**3GPP TSG RAN WG1 #118bis R1-240xxxx**

**Hefei, China, October 14th – 18th, 2024**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
|  |
|  | **38.213** | **CR** | **xxxx** | **rev** | **-** | **Current version:** | **18.4.0** |  |
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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 |  |
|  |
| ***Title:***  | CR on collision handling between PRACH and SSB |
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| ***Source to WG:*** | Moderator (Ericsson), Google, Samsung, Ericsson |
| ***Source to TSG:*** | R1 |
|  |  |
| ***Work item code:*** | NR\_MIMO\_evo\_DL\_UL-Core |  | ***Date:*** | 2024-10-14 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | 8 |
|  | *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-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:*** | For two TA operation, the UE can be configured with multiple RACH configurations, where different RACH configurations correspond to different cells. It is agreed that the RO validation is performed in a cell-specific manner. According to current RO validation rule, the collision between SSB and PRACH associated with the same cell would not happen. However, the collision between SSB and PRACH associated with different cells could happen, since the RO validation does not consider the SSB from different cells. Then it is necessary to clarify that UE does not transmit the PRACH and receive SSB associated with different cells in a slot. |
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| ***Summary of change:*** | Clarify that UE does not transmit the PRACH and receive SSB associated with different cells in a slot. |
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| ***Consequences if not approved:*** | UE would be required to transmit the PRACH and receive SSB associated with different cells in a slot. |
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| ***Clauses affected:*** | 8.1 |
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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:*** | **Isolated impact analysis:**No impact as this is common understanding. |
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| ***This CR's revision history:*** |  |

## 8.1 Random access preamble

<unrelated text omitted>

For single cell operation or for operation with contiguous carrier aggregation in a same frequency band or for operation with non-contiguous carrier aggregation in a same frequency band if the UE is not provided with *intraBandNC-PRACH-simulTx-r17*, a UE

- does not transmit PRACH and PUSCH/PUCCH/SRS in a same slot with respect to the smallest SCS configuration between the SCS configuration for the UL BWP with the PRACH and the SCS configuration for the UL BWP with the PUSCH/PUCCH/SRS transmissions

- does not transmit PRACH and PUSCH/PUCCH/SRS when a first or last symbol of a PRACH transmission in a first slot is separated by less than $N$ symbols from the last or first symbol, respectively, of a PUSCH/PUCCH/SRS transmission in a second slot; for a PRACH transmission with $N\_{preamble}^{rep}>1$ preamble repetitions, this applies to each preamble repetition

- for a PRACH transmission with $N\_{preamble}^{rep}>1$ preamble repetitions, if the UE does not indicate *prach-Repetition*, the UE does not transmit a first repetition of the PRACH and a second repetition of the PRACH when a first or last symbol of the first repetition of the PRACH in a first slot is separated by less than $N$ symbols from the last or first symbol, respectively, of the second repetition of the PRACH in a second slot; otherwise, the UE transmits the first repetition of the PRACH and the second repetition of the PRACH

where $N=2$ for $μ=0$ or $μ=$1, $N=4$ for $μ=2$ or $μ=3$, $N=16$ for $μ=5$, $N=32$ for $μ=6$, and $μ$ is the smallest SCS configuration between the SCS configuration for the UL BWP with the PRACH and the SCS configuration for the UL BWP with the PUSCH/PUCCH/SRS transmissions. For a PUSCH transmission with repetition Type B, this applies to each actual repetition for PUSCH transmission [6, TS 38.214].

For a UE configured with *SSB-MTC-AdditionalPCI*, it does not transmit PRACH and receive SS/PBCH associated with different cells in a same slot.