**3GPP TSG-RAN WG1 Meeting #109-e *R1-220xxxx***

**2**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.214** | **CR** | **DRAFT** | **rev** | **-** | **Current version:** | **17.1.0** |  |
|  | | | | | | | | |
| *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:*** | Simultaneous transmission of SRS and other channels for intra-band non-contiguous carrier aggregation | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Moderator (Qualcomm) | | | | | | | | | |
| ***Source to TSG:*** | R1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI17, NR\_newRAT-Core | | | | |  | ***Date:*** | | | 2022-05-19 |
|  |  | | | |  | |  | | |  |
| ***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:*** | | Rel-15 NR has an artificial limitation in not allowing simultaneous transmission of SRS and other channels in intra-band non-contiguous CA.  During R1#109, this issue was discussed under email thread [109-e-NR-CRs-12], summarized in R1-21XXXXX, where the following was agreed (TPs and FGs omitted for brevity):  **Proposal: Introduce feature groups X-1 and X-2 as described below.**  ·         **Introduce a new Rel-17 RRC parameter (UE-specific) to enable the UE behavior under X-2.**  ·         **Endorse TP2v2 as described below**    **NOTE: For parallel SRS + PUSCH/PUCCH (X-1), it is RAN1’s understanding that:**  ·        **The gNBs who do not support parallel Tx (i.e. who do not understand the new capability) will not indicate/configure/schedule simultaneous transmission, and therefore there are no backward compatibility issues.**  ·        **Rel-17 UE who reported capability of parallel Tx conducts parallel Tx if the gNB indicates/configures/schedules simultaneous transmission.  Therefore**   * **gNBs who do not support Rel-17 parallel Tx do not indicate/configure/schedule simultaneous transmission.** * **gNBs who support Rel-17 parallel Tx can indicate/configure/schedule simultaneous transmission accordingly.** | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | For SRS + PUSCH/PUCCH, the UE can perform simultaneous transmission in intra-band non-contiguous CA if its capability indicates so.  For PRACH + SRS, the UE can perform simultaneous transmission in intra-band non-contiguous CA if its capability indicates so and the UE is enabled by RRC. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | UE canot perform simultaneous transmission of SRS and other channels in intra-band non-contiguous CA. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.2.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS 38.306, 38.331 | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

### 6.2.1 UE sounding procedure

**<Unchanged parts are omitted>**

In case of intra-band contiguous carrier aggregation, or in inter-band or intra-band non-contiguous CA band combination if simultaneous SRS and PUCCH/PUSCH transmissions are not supported by UE, the UE is not expected to be configured with SRS from a carrier and PUSCH/UL DM-RS/UL PT-RS/PUCCH formats from a different carrier in the same symbol.

In case of intra-band contiguous carrier aggregation, or in inter-band CA band combination if simultaneous SRS and PRACH transmissions are not supported by UE, or in case of intra-band non-contiguous CA band combination if the UE is not configured with higher layer parameter *intraBandNC-PRACH-simulTx-r17,* the UE shall not transmit simultaneously SRS resource(s) from a carrier and PRACH from a different carrier.

**<Unchanged parts are omitted>**