**[103-e-NR-Rel-16-V2X-06]: Email discussion/approval regarding remaining issues in prioritization between SL and UL**

* **Issue PP-2: Prioritization rule between PSCCH/PSSCH and PUCCH without SL HARQ reports and SR/PUSCH without UL-SCH/SRS**
* **Issue PP-3: Prioritization rule between PSFCH/S-SSB reception(s) and UL transmission(s)**
* **Issue PP-4: PRACH and MsgA PUSCH are prioritized over SL transmission**

**till 10/30, with a potential CR by 11/4 – Hanbyul (LGE)**

**Issue PP-2: Prioritization rule between PSCCH/PSSCH and PUCCH without SL HARQ reports and SR/PUSCH without UL-SCH/SRS**

Q1: Do you agree following the proposal?

Proposal:

*For prioritization between PSCCH/PSSCH TX and UL TX,*

* *When the overlapping UL TX is PUCCH with neither SL HARQ reports nor SR, PUSCH without UL-SCH, or SRS,*
  + *when UL TX is associated with a DCI indicating “high” in “priority field” or configured with “high priority” by higher layers (i.e., URLLC case)*
    - *If SL-threshold for URLLC case is configured, LTE rule is used (i.e., UL TX is down-prioritized if the priority value of SL-TX is smaller than SL-threshold, otherwise prioritized)*
    - *Otherwise, UL TX is prioritized*
  + *Otherwise, LTE rule is used with another SL-threshold configured for non-URLLC case*

|  |  |  |
| --- | --- | --- |
| Company | Answer | Comment |
| LGE | Yes |  |
| NTT DOCOMO | Yes |  |
| Ericsson | Yes |  |
| Apple | Yes |  |
| Futurewei | Yes |  |
| Qualcomm | Yes |  |
| OPPO | Yes |  |
| Huawei, HiSilicon |  | We agree with the principle in technical, however, we are wondering whether the proposal has covered by the current spec.  In the TS38.213 section 16.2.4: *UL transmission other than a PRACH, or a PUSCH scheduled by an UL grant in a RAR, or a PUCCH with sidelink HARQ-ACK information report,* which already captures the cases of SRS and PUSCH without UL-SCH. As the SR part, it is handled by RAN2 agreement. |
| vivo | Yes |  |
| ZTE,Sanechips | Yes | This proposal is agreeable. But we are wondering whether this proposal is sufficient if we are to adopt the following CR(which we believe to be essential) or instead "For prioritization between SL transmission and UL transmission..."  For prioritization between PSCCH/PSSCH/PSFCH/S-SS/PSBCH block transmission and UL transmission other than a PRACH, or a PUSCH scheduled by an UL grant in a RAR, or a PUCCH with sidelink HARQ-ACK information report  To our understanding, at least two points are missing:  - msg3 PUSCH is prioritized over PSCCH/PSSCH  - The prioritization between PSCCH/PSSCH and PUSCH with UL-SCH/SRS follows that of the principle in the proposal |
| Panasonic | Yes |  |
| Samsung | Yes |  |

**Issue PP-3: Prioritization rule between PSFCH/S-SSB reception(s) and UL transmission(s)**

Q2: Do you agree the following proposal?

Proposal:

*For prioritization between PSFCH/S-SSB RX and UL TX,*

* *The priority of PSFCH RX is the highest priority of the associated PSCCH/PSSCH*
* *The priority of S-SSB RX is equal to the (pre-)configured priority introduced for in-device coexistence.*
* *When the overlapping UL TX other than PUCCH carrying SL HARQ reporting, PRACH, PUSCH scheduled by RAR UL grant, and PUSCH for Type-2 random access procedure (i.e. MsgA),*
  + *when UL TX is associated with a DCI indicating “high” in “priority field” or configured with “high priority” by higher layers (i.e., URLLC case)*
    - *If SL-threshold for URLLC case is configured, LTE rule is used (i.e., UL TX is down-prioritized if the priority value of SL-TX is smaller than SL-threshold, otherwise prioritized)*
    - *Otherwise, UL TX is prioritized*
  + *Otherwise, LTE rule is used with another SL-threshold configured for non-URLLC case*

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| --- | --- | --- |
| Company | Answer | Comment |
| LGE | Yes |  |
| NTT DOCOMO | Yes |  |
| Ericsson | Yes |  |
| Apple | Yes |  |
| Futurewei | Yes |  |
| Qualcomm | Yes |  |
| OPPO | Yes |  |

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| Huawei, HiSilicon |  | For the first and third bullet, we are ok in principle. For the second bullet, as it is agreed the priority of S-SSB is pre-configured per UE in RAN1 98bis, the Rx UE may have no acknowledgement about the priority of the received S-SSB.  Agreements:   * + For sidelink synchronization signal/channel (including S-SSB and LTE SLSS/PSBCH) priority for a UE is (pre)-configured per UE     - The (pre)-configured priority is used in the same way as the priority for other channel/signals w.r.t. prioritization for handling in-device co-existence     - Note: it is understood that the same priority (pre)-configuration is intended for all the related UEs   + The priority of PSFCH is set as the priority of the corresponding PSSCH.   So it can be clarified that the priority is the one pre-configured for RX UE.   * *The priority of S-SSB RX is equal to the (pre-)configured priority for the Rx UE, which is introduced for in-device coexistence.* |
| Vivo | Yes | Clarification is beneficial based on Huawei’s comment |
| ZTE,Sanechips | Yes |  |
| Panasonic | Yes |  |
| Samsung | Yes |  |

**Issue PP-4: PRACH and MsgA PUSCH are prioritized over SL transmission**

Q3: Do you agree the following proposal?

