**3GPP TSG-RAN4 WG4 Meeting #102-e R4-2204176**

**Electronic Meeting, February 21 – March 3, 2022**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v11.2* | | | | | | | | |
| **Draft CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.101-1** | **CR** | **-** | **rev** | **-** | **Current version:** | **16.10.1** |  |
|  | | | | | | | | |
| *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 |  | Core Network |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | CR Cat A n1 NS\_05 inequality error | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Qualcomm Incorporated | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_newRAT-Core | | | | |  | | ***Date:*** | | 2022-02-28 |
|  |  | | | |  | | |  | |  |
| ***Category:*** | **F** |  | | | | | | ***Release:*** | | Rel-16 |
|  | *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 can be 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:*** | | Missing AMPR due to inequality error – rel 16 | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Correct inequality sign < to ≤ in region A because there is no AMPR defined for = condition in either region A or region B.  Remove A3, A5 inner AMPR values as the region defined by A3 and A5 are outer regions only for both NS\_05 and NS\_05U. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | UE cannot define AMPR due to ineqaulity error | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.2.3.4 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | |  | | | |
| ***Other specs*** | |  | **X** | Other core specifications | | |  | | | |
| ***affected:*** | | **x** |  | Test specifications | | | 38.521-1 | | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | |  | | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |

< start of changes >

#### 6.2.3.4 A-MPR for NS\_05 and NS\_05U

Table 6.2.3.4-1: A-MPR regions for NS\_05 and NS\_05U

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Channel Bandwidth (MHz) | Carrier Centre Frequency, Fc (MHz) | Region A | | | Region B | | | Region C | | |
|  |  | RBstart | LCRB | A-MPR | RBstart | LCRB | A-MPR | RBstart | LCRB | A-MPR |
| 5 | 1922.5 ≤ FC < 1927.5 | < 1.62 MHz/12/SCS | > 2.52 MHz/12/SCS | A3 |  |  |  |  |  |  |
| 10 | 1925 ≤ FC < 1935 | ≤1.62 MHz/12/SCS | > 0 | A1 | > 1.62 MHz/12/SCS  ≤ 3.60 MHz/12/SCS | > 5.4 MHz/12/SCS | A7 | ≥ 7.2 MHz/12/SCS | ≤ 1.08 MHz/12/SCS | A2 |
| 10 | 1935 ≤ FC < 1945 |  | > 4.5 MHz/12/SCS | A4 |  |  |  |  |  |  |
| 15 | 1927.5 ≤ FC < 1932.5 | ≤ 3.24MHz/12/SCS | > 0 | A1 | > 3.24 MHz/12/SCS  ≤ 5.40 MHz/12/SCS | > 8.1 MHz/12/SCS | A7 | ≥ 10.08  MHz/12/SCS | ≤ 1.08 MHz/12/SCS | A2 |
| 15 | 1932.5 ≤ FC < 1942.5 | < 1.62 MHz/12/SCS | > 0 | A1 |  |  |  | ≥ 12.24 MHz/12/SCS | ≤ 1.08 MHz/12/SCS | A2 |
| 15 | 1942.5 ≤ FC < 1947.5 |  | > 7.2 MHz/12/SCS | A5 |  |  |  |  |  |  |
| 20 | 1930 ≤ FC < 1950 | ≤ 4.86 MHz/12/SCS | > 0 | A1 | > 4.86 MHz/12/SCS  ≤ 7.20 MHz/12/SCS | > 9.0 MHz/12/SCS | A7 | ≥ 13.68 MHz/12/SCS | ≤ 1.08 MHz/12/SCS | A2 |
| 20 | 1950 ≤ FC < 1960 |  | > 9.0 MHz/12/SCS | A6 |  |  |  |  |  |  |
| NOTE 1: The A-MPR values are specified in Table 6.2.3.4-2, 6.2.3.4-3 and 6.2.3.4-10.  NOTE 2: Void | | | | | | | | | | |

