**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 some FFS issues for details as below.

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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.
	+ highest N SSBs that are measured to derive the subset for a UE across all CG configurations
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**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
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**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