**3GPP TSG-RAN WG4 Meeting #104-e *R4-2213482***

**Online, August 15 – 26, 2022**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **38.133** | **CR** | **2527** | **rev** | **1** | **Current version:** | **17.6.0** |  |
|  | | | | | | | | |
| *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 |  | Core Network |  |

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| ***Title:*** | CR on maintaining TCI state switching requirements for R17 unified TCI | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, HiSilicon | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_FeMIMO-Core | | | | |  | ***Date:*** | | | 2022-08-10 |
|  |  | | | |  | |  | | |  |
| ***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 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:*** | | In R17, the introduction of active DL/UL TCI state switch delay requirements for unified TCI are not properly defined and need to be aligned with RAN1/RAN2 specifictions. | | | | | | | | |
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| ***Summary of change:*** | | 1. To update the wording of introduction for active downlink TCI state switch delay for unified TCI. 2. To update the wording of introduction for active uplink TCI state switch delay for unified TCI | | | | | | | | |
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| ***Consequences if not approved:*** | | The active DL/UL TCI state switch delay requirements for unified TCI are not properly defined. | | | | | | | | |
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| ***Clauses affected:*** | | 8.15.1, 8.16.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | | **X** |  | Test specifications | | | | TS38.533 | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

<Start of Change 1>

8.15.1 Introduction

The requirements in this clause apply for a UE configured with *DLorJoint-TCIState* configurations for DL channels on a serving cell.Further the requirements also apply for all the list of serving cells in *simultaneousU-TCI-UpdateList1, simultaneousU-TCI-UpdateList2, simultaneousU-TCI-UpdateList3, simultaneousU-TCI-UpdateList4* in MR-DC or standalone NR. UE shall complete the switch of active downlink TCI state within the delay defined in this clause.

When the target DL TCI state refers to an additional PCI different from the serving cell PCI in which this DL TCI-State is configured, the requirements in this clause are applicable provided that the cell with the additional PCI is known for a UE. A cell with the additional PCI is known if the following conditions are met

Active BWP of the serving cell and a cell with the additional PCI are the same

Center frequency, SCS and SFN offset of a cell with the additional PCI are as the same as serving cell

During the last 5s before L1-RSRP measurement is configured, the UE has sent a valid L3 measurement report for the cell with the additional PCI

Timing offset between serving cell and the cell with the additional PCI is within CP of the corresponding SCS

Otherwise, the cell with the additional PCI is unknown.

<End of Change 1>

<Start of Change 2>

8.16.1 Introduction

The requirements in this clause apply for a UE configured with *DLorJoint-TCIState* (if unifiedTCI-StateType is indicated as *Joint*) or *UL-TCIState* configurations for UL channels/signals on a serving cell. Further the requirements also apply for all the list of serving cells in *simultaneousU-TCI-UpdateList1, simultaneousU-TCI-UpdateList2, simultaneousU-TCI-UpdateList3, simultaneousU-TCI-UpdateList4* in MR-DC or standalone NR. There is no requirement when the UE is requested to switch to a TCI state with the higher layer parameter *UL-TCIState* associated to SRS. UE shall complete the switch of active uplink TCI state within the delay defined in this clause when the UE is requested to switch to a TCI state with the higher layer parameter *DLorJointTCIState* or *UL-TCIState* associated to a DL RS.

PL-RS may be associated with or included in UL TCI state or joint TCI state. The requirements in this clause shall apply if the following conditions are met:

* PL-RS is identical to source RS in UL TCI state or joint TCI state
* PL-RS and source RS in UL TCI state or joint TCI state are QCL-Type D

When the target UL TCI state refers to an additional PCI different from serving cell PCI in which this UL TCI state is configured, the requirements in this clause are applicable provided that the cell with the additional PCI is known for a UE. A cell with the additional PCI is known if the the following conditions are met

Active BWP of the serving cell and a cell with the additional PCI are the same

Center frequency, SCS and SFN offset of a cell with the additional PCI are as the same as serving cell

During the last 5s before L1-RSRP measurement is configured, the UE has sent a valid L3 measurement report for the cell with the additional PCI

Timing offset between serving cell and the cell with the additional PCI is within CP of the corresponding SCS

The SSB from the cell with the additional PCI remains detectable according to the cell identification requirements specified in clause 9.2

Otherwise, the cell with the additional PCI is unknown.

<End of Change 2>