**3GPP TSG-RAN WG4 Meeting #104-e R4-2212689**

**Electronic Meeting, August 15 – August 26, 2022**

**Title:** LS on active TCI state list for UL TCI

**Response to:**

**Release:** Rel-17

**Work Item:** NR\_feMIMO-Core

**Source:** RAN WG4

**To:** RAN WG1/WG2

**Cc:**

**Contact Person:**

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**Attachments:**

**1. Overall Description:**

In RAN4 #103-e and RAN4 #104-e meetings, RAN4 has discussed active TCI list with UL TCI switching with path loss measurements.

RAN1 agreed that UE shall maintain path loss reference signal for all activated UL (or Joint) TCI states, but a clear definition has not been provided The maximum number of maintained PL-RS is 4, but the number of active TCI states can be 8. This causes some ambiguities as RAN4 has to defined requirements for what UE does when it's requested to use (UL or Joint) TCI state for which UE has or has not maintained the PL-RS:

1. If UE maintains the PL-RS of the active UL TCI state (or joint) TCI state as per the RAN1 agreement, does the UE maintain all of PL-RSs in the activated UL (or joint) TCI states to support inter-cell or mTRP scenarios?

ii-1. What are the UE capabilities for measuring pathloss to support the active UL TCI list in inter-cell and mTRP?

RAN4 notes that there is no UE capability related to pathloss measurement in TS38.306. RAN4 respectfully asks RAN1/2 to take RAN4 questions in consideration for UL TCI signaling and UE behaviors and define ‘active’ TCI state for ‘UL’.

**2. To RAN WG1 and WG2 group.**

**ACTION:** RAN1/2 kindly answers the questions from RAN4 in consideration for UE behaviors and capability for active TCI state for UL.

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

TSG-RAN4 Meeting #104-bis-e, Oct. 10, 2022.