Table 6.2.3.4-2: A-MPR for NS\_05 and NS\_05U

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Modulation/Waveform | | A1 (dB) | A2 (dB) | A3 (dB) | |
|  | | Outer/Inner | Outer/Inner | Outer |  |
| DFT-s-OFDM | Pi/2 BPSK | ≤ 10 | ≤ 5 | ≤ 4 |  |
|  | QPSK | ≤ 10 | ≤ 5 | ≤ 4.5 |  |
|  | 16 QAM | ≤ 10 | ≤ 5 | ≤ 6 |  |
|  | 64 QAM | ≤ 11 | ≤ 5 | ≤ 6 |  |
|  | 256 QAM | ≤ 13 | ≤ 5 | ≤ 7 |  |
| CP-OFDM | QPSK | ≤ 10 | ≤ 5 | ≤ 7.5 |  |
|  | 16 QAM | ≤ 10 | ≤ 5 | ≤ 7.5 |  |
|  | 64 QAM | ≤ 11 | ≤ 5 | ≤ 8 |  |
|  | 256 QAM | ≤ 13 |  | ≤ 10 |  |
| NOTE 1: Void  NOTE 2: Void | | | | | |

Table 6.2.3.4-3: A-MPR for NS\_05

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Modulation/Waveform | | A4 (dB) | | A5 (dB) | | A6 (dB) | | A7 (dB) |
|  | | Outer | Inner | Outer |  | Outer | Inner | Outer/Inner |
| DFT-s-OFDM | Pi/2 BPSK | ≤ 1 | N/A | ≤ 1 |  | ≤ 1 | N/A | ≤ 6 |
|  | QPSK |  |  | ≤ 1.5 |  | ≤ 1.5 |  | ≤ 6 |
|  | 16 QAM |  |  |  |  |  |  | ≤ 6 |
|  | 64 QAM |  |  |  |  |  |  | ≤ 6 |
|  | 256 QAM |  |  |  |  |  |  | ≤ 6 |
| CP-OFDM | QPSK | ≤ 3.5 |  | ≤ 3.5 |  | ≤ 3.5 |  | ≤ 6 |
|  | 16 QAM | ≤ 3.5 |  | ≤ 3.5 |  | ≤ 3.5 |  | ≤ 6 |
|  | 64 QAM |  |  |  |  |  |  | ≤ 6 |
|  | 256 QAM |  |  |  |  |  |  | ≤ 6 |
| NOTE 1: Void  NOTE 2: Void | | | | | | | | |

Table 6.2.3.4-4 - Table 6.2.3.4-9: Void

Table 6.2.3.4-10: A-MPR for modulation and waveform type for NS\_05U

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Modulation/Waveform | | A4 (dB) | | A5 (dB) | | A6 (dB) | | A7 (dB) |
|  | | Outer | Inner | Outer |  | Outer | Inner | Outer/Inner |
| DFT-s-OFDM | Pi/2 BPSK | ≤ 2 | **N/A** | ≤ 2 |  | ≤ 2 | N/A | ≤ 6 |
|  | QPSK | ≤ 2 |  | ≤ 2 |  | ≤ 2 |  | ≤ 6 |
|  | 16 QAM | ≤ 2.5 |  | ≤ 2.5 |  | ≤ 2.5 |  | ≤ 6 |
|  | 64 QAM | ≤ 3 |  | ≤ 3 |  | ≤ 3 |  | ≤ 6 |
|  | 256 QAM | ≤ 4.5 |  | ≤ 4.5 |  | ≤ 4.5 |  | ≤ 6 |
| CP-OFDM | QPSK | ≤ 4 |  | ≤ 4 |  | ≤ 4 |  | ≤ 6 |
|  | 16 QAM | ≤ 4 |  | ≤ 4 |  | ≤ 4 |  | ≤ 6 |
|  | 64 QAM | ≤ 4 |  | ≤ 4 |  | ≤ 4 |  | ≤ 6 |
|  | 256 QAM | ≤ 6.5 |  | ≤ 6.5 |  | ≤ 6.5 |  | ≤ 6.5 |
| NOTE 1: Void  NOTE 2: Void | | | | | | | | |

< end of changes >