**3GPP TSG-RAN4 Meeting #96-e *R4-*** ***20012174***

**Electronic meeting, 17 – 28 Aug., 2020**

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| *CR-Form-v11.2* |
| **CHANGE REQUEST** |
|  |
|  | **38.133** | **CR** | **1108** | **rev** | **-** | **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 on scheduling restriction for CSI-RS based intra-frequency measurement |
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| ***Source to WG:*** | Qualcomm |
| ***Source to TSG:*** | R4 |
|  |  |
| ***Work item code:*** | NR\_CSIRS\_L3meas-Core |  | ***Date:*** | 2020-08-24 |
|  |  |  |  |  |
| ***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 canbe 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)* |
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| ***Reason for change:*** | CSI-RS L3 measurement was introduced to RAN4 in Rel-16. The CR aims to add restrictions in the scheduling availability during CSI-RS L3 intra-frequency measurements. The CR is revised from R4-2011416. |
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| ***Summary of change:*** | Introduce the scheduling restriction for CSI-RS based intra-frequency measurement for RRM. |
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| ***Consequences if not approved:*** | CSI-RS based UE measurement requirements are missing. |
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| ***Clauses affected:*** | New section 9.x.2.x |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  |  |
| ***affected:*** | **X** |  |  Test specifications | TS 38.521-3 |
| ***(show related CRs)*** |  | **X** |  O&M Specifications |  |
|  |  |
| ***Other comments:*** |  |

<Start of Change 1>

9.x.2.x Scheduling availability of UE during CSI-RS based intra-frequency measurements

UE is required to be capable of measuring without measurement gaps when CSI-RS resources are completely contained in the active BWP of the UE [3]. Note the configured CSI-RS symbol is indicated in *firstOFDMSymbolInTimeDomain* included in *CSI-RS-ResourceConfigMobility* [2] for RRM. When any of the conditions in the following clauses is met, there are restrictions on the scheduling availability; otherwise, there is no scheduling restriction.

9.x.2.x.1 Scheduling availability of UE performing CSI-RS based measurements in TDD bands

When the UE performs CSI-RS based intra-frequency measurements for L3 mobility management in a TDD band, the following restrictions apply due to the UL and DL collision.

* The UE is not expected to transmit PUCCH/PUSCH/SRS on CSI-RS symbol to be measured and on 1 OFDM symbol before each CSI-RS symbol to be measured and 1 OFDM symbol after each CSI-RS symbol to be measured within the configured slot as indicated in *slotConfig* [2] of the corresponding CSI-RS resource.

9.x.2.x.2 Scheduling availability of UE performing CSI-RS based measurements in FR2

When the UE performs CSI-RS based intra-frequency measurements for L3 mobility management in FR2, the following restrictions apply.

* The UE is not expected to receive PDCCH/PDSCH/TRS on configured CSI-RS symbol and on 1 OFDM symbol before each configured CSI-RS symbol to be measured and 1 OFDM symbol after each configured CSI-RS symbol to be measured within the configured slot as indicated in *slotConfig* [2] of the corresponding CSI-RS resource.

<End of Change 1>