**3GPP TSG-RAN WG4 Meeting #104-e R4-2213xxx**

**E-Meeting, 15 Aug. 2022 – 26 Aug. 2022**

**Title:** ReplyLS on MTTD for multi-DCI multi-TRP with two TAs

**Response to:** R1-2205593

**Release:** Rel-18

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

**Source:** RAN WG4

**To:** RAN WG1

**Cc:**

**Contact Person:**

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**Attachments:** None

**1. Overall description:**

RAN4 thanks RAN1 for the LS on maximum uplink timing difference between the two TAs for multi-DCI multi-TRP with two TAs.

From RAN4 understanding maximum uplink timing difference between the two TAs is same as the maximum transmit timing difference between the two uplink signals. From RAN4 specification perspective, RAN4 specifies the maximum transmit timing difference between two uplink signals as MTTD value in RAN4 specification TS 38.133 and MTTD is derived from maximum receive timing difference (MRTD).

RAN4 started discussing the MRTD and MTTD value for the feature multi-DCI multi-TRP with two TAs and would like to provide following as initial response.

If separate RF chain is assumed to be supported at UE, MRTD value can be larger than CP, assuming UE is capable of managing inter MIMO layer interference due to MRTD > CP and the exact value of MRTD further depends on the deployment scenario (e.g., maximum separation between TRPs). RAN4 kindly asks RAN1 if there is any assumption regarding supported scenarios in RAN1 discussion, e.g.

 Whether both FR1 and FR2 are considered

 Whether both synchronous and asynchronous deployment are considered

 What is the expected maximum separation between TRPs

**2. Actions:**

**To RAN4:**

RAN4 kindly requests RAN1 to consider the response above into their future specification work.

**3. Date of Next RAN1 Meetings:**

TSG RAN WG4 Meeting #104bis-e 10 – 19 October 2022 e-Meeting

TSG RAN WG4 Meeting #105-e 14 - 18 November 2022 e-Meeting