**3GPP TSG-RAN WG1 Meeting #105-eR1-210xxxx**

**e-Meeting, May 10th – May 27th, 2021**

**Title: Draft LS on the physical layer aspects for small data transmission**

**Response to:**

**Release:** Rel-17

**Work Item:** NR\_SmallData\_INACTIVE-Core

**Source:** Moderator (ZTE) [RAN1]

**To:** RAN2

**Contact Person:**

#### Name: Li Tian

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**Attachments:** None

**1. Overall Description:**

**TA validation**

RAN1 has further discussed how to define the SSB subset for RSRP based TA validation. It is concluded that the SSB subset is determined at least based on a configured absolute RSRP threshold. However, there remains an FFS point because RAN1 is not clear whether the TA validation will be done per UE, or per CG configuration.

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| [To be confirmed]   * The SSB subset for RSRP based TA validation is determined at least based on a configured absolute RSRP threshold. * FFS the SSB subset which could be   + within a set of SSBs configured per CG configuration   + or within a set of SSBs configured for all CG configurations   + or within a set of all SSBs actually transmitted as indicated in SIB1. |

**Association between SSBs and CG resources for CG-SDT**

RAN1 has further discussed the association between SSBs and CG resources for CG-SDT, and the following agreements have been achieved. RAN1 will continue working on the details of the association.

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| In RAN1#104b-e   * It is RAN1’s common understanding that the CG configuration mechanism in licensed band can be reused for CG-SDT in principle. * CG resources per CG configuration are associated with a set of SSB(s) configured by explicit signalling.   + FFS how to define an SSB-to-PUSCH resource mapping within the CG configuration.   FFS specific changes to the CG configuration to support the additional SSB-to-PUSCH mapping, if any.  In RAN1#105-e   * + The SSB-to-PUSCH resource mapping within the CG configuration is implicitly defined.     - The ordering of the SSB and CG PUSCH resources are to be captured in RAN1 spec.       * A PUSCH resource refers to a transmission occasion and a DMRS resource used for PUSCH transmission       * The ordering of the SSB can reuse from the SSB-to-RO mapping       * The ordering of CG PUSCH resources can reuse from that of MsgA PUSCH as much as possible     - FFS determination of mapping ratio and association period, e.g., explicitly signaled or implicitly derived     - FFS any limitation on the combination of the parameters for CG resources |

**2. Actions:**

**To RAN2:**

**ACTION:** RAN1 respectfully requests that RAN2 takes the above into account.

**4. Date of Next TSG-RAN WG1 Meetings:**

TSG-RAN WG1 Meeting #106-e 16 Aug. – 27 Aug. 2021 Electronic Meeting

TSG-RAN WG1 Meeting #106-bis-e 11 Oct. – 19 Oct. 2021 Electronic Meeting