**3GPP TSG-RAN WG4 Meeting #111 R4-2410248**

**Fukuoka, Japan, May 20 – May 24, 2024**

**Title:** Reply LS on defining the missing relative angular offsets and UE gain-related parameters for different power classes

**Response to:** R5-237837

**Release:** Release 17

**Work Item:** -

**Source:** TSG RAN WG4

**To:** TSG RAN WG5

**Cc:** -

**Contact Person:**

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**Attachments:** -

**1. Overall Description:**

In the LS R5-237837, RAN5 has identified below RAN4 parameters that aren’t defined for power classes 1, 5, and 6 in TS 38.133 v18.3.0. Due to this, several test cases and work items cannot be completed in RAN5 TS 38.533. The missing list of parameters from TS 38.133 is as follows:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Power Class 1 | Power class 5 | Power class 6 |
| Relative angular offsets between active probes (clause A.3.15.3) |  | Missing | Missing |
| Gain difference Y (Table B.2.1.3.1-1) | Missing | Missing | Missing |
| Gain difference Z (Table B.2.1.3.2-1) | Missing | Missing | Missing |
| Minimum SSB\_RP for SSB based L1-RSRP (clause B.2.4.1) |  |  | Missing |
| Minimum CSI-RS\_RP for SSB based L1-RSRP (clause B.2.4.2) |  |  | Missing |
| UE Gain (clause B.2.1.5 and B.2.1.6) | Missing | Missing | Missing |

Therefore, RAN5 kindly asked RAN4 to define the missing configurations.

RAN4 has extensively discussed the request by RAN5.

At RAN4#110 meeting, RAN4 has defined some of the missing conditions for UE RRM measurements procedures and performance requirements as requested by RAN5 in the CR R4-2403553 to Rel-17 version of TS 38.133. Some of the parameters were defined in square brackets.

At RAN4#111 meeting, RAN4 has specified the rest of request parameters for PC5 and PC6 as captured in the CR R4-2408656 to the Rel-17 version of TS 38.133. Since requested PC1 test configurations need to be defined starting from Rel-15, the parameters for PC1 can be found in the CR R4-2408652 to the Rel-15 version of TS 38.133.

Additionally, RAN4 agreed that:

* There is no need to define the CSI-RS\_RP (Section B.2.4.2) for PC6, Rel-17/18 PC6 UE test cases in RAN4 are defined for SSB-based measurements only.
* RAN4 does not see a need to define G gain in TS 38.133, Clause B.2.1.6 “Gain to PRS-RSRP measurement point for FR2” for PC6.
  + RAN4 may discuss whether/how to define G gain in TS 38.133, Clause B.2.1.6 “Gain to PRS-RSRP measurement point for FR2” for PC1/5.

**2. Actions:**

**To RAN5 group:**

**ACTION:** RAN4 respectfully asks RAN5 to take into account the agreements above, and the definitions of missing configurations introduced in the CRs R4-2403553, R4-2403553, and R4-2408652.

**3. Date of Next TSG-RAN WG4 Meeting:**

RAN4#112 from 19-08-2024 to 23-08-2024 Maastricht, NL

RAN4#112bis from 14-10-2024 to 18-10-2024 China (TBC), CN