**3GPP TSG-RAN5 Meeting #108 *Draft-r1-R5-255348***

**Bengaluru, India, 25th Aug 2025 - 29th Aug 2025**

**Title: Rel-19 NR TRP TRS test tolerance values with description**

**Response to: -**

**Release: Rel-19**

**Work Item: TRP\_TRS\_MIMO\_OTA\_Ph3-Perf (Rel-19)**

**Source: TSG RAN WG5**

**To: TSG RAN WG4**

**Cc:**

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**Attachments:** None

# 1 Overall description

Following the finalization of the RAN4 Rel-19 NR FR1 TRP TRS core and performance parts as part of the TRP\_TRS\_MIMO\_OTA\_Ph3 Work item, RAN5 will introduce a new Rel-19 OTA conformance work item by RAN5#109 in November 2025, to deliver conformance test cases for Rel-19 NR FR1 TRP and TRS requirements. It is general process that RAN5 will have primary responsibility for Measurement Uncertainty (MU) finalization for Rel-19 FR1 TRP TRS for which a preliminary/placeholder MU table has been added in Annex B of TR 38.870 and TS 38.161 for Rel-19 specific updates. Further optimizing and finalizing MU values and then determination of Test Tolerance (TT) for the defined test requirements will occur in RAN5 and incorporated in TS 38.561.

With regards to the derivation of TT for OTA testing, there has been precedence of RAN4 kindly providing recommendations on TT along with core requirements, methodology and MU for 5G NR FR1.

1) In Rel-17, RAN5 request in [8] was responded by RAN4 by providing the test tolerance recommendations in [9] to be utilized as a package together with Rel-17 core requirements.

2) In Rel-18, RAN5 request in [10] was responded by RAN4 by providing the test tolerance recommendations in [11] to be utilized as a package together with Rel-18 core requirements.

Based on the process being followed in RAN4 to derive NR FR1 TRP TRS requirements built on performance campaign test results, RAN5 understands that there is a deep relation between radiated performance requirement definition in RAN4, derived from results of a measurement campaign and TT as indicated by the precedence in 1) and 2) above.

Therefore, RAN5 respectfully requests RAN4 to provide recommendations on test tolerance values for Release 19 NR FR1 TRP and TRS enhancements along with a thorough description of the core requirements definition process so implications from MU and TT can be clarified and considered during the finalization of Rel-19 FR1 TRP TRS TT in the RAN5 conformance test specification.

# 2 Actions

**To RAN4**

**ACTION:**  RAN5 respectfully asks RAN4 to take the above information, including the indicated RAN5 conformance work item timeline, into account and provide RAN5 with recommendations on test tolerance values for Release 19 NR FR1 TRP and TRS along with a thorough description of the core requirements definition process so that implications from MU and TT can be clarified and considered during the definition of Release 19 FR1 TRP TRS TT in RAN5 conformance test specification.

# 3 Dates of next TSG-RAN WG5 meetings.

TSG-RAN WG5 Meeting #109 17th – 21st Nov 2025 Dallas, USA

TSG-RAN WG5 Meeting #110 9th – 13th February 2025 Stor-Göteborg, Sweden

# 4 References

1. R5-223317, “New WID on UE Conformance - Introduction of UE TRP (Total Radiated Power) and TRS (Total Radiated Sensitivity) requirements and test methodologies for FR1 (NR SA and EN-DC)”, Apple, Rohde & Schwarz, Vivo, 3GPP TSG RAN5 Meeting #95-e, May 2022
2. R4-081664, “Reply to LS R5-073340 on "Test Tolerances for OTA UE Antenna"”, TSG RAN WG4, 3GPP TSG RAN4 Meeting #47bis, June 2008
3. R4-081651, “Test Tolerance Proposal for OTA testing”, Orange, China Mobile, Nokia, Motorola, RIM, Telecom Italia, Telefonica, T-mobile, Vodafone, 3GPP TSG-RAN4 Meeting #47bis, June 2008
4. R4-1714204, “LS on MIMO OTA test tolerance”, TSG RAN WG4, 3GPP TSG RAN4 Meeting #85, November 2017
5. 3GPP TS 34.114, “User Equipment (UE) / Mobile Station (MS) Over The Air (OTA) antenna performance; Conformance testing”
6. R4-1801260, “Response LS on Measurement Uncertainty Definition Responsibilities”, TSG RAN WG4, 3GPP TSG-RAN4 Meeting AH-1801, January 2018
7. R5-180092, “LS on Measurement Uncertainty Definition Responsibilities”, TSG RAN WG5, 3GPP TSG RAN WG5 Meeting 1-5G-NR Adhoc, January 2018
8. R5-223638, LS to RAN4 on TT work for NR FR1 TRP TS, RAN95e, May9th – May 20th, 2022
9. R4-2214797/R5-225919, Reply LS on TT and requirements, Vivo, RAN4#104e, August 15th- August 25th, 2022
10. R5-241956/ R4-2404119, LS to RAN4 on TT work for Rel-18 NR FR1 TRP TRS, Apple, RAN5#102, Feb 26th, 2024-March 1st 2024
11. R4-2406079, Reply LS on TT work for Rel-18 NR FR1 TRP TRS, RAN4#110-bis, 15th – 19th April, 2024