**3GPP TSG- Meeting #**

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| --- |
| *CR-Form-v12.3* |
| **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 |  | Radio Access Network | **X** | Core Network |  |

|  |
| --- |
|  |
| ***Title:***  | [NR\_cov\_enh2-Perf] BigCR for TS 38.104 on coverage enhancement demodulation |
|  |  |
| ***Source to WG:*** |  |
| ***Source to TSG:*** | RAN4 |
|  |  |
| ***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 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:*** | Inclusion of Cov Enh Rel-18 Demodulation activites |
|  |  |
| ***Summary of change:*** | Inclusion of draftCRs (R4-2409896, R4-2409900) From R4-2409896Add multiple PRACH transimission minimum FR2-1 demodulation requirements.From R4-2409900:Defining Test preambles of multiple PRACH with repetition 2 for FR2-1. |
|  |  |
| ***Consequences if not approved:*** | Cov Enh Rel-18 will not be included in TS 38.104 |
|  |  |
| ***Clauses affected:*** | 11.4.2.2, A.6 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  |  |
| ***affected:*** | **X** |  |  Test specifications | TS 38.141-1, TS 38.141-2 |
| ***(show related CRs)*** |  | **X** |  O&M Specifications |  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

***<Start of R4-2409896>***

################## Start of Change #1 ######################

##### 11.4.2.2.5 Minimum requirements for mulitple PRACH transmission

The probability of detection shall be equal to or exceed 99% for the SNR levels listed in Tables 11.4.2.2.5-1.

Table 11.4.2.2.5-1: Missed detection requirements for multiple PRACH 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 G) | offset | Burst format A2 | Burst format B4 | Burst format C2 |
| 1 | 2 | TDLA30-300 Low | 4000 Hz | 2 | TBD | [-12.0] | TBD |
| Note: This requirement has no limitation for PRACH configuration index selection for BS comformance testing. |

################## End of Change #1 ######################

***<End of R4-2409896>***

***<Start of R4-2409900>***

# A.6 PRACH Test preambles

Table A.6-1: Test preambles for Normal Mode in FR1

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Burst format | SCS (kHz) | Ncs | Logical sequence index | v |
| 0 | 1.25 | 13 | 22 | 32 |
| A1, A2, A3, | 15 | 23 | 0 | 0 |
| B4, C0, C2 | 30 | 46 | 0 | 0 |

Table A.6-2: Test preambles for Normal Mode in FR2

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Burst format | SCS (kHz) | Ncs | Logical sequence index | v |
| A1, A2, A3, | 60 | 69 | 0 | 0 |
| B4, C0, C2 | 120 | 69 | 0 | 0 |

Table A.6-3: Test preambles for high speed train restricted set type A

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Burst format | SCS (kHz) | Ncs | Logical sequence index | v |
| 0 | 1.25 | 15 | 384 | 0 |

Table A.6-4: Test preambles for high speed train restricted set type B

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Burst format | SCS (kHz) | Ncs | Logical sequence index | v |
| 0 | 1.25 | 15 | 30 | 30 |

Table A.6-5: Test preambles for high speed train short formats in FR1

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Burst format | SCS (kHz) | Ncs | Logical sequence index | v |
| A2, B4, C2 | 15 | 23 | 0 | 0 |
|  | 30 | 46 | 0 | 0 |

Table A.6-6: Test preambles for PRACH with LRA=1151 and LRA=571

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Burst format | SCS (kHz) | Ncs | Logical sequence index | v |
| A2, B4, C2 | 15 | 164 | 0 | 0 |
|  | 30 | 190 | 0 | 0 |

Table A.6-7: Test preambles for high speed train short formats in FR2

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Burst format | SCS (kHz) | Ncs | Logical sequence index | v |
| C2 | 120 | 0 | 0 | 0 |

Table A.6-8: Test preambles for PRACH with LRA=139, LRA=571 and LRA=1151 for 120 kHZ and 480 kHz SCS

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Burst format | SCS (kHz) | LRA | Ncs | Logical sequence index | v |
| A2B4, C2 | 120 | 571 | 285 | 0 | 0 |
| 120 | 1151 | 575 | 0 | 0 |
| 480 | 139 | 69 | 0 | 0 |
| 480 | 571 | 285 | 0 | 0 |

Table A.6-9: Test preambles for normal mode PRACH with repetitions, LRA=139 in FR2-1

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Burst format | SCS (kHz) | Ncs | No. Repetitions | Logical sequence index | v |
|  A2, B4, C2 | 120 | 69 | 2 | 0 | 0 |

***<End of R4-2409900>***