-RSRPP accuracy

The absolute accuracy requirements for SL-RSRPP measurement for FR1 defined in Table 10.4A.5.2.2.2-1 are valid under the following conditions:

- Conditions defined in 38.101-1 Clause 7.3E for reference sensitivity are fulfilled.

- PRP 1,2|dBm according to Annex B.4A.1 for a corresponding Band

Note: The requriements in this clause are derived based on two-tap channel defined in 38.101-4 Annex B.2.4 (a = 1, τd=0.45 µs and fD=5 Hz).

Note: The requirements in this clause are derived based on the difference between the estimated PRS-RSRPP compared to the ideal PRS-RSRPP defined as

Where:

is the effective channel frequency response (over REs occupied by SL PRS) measured without receiver noise.

is the exact delay of the p-th path in the channel model.

Table 10.4A.5.2.2.2-1: SL-RSRPP absolute accuracy for FR1

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Accuracy | | Conditions | | | | | | |
| Normal condition | Extreme condition | PRS Ês/Iot | PRS SCS | PRS BW Note 2 | PRS sample | operating band group Note 5 | Io Note 4 range | |
| Minimum Io Note 1 | Maximum Io |
| dB | dB | dB | kHz | PRB | - |  | dBm / SCSPRS | dBm/BWChannel |
|  |  | ≥-3 | 15 | ≥ 24 | ≥4 | NR\_TDD\_FR1\_B | -120.5 | -50 |
|  |  | NR\_TDD\_FR1\_J | -116.5 | -50 |
|  |  | > 48 | ≥1 | Note 3 | | |
|  |  | ≥ 96 | ≥1 | Note 3 | | |
|  |  | 30 | ≥ 24 | ≥4 | NR\_TDD\_FR1\_B | -117.5 | -50 |
|  |  | NR\_TDD\_FR1\_J | -113.5 | -50 |
|  |  | > 48 | ≥1 | Note 3 | | |
|  |  | 60 | ≥ 24 | ≥4 | NR\_TDD\_FR1\_B | -114.5 | -50 |
|  |  | NR\_TDD\_FR1\_J | -110.5 | -50 |
| NOTE 1: This minimum Io condition is expressed as the average Io per RE over all REs in an OFDM symbol.  NOTE 2: SL PRS bandwidth is as indicated in *sl-PRS-BW* in the SL-PRS-AssistanceData defined in [37].  NOTE 3: The same bands and the same Io conditions for each band apply for this requirement as for the corresponding requirement with the SL PRS bandwidth of the smallest PRB number for the corresponding SCS.  NOTE 4: The Io is defined in PRS positioning subframes. The same Io range applies to PRS and non-PRS symbols. Io levels are different in PRS and non-PRS symbols within the same subframe.  NOTE 5: NR V2X operating band groups are as defined in Section 3.5.2. | | | | | | | | |

**------------ END OF CHANGE 1--------------**