**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:** | **16.5.0** |  |
|  |
| *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\_L1enh\_URLLC-Core, NR\_eMIMO-Core, NR\_UE\_pow\_sav-Core, 5G\_V2X\_NRSL-Core, NR\_unlic-Core,  |  | ***Date:*** | 2021-04-20 |
|  |  |  |  |  |
| ***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-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 an intendation in Clause 7.1.1.
2. Remove a duplicate “with” in Clause 7.2.1.
3. Align name of *UE-NR-Capability-r16* in Clause 10 with TS 38.331.
4. Generalize reference to DCI formats not supporting CBG-based PDSCH receptions in Clauses 9.1.2.1 and 9.1.4.
5. Editorial error in the update from v16.3.0 to v16.4.0 where the old math symbol for was updated as in Clause 9.1.3.1.
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| ***Summary of change:*** | 1. Correct the intendation in Clause 7.1.1.
2. Remove the duplicate “with” in Clause 7.2.1.
3. Remove “-r16” from *UE-NR-Capability-r16* in Clause 10.
4. Replace “DCI format 1\_0” with “DCI format that does not support CBG-based PDSCH receptions” in Clauses 9.1.2.1 and 9.1.4.
5. Change back to in Clause 9.1.3.1.
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| ***Consequences if not approved:*** | Inconsistent specifications |
|  |  |
| ***Clauses affected:*** | 7.1.1, 7.2.1, 9.1.2.1, 9.1.3.1, 9.1.4, 10 |
|  |  |
|  | **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:*** |  |

### 7.1.1 UE behaviour

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- If the UE is provided *enablePL-RS-UpdateForPUSCH-SRS*, a mapping between *sri-PUSCH-PowerControlId* and *PUSCH-PathlossReferenceRS-Id* values can be updated by a MAC CE as described in [11, TS38.321]

- For a PUSCH transmission scheduled by a DCI format that does not include an SRI field, or for a PUSCH transmission configured by *ConfiguredGrantConfig* and activated, as described in Clause 10.2, by a DCI format that does not include an SRI field, a RS resource index  is determined from the *PUSCH-PathlossReferenceRS-Id* mapped to *sri-PUSCH-PowerControlId* = 0

<omitted text>

### 7.2.1 UE behaviour

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- If the UE is provided *pathlossReferenceRSs* and is not provided *PUCCH-SpatialRelationInfo*, the UE obtains the *referenceSignal* value in *PUCCH-PathlossReferenceRS* from the *pucch-PathlossReferenceRS-Id* with index 0 in *PUCCH-PathlossReferenceRS* where the RS resource is either on the primary cell or, if provided, on a serving cell indicated by a value of *pathlossReferenceLinking*

- If the UE

- is not provided *pathlossReferenceRSs*, and

- is not provided *PUCCH-SpatialRelationInfo,* and

- is provided *enableDefaultBeamPL-ForPUCCH*, and

- is not provided coresetPoolIndex value of 1 for any CORESET, or is provided coresetPoolIndex value of 1 for all CORESETs, in ControlResourceSet and no codepoint of a TCI field, if any, in a DCI format of any search space set maps to two TCI states [5, TS 38.212]

 the UE determines a RS resource index providing a periodic RS resource configured with *qcl-Type* set to 'typeD' in the TCI state or the QCL assumption of a CORESET with the lowest index in the active DL BWP of the primary cell. For a PUCCH transmission over multiple slots, a same applies to the PUCCH transmission in each of the multiple slots.

- The parameter  is a value of *deltaF-PUCCH-f0* for PUCCH format 0, *deltaF-PUCCH-f1* for PUCCH format 1, *deltaF-PUCCH-f2* for PUCCH format 2, *deltaF-PUCCH-f3* for PUCCH format 3, and *deltaF-PUCCH-f4* for PUCCH format 4, if provided; otherwise .

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

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If a UE receives a SPS PDSCH, or a SPS PDSCH release, or a PDSCH that is scheduled by a DCI format that does not support CBG-based PDSCH receptions and if

- the UE is configured with more than one serving cells, or

- , and

- *PDSCH-CodeBlockGroupTransmission* is provided to the UE

the UE repeats  times the HARQ-ACK information for the transport block in the PDSCH or for the SPS PDSCH release.

