**3GPP TSG-RAN WG1 Meeting #107-e R1-211xxxx**

**e-Meeting, November 11th – 19th, 2021**

**Agenda Item: 5.2**

**Source: Moderator (ZTE)**

**Title: Comments collection on RRC parameters for small data transmission**

**Document for: Discussion**

# Introduction

This paper is to collect comments for RRC parameters for SDT work item. The RRC parameters are captured in the excel sheet in the same folder.

# CG-SDT

## Discussion

One company[1] has proposed the following proposal for general configuration for CG-SDT:

***Proposal: The following options can be considered for configuration of CG-SDT:***

* ***Option 1: Reuse existing BWP dedicated configuration (i.e. BWP-DownlinkDedicated and BWP-UplinkDedicated) for CG-SDT and clarify in RAN1 which parameters (e.g. pucch-Config, beamFailureRecoveryConfig) are applicable to CONNECTED mode only and should be ignored in CG-SDT operation.***
* ***Option 2: Define/use a new BWP dedicated (i.e. BWP-DownlinkDedicatedSDT and BWP-UplinkDedicatedSDT )configuration for SDT instead of the legacy one. RAN1 needs to identify the parameter list for the new SDT specific BWP dedicated configuration, and ask RAN2 to formulate the details of the IE structure.***

Moderator understands that it’s up to RAN2’s decision to take either way to formulate the CG-SDT configuration structure, but RAN1 needs to provide enough information on the RRC parameters for both options. The current parameter list is prepared to capture all SDT related RAN1 parameters, if the above Option 1 is adopted by RAN2, they could understand that any other parameters in *BWP-DownlinkDedicated* and *BWP-UplinkDedicated* can be ignored except the parameters listed in the excel sheet. If Option 2 is adopted by RAN2, they could use all the parameters in the excel sheet to formulate the SDT dedicated IE structure in some way they want.

Moderator has the following explanations on the parameter list:

* Row 2~16 can be denoted as Set#1 which includes new parameters and existing parameters that need revisions. These rows contain relevant agreements or a specific note in column P to help RAN2 understand the situation.
* Row 17~34 can be denoted as Set#2, these are existing parameters in current CG configuration in licensed band, from Moderator’s understanding, the value range and configuration of these parameters can be directly reused according to the conclusion below, but considering that it’s up to RAN2 to decide whether to define SDT specific configuration as discussed above, Moderator suggests to provide these parameters in the list with the note in column P.
* For other parameters in *ConfiguredGrantConfig* IE but not included in the list, Moderator thinks these are either RAN2 related parameters(e.g. *configuredGrantTimer*) or unlicensed band parameters(e.g. *cg-nrofPUSCH-InSlot-r16*), there is no need to provide these parameters to RAN2.

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| **Conclusion:*** It is RAN1’s common understanding that the CG configuration mechanism in licensed band can be reused for CG-SDT in principle.
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## Comments

The above section explains what Moderator understands on the parameter list for CG-SDT, companies are encouraged to share their views on the general structure of parameter list and specific changes to the parameters in Set#1 and Set#2.

Any comments?

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# RA-SDT

## Discussion

For RA-SDT, Moderator has the following clarifications:

* Row 35~43 can be denoted as Set#3, which includes new parameters and existing parameters that need revisions,
* Row 44~61 can be denoted as Set#4, these are existing parameters for separate ROs for 4-step RACH and 2-step RACH, the value range and configuration of these parameters can be directly reused according to the agreement below, but considering that it’s up to RAN2 to decide whether to define RA-SDT specific configuration, Moderator suggests to provide these parameters in the list with the note in column P.
* For other parameters in existing 4-step/2-step non-SDT but not included in the list, Moderator thinks these are RAN2 related parameters(e.g. *ra-ContentionResolutionTimer-r16*), there is no need to provide these parameters to RAN2.

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| **Agreement:*** For RA-SDT, when PRACH occasions are separate between SDT and non-SDT, PRACH resource configurations/parameters for 4-step RACH and/or 2-step RACH should be re-used as much as possible for 4-step RACH and/or 2-step RACH based SDT, respectively.
	+ Note: It is up to RAN2 discussion on the RO configuration for RA-SDT in separate ROs.
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## Comments

The above section explains what Moderator understands on the parameter list for RA-SDT, companies are encouraged to share their views on the general structure of parameter list and specific changes to the parameters in Set#3 and Set#4.

Any comments?

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# Summary

The final proposals will be added later.

# References

1. R1-2111356 Discussion on the remaining physical layer issues of small data transmission ZTE, Sanechips