3GPP TSG-RAN WG4 Meeting # 112 R4-2413534

**Maastricht, Netherlands, 19th – 23rd August, 2024**

**Agenda item:** 8.13.3

**Source:** Qualcomm Incorporated

**Title:** WF on Rel-19 NR\_FR2\_OTA

**Document for:** Approval

# Topic #1: Test method for STxMP

**Issue 1-1-1: Signal level condition for measuring/distinguishing EIRP per TCI**

* Agreement
  + RAN4 confirms the feasibility of measuring EIRP per TCI with the configuration of rank 2 PUSCH transmission under SDM scheme.
    - Up to a power difference of [40dB] is assumed.
    - Detailed MU analysis can be left to RAN5 if needed, taking into account the exact Test Case parameters.

**Issue 1-2-1: AoA separation and UE orientation for EIRP PUMAX,f,c,k testing**

* Agreement
  + Take below proposal as the starting point:
    - For the selection of AoA pair, one of AoA is at the beam peak direction of single CC operation without STxMP enabled (i.e., from Beam Peak Search for MOP in 6.2 of TS 38.101-2, the other AoA is at the direction decided by UE declared orientation (listed in TS38.101-2) and AoA pair selecting from set of {30deg, 60deg, 90deg, 120deg, 150deg}.
      * FFS whether a test direction other than the beam peak direction of single CC operation without STxMP enabled can be used for first AoA
    - Due to lack of absolute probe location definition of the multi-AoA UE RF test system, defined in Clause 5.2.2 of TR38.871, FFS on whether or how such test system can guarantee the same relative angular orientations between specific UE test directions and probes.

**Issue 1-2-2: Applicability of ΔMPRSTxMP, MPR and A-MPR for EIRP PUMAX,f,c,k testing**

* Agreement
  + The MPR/A-MPR does not need to be verified in STxMP testing as ΔMPRSTxMP = 3dB applies on top of legacy MRR/A-MPR for single panel.

**Issue 1-2-3: Measurement grid for EIRP PUMAX,f,c,k testing**

* Agreement
  + Re-use the legacy measurement grid in Annex M.2 of TS38.521-2 for the beam peak search of single CC operation without STxMP enabled; FFS whether a grid relaxation for this TC could be considered.

**Issue 1-3-1: AoA separation and UE orientation EIRPmax testing**

* Agreement
  + The test directions selected in EIRP PUMAX,f,c,k testing can be reused if the feasibility of the solution in Issue 1-2-1 is confirmed.

**Issue 1-3-2: Additional margin for skipping rule for EIRPmax testing**

* Agreement
  + Further discuss additional margin considering the range of [0.5dB, 2dB].
  + Encourage companies to provide technical Analysis and/or simulation results.

**Issue 1-4-1: AoA separation and UE orientation TRPmax testing**

* Agreement
  + The test directions selected in EIRP PUMAX,f,c,k testing can be reused if the feasibility of the solution in Issue 1-2-1 is confirmed.

**Issue 1-4-2: Additional margin for skipping rule for TRPmax testing**

* Agreement
  + Further discuss additional margin considering the range of [0.5dB, 2dB].
  + Encourage companies to provide technical Analysis and/or simulation results.

**Issue 1-4-3: Measurement grid for TRPmax testing**

* Agreement
  + RAN4 consider the legacy PC1 and PC5 measurement grid for TRP defined in Annex M.4 of TS38.521-2 as the baseline; FFS whether a grid relaxation for this TC could be considered.