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

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
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|  | **38.214** | **CR** | **DRAFT** | **rev** | **-** | **Current version:** | **17.1.0** |  |
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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:***  | Simultaneous transmission of SRS and other channels for intra-band non-contiguous carrier aggregation |
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| ***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 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-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
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| ***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.**
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| ***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. |
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| ***Consequences if not approved:*** | UE canot perform simultaneous transmission of SRS and other channels in intra-band non-contiguous CA. |
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| ***Clauses affected:*** | 6.2.1 |
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|  | **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 ...  |
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| ***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>**