**3GPP TSG RAN WG1 #105-e R1-210xxxx**

**e-Meeting, May 10 – 27, 2021**

**Agenda Item: 8.11**

**Source: Moderator (ZTE)**

**Title: Moderator summary of Email Discussion/approval to rely LS in R1-2100021**

**Document for: Discussion and Decision**

# Introduction

The reply LS to R1-2100021 was discussed during two previous RAN1 meetings. Given the reply is closely related to whether UE is allowed to perform sensing operations including PSCCH monitoring and RSRP measurement during SL DRX inactive time, this document will try to collect companies' views on this topic. Discussion on this topic captured in [2] during RAN1#104b-e is used as a starting point to facilitate smooth progress.

# Discussions

It's moderator's understanding that the scope of this discussion is limited to the topic whether UE is allowed to perform PSCCH monitoring and RSRP measurement during SL DRX inactive time, while the details should be up to the progress of RAN2 discussion on DRX configuration and RAN1 discussion on 8.11.1.1 resource allocation for power saving if the majority is UE is allowed to perform such operations. Under this consideration, we would like to ask for companies' views on their preference over the following three alternatives on the proposed possible agreement. Alt 1 and Alt 2 were raised as FL proposal from 8.11.1.1 to this topic. Alt 3 is consolidated based on a contribution submitted to this meeting under AI 5 on this topic.

* Alt 1 A UE can perform SL reception of PSCCH and RSRP measurement for sensing during its SL DRX inactive time. FFS details
* Alt 2 It is up to UE implementation to perform SL reception of PSCCH and RSRP measurement for sensing during its SL DRX inactive time.
* Alt 3 A UE is not required to perform sensing out of the DRX active time

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| Company | View |
| ZTE, Sanechips | Alt 1. Based on RAN2’s progress, we can get the following observations on SL DRX:1. The granularity of SL DRX operation could be per a pair of source/destination, or per cast type, or per L2 destination ID.
2. The SL DRX configurations can be obtained from pre-configuration ,SIB ,dedicated-RRC or PC5-RRC.
3. For one UE, more than one SL DRX configurations would be configured.
4. For unicast, the SL DRX for both Tx UE and RX UE can be acquired by one UE.

In case the sensing window or the slots which are expected to be sensed in sensing window (for partial sensing), overlaps the off-duration of SL DRX, the UE is not expected to perform sensing on those slots during the off-duration of SL DRX. This could lead to performance degradation and impact on sensing procedure.Apart from the concerns of performance/sensing procedure, the following issues should be considered too.Issue 1: Based on observation 1, which granularity of SL DRX should be applied in current partial sensing?Issue 2: Based on observation 4, in unicast, whether SL DRX of Tx UE or RX UE should be applied? Which UE is the target RX UE for the current partial sensing?Issue 3: Based on observation 2, in groupcast/broadcast, for an OoC UE, if its pre-configured SL DRX is applied to sensing, is it feasible for a target RX UE which is in coverage?Issue 4: Based on observation 3, if more than one SL DRX configurations are configured, one or all of configured SL DRX should be applied for partial sensing?In addition, according to Rel-16 sensing procedure, PHY doesn’t know the sensed resources would be used for which HARQ process, which destination ID, which cast-type, HARQ enable/disable, etc. And for V2X, safety is the first priority, the sensing reliability and collision detection are the key points for sensing. Power saving can be mostly obtained by setting sensing parameters reasonably. Thus it's sensible that UE can perform SL reception of PSCCH and RSRP measurement for sensing during its SL DRX inactive time. |

# Conclusion

TBD

# References

1. Chair's Notes RAN1#104b-e v012
2. R1-2104093, FL summary for AI 8.11.1.1 – resource allocation for power saving (final), Moderator(OPPO)