**3GPP TSG-RAN5 Meeting #99 draft\_R5-233671**

**Incheon, Korea (Republic Of), 22nd May 2023 – 26th May 2023**

**Title:** LS on signal variance in FR2 multiple AoA tests

**Response to:** NA

**Release:** Rel-15

**Work Item:** TEI15\_Test, 5GS\_NR\_LTE-UEConTest

**Source:** TSG RAN WG5

**To:** TSG RAN WG4

**Cc:** -

**Contact Person:**

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

**Attachments:** -

**1. Overall Description:**

In RAN5#99, R5-232673 [1] has been discussed. Following observations were raised impacting TS 38.133 2AoA RLM test cases in A.5.5.1.1, A.5.5.1.2, A.5.5.1.5, A.5.5.1.6, A.7.5.1.1, A.7.5.1.2, A.7.5.1.5 and A.7.5.1.6:

1. Fading profile TDLA30-75 low presents a difference in PAPR of approximately 4dB when compared to AWGN which makes the already low configured SNR very close to the Qin and Qout thresholds.
2. Balanced signal across both Rx is not guaranteed by the EIS positioning procedure proposed in TS 38.521-2 [2] section K.1.2 for testing.

RLM 2AoA test cases are very sensitive to both SNR imbalance and fluctuations. The additional signal variation due to fading makes the already low configured SNR very close to the Qin and Qout thresholds. Additionally, the imbalance in signal across the 2Rx makes it even worse which leads to unpredictable test case outcome.

If RAN4 agrees with the RAN5 assessment regarding observation (1) above, RAN5 would like RAN4 to kindly answer below question.

**Q1:** Can the mentioned RLM FR2 test cases be revised to address observation (1) above? one potential option provided in R5-232673 [1]. Please note RAN5 is in parallel working to resolve observation (2)

**2. Actions:**

**To RAN4 group.**

**ACTION:**

RAN5 respectfully asks RAN4 to consider the observation shared in this LS as well as to provide feedback on question Q1 above.

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

TSG-RAN5 Meeting#100 21st – 25th August 2023 Toulouse, France

TSG-RAN5 Meeting#101 13th – 17th November 2023 Chicago, Illinois, United States of America

**4. Reference:**

[1] R5-232673: “Discussion on signal variation and balancing in FR2 multiple AoA setups”, Qualcomm.

[2] 3GPP TS 38.521-2: “NR; User Equipment (UE) conformance specification; Radio transmission and reception; Part 2: Range 2 standalone”

[3] 3GPP TS 38.133: "NR; Requirements for support of radio resource management".