**3GPP TSG RAN WG2#123bis R2-231xxxx**

**Xiamen, China, 9th - 13th October 2023**

**Title: [Draft] Reply LS on Priority Handling for SL Positioning**

**Response to: R2-2309419\_R1-2308559**

**Release: Rel-18**

**Work Item:** **NR\_pos\_enh2**

**Source:** **RAN2**

**To:** **RAN1**

**CC:**

**Contact Person:**

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

Attachments: None

# Overall description

RAN2 thanks RAN1 for their LS on Priority Handling for SL Positioning. RAN2 discussed SL positioning MAC related issues and made the following agreement:

Agreements:

Support the following at least the following contents within the MAC CE for SL-PRS resource request: FFS whether both of them can be items with a list

 Destination ID (indicated by an index rather than the complete destination ID)

 Priority

When UL-SCH resource cannot accommodate SL-PRS resource request MAC CE plus its subheader, the UE should send SR to the gNB, either by SR-PUCCH or SR-PRACH.

SL-PRS resource request MAC CE is cancelled when the MAC CE is transmitted. FFS the other conditions to cancel the MAC CE.

SR triggered by the SL-PRS resource request MAC CE is cancelled when the MAC CE is transmitted. FFS the other conditions to cancel the SR.

Do not support activation/deactivation of the CG type2 by the UE sending a MAC CE.

CG confirmation MAC CE is needed when the DCI for CG type 2 activation/deactivation command is successfully received.

Decide on the issue of whether to reuse the legacy Sidelink Configured Grant Confirmation MAC CE when the CG configurations are provided by RAN1.

Confirm that dedicated/shared RP can be configured at the same time.

Leave the resource pool selection to UE implementation among resource pools allowing SL-PRS transmission when resource selection is triggered for SL-PRS transmission.

Legacy conditions for resource selection/reselection check can be reused when the shared pool is selected.

Legacy conditions for resource selection/reselection can be the baseline when the dedicated pool is selected.

The following two conditions are not applicable for the conditions for resource selection/reselection for dedicated resource pool.

 if PSCCH duration(s) and 2nd stage SCI on PSSCH for all transmissions of a MAC PDU of any selected sidelink grant(s) are not in SL DRX Active time as specified in clause 5.28.3 of the destination that has data to be sent.

 if the selected sidelink grant cannot accommodate a RLC SDU by using the maximum allowed MCS configured by RRC in sl-MaxMCS-PSSCH associated with the selected MCS table and the UE selects not to segment the RLC SDU

If the transmission with the selected grant cannot fulfill the remaining SL-PRS delay budget, resource selection/reselection is performed.

The following legacy parameters are selected/reselected when the TX resource (re-)selection is triggered in the shared resource pool.

(a) Resource reservation interval, when the transmission of periodic SL-PRS

(b) COUNTER value, when the transmission of periodic SL-PRS

(c) Number of HARQ retransmissions

(d) frequency resources within the range

The following parameters are selected/reselected when the TX resource (re-)selection is triggered in the dedicated resource pool. [15/15] FFS the number of retransmissions.

(a) resource reservation interval, when the transmission of periodic SL-PRS

(b) COUNTER value, when the transmission of periodic SL-PRS

When resource selection is triggered for the transmission of both data and SL-PRS on shared resource pool, the priority is determined by MAC as the higher priority of the two for the usage of both MAC and PHY. Send a reply LS to RAN1

The priority of the data should follow the priority of PRS when there is only SL-PRS pending for transmission on shared resource pool.

For a SL grant in dedicated resource pool, MAC layer selects the destination that has the highest priority of the SL PRS for transmission. FFS the other criteria for destination selection in shared resource pool

For a SL Grant in shared resource pool, MAC layer selects the destination with the highest priority of the SL-PRS and SL-SCH data. FFS the other criteria for destination selection in shared resource pool

When the destination of the shared resource pool is already selected when there are both SL-PRS and data pending for transmission, SL PRS is transmitted when there is remaining resources for SL-PRS after the SL-SCH with higher priority has already been allocated; if there is no higher priority data, SL-PRS can be transmitted.

If a SL PRS is transmitted in the SL grant in the shared pool, legacy LCP rules can be performed to construct MAC PDU associated with the SL grant after TBS is provided from PHY.

If the selected destination only has pending SL PRS, the MAC entity should generate MAC PDU containing only padding MAC subPDU for the transmission along with SL-PRS.

DRX and dedicated resource pool for PRS transmission should not be applied together. This does not preclude the NW configuration for dedicated RP to be configured together with DRX.

Collision handling between SL/UU for SL-PRS is based on the L1 priority.

SL-PRS is prioritized over PUSCH/PUCCH when

 The value of the priority of PUSCH/PUCCH is higher than a threshold, as in legacy

 The value of the priority of SL-PRS is lower than a threshold

When resource selection is triggered for SL-LCH data transmission, dedicated pool should not be selected.

Actions

**To RAN WG1**

**ACTION:** RAN2 respectfully asks RAN WG1 to take the above agreement and conclusion into account.

3 Dates of next TSG RAN WG 2 meetings

TSG RAN WG2 Meeting #124 November 13 – November 17, 2023 Chicago, US

TSG RAN WG2 Meeting #125 February 26 – March 1, 2024 Athens, GR