3GPP TSG RAN WG5 Meeting #96-e R5-22XXXX

**Electronic Meeting, August 15th – 26th, 2022**

**Title:** LS to RAN4 on A-MPR regions for NS\_50 (Power Class 2)

**Response to:**

**Release:** Release-15

**Work Item:** TEI15\_Test, 5GS\_NR\_LTE-UEConTest

**Source:** TSG RAN WG5

**To:** TSG RAN WG4

**Cc:** None

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**Send any reply LS to: 3GPP Liaisons Coordinator, mailto:3GPPLiaison@etsi.org**

**Attachments:** R5-225600.zip

# 1 Overall description

In TS 38.101-1 clause 6.2.3, RAN4 has defined the additional maximum power reduction(A-MPR) requirements for network signaling(NS). A-MPR regions for NS\_50 (Power Class 2) has been introduced in Table 6.2.3.19-3 in TS 38.101-1, based on which RAN5 derives specific RB allocations for conformance testing. However, RAN5 finds for certain A-MPR region there is no applicable RB allocation.

Taking n39 A-MPR PC2 with CBW=10MHz & SCS=60KHz as an example,

* As per Table 5.3.2-1 in TS 38.101-1, the Maximum Transmission Bandwidth is NRB\*12\*SCS = 11\*12\*60KHz =7.92MHz

Table 5.3.2-1: Maximum transmission bandwidth configuration NRB

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| SCS (kHz) | 5MHz | 10MHz | 15MHz | 20MHz | 25MHz | 30MHz | 35MHz | 40 MHz | 45MHz | 50MHz | 60MHz | 70MHz | 80MHz | 90MHz | 100MHz |
|  | NRB | NRB | NRB | NRB | NRB | NRB | NRB | NRB | NRB | NRB | NRB | NRB | NRB | NRB | NRB |
| 15 | 25 | 52 | 79 | 106 | 133 | 160 | 188 | 216 | 242 | 270 | N/A | N/A | N/A | N/A | N/A |
| 30 | 11 | 24 | 38 | 51 | 65 | 78 | 92 | 106 | 119 | 133 | 162 | 189 | 217 | 245 | 273 |
| 60 | N/A | 11 | 18 | 24 | 31 | 38 | 44 | 51 | 58 | 65 | 79 | 93 | 107 | 121 | 135 |

* As per Table 6.2.3.19-3 in TS 38.101-1, the A4 A-MPR region requires Transmission Bandwidth is (LCRB + RBstart)\*12\*SCS ≥ 8.1MHz

The Transmission Bandwidth 8.1MHz is “larger” than the Maximum Transmission Bandwidth 7.92MHz, which leads to no applicable RB allocation could be found for CBW=10MHz & SCS=60KHz.

Also, for some other CBW, it seems that no test points could be found for DFT-s-OFDM.

For further details, please check the attachment R5-225600 for reference.

Table 6.2.3.19-3: A-MPR regions for NS\_50 (Power Class 2)

|  |  |  |  |
| --- | --- | --- | --- |
| Channel Bandwidth (MHz) | RBstart\*12\*SCS (MHz) | LCRB\*12\*SCS (MHz) | A-MPR |
| 10 MHz | ≤ 1.44 | < 1.44 | A5 |
| ≤ 1.8 | ≥ 2.7+2\* RBstart\*12\*SCS | A4 |
| >1.8 | ≥ 8.1- RBstart\*12\*SCS | A4 |
| 15 MHz | ≤ 2.88 | < 2.7 | A5 |
| ≤ 3.24 | ≥ 2.7+2\* RBstart\*12\*SCS | A3 |
| >3.24 | ≥ 12.42- RBstart\*12\*SCS | A4 |
| 20 MHz | ≤ 4.32 | < 3.6 | A5 |
| ≤ 4.5 | ≥ 3.6+2\* RBstart\*12\*SCS | A3 |
| >4.5 | ≥ 17.1- RBstart\*12\*SCS | A4 |
| 25 MHz | ≤ LCRB\*12\*SCS – 5 | > 5 | A2 |
| ≤ 6.3 | ≤ 1.44 | A5 |
| > 8.28 | > max (21.6 – RBstart\*12\*SCS, 0), <RBstart\*12\*SCS+5 | A4 |
| >1.8, ≤6.12 | > 1.44, ≤ 3.6  | A6 |
| > LCRB \*12\*SCS – 5, ≤ 5.04 | > 1.44 | A4 |
| 30 MHz | ≤ LCRB\*12\*SCS – 5 | >5 | A2 |
| ≤ 7.56 | ≤ 1.44 | A5 |
|  >1.8, ≤7.56  | > 1.44, ≤ 3.6 | A6 |
|  ≤ 1.8 | >1.44, <RBstart\*12\*SCS+5 | A4 |
| > 10.8 | > max (26.64 – RBstart\*12\*SCS, 0), <RBstart\*12\*SCS+5 | A4 |
| 40 MHz | ≤ 4.32 | > 0 | A1 |
| > 4.32 | > RBstart\*12\*SCS + 11.88 | A1 |
| > 4.32, ≤ 12.96 | ≤ 10.8 | A3 |
| > 4.32, ≤ 18 | > 10.8, <= RBstart\*12\*SCS + 11.88 | A7 |
| > 18, ≤ 31.68 | > max (31.68 – RBstart\*12\*SCS, 0) | A4 |
| > 31.68 | > 0 | A1 |
| NOTE 1: The A-MPR values are specified in Table 6.2.3.19-4. |

# 2 Actions

**To TSG WG4**

**ACTION:** RAN5 kindly requests RAN4 to review the whole contents in Table 6.2.3.19-3 of TS 38.101-1, and please inform RAN5 if any updates are needed to Table 6.2.3.19-3 in TS 38.101-1.

# 3 Dates of next TSG RAN WG5 meetings

TSG RAN WG5 Meeting #97 November 14 – 18, 2022 TBD

TSG RAN WG5 Meeting #98 February 27 – March3, 2023 Athens, GR