**3GPP TSG-RAN WG1 Meeting #104-e R1-2xxxxxx**

**E-meeting, January 25 – February 5, 2021**

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| *CR-Form-v12.1* |
| **[DRAFT] CHANGE REQUEST** |
|  |
|  | **38.212** | **CR** | **xxxx** | **rev** | **-** | **Current version:** | **16.4.0** |  |
|  |
| *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:***  | CR on Default TCI state of Scheme 3 and Scheme 4  |
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| ***Source to WG:*** | Moderator (OPPO), ZTE |
| ***Source to TSG:*** | R1 |
|  |  |
| ***Work item code:*** | NR\_newRAT-Core |  | ***Date:*** | 2021-01-25 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***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-15 (Release 15)Rel-16 (Release 16)**Rel-17 (Release 17)Rel-18 (Release 18)* |
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| ***Reason for change:*** | There is an agreement about default TCI states and it is captured in 38.214 g20 version. AgreementThe default TCI-states for PDSCH transmission of scheme 3 or scheme 4 are determined as follows:* When the time offset between the DCI and the 1st PDSCH transmission occasion is less than the threshold, the two default TCI-states are applied to PDSCH transmission occasions, respectively. The mapping between default TCI states and PDSCH transmission occasions follows the mapping specified for indicated TCI states in Section 5.1.2.1 in TS 38.214.
* The default TCI states are based on the activated TCI states in the slot with the first PDSCH transmission occasion
* Note: Whether to support this feature or not is subject to UE capability FG 16-2b-0.

The highlight part in this agreement is missed in TS 38.214 g40 |
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| ***Summary of change:*** | Add that missing part of the agreement into the TS 38.214 |
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| ***Consequences if not approved:*** | The method to PDSCH tme offset for default TCI state in multi-TRP scheme 3 and scheme 4 is not clear |
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| ***Clauses affected:*** | 5.1.5 |
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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:* No impact to existing gNB and UE implementation.
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| ***This CR's revision history:*** |  |

### 5.1.5 Antenna ports quasi co-location

 <Unchanged parts are omitted>

- If a UE is configured with *enableTwoDefaultTCI-States*, and at least one TCI codepoint indicates two TCI states, the UE may assume that the DM-RS ports of PDSCH or PDSCH transmission occasions of a serving cell are quasi co-located with the RS(s) with respect to the QCL parameter(s) associated with the TCI states corresponding to the lowest codepoint among the TCI codepoints containing two different TCI states. When the UE is configured by higher layer parameter *repetitionScheme* set to 'tdmSchemeA' or is configured with higher layer parameter *repetitionNumber*, and the offset between the reception of the DL DCI and the first PDSCH transmission occasion is less than the threshold *timeDurationForQCL,* the mapping of the TCI states to PDSCH transmission occasions is determined according to clause 5.1.2.1 by replacing the indicated TCI states with the TCI states corresponding to the lowest codepoint among the TCI codepoints containing two different TCI states based on the activated TCI states in the slot with the first PDSCH transmission occasion. In this case, 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)

##### <Unchanged parts are omitted>