**3GPP TSG RAN WG2 Meeting #117-e R2-220xxxx**

**Electronic meeting, 21 Feb- 3 March, 2022**

**Title:** Draft LS on issues requiring RAN1 input

**Response to:**

**Release:** Rel-17

**Work Items:** NR\_pos\_enh-Core

**Source:** Intel (To be RAN WG2)

**To:** RAN WG1

**CC:**

**Contact Person:**

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**Attachment:**

**1. Overall Description:**

RAN2 discussed the open issues for Rel-17 NR positioning enhancements WI (open issues list can be found in R2-2202005 and R2-2201722), following issues are identified as issues requiring RAN1 input:

**Table: Issues requiring RAN1 inputs (FFS in RAN1 parameter list and UE feature list are not listed in the table)**

|  |  |  |
| --- | --- | --- |
| **Topic** | **Issue** | **Required RAN1 work** |
| **Mitigation of UE/TRP Rx/Tx timing delays** | **The definition of TEG is captured in TS38.305 as**  ***UE Rx Timing Error Group (UE Rx TEG)****: A UE Rx TEG is associated with one or more DL timing measurements, which have the Rx timing error difference within a certain margin.*  ***UE RxTx Timing Error Group (UE RxTx TEG):*** *A UE RxTx TEG is associated with one or more UE Rx-Tx time difference measurements, which have the ‘Rx timing errors+Tx timing errors’ difference within a certain margin.*  ***UE Tx Timing Error Group (UE Tx TEG)****: A UE Tx TEG is associated with the transmissions of one or more UL SRS resources for the positioning purpose, which have the Tx timing error difference within a certain margin.*  ***TRP Rx Timing Error Group (TRP Rx TEG):*** *A TRP Rx TEG is associated with one or more UL timing measurements, which have the Rx timing error difference within a certain margin.*  ***TRP RxTx Timing Error Group (TRP RxTx TEG):*** *A TRP RxTx TEG is associated with one or more gNB Rx-Tx time difference measurements, which have the ‘Rx timing errors+Tx timing errors’ difference within a certain margin.*  ***TRP Tx Timing Error Group (TRP Tx TEG):*** *A TRP Tx TEG is associated with the transmissions of one or more DL PRS resources, which have the Tx timing error difference within a certain margin.*  **Issue:** companies in RAN2 commented that the definitions for the different TEG are unclear. The emphasis seems to be about the association with certain measurement but still does not explain the relation to the resources involved and what reference is for the “error difference”. It is also not intuitive what the “group” in TEG refers to; | **RAN1 provides further clarifications and confirmation on the definition;** |
| **Periodic Tx TEG reporting/TEG change procedure**  According to RAN1 LS in R2-2200092: "It is up to RAN2 to decide how to indicate the change of the Tx TEG association during the configured period (e.g., using the timestamps)". what is needed seems an a-periodic report (i.e., a report when the TEG association has changed).  **Issue:** What is the purpose of periodically reporting the same information? Or only a-periodic report is required (i.e., a report when the TEG association has changed)? | **RAN1 provides further clarifications on the issue;** |
| **PRU** | RAN2 has agreed that RAN2 will not discuss PRUs further without further guidance from RAN1 (LS or feature list). | **RAN1 to decide whether PRU is supported in Rel-17;** |
| **Preconfigured MG** | The gNB may activate the pre-configurated measurement gap upon receiving the request from a UE or LMF."  **Issue:** Is the LMF activation of measurement gaps only for pre-configured measurement gaps? Can LMF ask the gNB to activate the MG (e.g. via RRC) even if the gNB did not provide the preconfigured measurement gaps? | **RAN1 provides further clarifications on the issue;** |
| **PRS processing window** | **Issues:**  FFS: Whether UE can be configured with multiple PRS processing windows should be decided by RAN1.  FFS on the max number of PPW configurations (from Stage 2 discussion) | **RAN1 provides further clarifications on the issue;** |
| **FFS in RAN1 parameter list** |  | **RAN1 to resolve the FFFs.** |
| **FFS in RAN1 UE feature list** |  | **RAN1 to resolve the FFFs.** |

**2. Actions:**

**To RAN WG1**

**ACTION:**

* RAN2 respectfully asks RAN1 to take the above into account and provide feedback in February meeting.

**3. Date of Next RAN WG2 Meetings:**

RAN2#118-e 16 – 27 May 2022 Electronic meeting