**3GPP TSG-RAN WG1 Meeting #104bis-e *R1-210xxxx***

**e-Meeting, April 12th-20th, 2021**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
|  |
|  | **38.213** | **CR** | **xxxx** | **rev** | **-** | **Current version:** | **15.13.0** |  |
|  |
| *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>*.* |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network | **X** | Core Network |  |

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| ***Title:***  | Editorial corrections for TS 38.213 |
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| ***Source to WG:*** | Samsung |
| ***Source to TSG:*** |  |
|  |  |
| ***Work item code:*** | NR\_newRAT-Core |  | ***Date:*** | 2021-04-20 |
|  |  |  |  |  |
| ***Category:*** | D |  | ***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 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-12 (Release 12)**Rel-13 (Release 13)Rel-14 (Release 14)Rel-15 (Release 15)Rel-16 (Release 16)* |
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| ***Reason for change:*** | 1. Correct reference 36.212 to 38.212 in Clause 7.2.1
2. Correct last subscript of in Clause 9.1.2.1
3. Remove description of “or the SpCell for EN-DC operation” in Clause 11.3 as descriptions at the beginning of Clause 11 apply when necessary.
4. Correct to in Clause 9.1.3.2
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| ***Summary of change:*** | 1. Change reference 36.212 to 38.212 in Clause 7.2.1
2. Change to in Clause 9.1.2.1.
3. Delete “or the SpCell for EN-DC operation” in Clause 11.3
4. Change to in Clause 9.1.3.2
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| ***Consequences if not approved:*** | Inconsistent specifications |
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| ***Clauses affected:*** | 7.2.1, 9.1.2.1, 11.3, 9.1.3.2 |
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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 ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

### 7.2.1 UE behaviour

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- For the PUCCH power control adjustment state  for active UL BWP  of carrier  of primary cell  and PUCCH transmission occasion 

-  is a TPC command value and is included in a DCI format 1\_0 or DCI format 1\_1 for active UL BWP  of carrier  of the primary cell  that the UE detects for PUCCH transmission occasion  or is jointly coded with other TPC commands in a DCI format 2\_2 with CRC scrambled by TPC-PUCCH-RNTI [5, TS 38.212], as described in Clause 11.3

-  if the UE is provided *twoPUCCH-PC-AdjustmentStates* and *PUCCH-SpatialRelationInfo* and  if the UE is not provided *twoPUCCH-PC-AdjustmentStates* or *PUCCH-SpatialRelationInfo*

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#### 9.1.2.1 Type-1 HARQ-ACK codebook in physical uplink control channel

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If *maxNrofCodeWordsScheduledByDCI* indicates reception of two transport blocks, when the UE receives a PDSCH with one transport block or a SPS PDSCH release, the HARQ-ACK information is associated with the first transport block and the UE generates a NACK for the second transport block if *harq-ACK-SpatialBundlingPUCCH* is not provided and generates HARQ-ACK information with value of ACK for the second transport block if *harq-ACK-SpatialBundlingPUCCH* is provided.

A UE determines HARQ-ACK information bits, for a total number of  HARQ-ACK information bits, of a HARQ-ACK codebook for transmission in a PUCCH according to the following pseudo-code. In the following pseudo-code, if the UE does not receive a transport block or a CBG, due to the UE not detecting a corresponding DCI format 1\_0 or DCI format 1\_1, the UE generates a NACK value for the transport block or the CBG. The cardinality of the set  defines a total number  of occasions for PDSCH reception or SPS PDSCH release for serving cell  corresponding to the HARQ-ACK information bits.

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#### 9.1.3.2 Type-2 HARQ-ACK codebook in physical uplink shared channel

If a UE would multiplex HARQ-ACK information in a PUSCH transmission that is not scheduled by a DCI format or is scheduled by DCI format 0\_0, then

- if the UE has not received any PDCCH within the monitoring occasions for DCI format 1\_0 or DCI format 1\_1 for scheduling PDSCH receptions or SPS PDSCH release on any serving cell  and the UE does not have HARQ-ACK information in response to a SPS PDSCH reception to multiplex in the PUSCH, as described in Clause 9.1.3.1, the UE does not multiplex HARQ-ACK information in the PUSCH transmission;

- else, the UE generates the HARQ-ACK codebook as described in Clause 9.1.3.1, except that *harq-ACK-SpatialBundlingPUCCH* is replaced by *harq-ACK-SpatialBundlingPUSCH*.

If a UE multiplexes HARQ-ACK information in a PUSCH transmission that is scheduled by DCI format 0\_1, the UE generates the HARQ-ACK codebook as described in Clause 9.1.3.1, with the following modifications:

- For the pseudo-code for the HARQ-ACK codebook generation in Clause 9.1.3.1, after the completion of the  and  loops, the UE sets where is the value of the DAI field in DCI format 0\_1 according to Table 9.1.3-2

- For the case of first and second HARQ-ACK sub-codebooks, DCI format 0\_1 includes a first DAI field corresponding to the first HARQ-ACK sub-codebook and a second DAI field corresponding to the second HARQ-ACK sub-codebook

*- harq-ACK-SpatialBundlingPUCCH* is replaced by *harq-ACK-SpatialBundlingPUSCH*.

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## 11.3 Group TPC commands for PUCCH/PUSCH

For PUCCH transmission on a serving cell, a UE can be provided

- a TPC-PUCCH-RNTI for a DCI format 2\_2 by *tpc-PUCCH-RNTI*

- a field in DCI format 2\_2 is a TPC command of 2 bits mapping to  values as described in Clause 7.2.1

- an index for a location in DCI format 2\_2 of a first bit for a TPC command field for the PCell, or for a carrier of the PCell by *tpc-IndexPCell*

- an index for a location in DCI format 2\_2 of a first bit for a TPC command field for the PUCCH-SCell or for a carrier for the PUCCH-SCell by *tpc-IndexPUCCH-Scell*

- a mapping for the PUCCH power control adjustment state , by a corresponding {0, 1} value of a closed loop index field that is appended to the TPC command field in DCI format 2\_2 if the UE indicates a capability to support two PUCCH power control adjustment states by *twoDifferentTPC-Loop-PUCCH*, and if the UE is configured for two PUCCH power control adjustment states by *twoPUCCH-PC-AdjustmentStates*

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