**3GPP TSG- RAN WG1 Meeting #100b R1-2xxxxxx**

**e-Meeting, April 20th – 30th, 2020**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
|  |
|  | **38.212** | **CR** | **DRAFT** | **rev** | **-** | **Current version:** | **15.8.0** |  |
|  |
| *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 | **X** | Core Network |  |

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|  |
| ***Title:***  | Draft CR on L1-RSRP report on PUSCH |
|  |  |
| ***Source to WG:*** | Apple Inc |
| ***Source to TSG:*** | R1 |
|  |  |
| ***Work item code:*** | NR\_newRAT-Core |  | ***Date:*** | 2020-04-10 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-15 |
|  | *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)* |
|  |  |
| ***Reason for change:*** | In Current spec, the detail reporting format for L1-RSRP by PUCCH is clearly defined in Table 6.3.1.1.2-8. However, the detail reporting format for L1-RSRP by PUSCH is not defined, but only a general format is defined in Table 6.3.2.1.2-3, where the association between each reported SSBRI/CRI and RSRP/differential RSRP is not defined. |
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| ***Summary of change:*** | Define the detail format for L1-RSRP reproted on PUSCH, which is the same as that reported on PUCCH. |
|  |  |
| ***Consequences if not approved:*** | The detail association between each reported SSBRI/CRI and the RSRP/differential RSRP is unclear, when reported by PUSCH. |
|  |  |
| ***Clauses affected:*** | 6.3.2.1.2 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  | **X** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** | Impac analysis: This is based on common understanding. So no impact on legacy gNB and UE. |
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| ***This CR's revision history:*** |  |

##### **6.3.2.1.2 CSI**

< Unchanged parts are omitted >

For CSI on PUSCH, two UCI bit sequences are generated,  and . The CSI fields of all CSI reports, in the order from upper part to lower part in Table 6.3.2.1.2-6, are mapped to the UCI bit sequence  starting with . The CSI fields of all CSI reports, in the order from upper part to lower part in Table 6.3.2.1.2-7, are mapped to the UCI bit sequence  starting with .

The mapping order of CSI fields of one report for CRI/RSRP or SSBRI/RSRP reporting is provided in Table 6.3.1.1.2-8. The procedure in section 6.3.2 described for CSI part 1 is also applicable for one report for CRI/RSRP or SSBRI/RSRP reporting.

Table 6.3.2.1.2-3: Mapping order of CSI fields of one CSI report, CSI part 1

|  |  |
| --- | --- |
| CSI report number | CSI fields |
| CSI report #nCSI part 1 | CRI as in Tables 6.3.1.1.2-3/4/6, if reported |
| Rank Indicator as in Tables 6.3.1.1.2-3/4/5, if reported |
| Wideband CQI for the first TB as in Tables 6.3.1.1.2-3/4/5, if reported |
| Subband differential CQI for the first TB with increasing order of subband number as in Tables 6.3.1.1.2-3/4/5, if reported |
| Indicator of the number of non-zero wideband amplitude coefficients $M\_{0}$ for layer 0 as in Table 6.3.1.1.2-5, if reported |
| Indicator of the number of non-zero wideband amplitude coefficients $M\_{1}$ for layer 1 as in Table 6.3.1.1.2-5 (if the rank according to the reported RI is equal to one, this field is set to all zeros), if 2-layer PMI reporting is allowed according to the rank restriction in Subclauses 5.2.2.2.3 and 5.2.2.2.4 [6, TS 38.214] and if reported |
|  |
|  |
| Note: Subbands for given CSI report *n* indicated by the higher layer parameter *csi-ReportingBand* are numbered continuously in the increasing order with the lowest subband of *csi-ReportingBand* as subband 0. |

< Unchanged parts are omitted >

Table 6.3.2.1.2-6: Mapping order of CSI reports to UCI bit sequence ,
with two-part CSI report(s)

|  |  |
| --- | --- |
| UCI bit sequence | CSI report number |
|  | CSI part 1 of CSI report #1 as in Table 6.3.2.1.2-3 or Table 6.3.1.1.2-8 |
| CSI part 1 of CSI report #2 as in Table 6.3.2.1.2-3 or Table 6.3.1.1.2-8 |
| … |
| CSI part 1 of CSI report #n as in Table 6.3.2.1.2-3 or Table 6.3.1.1.2-8 |