**3GPP TSG-RAN WG4 Meeting #106-bis-e R4-230xxxx**

**Electronic Meeting, 17 April –26 April, 2023**

**Title:** WF on BS RF requirements

**Agenda Item:** 5.15.6

**Source:** Nokia

**Document for:** Approval

**Issue 1-1: Conducted requirements**

* Agreement:

|  |  |  |
| --- | --- | --- |
| **NR BS RF Tx/Rx requirement** | **Proposal for NR 3 MHz** | **Responsible company for Draft CR** |
| 5.2 Operating bands | No specification impact | N/A |
| 5.3 BS channel bandwidth | Add 3 MHz channel BW in Table 5.3.2-1, Table 5.3.3-1 and Table 5.3.5-1. | Ericsson |
| 5.3A BS channel bandwidth for CA | No specification impact | N/A |
| 5.4 Channel arrangement | Add synchronization raster for 3 MHz channel BW in clause 5.4.3. | Ericsson |
| 6.2 Base station output power | For band n100, RAN4 evaluate how to define the additional requirement for 3 MHz channel BW and send LS to CEPT ECC WG FM to request for input. | Ericsson |
| 6.3.2 RE power control dynamic range | No specification impact | N/A |
| 6.3.3 Total power dynamic range | Minimum requirement calculated according to transmission bandwidth configuration in Table 6.3.3.2-1. | Nokia |
| 6.3.4 NB-IoT RB power dynamic range for NB-IoT operation in NR in-band | No specification impact | N/A |
| 6.4 Transmit ON/OFF power | No specification impact | N/A |
| 6.5 Transmitted signal quality | No specification impact | N/A |
| 6.6.2 Occupied bandwidth | No specification impact | N/A |
| 6.6.3 Adjacent Channel Leakage Power Ratio | Same requirement limits as other channel bandwidth, but assume different adjacent channel carriers in Table 6.6.3.2-1 and Table 6.6.3.2-2a. | Nokia |
| 6.6.4 Operating band unwanted emissions | A new OBUE mask shall be specified, based on LTE 3 MHz one.  For band n100, no need to add an additional requirement for 3 MHz channel BW and existing additional requirement, which is channel bandwidth agnostic, can apply. | Nokia |
| 6.6.4 Transmitter spurious emissions | No specification impact | N/A |
| 6.7 Transmitter intermodulation | No specification impact | N/A |
| 7.2 Reference sensitivity level | Add minimum requirements for 3 MHz in Table 7.2.2-1, Table 7.2.2-2 and Table 7.2.2-3. Scaling from 5 MHz can be used. Existing G-FR1-A1-7 can be reused for 3 MHz channel bandwidth Refsens. | Ericsson |
| 7.3 Dynamic range | Add minimum requirements for 3 MHz in Table 7.3.2-1, Table 7.3.2-2 and Table 7.3.2-3. Scaling from 5 MHz can be used. | Ericsson |
| 7.4.1 Adjacent Channel Selectivity (ACS) | Same requirement limits as other channel bandwidth in Table 7.4.1.2-1, but assume different adjacent channel carriers in Table 7.4.1.2-2. | ZTE |
| 7.4.2 In-band blocking | Same requirement limits as other channel bandwidth, but assume different adjacent channel carriers in Table 7.4.2.2-1, Table 7.4.2.2-2 and Table 7.4.2.2-3.  For band n100, RAN4 evaluate how to define an additional narrow band blocking requirement for 3 MHz channel BW and send LS to ETSI TC RT to request for input. | Huawei |
| 7.5 Out-of-band blocking | No specification impact | N/A |
| 7.6 Receiver spurious emissions | No specification impact | N/A |
| 7.7 Receiver intermodulation | Same requirement limits as other channel bandwidth, but assume different adjacent channel carriers in Table 7.7.2-2 and Table 7.7.2-4.  For band n100, RAN4 evaluate how to define an additional narrowband intermodulation requirement for 3 MHz channel BW and send LS to ETSI TC RT to request for input. | Huawei |
| 7.8 In-channel selectivity | Add minimum requirements for 3 MHz in Table 7.8.2-1, Table 7.8.2-2 and Table 7.8.2-3. Requirement limits depend on ICS FRC to be defined for 3MHz. | ZTE |
| A.1 Fixed Reference Channels for reference sensitivity level, ACS, in-band blocking, out-of-band blocking, receiver intermodulation and in-channel selectivity (QPSK, R=1/3) | Add ICS FRC for 3 MHz channel BW in able A.1-1. | ZTE |
| A.2 Fixed Reference Channels for dynamic range (16QAM, R=2/3) | Add dynamic range FRC for 3 MHz channel BW in Table A.2-1. | ZTE |
| B.5.2 Window length | Add EVM window length for 3 MHz channel BW in Table B.5.2-1. | ZTE |

**Issue 1-2: Radiated requirements**

* Agreement: No need for radiated requirements in the bands currently listed in the WIDS.