**3GPP TSG-RAN WG1 Meeting # 110 *R1-220xxxx***

**Toulouse, France, August 22nd – 26th, 2022**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **38.214** | **CR** | **-** | **rev** | **-** | **Current version:** | **17.2.0** |  |
|  |
| *For* [***HELP***](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 |  | Radio Access Network | **X** | Core Network |  |

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| ***Title:***  | Draft CR on default QCL assumption in HST-SFN |
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| ***Source to WG:*** | TBD |
| ***Source to TSG:*** | RAN1 |
|  |  |
| ***Work item code:*** | NR\_feMIMO-Core |  | ***Date:*** | 2022-08-22 |
|  |  |  |  |  |
| ***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 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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
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| ***Reason for change:*** | In the case when the PDSCH received by one or two default beams is overlapped with a CORESET which is located in the same or different component carrier, if the *qcl-Type* is set to ‘typeD’ of the PDSCH DMRS for the case of one default beam, or the QCL-TypeD in both of the TCI states corresponding to the lowest codepoint among the TCI codepoints containing two different TCI states for the case of two default beams is different from that of the PDCCH DMRS, the UE is expected to prioritize the reception of PDCCH associated with that CORESET.Also, for the case of SFN PDSCH received by two default beams, it is possible to be overlapped with CORESET which is located in the same or different component carrier. However, this case is missed in the current specification. To make the specification as a complete one, the case when SFN PDSCH received by two default beams is overlapped with CORESET should be also considered and defined. |
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| ***Summary of change:*** | Even for the SFN PDSCH received by two default beams, if the 'QCL-TypeD' in both of the TCI states corresponding to the lowest codepoint among the TCI codepoints containing two different TCI states is different from that of the PDCCH DM-RS with which they overlap in at least one symbol, the UE is expected to prioritize the reception of PDCCH associated with that CORESET. This also applies to the intra-band CA case (when PDSCH and the CORESET are in different component carriers). |
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| ***Consequences if not approved:*** | It is not clear for UE to determine the assumption of the QCL-TypeD when a CORESET is overlapped with the SFN PDSCH received by two default beams. |
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| ***Clauses affected:*** | 5.1.5 |
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|  | **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 ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

### 5.1.5 Antenna ports quasi co-location

< Unchanged parts are omitted >

Independent of the configuration of *tci-PresentInDCI* and *tci-PresentDCI-1-2* in RRC connected mode, if the offset between the reception of the DL DCI and the corresponding PDSCH is less than the threshold *timeDurationForQCL* and at least one configured TCI state for the serving cell of scheduled PDSCH contains *qcl-Type* set to 'typeD',

<Unchanged text omitted>

* If a UE is not configured with *sfnSchemePdsch*, and the UE is configured with *sfnSchemePdcch* set to 'sfnSchemeA' and there is no TCI codepoint witih two TCI states in the activation command and the CORESET with the lowest ID in the latest slot is indicated with two TCI states, the UE may assume that the DM-RS ports of PDSCH of a serving cell are quasi co-located with the RS(s) with respect to the QCL parameter(s) associated with the first TCI state of two TCI states indicated for the CORESET. In this case, if the *qcl-Type* is set to 'typeD' of the PDSCH DM-RS is different from that of the PDCCH DM-RS with which they overlap in at least one symbol, the UE is expected to prioritize the reception of PDCCH associated with that CORESET with single active TCI state. This also applies to the intra-band CA case (when PDSCH and the CORESET are in different component carriers).

<Unchanged text omitted>