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

**e-Meeting, October 10– 19, 2022**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network | **X** | Core Network |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Draft CR on DAI counting for ‘dci-enabler’ in DCI indicating value 0 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Moderator (Huawei), Langbo, Lenovo | | | | | | | | | |
| ***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:*** | | RAN1 agreed, for Type-2 codebook generation, UE reports HARQ-ACK bits only for TBs with enabled HARQ-ACK by RRC or DCI. However, the PDSCH scheduled by DCI formats indicating absence of corresponding HARQ-ACK information if *harq-FeedbackEnablerMulticast* is provided with value set to 'dci-enabler' is still counted by C-DAI in the DCI format in the current specifications. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | A value of the counter downlink assignment indicator (DAI) field in DCI formats denotes the accumulative number of {serving cell, PDCCH monitoring occasion}-pairs in which PDSCH receptions, excluding PDSCH receptions that provide only transport blocks for HARQ processes associated with disabled HARQ-ACK information if donwlinkHARQ-FeedbackDisabled is provided **or PDSCH receptions scheduled by DCI formats indicating absense of corresponding HARQ-ACK information if harq-FeedbackEnablerMulticast is provided with value set to 'dci-enabler'**, or HARQ-ACK information bits that are not in response for PDSCH receptions, associated with the DCI formats, excluding the SPS activation DCI, is present up to the current serving cell and current PDCCH monitoring occasion,  if there is a PDSCH providing a transport block for a HARQ process with enabled HARQ-ACK information **or PDSCH receptions scheduled by DCI formats indicating absence of corresponding HARQ-ACK information if *harq-FeedbackEnablerMulticast* is provided with value set to 'dci-enabler'** on serving cell associated with PDCCH in PDCCH monitoring occasion , or there is a PDCCH providing a DCI format associated with HARQ-ACK information without scheduling PDSCH reception on serving cell | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The current description of C-DAI in DCI scheduling multicast PDSCH is not alinged with the agreement that, for Type-2 codebook generation, UE reports HARQ-ACK bits only for TBs with enabled HARQ-ACK by RRC or DCI. | | | | | | | | |
|  | |  | | | | | | | | |
| ***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

< Unchanged parts are omitted >

A value of the counter downlink assignment indicator (DAI) field in DCI formats denotes the accumulative number of {serving cell, PDCCH monitoring occasion}-pairs in which PDSCH receptions, excluding PDSCH receptions that provide only transport blocks for HARQ processes associated with disabled HARQ-ACK information if *donwlinkHARQ-FeedbackDisabled* is provided or PDSCH receptions scheduled by DCI formats indicating absence of corresponding HARQ-ACK information if *harq-FeedbackEnablerMulticast* is provided with value set to 'dci-enabler', or HARQ-ACK information bits that are not in response for PDSCH receptions, associated with the DCI formats, excluding the SPS activation DCI, is present up to the current serving cell and current PDCCH monitoring occasion,

- first, if the UE indicates by *type2-HARQ-ACK-Codebook* support for more than one PDSCH reception on a serving cell that are scheduled from a same PDCCH monitoring occasion, in increasing order of the PDSCH reception starting time for the same {serving cell, PDCCH monitoring occasion} pair,

- second in ascending order of serving cell index, and

- third in ascending order of PDCCH monitoring occasion index , where .

< Unchanged parts are omitted >

Set to the number of PDCCH monitoring occasion(s)

while

Set – serving cell index: lower indexes correspond to lower RRC indexes of corresponding cell

while

if PDCCH monitoring occasion is before an active DL BWP change on serving cell or an active UL BWP change on the serving cell of PUCCH transmission if the UE is provided *pucch-sSCellDyn* or *pucch-sSCellDynDCI-1-2*, or an active UL BWP change on the PCell if the UE is not provided *pucch-sSCellDyn* and *pucch-sSCellDynDCI-1-2,* and an active DL BWP change is not triggered in PDCCH monitoring occasion

;

else

if there is a PDSCH providing a transport block for a HARQ process with enabled HARQ-ACK information or PDSCH receptions scheduled by DCI formats indicating absence of corresponding HARQ-ACK information if *harq-FeedbackEnablerMulticast* is provided with value set to 'dci-enabler' on serving cell associated with PDCCH in PDCCH monitoring occasion , or there is a PDCCH providing a DCI format associated with HARQ-ACK information without scheduling PDSCH reception on serving cell

< Unchanged parts are omitted >