**3GPP TSG-RAN WG2 Meeting #121bisR2-2304342**

**Electronic April 2023**

**Title:** **DRAFT** LS on 2TA for multi-DCI multi-TRP

**Response to: -**

**Release:** Rel-18

**Work Item:** NR\_MIMO\_evo\_DL\_UL-Core

**Source:** Ericsson (to be replaced with 3GPP TSG-RAN WG2)

**To:** 3GPP TSG-RAN WG1

**Contact Person:**

Name: Helka-Liina Määttänen

Email Address: Helka-liina.maattanen@ericsson.com

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

**Attachments:** None

RAN2 has discussed the 2TA aspects including per TRP UE initiated RACH procedure(CBRA), configuring more than one TAG per serving cell based on RAN1 input and RAN2 contributions.

Whether CBRA is to be supported for Initial TA acquisition per TAG/TRP (when UE is configured with 1 TA operation), RAN2 agreed the following:

* From RAN2 perspective, per TRP UE-initiated RACH procedure is not supported.

As for configuring more than one TAG per serving cell aspects related to grouping and related operation for 2TAs, RAN2 has some questions need to check with RAN1.

1. **TAG groups**

There is general understanding in RAN2 that, in the functionality RAN1 is designing, two time-alignment timers are used for one serving cell. One timer is associated to UL towards one TRP and the other timer is associated to UL towards the other TRP.

RAN2 discussed how the cells/TRPs configured for the UE, are to be grouped if UE is configured with two TA groups per serving cell.

**Question 1 on grouping**

Currently, NR does not impose any requirements in configuring the association of serving cells and TAGs.

**Q1a:** For the 2TA operation, are there any restrictions on the association of serving cells and/or TRPs to the TAGs?”For example, is it possible that one TA group contains serving cells associated to only one TA group and serving cells associated to two TA groups?

**Q1c:** NR currently supports up to 4 TAGs per cell group. Are the 4 TAGs enough or does RAN1 see a need to increase the number of TAGs per cell group?

**Question 2 on operation**

**Q2:** When the time-alignment timer associated with one of the TRPs of a serving cell expires, are certain UL or DL operation only impacted towards that TRP while they are not impacted towards the another TRP? If so, which UL or DL operation?

**3. Actions:**

**To RAN1 group:**

**ACTION:** RAN2 respectfully asks RAN1 to take the agreement into consideration in the future work and provide responses to above questions.

**4. Date of Next TSG-RAN WG2 Meetings:**

TSG-RAN WG2 Meeting #122 May 2023 Incheon

TSG-RAN WG2 Meeting #123 August 2023 Toulouse