**3GPP TSG-RAN WG4 Meeting # 95-e R4-2008593**

**Electronic Meeting, 25 May – 5 June, 2020**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.133** | **CR** | 681 | **Rev** | **1** | **Current version:** | **16.3.0** |  |
|  | | | | | | | | |
| *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 | **X** | Radio Access Network |  | Core Network |  |

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|  | | | | | | | | | | |
| ***Title:*** | CR of NR V2X measurement accuracy requirements(SL-RSSI and L1 SL-RSRP) | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | LG Electronics | | | | | | | | | |
| ***Source to TSG:*** | RAN4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5G\_V2X\_NRSL-Perf | | | | |  | ***Date:*** | | | 2020-05-14 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | B |  | | | | | ***Release:*** | | | Rel-16 |
|  | *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-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Introduce V2X measurement accuracy requirements for SL-RSSI and L1 SL-RSRP | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Resubmission of endorsed Draft CR R4-2005315  Additional changes from R4-2005315 are,   * Remove title of 10.4.4 and 10.4.4.1, and Es/Iot in Table 10.4.4.1-1 * PSCCH-RSRP[/PSSCH-RSRP] 🡪 PSCCH-RSRP and/or PSSCH-RSRP * In Table 10.4.4.1-1,   + SCSPSCCH 🡪 SCS | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Miss NR V2X measurement accuracy requirements requirements for SL-RSSI and L1 SL-RSRP | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 10.4.3, 10.4.4 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | |  | | |
| ***affected:*** | | **X** |  | Test specifications | | | | TS 38.533 | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | |  | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

< START OF CHANGE #1 >

### 10.4.3 Intra-Frequency SL-RSSI Measurement Accuracy Requirements for FR1

#### 10.4.3.1 Absolute SL-RSSI Accuracy

The intra-frequency SL-RSSI requirements are specified in Table 10.4.3.1-1. The requirements apply for measurement period of 1slot and for any configured measurement bandwidth larger than 10 RBs, provided that:

- All symbols duing each RSSI measurement duration are available for RSSI sampling within the same measurement interval.

Table 10.4.3.1-1: Intra-frequency SL-RSSI absolute accuracy

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Accuracy | | Conditions | | | | |
| Normal condition | Extreme condition | Io Note 1 range | | | | |
| NR V2X operating band groups Note 2 | Minimum Io | | | Maximum Io |
| dB | dB |  | dBm/SCSSL | | | dBm/BWChannel |
| SCSSL = 15kHz | SCSSL = 30kHz | SCSSL = 60kHz |
| ±2.5 | ±5.5 | [NR\_TDD\_FR1\_A] | [-121] | [-118] | [-115] | -50 |
| [NR\_TDD\_FR1\_I] | [-117] | [-114] | [-111] | -50 |
| ±4.5 | ±7.5 | Note 3 | Note 3 | Note 3 | Note 3 | Note 3 |
| NOTE 1: Io is assumed to have constant EPRE across the bandwidth.  NOTE 2: NR V2X operating band groups are as defined in Section 3.5 for the corresponding NR operating bands.  NOTE 3: The same bands and the same Io conditions for each band apply for this requirement as for the corresponding highest accuracy requirement. | | | | | | |

### 10.4.4 Intra-Frequency L1 SL-RSRP Measurement Accuracy Requirements for FR1

#### 10.4.4.1 Absolute L1 SL-RSRP Accuracy

The requirements for absolute accuracy of L1 SL-RSRP in this clause apply to a UE performing PSCCH-RSRP and/or PSSCH-RSRP measurements on the same frequency as used by operating V2X sidelink communication.

The accuracy requirements in Table 10.4.4.1-1 are valid under the following conditions:

- Demodulation reference signals for PSCCH and/or PSSCH are transmitted from one port.

- Conditions defined in clause 7.3E of TS38.101-1 [18] for reference sensitivity are fulfilled.

- PSCCH-RSRP|dBm and/or PSSCH-RSRP|dBm according to Annex B.4.4 for a corresponding Band are fulfilled.

Table 10.4.4.1-1: Intra-frequency L1 SL-RSRP absolute accuracy for UE capable of V2X sidelink communication

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Accuracy | | Conditions | | | | | | |
| Normal condition | Extreme condition | Ês/Iot Note 3 | Io Note 1 range | | | | | |
| NR V2X operating band groups Note 2 | Minimum Io | | | | Maximum Io |
| dB | dB | dB |  | dBm/SCS | | | dBm/BWChannel | dBm/BWChannel |
| SCS = 15kHz | SCS = 30kHz | SCS = 60kHz |
| ±TBD | ±TBD | ≥0 dB | [NR\_TDD\_FR1\_A] | [-121] | [-118] | [-115] | N/A | -70 |
| [NR\_TDD\_FR1\_I] | [-117] | [-114] | [-111] | N/A | -70 |
| ±TBD | ±TBD | ≥0 dB | [NR\_TDD\_FR1\_A] [NR\_TDD\_FR1\_I] | N/A | N/A | N/A | -70 | -50 |
| NOTE 1: Io is assumed to have constant EPRE across the bandwidth.  NOTE 2: NR V2X operating band groups are as defined in Section 3.5 for the corresponding NR operating bands.  NOTE 3: The parameter Ês/Iot is the Ês/Iot of PSCCH-DMRS and/or PSSCH-DMRS. | | | | | | | | |

< END OF CHANGE #1 >