**3GPP TSG RAN WG1 #110bis-eR1-22xxxx**

**e-Meeting, October 10th – 19th, 2022**

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| *CR-Form-v12.2* | | | | | | | | |
| **DRAFT CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.213** | **CR** | **-** | **rev** | **-** | **Current version:** | **17.3.0** |  |
|  | | | | | | | | |
| *For* [***HELP***](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 MBS SPS activation/deactivation validation to TS 38.213 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Moderator (CMCC), ASUSTeK | | | | | | | | | |
| ***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:*** | | According to the current spec, if UE is only provided a single configuration for MBS SPS (i.e. no other UL/MBS SPS), UE should check if the field of HARQ process number is equal to all ‘0’s when receiving SPS (de)-activation command.  However, the configuration for MBS SPS could be shared by a group of UE and each UE may have its own (multiple) SPS configurations including UL configurations or other MBS configurations. Given that sps-ConfigIndex should be unique in UE no matter the SPS is for unicast or multicast, sps-ConfigIndex cannot be always ensured to be 0 in this case. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Change special field of validation of single DL SPS configuration for multicast to not include HARQ process number. | | | | | | | | |
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| ***Consequences if not approved:*** | | UE may consider a valid DCI format 4\_1/4\_2 addressed to G-CS-RNTI scheduling SPS (de)-activation command for multicast as invalid when sps-ConfigIndex used for multicast is not zero. | | | | | | | | |
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| ***Clauses affected:*** | | 10.2 | | | | | | | | |
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|  | | **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:*** | |  | | | | | | | | |

10.2 PDCCH validation for DL SPS and UL grant Type 2

========================= Unchanged parts =========================

A UE validates, for scheduling activation or scheduling release, a DL SPS assignment PDCCH or a configured UL grant Type 2 PDCCH if

- the CRC of a corresponding DCI format is scrambled with a CS-RNTI provided by *cs-RNTI* or a G-CS-RNTI provided by g-cs-RNTI, and

- the new data indicator field in the DCI format for the enabled transport block is set to '0', and

- the DFI flag field, if present, in the DCI format is set to '0', and

- the time domain resource assignment field in the DCI format indicates a row with single SLIV, and

- if validation is for scheduling activation and if the PDSCH-to-HARQ\_feedback timing indicator field in the DCI format is present, the PDSCH-to-HARQ\_feedback timing indicator field does not provide an inapplicable value from *dl-DataToUL-ACK-r16*.

If a UE is provided a single configuration for UL grant Type 2 PUSCH or for SPS PDSCH for unicast, validation of the DCI format is achieved if all fields for the DCI format are set according to Table 10.2-1 or Table 10.2-2.

If a UE is provided more than one configuration for UL grant Type 2 PUSCH or for SPS PDSCH or a single configuration for SPS PDSCH for multicast, a value of the HARQ process number field in a DCI format indicates an activation for a corresponding UL grant Type 2 PUSCH or for a SPS PDSCH configuration with a same value as provided by *ConfiguredGrantConfigIndex* or by *sps-ConfigIndex*, respectively. Validation of the DCI format is achieved if the RV field for the DCI format is set as in Table 10.2-3.

If a UE is provided more than one configuration for UL grant Type 2 PUSCH or for SPS PDSCH or a single configuration for SPS PDSCH for multicast

- if the UE is provided *ConfiguredGrantConfigType2DeactivationStateList* or *sps-ConfigDeactivationStateList*, a value of the HARQ process number field in a DCI format indicates a corresponding entry for scheduling release of one or more UL grant Type 2 PUSCH or SPS PDSCH configurations

- if the UE is not provided *ConfiguredGrantConfigType2DeactivationStateList* or *sps-ConfigDeactivationStateList*, a value of the HARQ process number field in a DCI format indicates a release for a corresponding UL grant Type 2 PUSCH or for a SPS PDSCH configuration with a same value as provided by *ConfiguredGrantConfigIndex* or by *sps-ConfigIndex*, respectively

Validation of the DCI format is achieved if all fields for the DCI format are set according to Table 10.2-4.

If validation is achieved, the UE considers the information in the DCI format as a valid activation or valid release of DL SPS or configured UL grant Type 2. If validation is not achieved, the UE discards all the information in the DCI format.

**Table 10.2-1: Special fields for single DL SPS or single UL grant Type 2 scheduling activation PDCCH validation when a UE is provided a single SPS PDSCH for unicast or UL grant Type 2 configuration in the active DL/UL BWP of the scheduled cell**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **DCI format 0\_0/0\_1/0\_2** | **DCI format 1\_0/1\_2** | **DCI format 1\_1** |
| HARQ process number  (if present) | set to all '0's | set to all '0's | set to all '0's |
| Redundancy version  (if present) | set to all '0's | set to all '0's | For the enabled transport block: set to all '0's |

**Table 10.2-2: Special fields for single DL SPS or single UL grant Type 2 scheduling release PDCCH validation when a UE is provided a single SPS PDSCH for unicast or UL grant Type 2 configuration in the active DL/UL BWP of the scheduled cell**

|  |  |  |
| --- | --- | --- |
|  | **DCI format 0\_0/0\_1/0\_2** | **DCI format 1\_0/1\_1/1\_2** |
| HARQ process number  (if present) | set to all '0's | set to all '0's |
| Redundancy version  (if present) | set to all '0's | set to all '0's |
| Modulation and coding scheme | set to all '1's | set to all '1's |
| Frequency domain resource assignment | set to all '0's for FDRA Type 2 with  set to all '1's, otherwise | set to all '0's for FDRA Type 0 or for *dynamicSwitch*  set to all '1's for FDRA Type 1 |

**Table 10.2-3: Special fields for a single DL SPS or single UL grant Type 2 scheduling activation PDCCH validation when a UE is provided multiple DL SPS or UL grant Type 2 configurations in the active DL/UL BWP of the scheduled cell or when a UE is provided single DL SPS configuration for multicast in the active DL BWP of the scheduled cell**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **DCI format 0\_0/0\_1/0\_2** | **DCI format 1\_0/1\_2/4\_1** | **DCI format 1\_1/4\_2** |
| Redundancy version  (if present) | set to all '0's | set to all '0's | For the enabled transport block: set to all '0's |

**Table 10.2-4: Special fields for a single or multiple DL SPS and UL grant Type 2 scheduling release PDCCH validation when a UE is provided multiple DL SPS or UL grant Type 2 configurations in the active DL/UL BWP of the scheduled cell or when a UE is provided single DL SPS configuration for multicast in the active DL BWP of the scheduled cell**

|  |  |  |
| --- | --- | --- |
|  | **DCI format 0\_0/0\_1/0\_2** | **DCI format 1\_0/1\_1/1\_2/4\_1/4\_2** |
| Redundancy version  (if present) | set to all '0's | set to all '0's |
| Modulation and coding scheme | set to all '1's | set to all '1's |
| Frequency domain resource assignment | set to all '0's for FDRA Type 2 with  set to all '1's, otherwise | set to all '0's for FDRA Type 0 or for *dynamicSwitch*  set to all '1's for FDRA Type 1 |

========================= Unchanged parts =========================