**3GPP TSG-RAN WG1 Meeting #110bis-eR1-221xxxx**

**e-Meeting, October 10– 19, 2022**

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| *CR-Form-v12.2* | | | | | | | | |
| **DRAFT CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.213** | **CR** | **xxxx** | **rev** |  | **Current version:** | **17.3.0** |  |
|  | | | | | | | | |
| *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:*** | Draft CR on multiplexing HARQ-ACK for DG and SPS multicast and unicast | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Moderator (Huawei), vivo | | | | | | | | | |
| ***Source to TSG:*** | R1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_MBS-Core | | | | |  | ***Date:*** | | | 2022-10-12 |
|  |  | | | |  | |  | | |  |
| ***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 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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | The current description regarding HARQ-ACK for DG and SPS multicast and unicast may lead to the HARQ-ACK codebook generated is not aligned with the agreement. | | | | | | | | |
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| ***Summary of change:*** | | If a UE is configured to monitor PDCCH for multicast DCI formats with CRC scrambled by one or more G-RNTIs or G-CS-RNTIs that the UE generates a Type-2 HARQ-ACK codebook, the UE separately applies the procedures in this clause per G-RNTI or per G-CS-RNTI **except the procedures for SPS PDSCHs** and determines the Type-2 HARQ-ACK codebook by concatenating the Type-2 HARQ-ACK codebook for unicast DCI formats, followed by the HARQ-ACK codebooks for the multicast DCI formats in ascending order of the corresponding G-RNTI values, followed by the HARQ-ACK codebooks for the multicast DCI formats in ascending order of the corresponding G-CS-RNTI values, **followed by the HARQ-ACK codebook for SPS PDSCHs.** | | | | | | | | |
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| ***Consequences if not approved:*** | | UE may generate the HARQ-ACK for SPS PDSCH duplicately according to the current specifications when multiplexing HARQ-ACK for DG and SPS multicast and unicast. | | | | | | | | |
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| ***Clauses affected:*** | | 9.1.3.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  |  | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  |  | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  |  | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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

If a UE is configured to monitor PDCCH for multicast DCI formats with CRC scrambled by one or more G-RNTIs or G-CS-RNTIs that the UE generates a Type-2 HARQ-ACK codebook, the UE separately applies the procedures in this clause per G-RNTI or per G-CS-RNTI except the procedures for SPS PDSCHs and determines the Type-2 HARQ-ACK codebook by concatenating the Type-2 HARQ-ACK codebook for unicast DCI formats, followed by the HARQ-ACK codebooks for the multicast DCI formats in ascending order of the corresponding G-RNTI values, followed by the HARQ-ACK codebooks for the multicast DCI formats in ascending order of the corresponding G-CS-RNTI values, followed by the HARQ-ACK codebook for SPS PDSCHs.

< Unchanged parts are omitted >