**3GPP TSG RAN WG1 #118bis R1-24xxxxx**

**Hefei, China, October 14th – 18th, 2024**

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| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  | **38.213** | **CR** | **-** | **rev** | **-** | **Current version:** | **18.4.0** |  |
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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 SSB-RO mapping for LTM |
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| ***Source to WG:*** | Moderator (Fujitsu), Samsung, Nokia |
| ***Source to TSG:*** |  |
|  |  |
| ***Work item code:*** | NR\_Mob\_enh2-Core |  | ***Date:*** | 2024-10-14 |
|  |  |  |  |  |
| ***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 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-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19) Rel-20 (Release 20)* |
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| ***Reason for change:*** | For RACH-based LTM cell switch and for RACH-less LTM cell switch, before a new indicated TCI state can be actually applied – subject to a beam application time – on the candidate cell, the indicated *CandidateTCI-State* or the *CandidateTCI-UL-State* is applied on the candidate cell. However, based on the current descriptions in the specification, as soon as a new TCI state is indicated on the candidate cell, the indicated *CandidateTCI-State* or the *CandidateTCI-UL-State* can no longer be applied, which is incorrect. |
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| ***Summary of change:*** | Clarify that, for both RACH-based LTM cell swith and RACH-less LTM cell switch, the indicated *CandidateTCI-State* or the *CandidateTCI-UL-State* is applied on the candidate cell before a new TCI state can actually be applied. |
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| ***Consequences if not approved:*** | Correct UE’s behaviors of TCI state application on candidate cell are not supported. |
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| ***Clauses affected:*** | 21 |
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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:*** | **Isolated Impact Analysis:**This CR has no isolated impact on network and UE behavior. |
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| ***This CR's revision history:*** | This is the first version of this CR. |

21 L1/L2-triggered mobility procedures

< Unchanged parts are omitted >

A UE can be provided by a LTM Cell Switch Command MAC CE in a PDSCH reception on the serving cell [11, TS 38.321] a TCI state ID and/or an UL TCI state ID indicating a *CandidateTCI-State* and/or *CandidateTCI-UL-State* from *ltm-DL-OrJointTCI-StateToAddModList* and/or *ltm-UL-TCI-StateToAddModList* [6, TS 38.214] for applicable receptions or transmissions on a candidate cell from the number of candidate cells. The UE may assume that DM-RS antenna ports for PDCCH receptions and for PDSCH receptions are quasi co-located with the SS/PBCH block or the TRS in the TCI state with respect to quasi co-location 'typeA' and 'typeD' properties, when applicable. The UE does not expect to be indicated quasi co-location 'typeA' properties when a SS/PBCH block is configured as a source RS of the TCI state. The UE applies the *CandidateTCI-State* and/or *CandidateTCI-UL-State,* if indicated by the MAC CE, no later than $T\_{LTM-RRC-processing}+T\_{LTM-processing}+T\_{first-RS}+T\_{RS-proc}+3 msec$ after the last symbol of a PUCCH or PUSCH with HARQ-ACK information for the PDSCH providing the MAC CE, where $T\_{LTM-RRC-processing}$, $T\_{LTM-processing}$, $T\_{first-RS}$and $T\_{RS-proc}$ are defined in [10, TS 38.133]*.* For RACH-based LTM cell switch [19, TS 38.300], the UE applies the *CandidateTCI-State* for receptions on the candidate cell, and applies a spatial domain filter corresponding to the *CandidateTCI-State* or the *CandidateTCI-UL-State* for transmissions on the candidate cell, that are after the completion of the random access procedure associated with the PRACH transmission on the candidate cell and before a new TCI state is applied for the candidate cell. For RACH-less LTM cell switch [19, TS 38.300], the UE applies the *CandidateTCI-State* for receptions on the candidate cell and applies a spatial domain filter corresponding to the *CandidateTCI-State* or the *CandidateTCI-UL-State* for transmissions on the candidate cell before a new TCI state is applied for the candidate cell.

< Unchanged parts are omitted >