**3GPP TSG RAN WG1 Meeting #110bis-e R1-2210501**

**e-Meeting, October 10th – 19th, 2022**

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| *CR-Form-v12.1* | | | | | | | | |
| **[Draft] CHANGE REQUEST** | | | | | | | | |
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|  | **38.214** | **CR** |  | **rev** | **-** | **Current version:** | **17.3.0** |  |
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| *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:*** | Correction on LI reporting for Further Enhanced Type II Port Selection CSI feedback | | | | | | | | | |
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| ***Source to WG:*** | Moderator (Huawei), CATT, Samsung | | | | | | | | | |
| ***Source to TSG:*** | R1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_feMIMO-Core | | | | |  | ***Date:*** | | | 2022-10-10 |
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| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
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| ***Reason for change:*** | | LI reporting is not supported by Rel-17 FeTypeII port selection codebook design. However TS 38.214 includes a reportQuantity which can potentially report LI field for a wideband frequency-granularity. Therefore this reportQuantity is inconsistent in TS 38.214 and TS 38.212.  Moreover, there is no explicit restriction on LI configuration for FeTypeII port selection codebook in specification. Therefore for better clarification for Rel-17 codebook design, the restriction of LI reporting shall be added in TS 38.214 and is similar with legacy codebooks. | | | | | | | | |
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| ***Summary of change:*** | | The support of configuring “*cri-RI-LI-PMI-CQI*” as a reportQuantity for Rel-17 FeTypeII is removed.  The restriction that UE does not expect “cri-RI-LI-PMI-CQI” in *CSI-ReportConfig* is added. | | | | | | | | |
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| ***Consequences if not approved:*** | | It is ambiguous whether and how LI can be reported for FeTypeII Port selection codebook in Rel-17, if UE is configured with “cri-RI-LI-PMI-CQI”. | | | | | | | | |
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| ***Clauses affected:*** | | 5.2.1.4, 5.2.1.4.2 | | | | | | | | |
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|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | |  | | |
| ***affected:*** | |  | **X** | Test specifications | | | |  | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | |  | | |
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| ***Other comments:*** | | **Isolated impact analysis:**  This CR has no isolated impact on network and UE hehavior. | | | | | | | | |
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| ***This CR's revision history:*** | |  | | | | | | | | |

< Unchanged parts are omitted >

#### 5.2.1.4 Reporting configurations

< Unchanged parts are omitted >

A CSI Reporting Setting is said to have a wideband frequency-granularity if

- *reportQuantity* is set to 'cri-RI-PMI-CQI', or 'cri-RI-LI-PMI-CQI', *cqi-FormatIndicator* is set to 'widebandCQI' and *pmi-FormatIndicator* is set to 'widebandPMI', or

- *reportQuantity* is set to 'cri-RI-PMI-CQI', *codebookType* is set to 'typeII-PortSelection-r17' with and *cqi-FormatIndicator* is set to 'widebandCQI', or

- *reportQuantity* is set to 'cri-RI-i1' or

- *reportQuantity* is set to 'cri-RI-CQI' or 'cri-RI-i1-CQI' and *cqi-FormatIndicator* is set to 'widebandCQI', or

- *reportQuantity* is set to 'cri-RSRP' or 'ssb-Index-RSRP' or 'cri-SINR', or 'ssb-Index-SINR' or 'cri-RSRP-CapabilityIndex' or 'ssb-Index-RSRP-CapabilityIndex' or 'cri-SINR-CapabilityIndex', or 'ssb-Index-SINR-CapabilityIndex'

otherwise, the CSI Reporting Setting is said to have a subband frequency-granularity.

< Unchanged parts are omitted >

##### 5.2.1.4.2 Report Quantity Configurations

< Unchanged parts are omitted >

If the UE is configured with a *CSI-ReportConfig* with the higher layer parameter *reportQuantity* set to 'ssb-Index-SINR' or 'ssb-Index-SINR-Capability[Set]Index', the UE shall derive L1-SINR conditioned on the reported SSBRI, where SSBRI *k* (*k* ≥ 0) corresponds to the configured (*k*+1)-th entry of the associated *csi-SSB-ResourceList* in the corresponding *CSI-SSB-ResourceSet* for channel measurement, and (*k*+1)-th entry of associated *csi-IM-Resource* in the corresponding *csi-IM-ResourceSet* (if configured) or (*k*+1)-th entry of associated *nzp-CSI-RS-Resources* in the corresponding *NZP-CSI-RS-ResourceSet* (if configured) for interference measurement.

If the UE is configured with a *CSI-ReportConfig* with the higher layer parameter *reportQuantity* set to 'cri-RI-PMI-CQI', ' cri-RI-i1', 'cri-RI-i1-CQI', 'cri-RI-CQI' or 'cri-RI-LI-PMI-CQI', then the UE is not expected to be configured with more than 8 CSI-RS resources in a CSI-RS resource set contained within a resource setting that is linked to the *CSI-ReportConfig*.

If the UE is configured with a *CSI-ReportConfig* with the higher layer parameter *reportQuantity* set to 'cri-RI-LI-PMI-CQI', UE does not expect the *CSI-ReportConfig* to be configured with higher layer parameter *codebookType* set to '*typeII-r16*' or '*typeII-PortSelection-r16*' or “*typeII=PortSelection-r17*”.

< Unchanged parts are omitted >

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| Mod | Please check the draft CR and indicate whether you want to co-source the CR. |
| Mod | Include Samsung as supporting company |
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