**3GPP TSG RAN WG1 Meeting #104-e R1-21xxxxx**

**e-Meeting, January 25 – February 05, 2021**

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| *CR-Form-v12.0* | | | | | | | | |
| **DRAFT CHANGE REQUEST** | | | | | | | | |
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|  | **36.212** | **CR** | **xxxx** | **rev** | **-** | **Current version:** | **V16.4.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME | **x** | Radio Access Network | **x** | Core Network |  |

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| ***Title:*** | PUR correction on PUSCH Repetition Adjustment and Zero Padding Procedures | | | | | | | | | |
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| ***Source to WG:*** | Moderator (Sierra Wireless), Ericsson | | | | | | | | | |
| ***Source to TSG:*** | R1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | LTE\_eMTC5 -Core | | | | |  | ***Date:*** | | | 2021-02-01 |
|  |  | | | |  | |  | | |  |
| ***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 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-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Specification is not clear that when a UE is configured to decode MPDCCH with CRC scrambled by PUR-RNTI, the target DCI size is based on DCI format 6-0A/6-0B and that zero padding is based on DCI format 6-1A/6-1B.  Specification is not clear that the meaning of the DCI field ‘*PUSCH repetiion adjustment*’ refers to indices n0…n8 in Table 8-2b and indices n0…n4 in Table 8-2c of TS 36.213. | | | | | | | | |
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| ***Summary of change:*** | | Clarify that the DCI size and zero padding are based on DCI format 6-1A/6-1B when a UE is configured to decode MPDCCH with CRC scrambled by PUR-RNTI.  Added text to indicate DCI field ‘*PUSCH repetiion adjustment*’ refers to indices n0…n4 in Table 8-2b and n0…n8 in Table 8-2c of TS 36.213. | | | | | | | | |
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| ***Consequences if not approved:*** | | Unclear zero padding procedures when a UE is configured to decode MPDCCH with CRC scrambled by PUR-RNTI  Unclear definition of DCI field ‘*PUSCH Repetition Adjustment*’. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.3.3.1.10 , 5.3.3.1.11, 5.3.3.1.12 , 5.3.3.1.13 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | |  | | |
| ***affected:*** | |  | **X** | Test specifications | | | |  | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | |  | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

##### 5.3.3.1.10 Format 6-0A

**<Unchanged parts are omitted>**

If format 6-0A CRC is scrambled by PUR-RNTI and Resource block assignment is set to all ones, the remaining fields are set as follows:

- ACK or Fallback indicator – 1 bit, where value 0 indicates ACK and value 1 indicates fallback as defined in clause 9.1.5.3 of [3]

- PUSCH repetition adjustment – 2 bits, this field refers to indices *n*1, *n*2, …, *n*4 in Table 8-2b of [3]

- Timing advance adjustment – 6 bits as defined in clause 4.2.3 of [3]. The field is only present if ACK or Fallback indicator is set to 0.

- All the remaining bits in format 6-0A are set to zero

**<Unchanged parts are omitted>**

##### 5.3.3.1.11 Format 6-0B

**<Unchanged parts are omitted>**

If format 6-0B CRC is scrambled by PUR-RNTI and Resource block assignment is set to all ones for sub-PRB resource allocation or Modulation and coding scheme is set to all ones for not sub-PRB resource allocation, the remaining fields are set as follows:

- ACK or Fallback indicator – 1 bit, where value 0 indicates ACK and value 1 indicates fallback as defined in clause 9.1.5.3 of [3]

- PUSCH repetition adjustment – 3 bits, this field refers to indices *n*1, *n*2, …, *n*8 in Table 8-2c of [3]

- Timing advance adjustment – 6 bits as defined in clause 4.2.3 of [3]. The field is only present if ACK or Fallback indicator is set to 0.

- All the remaining bits in format 6-0B are set to zero

**<Unchanged parts are omitted>**

5.3.3.1.12 Format 6-1A

**<Unchanged parts are omitted>**

If the UE is not configured to decode MPDCCH with CRC scrambled by the C-RNTI or PUR-RNTI, and the format 6-1A CRC is not scrambled with a G-RNTI, and the number of information bits in format 6-1A is less than that of format 6-0A, zeros shall be appended to format 6-1A until the payload size equals that of format 6-0A.

If the UE is configured to decode MPDCCH with CRC scrambled by the C-RNTI or PUR-RNTI, and the format 6-1A CRC is not scrambled with a G-RNTI, and the number of information bits in format 6-1A mapped onto a given search space is less than that of format 6-0A for scheduling the same serving cell and mapped onto the same search space, zeros shall be appended to format 6-1A until the payload size equals that of format 6-0A.

**<Unchanged parts are omitted>**

5.3.3.1.13 Format 6-1B

**<Unchanged parts are omitted>**

If the UE is not configured to decode MPDCCH with CRC scrambled by the C-RNTI or PUR-RNTI, and the format 6-1B CRC is not scrambled with a G-RNTI, and the number of information bits in format 6-1B is less than that of format 6-0B, zeros shall be appended to format 6-1B until the payload size equals that of format 6-0B.

If the UE is configured to decode MPDCCH with CRC scrambled by the C-RNTI or PUR-RNTI, and the format 6-1B CRC is not scrambled with a G-RNTI, and the number of information bits in format 6-1B mapped onto a given search space is less than that of format 6-0B for scheduling the same serving cell and mapped onto the same search space, zeros shall be appended to format 6-1B until the payload size equals that of format 6-0B.

**<Unchanged parts are omitted>**