**3GPP TSG-RAN5 Meeting #99 R5-233669**

**Incheon, South Korea, 22nd May 2023 – 26th May 2023**

**Title:** LS on additional UE Gain parameters

**Response to:** NA

**Release:** Rel-15

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

**Source:** TSG RAN WG5

**To:** TSG RAN WG4

**Cc:** -

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**Attachments:** -

**1. Overall Description:**

Discussion paper R5-233642 has been presented at RAN5#99. RAN5 investigated the alignment of the rough and fine beams as well as the difference in UE gain for different frequencies and the additional UE gain related parameters added to TS 38.133 in clauses B.2.1.5.2 and B.2.1.5.3 as well as in the measurement accuracy test cases in Table A.5.7.1.2.3-2 and Table A.7.7.1.2.3-2.

After carefully analysing the topic, RAN5 came to the below conclusion and seeks further guidance from RAN4.

1. The discussion in RAN4 that lead to additional UE gain parameters being introduced targeted inter-frequency measurement accuracy test cases A.5.7.1.2 and A.7.7.1.2.
2. It is inconclusive if the parameters introduced in TS 38.133 in clauses B.2.1.5.2 and B.2.1.5.3, namely the UE gain difference between inter-frequencies Ginter and additional gain reduction D, is applicable only to measurement accuracy test cases A.5.7.1.2 and A.7.7.1.2, or should it affect other test cases as well.

In RAN5 understanding the fact that the parameters are specified in the Annex B makes them applicable to all applicable test cases. For UE gain difference between inter-frequencies Ginter it is FR2 inter-frequency relative measurement test cases, and in case of additional gain reduction D it is all FR2 cases where UE is using rough beams in beam peak direction.

On the other hand, gain reduction D has been specified in Table A.7.7.1.2.3-2 (A.5.7.1.2.3-2) for relative accuracy requirements and is missing in Table A.7.7.1.2.3-1 (A.5.7.1.2.3-1) for the absolute accuracy, which may suggest that RAN4 intention was to introduce the UE Gain reduction D only for SS-RSRP relative accuracy test requirement for this particular case when UE is comparing the signal coming from a beam peak direction with signal coming from spherical coverage direction.

After careful review of these new parameters, RAN5 has the following question:

**Q1**: Are the Ginter and D parameters not already included in the UE gain G in Table B.2.1.5.1-1, which goes from -10 to +20 dB?

**Q2**: Is the D parameter applicable only to SS-RSRP relative accuracy test requirement in FR2 inter-frequency measurement accuracy test cases A.5.7.1.2 and A.7.7.1.2 or they should be applied to SS-RSRP absolute accuracy test requirement in A.5.7.1.2 and A.7.7.1.2, and other test cases as well?

**Q3**: Is the Ginter parameter applicable only to SS-RSRP relative and absolute accuracy test requirement in FR2 inter-frequency measurement accuracy test cases A.5.7.1.2 and A.7.7.1.2 or they should be applied also to other FR2 inter-frequency measurement test cases as well?

**Q4**: Can the range of G be further specified (reduced) taking into account the new definition of UE gain for different frequencies Ginter and additional gain reduction D?

**2. Actions:**

**To RAN4 group.**

**ACTION:**

RAN5 respectfully asks RAN4 to consider the observations shared in this LS as well as to provide feedback on the questions above.

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

TSG-RAN5 Meeting#100 21st – 25th August 2023 Athens, Greece

TSG-RAN5 Meeting#102 13rd – 17th November 2023 Chicago, USA