**3GPP TSG-RAN5 Meeting #93-e draftV2\_R5-218231**

**Electronic Meeting, 8 –19 November 2021**

**Title: [DRAFT]** Reply to LS (in R4-2120025) on FR2 UE relative power control tolerance requirements

**Response to:** LS (R4-2120025) on FR2 UE relative power control tolerance requirements

**Release:** Rel-15

**Work Item:** 5GS\_NR\_LTE-UEConTest

**Source:** TSG RAN WG5

**To:** TSG RAN WG4

**Cc:** N/A

**Contact Person:**

#### Name: Dr. Edwin Menzel

**Tel. Number:**

E-mail Address: Edwin.Menzel (at) rohde-schwarz.com

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

**Attachments:** R5-217557 On the testability and MU of relative power tolerance

**1. Overall Description:**

RAN5 would like to thank RAN4 for their Reply to LS (in R5-214106) on FR2 UE relative power control tolerance requirements and further clarify the motivation for combining the two requirement tables as requested in the third item of the RAN4 LS:

* consider the possibility of combining the 2 power ranges into one to improve the number of measurable power steps when testing a specific requirement.

 Response: RAN4 would appreciate further clarification from RAN5 on the motivation for combining the 2 tables, considering that the requirements and conditions applicable for each table are not common.

RAN5 would like to further explain the background as follows: In TS 38.101-2 Rel-15 and onwards, relative power tolerance is specified for two separate power ranges Pmin ≤ P ≤ Pint and Pint < P ≤ PUMAX. RAN5 applies the power window method described in TS 38.521-3 clause F.4 in order to ensure that the start and target power values are both in the power range where the requirement applies. Due to the limited size of the sub-ranges compared to the power window size and the allowed UE power step size, RAN5 considers the relative power tolerance requirement as not testable. A detailed analysis of power ramping patterns in section 2.2 of attached paper R5‑217557 shows that the test of a single 1dB TPC command cannot be ensured. For the lower range Pmin ≤ P ≤ Pint the substantial power tolerance of 5 dB for a power step P = 1dB further aggravates the testability issue.

The testability issue could be resolved by specifying FR2 UE relative power control tolerance for the range Pmin≤ P ≤ PUMAX as a replacement of current requirement, at least for the special case of 1dB TPC command with fixed allocation and no gaps (Table 6.3.4.3-2 note 2).

**2. Actions:**

**To RAN4 group.**

**ACTION:** RAN5 respectfully asks RAN4 to consider a review of the minimum conformance requirement for relative power tolerance taking into account that the current requirement is considered untestable by RAN5 and to provide feedback on any potential updates to the specification.

**3. Date of Next TSG-RAN WG5 Meetings:**

TSG-RAN5 Meeting#94 21st Feb – 4th Mar 2022 Electronic Meeting

TSG-RAN5 Meeting#95 16th – 27th May 2022 Electronic Meeting