**3GPP TSG-RAN WG4 Meeting #95-e R4-2008756**

**Electronic Meeting, 25 May – 5 June , 2020**

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| *CR-Form-v11.4* |
| **CHANGE REQUEST** |
|  |
|  | **36.141** | **CR** |  **1256** | **rev** | **1** | **Current version:** | **15.8.0** |  |
|  |
| *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: Updates to FeNB-IoT NPRACH TDD conformance testing in TS 36.141 (Rel-15) |
|  |  |
| ***Source to WG:*** | Huawei, HiSilicon |
| ***Source to TSG:*** | R4 |
|  |  |
| ***Work item code:*** | NB\_IOTenh2 |  | ***Date:*** | 2020-05-27 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-15 |
|  | *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)* |
|  |  |
| ***Reason for change:*** | The FeNB-IOT NPRACH TDD performance requirements are wrong.* The NPRACH missed detection requirements for TDD in Table 8.5.3.5-2 are wrong.
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|  |  |
| Summary of change: | According to the simulation results of each company,we update the probability of detection for FeNB-IOT NPRACH TDD shall be equal to or exceed 99% for the SNR levels listed in Table 8.5.3.5-2.* Add the STD from ideal results to companies’ averaged values with impairments as the final FeNB-IoT NPRACH TDD format0 and format1 performance requirements.
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|  |  |
| ***Consequences if not approved:*** | We can not verify the performance of FeNB-IOT NPRACH TDD correctly. |
|  |  |
| ***Clauses affected:*** |  Clause 8.5.3.5 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ... |
| ***affected:*** | **X** |  |  Test specifications | TS 36.104 |
| ***(show related CRs)*** |  | **x** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |

*<Start of change>*

#### 8.5.3.5 Test Requirement

Pfa shall not exceed 0.1% and Pmd shall not exceed 1% for the SNRs in Table 8.5.3.5-1.

Table 8.5.3.5-1: NPRACH missed detection test requirements for FDD

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Number of TX antennas | Number of RX antennas | Repetition number | Propagation conditions andcorrelation matrix (Annex B) | Frequency offset | SNR[dB] |
| Preamble format 0 | Preamble format 1 | Preamble format 2 |
| 1 | 2 | 8 | AWGN | 0 | -1.8 | -1.8 | -0.7 |
| EPA1 Low | 200 Hz | 6.7 | 6.7 | 9.6 |
| 32 | AWGN | 0 | -6.5 | -6.5 | -4.8 |
| EPA1 Low | 200 Hz | 1.1 | 1.1 | 2.8 |

Table 8.5.3.5-2: NPRACH missed detection requirements for TDD

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Number of TX antennas | Number of RX antennas | Repetition number | Propagation conditions and correlation matrix (Annex B) | Frequency offset | SNR[dB] |
| Preamble format 0 | Preamble format 1 | Preamble format 0-a | Preamble format 1-a |
| 1 | 2 | 8 | AWGN | 0 | [5.9] | [2.8] | [4.3] | [1.3] |
| EPA1 Low | 200 Hz | [15.3] | [10.7] | [14.3] | [9.6] |
| 32 | AWGN | 0 | [1.2] |  [-1.9] |  [-0.4] |  [-3.3] |
| EPA1 Low | 200 Hz | [10.4] | [4.9] | [10.6] | [3.1] |

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in Annex G.

*<End of change>*