**3GPP TSG-RAN2 Meeting #113 electronic R2-2102264**

**Online, Jan 25th - Feb 5th, 2021**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **38.306** | **CR** | **0521** | **rev** | **1** | **Current version:** | **16.3.0** |  |
|  | | | | | | | | |
| *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:*** | CR on the Capability of PUCCH Transmissions for HARQ-ACK-38306 | | | | | | |
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| ***Source to WG:*** | ZTE Corporation, Sanechips,Intel | | | | | | |
| ***Source to TSG:*** | R2 | | | | | | |
|  |  | | | | | | |
| ***Work item code:*** | NR\_L1enh\_URLLC | | |  | ***Date:*** | | 2021-2-4 |
|  |  | |  | |  | |  |
| ***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)* | |
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| ***Reason for change:*** | The component 6 of RAN1 feature 11-4/4a as below was not included in the corresponding field description.  **11-4/4a component 6**  Supported maximum number of actual PUCCH transmissions for HARQ-ACK within a slot.  Candidate values for the component 6 of FG11-4 is: For NCP, {4, 5, 6, 7} for 2-symbol\*7 sub-slot configuration; For ECP, the candidate value is {4, 5, 6} for 2-symbol\*6 sub-slot configuration. | | | |
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| ***Summary of change:*** | Update the field description of twoHARQ-ACK-Codebook-type1-r16/ twoHARQ-ACK-Codebook-type2-r16 to include the maximum number of actual PUCCH transmissions for HARQ-ACK within a slot.  **Impact analysis**  Impacted 5G architecture options:  NR SA, NR-DC, (NG)EN-DC/NE-DC  Impacted functionality:  URLLC  Inter-operability:   1. If UE implements according to the CR and the network does not, the network is unable to get the maximum number of actual PUCCH transmissions for HARQ-ACK within a slot. 2. If the network implements according to the CR and the UE is not, the UE is unable to report the maximum number of actual PUCCH transmissions for HARQ-ACK within a slot. | | | |
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| ***Consequences if not approved:*** | The network may misunderstand the capability and give the wrong configuration to the UE. | | | |
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| ***Clauses affected:*** | 4.2.7.7 | | | |
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|  | **Y** | **N** |  |  |
| ***Other specs*** | **X** |  | Other core specifications | TS 38331 CR2447 |
| ***affected:*** |  | **X** | Test specifications | TS/TR ... CR ... |
| ***(show related CRs)*** |  | **X** | O&M Specifications | TS/TR ... CR ... |
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| ***Other comments:*** |  | | | |
|  |  | | | |
| ***This CR's revision history:*** |  | | | |

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Start change

#### 4.2.7.7 *FeatureSetUplink* parameters

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* omitted unchanged parts \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

| Definitions for parameters | Per | M | FDD-TDD  DIFF | FR1-FR2  DIFF |
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| ***twoHARQ-ACK-Codebook-type1-r16***  Indicates whether the UE supports two HARQ-ACK codebooks with up to one subslot based HARQ-ACK codebook (i.e. slot-based + slot-based, or slot-based + subslot based) simultaneously constructed for supporting HARQ-ACK codebooks with different priorities at a UE. The capability signalling comprises the following parameters:  - *sub-SlotConfig-NCP-r16* indicates the maximum number of actual PUCCH transmissions for HARQ-ACK within a slot for NCP with 2-symbol\*7 sub-slot configuration;  - *sub-SlotConfig-ECP-r16* indicates the maximum number of actual PUCCH transmissions for HARQ-ACK within a slot for ECP with 2-symbol\*6 sub-slot configuration;  For the 7-symbol\*2 sub-slot configuration of NCP or the 6-symbol\*2 sub-slot configuration of ECP, the value of the maximum number of actual PUCCH transmissions for HARQ-ACK within a slot is {2}.  Note: If a UE reports both *multiPUCCH-r16* and *twoHARQ-ACK-Codebook-type1-r16*, it can support two slot-based HARQ-ACK codebooks, and one slot-based and one-sub-slot-based HARQ-ACK codebooks. If a UE reports *twoHARQ-ACK-Codebook-type1-r16* but doesn’t report *multiPUCCH-r16*, it can only support two slot-based HARQ-ACK codebooks. | FS | No | N/A | N/A |
| ***twoHARQ-ACK-Codebook-type2-r16***  Indicates whether the UE supports two subslot based HARQ-ACK codebooks simultaneously constructed for supporting HARQ-ACK codebooks with different priorities at a UE.The capability signalling comprises the following parameters:  - *sub-SlotConfig-NCP-r16* indicates the maximum number of actual PUCCH transmissions for HARQ-ACK within a slot for NCP with 2-symbol\*7 sub-slot configuration;  - *sub-SlotConfig-ECP-r16* indicates the maximum number of actual PUCCH transmissions for HARQ-ACK within a slot for ECP with 2-symbol\*6 sub-slot configuration;  For the 7-symbol\*2 sub-slot configuration of NCP or the 6-symbol\*2 sub-slot configuration of ECP, the value of the maximum number of actual PUCCH transmissions for HARQ-ACK within a slot is {2}. | FS | No | N/A | N/A |

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* omitted unchanged parts \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

End of change