**3GPP TSG-RAN WG2 Meeting #113-e R2-210xxxx**

**Electronic, 25th Jan. – 5th Feb. 2021**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.306** | **CR** | **0488** | **rev** | **1** | **Current version:** | **15.12.0** |  |
|  | | | | | | | | |
| *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:*** | Correction on beamSwitchTiming capability | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | vivo, Intel Corporation | | | | | | | | | |
| ***Source to TSG:*** | R2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI16 | | | | |  | ***Date:*** | | | 2021-01-29 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-15 |
|  | *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-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | In RAN2#111e meeting, the capability signaling design for TEI16 on “Aperiodic CSI-RS Triggering for UE reporting *beamSwitchTiming* values of sym224 and sym336” was discussed, and an LS in R2-2008318 was sent to RAN1 to ask the behaviour on Rel-15 and Rel-16 capabilities. After the discussion, RAN1 replied the LS in R2-2100013 in RAN1#103e meeting. In the LS, RAN1 provided the feedback on the questions. Some are:   1. In R15, when UE reports one value among {224, 336} for beamSwitchTiming, it will be used to determine UE expectation/behavior for aperiodic CSI-RS for tracking and latency requirements for L1-RSRP reporting, while UE behaviour/assumption regarding before or after beam switch timing is unspecified for measuring AP CSI-RS for CSI acquisition (without trs-Info and without repetition) and for beam management (with repetition ‘off’). 2. RAN1 listed ‘No recommendation on the desired beam switching timing’ as ‘Consequences if the feature is not supported by the UE’ in UE feature list R1-1907862.   Thus, RAN2 should update the description for the corresponding capabilities based on RAN1 feedback. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 1. In the description of Rel-15 beamSwitchTiming capability, add the below description as a note:   *beamSwitchTiming* of value (*sym224* or *sym336*) will be used to determine UE expectation/behavior for aperiodic CSI-RS for tracking and latency requirements for L1-RSRP reporting, while UE behaviour/assumption regarding before or after beam switch timing is unspecified for measuring AP CSI-RS for CSI acquisition (without trs-Info and without repetition) and for beam management (with repetition ‘off’).   1. Remove the decription “If this field is not included, the beam switch timing is up to 48 OFDM symbols for each supported sub-carrier spacing.”   **Impact analysis**  Impacted 5G architecture options:  (NG)EN-DC, NR SA, NE-DC, NR-DC  Impacted functionality:  Aperiodic CSI-RS reporting  Inter-operability:  1. If the network is implemented according to the CR and the UE is not, there is no compatibility issues.  2. If the UE is implemented according to the CR and the network is not, there is no compatibility issues. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | UE behavior for aperiodic CSI-RS Triggering for UE reporting *beamSwitchTiming* values of 224 and 336 will not be aligned with RAN1 conclusion. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.2.7.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

Start of change

#### 4.2.7.2 *BandNR parameters*

| Definitions for parameters | Per | M | FDD-TDD  DIFF | FR1-FR2  DIFF |
| --- | --- | --- | --- | --- |
| ***beamSwitchTiming***  Indicates the minimum number of OFDM symbols between the DCI triggering of aperiodic CSI-RS and aperiodic CSI-RS transmission. The number of OFDM symbols is measured from the last symbol containing the indication to the first symbol of CSI-RS. The UE includes this field for each supported sub-carrier spacing.  Note: *beamSwitchTiming* of value (*sym224* or *sym336*) will be used to determine UE expectation/behavior for aperiodic CSI-RS for tracking and latency requirements for L1-RSRP reporting as described in clause 5.1.6.1.1 of TS 38.214 [12], while UE behaviour/assumption regarding before or after beam switch timing is unspecified for measuring AP CSI-RS for CSI acquisition (without trs-Info and without repetition) and for beam management (with repetition ‘off’). | Band | No | N/A | FR2 only |

End of change