**3GPP TSG RAN WG1 Meeting #101-e R1-200xxxx**

**E-meeting, May 25 – June 5, 2020**

**Title:** [DRAFT] Reply LS on transmit power of CSI-RS across different occasions

**Response to:** **R1-2003273 (R4-2005377)**

**Release:** Rel-16

**Work Item:** NR\_unlic-core,

**Source:** RAN WG1

**To:** RAN WG4

**Cc:**

**Contact Person:**

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

**Attachments:**

RAN1 received the RAN4 LSon the transmit power of CSI-RS across different occasions and is requested to confirm whether a UE can assume that CSI-RS (for L1-RSRP, RLM, BFD and CBD) is transmitted with the same transmit power across different occasions during the measurement period, and whether this also applies to SSB-based RRM measurements.

RAN1 respectively informs RAN4 that the agreement on not averaging CSI-RS measurements from occasions of an NZP CSI-RS located in different DL transmissions burst is only applied for the CSI-RS not configured with *powerControlOffsetSS*. .For L1-RSRP, RLM, BFD CBD and RRM, the UE determines the SS/PBCH power and the CSI-RS energy per resource element (EPRE) according to section 5.1.4 in 38.214. SS/PBCH power is configured by the RRC parameter *ss-PBCH-BlockPower*. The CSI-RS EPRE is derived from the SS/PBCH block transmit power via a power offset given by the RRC parameter *powerControlOffsetSS*. It is not expected that these parameters are re-configured very often.

RAN1 confirms that UE can assume same transmit power of NZP CSI-RS or SSB (for L1-RSRP, RLM, BFD CBD and RRM) across different occasions and can average the measurement during the measurement period.

**2. Actions:**

**To RAN4.**

**ACTION:** RAN1 kindly requests RAN4 to take the above information into account when considering the design of L1-RSRP, RLM, BFD, CBD and SSB-based RRM measurements for NR-U

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

TSG RAN WG1 Meeting #102-e Aug 2020 e-Meeting

TSG RAN WG1 Meeting #102-bis 12 – 16 Oct 2020 China