**3GPP TSG-RAN WG1 Meeting #117 *R1-240xxxx***

**Fukuoka City, Fukuoka, Japan, May 20th – 24th, 2024**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.214** | **CR** | **xxxx** | **rev** | **-** | **Current version:** | **18.2.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network | **X** | Core Network |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Corrections to the default beam determination after LTM cell switch | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Moderator(Fujitsu), Huawei, HiSilicon, Ericsson, Google, Langbo, Lenovo, New H3C, Nokia, Samsung, ZTE | | | | | | | | | |
| ***Source to TSG:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_Mob\_enh2-Core | | | | |  | ***Date:*** | | | 2024-05-21 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-18 |
|  | *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) Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | In the endorsed CR of R1-2403709, it is captured in clause 5.1.5 of TS38.214 that UE follows the indicated LTM TCI state after UE switch to the target cell and before a serving TCI state is indicated. The endorsed CR is trying to align the description in TS38.214 with the UE behaviour defined in clause 21 of TS38.213. However, based on the agreement in RAN1#116, UE will apply indicated LTM TCI state after completion of RACH procedure in RACH-based LTM. The text in the endorsed CR in TS38.214 is not aligned with UE behaviour defined in TS38.213 for RACH-based LTM. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Clarify in clause 5.1.5 of TS38.213 that UE will follow indicated LTM TCI state after completion of RACH procedure for RACH-based LTM. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The description in the clause 21 of TS38.213 and clause 5.1.5 of TS38.214 is not consistent. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.1.5 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | | **Isolated Impact Analysis:**  This CR has no isolated impact on network and UE behavior. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | This is the first version of this CR. | | | | | | | | |

5.1.5 Antenna ports quasi co-location

<unchanged parts omitted>

When the *bwp-id* or *cell* for QCL-TypeA/D source RS in a QCL-Info of the TCI state is not configured, the UE assumes that QCL-TypeA/D source RS is configured in the CC/DL BWP where TCI state applies.

When *tci-PresentInDCI* is set as 'enabled' or *tci-PresentDCI-1-2* is configured for the CORESET, a UE configured with *dl-OrJointTCI-StateList* with activated *TCI-State* or *ul-TCI-StateList* with activated *TCI-UL-State* receives DCI format 1\_1/1\_2/1\_3 providing indicated *TCI-State(s)* and/or *TCI-UL-State(s)* for a CC or all CCs in the same CC list configured by *simultaneousU-TCI-UpdateList1-r17, simultaneousU-TCI-UpdateList2-r17, simultaneousU-TCI-UpdateList3-r17, simultaneousU-TCI-UpdateList4-r17*. The DCI format 1\_1/1\_2 can be with or without, if applicable, DL assignment. If the DCI format 1\_1/1\_2/ is without DL assignment, the UE can assume the following:

- CS-RNTI is used to scramble the CRC for the DCI

- The values of the following DCI fields are set as follows:

- RV = all '1's

- MCS = all '1's

- NDI = 0

- Set to all '0's for FDRA Type 0, or all '1's for FDRA Type 1, or all '0's for dynamicSwitch (same as in Table 10.2-4 of [6, TS 38.213]).

After a UE receives an initial higher layer configuration of *dl-OrJointTCI-StateList* with more than one *TCI-State* and before application of an indicated TCI state from the configured TCI states:

- The UE assumes that DM-RS of PDSCH and DM-RS of PDCCH that are not received during the RACH procedure, and the CSI-RS applying the indicated TCI state are quasi co-located with the reference signal(s) in the *CandidateTCI-State* indicated in the LTM Cell Switch Command MAC CE [10, 38.321] if applicable, otherwise

- The UE assumes that DM-RS of PDSCH and DM-RS of PDCCH and the CSI-RS applying the indicated TCI state are quasi co-located with the SS/PBCH block the UE identified during the initial access procedure.

After a UE receives an initial higher layer configuration of *dl-OrJointTCI-StateList* with more than one *TCI-State* or *ul-TCI-StateList* with more than one *TCI-UL-State* and before application of an indicated TCI state from the configured TCI states:

- The UE determines the UL TX spatial filter, if applicable, for dynamic-grant based PUSCH that is not transmitted during the RACH procedure and configured-grant based PUSCH and PUCCH that are not transmitted during the RACH procedure, and for SRS applying the indicated TCI state, from the *CandidateTCI-State* or *CandidateTCI-UL-State* indicated in the LTM Cell Switch Command MAC CE [10, 38.321] if applicable, otherwise

- The UE assumes that the UL TX spatial filter, if applicable, for dynamic-grant and configured-grant based PUSCH and PUCCH, and for SRS applying the indicated TCI state, is the same as that for a PUSCH transmission scheduled by a RAR UL grant or a MsgA PUSCH transmission during the initial access procedure.

<unchanged parts omitted>