3GPP TSG RAN WG4 Meeting #107 rev of R4-2308255

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

**Title: Reply LS to** **GSMA TSGAP on NR Bandwidth for OTA TRS testing**

**Release: Rel-18**

**Work Item: NR\_FR1\_TRP\_TRS\_enh**

**Source: 3GPP RAN4**

**To: GSMA TSGAP**

**Cc: RAN5**

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**Attachments:** **None**

# 1 Overall description

3GPP RAN4 would like to thank GSMA TSGAP for the LS (R4-2304023/TSGAP76\_004) on NR Bandwidth for OTA TRS testing.

In Rel-17, RAN4 agreed that the default channel bandwidth for TRP/TRS OTA testing is the Mid test channel bandwidth defined in TS 38.508-1 Table 4.3.1.0A-1, which is aligned with the test parameters for RF conducted MOP (Maximum output power) and REFSENS (Reference sensitivity) testing.

Few special configurations (highest bandwidth) for band n28 (20MHz) and n41/n77/n78/n79 (100MHz) are adopted based on requests from operators to verify a wider range of antenna performance.

RAN4 has discussed the test parameters for TRP and TRS OTA testing, and makes the following agreements:

* RAN4 decided to keep current test parameters for NR FR1 TRP and TRS OTA testing, to ensure that the output power and sensitivity performance for conducted testing and radiated testing are performed with the same testing parameters, which would be helpful for RF and OTA performance comparison.
* The RAN4 TRS requirements can be scaled to 10MHz or 20MHz based on the equations in Table 7.3.2-1b in TS 38.101-1 for REFSENS.
  + RAN4 may also consider other aspects impact the above scaling factor, e.g. UE spectrum flatness
* RAN4 is still discussing whether to add an additional set of test parameters (10MHz for low bands, 20MHz for high bands) for NR bands in the Annex part of TR 38.870 for information.

RAN4 also noticed that in LTE phase, the max CBW is 20MHz, so selecting 10MHz or 20MHz as mid/highest CBW for OTA is reasonable. But given the NR CBW has been increased significantly with many bands supporting max CBW 100MHz, and UE could always work under >20MHz CBW case.

RAN4 would like to know whether 10MHz/20MHz is sufficient to verify much wider NR channels. The background information and technical discussions in GSMA on selecting the narrow CBW for NR OTA testing would be helpful.

3GPP RAN4 looks forward to further cooperation with GSMA TSGAP on NR FR1 TRP TRS work.

# 2 Actions

**To GSMA TSGAP:**

**ACTION:** 3GPP RAN4 respectfully asks GSMA TSGAP to take the above feedback into account and encourage GSMA to provide more background information.

# 3 Dates of next TSG-RAN WG4 meetings

TSG-RAN WG4 Meeting #108 21-25 August, 2023 Toulouse, FR

TSG-RAN WG4 Meeting #108bis 9-13 October, 2023 Xiamen, China

# Reference

1. 3GPP TS 38.508-1 v17.7.0, User Equipment (UE) conformance specification; Part 1: Common test environment.
2. 3GPP TR 38.870 v0.3.0, Enhanced Over-the-Air (OTA) test methods for NR FR1 Total Radiated Power (TRP) and Total Radiated Sensitivity (TRS).