**3GPP T****SG-RAN WG2 Meeting #114-electronic R2-210xxxx**

**Online, May 19th – May 27th, 2021**

**Title: [Draft] Reply LS to RAN1 on physical layer aspects of small data transmission**

**Response to:** **R1-2102125**

**Release: Release 17**

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

**Source:** **vivo [to be RAN2]**

**To: RAN1**

**Contact Person:**

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

**Attachments: N/A**

**1. Overall Description:**

RAN2 would like to thank RAN1 for their reply LS on physical layer aspects of small data transmission.

RAN2 has concluded that new common search space is supported for RA-SDT. The relevant agreement was made as follows,

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| **Agreement:**   1. The separate search space is common to the UEs performing RA-SDT. Inform RAN1 of this agreement |

Furthermore, RAN2 discussed the details of both RA-SDT and CG-SDT leading to the following agreements with potential RAN1 impacts.

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| **Agreement:**  For RA-SDT   1. CFRA is not supported for RA-SDT   For CG-SDT   1. Working assumption: UE-specific search space is configured for UEs performing CG-SDT. RAN2 asks RAN1 whether this working assumption can be confirmed 2. CG-SDT resource can be configured on either initial BWP or separate SDT BWP. Ask RAN1 to confirm |

For RA-SDT, in particular, RAN2 would like to request RAN1 to investigate and provide feedback on the PRACH resource configuration including but not limited to the following aspects,

1. Details of the configuration of the number of PRACH preambles per SSB for RA-SDT when PRACH occasions are shared between SDT and non-SDT;
2. Whether to introduce shared RO mask index (i.e. PRACH occasions sharing between SDT and non-SDT, PRACH occasions sharing between 2step RA-SDT and 4step RA-SDT);
3. Details of the PRACH occasion configuration when the PRACH occasions are separately configured for SDT and non-SDT;
4. Details of the configuration of SSB to PRACH preamble/occasion association when the PRACH occasions are separately configured for SDT and non-SDT.

For CG-SDT, RAN2 respectfully requests RAN1 if the agreements 3/4 mentioned above can be confirmed.

**2. Actions:**

RAN2 respectfully asks RAN1 to provide feedback on the physical layer aspects of small data transmission as requested above.

**3. Date of Next RAN2 Meetings:**

TSG-RAN WG2 Meeting #115-e 16th – 27th August 2021 E-meeting

TSG-RAN WG2 Meeting #116-e 1st – 12th Novemebr 2021 E-meeting