**3GPP TSG-RAN WG1 Meeting #106-eR1-210xxxx**

 **e-meeting, 16 - 27 August, 2021**

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| *CR-Form-v12.1* |
| **[DRAFT] CHANGE REQUEST** |
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|  | **38.213** | **CR** |  | **rev** | **-** | **Current version:** | **16.6.0** |  |
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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:***  | [Draft] CR for SPS Release and SPS PDSCH Receptions with Slot Aggregation |
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| ***Source to WG:*** | Moderator (LG Electronics), Ericsson, vivo, Nokia, Nokia Shanghai Bell |
| ***Source to TSG:*** | R1 |
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| ***Work item code:*** | NR\_L1enh-URLLC-Core |  | ***Date:*** | 2021-08-23 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-16 |
|  | *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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
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| ***Reason for change:*** | To capture the conclusions/agreements below, for the corrections on the handling of HARQ-ACK feedback for SPS release with and without PDSCH slot aggregation**Agreement (RAN1#101e)**It is not supported that a SPS release PDCCH in a slot is received after the end of the SPS PDSCH reception in the slot for the same SPS configuration corresponding to the SPS release PDCCH if HARQ-ACKs for the SPS release and the SPS reception would map to the same PUCCH. * FFS: if HARQ-ACKs for the SPS release and the SPS reception mapping to different PUCCHs

**Conclusion (RAN1#104bis)**The following is not supported: * The case that SPS release is received in a slot where SPS PDSCH is configured to be received for the SPS configuration corresponding to the SPS release if the HARQ-ACK for the SPS release and the SPS reception mapping to different PUCCHs.

**Conclusion (RAN1#105e)**For SPS PDSCH release and SPS PDSCH reception with slot-aggregation, if a UE is configured to receive SPS PDSCHs over multiple slots for a TB by SPS configurations that are indicated to be released by a DCI format, UE can receive the PDCCH providing the DCI format only before end of the first occasion of corresponding SPS receptions. * Note: The UE stops the PDSCH decoding and does not generate HARQ-ACK feedback information for the SPS PDSCH reception as in current specification.
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| ***Summary of change:*** | The agreements and conclusions are captured to clarify following aspects. 1) UE does not expect to receive one or more SPS PDSCH and a corresponding SPS release DCI in the same slot if their HARQ-ACK feedback would map to different PUCCHs, and 2) UE does not expect to receive one or more SPS PDSCH and a corresponding SPS release DCI in the same slot, if the DCI is received after the end of any of the SPS PDSCH receptions and 3) For the release of SPS configuration(s) with slot-aggregation, the UE can receive the PDCCH providing the DCI format only before end of the first occasion of corresponding SPS receptions. |
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| ***Consequences if not approved:*** | Incorrect UE behaviour regarding SPS PDSCH reception and HARQ-ACK feedback generation when receiving SPS PDSCH and a corresponding SPS release DCI in the same slot. |
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| ***Clauses affected:*** | 9.1 |
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|  | **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 ...  |
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| ***Other comments:*** |  |
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| ***This CR's revision history:*** |  |

9.1 HARQ-ACK codebook determination

< Unchanged parts are omitted >

In the remaining of this clause, reference is to one HARQ-ACK codebook and to DCI formats that schedule PDSCH reception, or indicate SPS PDSCH release, or indicate SCell dormancy without scheduling a PDSCH reception and are associated with the HARQ-ACK codebook.

If a UE is required to receive SPS PDSCHs in a slot according to Clause 5.1 of [6] and Clause 11.1 for SPS configurations that are indicated to be released by a DCI format, the UE is not expected to receive the DCI format in the slot if the end of the last symbol of the PDCCH reception is after the end of a last symbol of any of the SPS PDSCH receptions. For a SPS configuration subject to *pdsch-AggregationFactor* or *pdsch-AggregationFactor-r16*, the UE is not expected to receive the DCI format in a slot containing a SPS PDSCH transmission occasion other than the first transmission occasion required to be received by the UE for a TB.If a UE is configured to receive SPS PDSCHs in a slot for SPS configurations that are indicated to be released by a DCI format, and if the UE receives the PDCCH providing the DCI format in the slot, and if HARQ-ACK information for the SPS PDSCH release and the SPS PDSCH receptions would be multiplexed in a same PUCCH, the UE does not expect to receive the SPS PDSCHs, does not generate HARQ-ACK information for the SPS PDSCH receptions, and generates a HARQ-ACK information bit for the SPS PDSCH release.

If a UE is configured to receive SPS PDSCH(s) in a slot for SPS configuration(s), the UE does not expect to receive a PDCCH providing a DCI format in the slot to indicate SPS PDSCH release of these SPS configuration(s), if HARQ-ACK information for the SPS PDSCH release and the SPS PDSCH reception(s) would map to different PUCCHs.

< Unchanged parts are omitted >