**3GPP TSG-** **RAN WG1 Meeting #118 *R1-2407xxx***

**Maastricht, Netherlands, August 19 - 23, 2024**

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| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  | **38.213** | **CR** | **xxx** | **rev** |  | **Current version:** | **18.3.0** |  |
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| *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:***  | Correction on PSFCH resource mapping for contiguous RB resource pool |
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| ***Source to WG:*** | Moderator (Huawei), ZTE, Sanechips, Huawei, HiSilicon, Samsung |
| ***Source to TSG:*** | R1 |
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| ***Work item code:*** | NR\_SL\_enh2-Core |  | ***Date:*** | 2024-08-23 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-18 |
|  | *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-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19) Rel-20 (Release 20)* |
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| ***Reason for change:*** | For operation with shared spectrum channel access, when *sl-PSFCH-Type* is not provided, the description of the ‘**subchannel in RB set k’** is not clear in the current TS 38.213. As shown in the following figure, only partial PRBs of **subchannel i** is within RB set k. It is unclear whether or not subchannel i was included in RB-set k for PSSCH-PSFCH mapping in the current TS 38.213.There are two kinds of understandings:* Understanding 1: Subchannel i was included in RB set k for PSSCH-PSFCH mapping;
* Understanding 2: Subchannel i was not included in RB set k for PSSCH-PSFCH mapping;

It is suggested that RAN1 clarify which of the above understandings should be adopted in the TS 38.213.And in RAN1#113, it was agreed:**Agreement**For contiguous RB-based PSCCH/PSSCH transmission in SL-U, regarding sub-channel(s) which include intra-cell guardband PRBs, support only option 3.* Option 3: Such sub-channel(s) cannot be used for PSCCH transmission, and can be used for PSSCH transmission

So it is reasonable to not allocate PSFCH resource in RB set k to the special subchannels which are partially overlapped with RB set k. |
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| ***Summary of change:*** | Adding a limiting that only the subchanels whose all PRBs are located in RB set k are considered for PSFCH resource allocation.  |
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| ***Consequences if not approved:*** | Whether and how to allocate PSFCH resource in RB set k to the special subchannels which are partially overlapped with RB set k is unclear. |
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| ***Clauses affected:*** | 16.3.0 |
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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 ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

16.3.0 UE procedure for transmitting PSFCH with control information

<Unchanged parts are omitted>

For operation with shared spectrum channel access, when *sl-PSFCH-Type* is not provided and within RB-set $k$, for the $n$-th candidate PSFCH transmission occasion, $1\leq n\leq N\_{occasion}^{PSFCH}$, a UE determines a set of $M\_{PRB, set, k}^{PSFCH, n}$ PRBs in a resource pool based on the $n$-th indication provided by *sl-PSFCH-RB-SetList* or *sl-RB-SetPSFCHList* for PSFCH transmission with HARQ-ACK information or conflict information, respectively. The UE expects that different PRBs are (pre)configured for conflict information and HARQ-ACK information. For a number of $N\_{subch}^{k}$ sub-channels where all PRBs of each sub-channel are located in RB-set $k$ and a number of PSSCH slots associated with a PSFCH slot that is less than or equal to $N\_{PSSCH}^{PSFCH}$, the UE allocates the $\left[\left(i+j⋅N\_{PSSCH}^{PSFCH}\right)⋅M\_{subch, slot}^{PSFCH}, \left(i+1+j⋅N\_{PSSCH}^{PSFCH}\right)⋅M\_{subch, slot}^{PSFCH}-1\right]$ PRBs from the $M\_{PRB, set, k}^{PSFCH, n}$ PRBs to slot $i$ among the PSSCH slots associated with the PSFCH slot and sub-channel $j$, where $M\_{subch, slot}^{PSFCH}={M\_{PRB, set}^{PSFCH}}/{\left(N\_{subch}^{k}⋅N\_{PSSCH}^{PSFCH}\right)}$, $0\leq i<N\_{PSSCH}^{PSFCH}$, $0\leq j<N\_{subch}^{k}$, and the allocation starts in an ascending order of $i$ and continues in an ascending order of $j$. The UE expects that $M\_{PRB, set, k}^{PSFCH, n}$ isa multiple of$N\_{subch}^{k}∙N\_{PSSCH}^{PSFCH}$*.*

<Unchanged parts are omitted>