A UE does not expect to detect a DCI format switching a DL BWP within  symbols prior to a first symbol of a PUCCH transmission where the UE multiplexes HARQ-ACK information, where  is defined in Clause 9.2.3.

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#### 9.1.3.1 Type-2 HARQ-ACK codebook in physical uplink control channel

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else

if there is a PDSCH on serving cell associated with PDCCH in PDCCH monitoring occasion , or there is a PDCCH indicating SPS PDSCH release or SCell dormancy on serving cell

if

end if

if

else

end if

if *harq-ACK-SpatialBundlingPUCCH* is not provided and the UE is configured by *maxNrofCodeWordsScheduledByDCI* with reception of two transport blocks for at least one configured DL BWP of at least one serving cell,

 = HARQ-ACK information bit corresponding to the first transport block of this cell

 = HARQ-ACK information bit corresponding to the second transport block of this cell

elseif *harq-ACK-SpatialBundlingPUCCH* is provided to the UE and is a monitoring occasion for PDCCH with a DCI format that supports PDSCH reception with two transport blocks and the UE is configured by *maxNrofCodeWordsScheduledByDCI* with reception of two transport blocks in at least one configured DL BWP of a serving cell,

 = binary AND operation of the HARQ-ACK information bits corresponding to the first and second transport blocks of this cell

else

 = HARQ-ACK information bit of this cell

end if

end if

### 9.1.4 Type-3 HARQ-ACK codebook determination

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If a UE receives a SPS PDSCH, or a PDSCH that is scheduled by a DCI format that does not support CBG-based PDSCH receptions for a serving cell and if *maxCodeBlockGroupsPerTransportBlock* is provided for serving cell , and *pdsch-HARQ-ACK-OneShotFeedbackCBG* is provided, the UE repeats times the HARQ-ACK information for the transport block in the PDSCH.

If a UE detects a DCI format that includes a One-shot HARQ-ACK request field with value 1, the UE determines a PUCCH or a PUSCH to multiplex a Type-3 HARQ-ACK codebook for transmission in a slot as described in Clauses 9.2.3 and 9.2.5. The UE multiplexes only the Type-3 HARQ-ACK codebook in the PUCCH or the PUSCH for transmission in the slot.

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# 10 UE procedure for receiving control information

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If a UE indicates in *UE-NR-Capability* a carrier aggregation capability larger than two downlink cells, the UE includes in *UE-NR-Capability* an indication for a maximum number of PDCCH candidates and a maximum number of non-overlapped CCEs that the UE can monitor per span when the UE is configured for carrier aggregation operation over more than two downlink cells with *monitoringCapabilityConfig* = *r16monitoringcapability*. When a UE is not configured for NR-DC operation and the UE is provided *monitoringCapabilityConfig* = *r16monitoringcapability* for all downlink cell where the UE monitors PDCCH, the UE determines a capability to monitor a maximum number of PDCCH candidates and a maximum number of non-overlapped CCEs per span that corresponds to downlink cells, where

- is the number of configured downlink cells if the UE does not provide *pdcch-MonitoringCA*

- otherwise, is the value of *pdcch-MonitoringCA*

<omitted text>

If a UE indicates in *UE-NR-Capability* a carrier aggregation capability larger than one downlink cell with *monitoringCapabilityConfig* = *r15monitoringcapability* or larger than one downlink cell with *monitoringCapabilityConfig* = *r16monitoringcapability*, the UE includes in *UE-NR-Capability* an indication for a maximum number of PDCCH candidates and a maximum number of non-overlapped CCEs the UE can monitor for downlink cells with *monitoringCapabilityConfig* = *r15monitoringcapability* or for downlink cells with *monitoringCapabilityConfig* = *r16monit*

*oringcapability* when the UE is configured for carrier aggregation operation over more than two downlink cells with at least one downlink cell with *monitoringCapabilityConfig* = *r15monitoringcapability* and at least one downlink cell with *monitoringCapabilityConfig* = *r16monitoringcapability*. When a UE is not configured for NR-DC operation, the UE determines a capability to monitor a maximum number of PDCCH candidates and a maximum number of non-overlapped CCEs per slot or per span that corresponds to downlink cells or to downlink cells, respectively, where

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