**3GPP TSG- Meeting #**

**, – 2020**

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| *CR-Form-v12.0* | | | | | | | | |
| **[Draft] CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** |  | **rev** |  | **Current version:** |  |  |
|  | | | | | | | | |
| *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:*** |  | | | | | | | | | |
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| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** |  | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***Category:*** |  |  | | | | | ***Release:*** | | |  |
|  | *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)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | In clause 6.1, it is defined that UE supports *k* x B. *k* is the number of PUCCH groups configured for the UE. However, it is unclear how many PUCCH transmissions the UE supports in DC case. In DC case, the supported PUCCH transmission combination shall be *j* x B, where *j* is the number of cell groups.  In addition, UE supports simultaneous transmissions of PUCCH and PUSCH as B + C, where explained as Note 8. This transmission combination shall also cover DC case. Parameter *j* is used as . | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | In Table 6.1-2, the following two updates are applied to cover DC case.  *k* x B is updated to *j* x *k* x B.  is updated to . | | | | | | | | |
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| ***Consequences if not approved:*** | | Supported uplink transmission combination with PUCCH for DC case is unclear. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |

## 6.1 Uplink

< Unchanged text is omitted >

Table 6.1-2: Uplink "Transmission Type" combinations

|  |  |
| --- | --- |
| Supported Combinations | Comment |
| *j* x A | Note 1 |
| *j* x *k* x B | Note 2 |
| *p* x C | Note 3, Note 4 |
| *p'* x D | Note 3, Note 5 |
| A + B | Note 6 |
| A + C | Note 6 |
| A + D | Note 6 |
| B + C | Note 8 |
| B + D | Note 7 |
| C + D | Note 7 |
| Note 1: The number of cell groups *j* in the supported combination is subject to UE capability.  Note 2: The number of PUCCH groups *k* in the supported combination is subject to UE capability.  Note 3: The number of carriers *p,* and *p'* in the supported combinations are subject to UE capability.  Note 4: In the case there is one SUL carrier, then *p*-1 would be supported.  Note 5: UE may be configured with *p'* but may also have capability to simultaneously sound less than this number.  Note 6: Simultaneous PRACH with PUCCH (or PUSCH or SRS) is supported only in the case of inter-band CA, with , , , and ' depending on the configuration, and subject to UE capability for parallel transmission.  Note 7: Simultaneous SRS with PUCCH (or PUSCH) is supported only in the case of inter-band CA, with , , and ' depending on the configuration, and subject to UE capability for parallel transmission.  Note 8: Simultaneous PUCCH and PUSCH(s) is supported only in the case that multiple cell groups or multiple PUCCH groups are configured and the respective PUCCH and PUSCH(s) are transmitted in the different cell groups or different PUCCH groups, with , , and . , , and are subject to UE capability for supported number of cell groups, PUCCH groups and UL carriers, respectively. , , and depend on configuration. | |