**3GPP TSG-RAN4 Meeting #112 *R4-2413483***

 **Maastricht, Netherlands, 19th - 23th, Aug, 2024**

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| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  | **38.141-2** | **CR** | **0600** | **rev** | **1** | **Current version:** | **18.6.0** |  |
|  |
| *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 |  | Radio Access Network | **X** | Core Network |  |

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|  |
| ***Title:***  | CR on test requirements for multiple PRACH transmission in TS 38.141-2 |
|  |  |
| ***Source to WG:*** | Samsung |
| ***Source to TSG:*** | R4 |
|  |  |
| ***Work item code:*** | NR\_cov\_enh2-Perf |  | ***Date:*** | 2024-08-09 |
|  |  |  |  |  |
| ***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)* |
|  |  |
| ***Reason for change:*** | The performance part of Rel-18 coverage enhancement WI was completed in RAN4#111 meeting, the big CR has been implemented into the spec. The requirement for some format are still TBD |
|  |  |
| ***Summary of change:*** | * Correction the manufacturer's declarations for Multiple PRACH transmission
* Update the requirement based on latest simulation results summary
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|  |  |
| ***Consequences if not approved:*** | The PRACH with multiple repetition requirement can not be verified well |
|  |  |
| ***Clauses affected:*** | 4.6, 8.4.1.8 |
|  |  |
|  | **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:*** | Revison of R4-2413442 |

<Start of Change 1>

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| D.126 | PRACH format and SCS for Multiple PRACH transmission | Declaration of the supported PRACH format(s) as specified in TS 38.211 [20] for Multiple PRACH transmission, i.e., format: A2, B4, C2.Declaration of the supported SCS(s) per supported PRACH format with short sequence for Multiple PRACH transmission, as specified in TS 38.211 [20], i.e.: - For BS type 2-O: 120 kHz. | c | n/a | x |
| D.127 | PUSCH with enhanced DM-RS type | Declaration of support enhanced DM-RS typeas specified in TS 38.211 [17]. | x | x | n/a |

<End of Change 1>

<Start of Change 2>

#### 8.4.1.8 Test requirement for PRACH with repetition transmission

##### 8.4.1.8.1 Test requirement for *BS type 2-O*

Pfa shall not exceed 0.1%. Pd shall not be below 99% for the SNRs in tables 8.4.1.8.1-1

Table 8.4.1.8.1-1: PRACH missed detection test requirements with repetition transmission, 120 kHz SCS in FR2-1

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Number of  | Number of | Propagation | Frequency | Number of Repetitions | SNR (dB) |
| TX antennas | demodulation branches | conditions and correlation matrix (Annex J) | offset | Burst format A2 | Burst format B4 | Burst format C2 |
| 1 | 2 | TDLA30-300 Low | 4000 Hz | 2 | [-7.1] | [-11.8] | [-7.1] |
| Note : This requirement has no limitation for PRACH configuration index selection for BS comformance testing |

<End of Change 2>