**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 |
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| ***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 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-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
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| ***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 |
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|  | **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 >