**3GPP TSG- Meeting #**

**, , Oct 2022**

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

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** |  | | | | |  | ***Date:*** | | | -10-17 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | F |  | | | | | ***Release:*** | | |  |
|  | *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:*** | | Clarifying CA requirements for DMRS bundling by adding uplink CA sentence | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Add sentence to clause 6.4A.2.3: “For DMRS bundling [ IE name], requirements for phase continuity in clause 6.4.2.5 apply with the assumption that UE is not scheduled for transmissions on an any other uplink carrier overlapping with a scheduled bundle on a uplink carrier. All carriers are on same TAG“ Also change to 6.4B adding: with the exception of DMRS bundling [maxDurationDMRS-Bundling-r17] requirements | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | DMRS bundlign requirements for CA remain unclear and more than one interpretation of the applicable requirements exists. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.4A.2.3, 6.4B | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  |  | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  |  | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  |  | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

<start of change>

#### 6.4A.2.3 Transmit modulation quality for inter-band CA

For inter-band carrier aggregation with one uplink carrier assigned to one NR band, the transmit modulation quality requirements in subclause 6.4.2 apply including phase continuity requirements for DMRS bundling [*maxDurationDMRS-Bundling-r17*].

For inter-band carrier aggregation with two contiguous carriers assigned to one NR band, the transmit modulation quality requirements in subclause 6.4A.2.1 apply for those carriers.

For inter-band carrier aggregation with two uplink non-contiguous carrier assigned to one NR band, the transmit modulation quality requirements in subclause 6.4A.2.2 apply for those carriers.

For inter-band carrier aggregation with uplink assigned to two NR bands, the transmit modulation quality requirements shall apply on each component carrier as defined in clause 6.4.2 with all component carriers active: PCC with PRB allocation and SCC without PRB allocation and without CSI reporting and SRS configured. For DMRS bundling [*maxDurationDMRS-Bundling-r17*], requirements for phase continuity in clause 6.4.2.5 apply when all of the following additional conditions are met:

* The carrier configured for DMRS bundling is not scheduled for transmission simultaneously with any other carrier

[Or alternatively, When a DMRS bundled transmission is scheduled/ongoing on one uplink carrier, then on a different uplink carrier there is no uplink transmission scheduled/ongoing and no transmission of SRS or CSI reporting]

[Or alternatively, Concurrent transmissions scheduled/configured over multiple carriers are not expected by UE] (Language in RAN1 reply LS)

* Only one band is configured with DMRS bundling at a time
* All carriers are on same TAG

For combinations of intra-band and inter-band carrier aggregation with three uplink component carriers (up to two contiguously aggregated carriers per operating band): for the NR band supporting one component carrier the transmit modulation quality requirements specified in subclauses from 6.4.2.1 to 6.2.4 apply and, for DMRS bundling [*maxDurationDMRS-Bundling-r17*], the DMRS bundling requirements for inter-band carrier aggregation with uplink assigned to two NR bands apply. For the NR band supporting two contiguous component carriers the requirements specified in subclause 6.4A.2.1 apply.

#### 6.4A.2.4 Void

## 6.4B Transmit signal quality for NR-DC

For inter-band NR-DC with one uplink carrier assigned per NR band, the transmit signal quality for the corresponding inter-band CA configuration as specified in clause 6.4A applies with the exception of DMRS bundling [maxDurationDMRS-Bundling-r17] requirements.

<end of change>