Proposal:

* *PRACH, PUSCH scheduled by RAR UL grant, and PUSCH for Type-2 random access procedure (i.e. MsgA) are always prioritized over SL transmissions or receptions*

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| Company | Answer | Comment |
| LGE | Yes |  |
| NTT DOCOMO | Question | We are fine with the proposal for at least the following  - PRACH vs SL transmission/reception.  - Msg3/MsgA vs SL transmission/eception other than PSCCH/PSSCH.  For Msg3/MsgA vs PSCCH/PSSCH, we are not sure whether 38.321 does not cover this situation. 5.22.1.3.1a (following text) could cover…?  ‘if there is a MAC PDU to be transmitted for this duration in uplink, except a MAC PDU obtained from the Msg3 buffer, the MSGA buffer, or prioritized as specified in clause 5.4.2.2, and the sidelink transmission is prioritized over uplink transmission:’ |
| Ericsson | Yes |  |
| Apple | Yes |  |
| Futurewei | Yes |  |
| Lenovo/MoTM | Question | We are fine with the proposal, just one question  Should we further classify the RACH with respect to Pcell and Scell for comparing against SL Tx ?  RACH for Pcell is prioritized compared to SL Tx/Rx  RACH for Scell is not prioritized compared to SL Tx/Rx |
| Qualcomm | Yes |  |
| OPPO | Yes |  |
| Huawei, HiSilicon | Yes | Based on the RAN2 agreement, it is reasonable to prioritize MsgA over SL physical signaling/channel. In addition, same prioritization should be applied to the retransmission of Msg3 and MsgA. |
| Vivo | Concern | We understand the intention is to protect RACH related signaling, then why Msg. 3 retransmission is not included? |
| ZTE,Sanechips | Yes |  |
| Panasonic | Yes |  |
| Samsung | Yes |  |

**Others**

Q4: If there are any other aspects that need to be considered in the scope of this email discussion, please specify them.

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| Company | Comment |
| Ericsson |  |
| Lenovo/MoTM | Should we discuss the proposal where PUCCH/PUSCH carrying CSI can be down-prioritized compared to SL Tx/Rx along with the first proposal |
| Huawei, HiSilicon | The case for Prioritization rule between PUSCH carrying SL HARQ-ACK reports and SL transmission should be discussed. Based on the procedure for handling overlapping, multiplexing between UL transmissions is applied before UL-SL prioritization. So it is very likely the PUSCH with SL HARQ overlaps with SL transmission. During the preparation phase, five companies including us had proposed the issue to be discussed, but not covered in this thread. Therefore, we think the issue is essential and should be listed in email discussion scope. |
| ZTE,Sanechips | Only the issue raised in our response to Q1 |

**Proposal set #1**

Proposal 1:

For prioritization between PSCCH/PSSCH TX and UL TX,

* When the overlapping UL TX is PUCCH with neither SL HARQ reports nor SR, PUSCH without UL-SCH, or SRS,
  + when UL TX is associated with a DCI indicating “high” in “priority field” or configured with “high priority” by higher layers (i.e., URLLC case)
    - If SL-threshold for URLLC case is configured, LTE rule is used (i.e., UL TX is down-prioritized if the priority value of SL-TX is smaller than SL-threshold, otherwise prioritized)
    - Otherwise, UL TX is prioritized
  + Otherwise, LTE rule is used with another SL-threshold configured for non-URLLC case

Proposal 2:

For prioritization between PSFCH/S-SSB RX and UL TX,

* The priority of PSFCH RX is the highest priority of the associated PSCCH/PSSCH
* The priority of S-SSB RX is equal to the (pre-)configured priority for the Rx UE, which is introduced for in-device coexistence.
* When the overlapping UL TX other than PUCCH carrying SL HARQ reporting, PRACH, PUSCH scheduled by RAR UL grant, and PUSCH for Type-2 random access procedure (i.e. MsgA),
  + when UL TX is associated with a DCI indicating “high” in “priority field” or configured with “high priority” by higher layers (i.e., URLLC case)
    - If SL-threshold for URLLC case is configured, LTE rule is used (i.e., UL TX is down-prioritized if the priority value of SL-TX is smaller than SL-threshold, otherwise prioritized)
    - Otherwise, UL TX is prioritized
  + Otherwise, LTE rule is used with another SL-threshold configured for non-URLLC case

Proposal 3:

* PRACH, PUSCH scheduled by RAR UL grant [and its retransmission], PUSCH for Type-2 random access procedure (i.e. MsgA) [and its retransmission] are always prioritized over SL transmissions or receptions