**3GPP TSG-RAN WG1 Meeting #bis-e *R1-230XXXX***

**E-meeting, 17-26 April, 2023**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** |  | **rev** |  | **Current version:** |  |  |
|  | | | | | | | | |
| *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:*** | Corrections to spatial domain filter determination for directional LBT in TS38.214 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Moderator (Nokia), Huawei, HiSilicon | | | | | | | | | |
| ***Source to TSG:*** | R1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_ext\_to\_71GHz-Core | | | | |  | ***Date:*** | | | 2023-04-07 |
|  |  | | | |  | |  | | |  |
| ***Category:*** |  |  | | | | | ***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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Section 5.1.5 of TS38.214 defines how UE determines a spatial domain filter when performing channel access, when the UE has indicated a capability *beamCorrespondenceWithoutUL-BeamSweeping* set to 'supported'. For a UE that is configured with *TCI-State* in *dl-OrJoint-TCIStateList* or *TCI-UL-State*, the spatial domain filter to perform channel access should be a spatial domain receive filter instead of a spatial domain transmit filter. Therefore, “spatial domain filter” should be used consistently with the previous sub-bullets of this clause. | | | | | | | | |
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| ***Summary of change:*** | | Delete “transmit” in the “spatial domain transmit filter” for UE is configured with *TCI-State* in *dl-OrJoint-TCIStateList* or *TCI-UL-State.* | | | | | | | | |
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| ***Consequences if not approved:*** | | Incorrect spatial domain filter for channel access | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.1.5 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | |  | | |
| ***affected:*** | |  | **X** | Test specifications | | | |  | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | |  | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

### 5.1.5 Antenna ports quasi co-location

The UE can be configured with a list of up to *M* *TCI-State* configurations within the higher layer parameter *PDSCH-Config* to decode PDSCH according to a detected PDCCH with DCI intended for the UE and the given serving cell, where M depends on the UE capability *maxNumberConfiguredTCIstatesPerCC*. Each *TCI-State* contains parameters for configuring a quasi co-location relationship between one or two downlink reference signals and the DM-RS ports of the PDSCH, the DM-RS port of PDCCH or the CSI-RS port(s) of a CSI-RS resource. The quasi co-location relationship is configured by the higher layer parameter *qcl-Type1* for the first DL RS, and *qcl-Type2* for the second DL RS(if configured). For the case of two DL RSs, the QCL types shall not be the same, regardless of whether the references are to the same DL RS or different DL RSs. The quasi co-location types corresponding to each DL RS are given by the higher layer parameter *qcl-Type* in *QCL-Info* and may take one of the following values:

- 'typeA': {Doppler shift, Doppler spread, average delay, delay spread}

- 'typeB': {Doppler shift, Doppler spread}

- 'typeC': {Doppler shift, average delay}

- 'typeD': {Spatial Rx parameter}

\*\*\* unchanged text omitted\*\*\*

A UE that has indicated a capability *beamCorrespondenceWithoutUL-BeamSweeping* set to 'supported', as described in [13, TS 38.306], can determine a spatial domain filter to be used while performing the applicable channel access procedures described in [16, TS 37.213] prior to a UL transmission on the channel as follows:

- if UE is indicated with an SRI corresponding to the UL transmission, the UE may use a spatial domain filter that is same as the spatial domain transmission filter associated with the indicated SRI,

- if UE is configured with *SRS-spatialRelationInfo* for the UL transmission, the UE may use a spatial domain filter that is same as the spatial domain filter associated with *referenceSignal* in the corresponding *SRS-spatialRelationInfo*,

- if UE is configured with *TCI-State* in *dl-OrJoint-TCIStateList* or *TCI-UL-State*, the UE may use a spatial domain filter that is same as the spatial domain receive filter the UE may use to receive the DL reference signal associated with the indicated TCI state.

\*\*\* unchanged text omitted\*\*\*