**3GPP TSG-RAN WG4 Meeting # 107 R4-23XXXXX**

**Incheon, KR, May 22nd – May 26th , 2023**

**Agenda item:** 7.18,7.19

**Source:** Moderator (Huawei, HiSilicon)

**Title:** Topic summary for [107][111] HPUE\_Basket\_Intra-CA\_TDD

**Document for:** Information

# Introduction

*Thread [111] includes following HPUE topics:*

*1. Topic #1: Issues for HPUE\_NR\_FR1\_TDD\_intra\_CA\_R18 (Agenda 7.18)*

*2. Topic #2: Issues for HPUE\_NR\_FR1\_TDD\_R18 (Agenda 7.19)*

# Topic #1: HPUE\_NR\_FR1\_TDD\_ intra\_CA\_R18 (7.18)

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| R4-2309302 | Huawei, HiSilicon | WID on HPUE\_NR\_FR1\_TDD\_intra\_CA\_R18  Update the new request from SoftBank Corp. |
| R4-2309303 | Huawei, HiSilicon | Big CR on TS38.101-1 Addition of intra-band CA Combinations  Capture agreed combinations at RAN4#106bis |

# Topic #2: HPUE\_NR\_FR1\_TDD\_R18 (7.19)

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| R4-2308205 | CMCC | CR on PC 1.5 for FR1 TDD single bands  Enable high power UE (power class 1.5) operation on the following NR TDD bands.  - n34  - n40  Draft CR R4-2217117 has been endorsed in Oct. 2022 RAN4#104 bis meeting. But formal CR is missing. This CR is just the formal CR. |
| R4-2308744 | Huawei, HiSilicon | Observation 1: No PC1.5 A-MPR is required for CBW=5MHz.  Observation 2: For CBWs larger than 20MHz, the A-MPR regions assigned with A1 and A2 contain the most demanding RB allocations.  Observation 3: NOTE 7 of the A-MPR Table 6.2.3.1-1 is also applicable to PC2 A-MPR for NS\_50. Otherwise, the PC2 A-MPR for 2Tx architecture is incomplete.  Proposal 1: Based on the existing A-MPR for PC2 (i.e. Table 6.2.3.19-4), set A1=A1+3dB and A2=A2+[2.5~3]dB for PC1.5.  Proposal 2: Use the existing A-MPR region definitions for PC2 as baseline for PC1.5. Modifications or new A-MPR regions can be allowed if found necessary. |
| R4-2309107 | China Mobile M2M Company Ltd. | TR 38.895 v0.3.0 PC1\_5 HPUE for TDD single band |

## Open issues summary

*PC 1.5 for n34 and n40 was agreed to be introduced in R18, and the remaining band n39 has been discussed and postponed in many meetings due to the lack of complete measurement results on PC1.5 A-MPR.*

### Sub-topic 2-1 NS\_50 A-MPR for band n39

*In RAN4#106bis, further check whether A-MPR is required for 5 MHz CBW for PC1.5 by measurements. In RAN4#107, company verities this proposal by measurements.*

**Issue 2-1: 5 MHz CBW**

* Proposal: No PC1.5 A-MPR is required for CBW=5MHz
* Recommended WF
  + No PC1.5 A-MPR is required for CBW=5MHz

*PC1.5 uses dual-Tx by default. Hence, the RIMD effect should be included in the A-MPR requirements. Based on measurements and considering the impact of APT/ET implementations, company proposes the following for PC1.5*

**Issue 2-3: PC1.5 A-MPR**

* Proposal: Based on the existing A-MPR for PC2 (i.e. Table 6.2.3.19-4), set A1=A1+3dB and A2=A2+[2.5~3]dB for PC1.5.
* Recommended WF
  + TBA

*Due to time limit, company has not performed an exhaustive checking on all A-MPR regions. It might be possible that the existing A-MPR regions for PC2 need expansion for PC1.5.*

**Issue 2-4: PC1.5 A-MPR region**

* Proposal: Use the existing A-MPR region definitions for PC2 as baseline for PC1.5. Modifications or new A-MPR regions can be allowed if found necessary.
* Recommended WF
  + TBA