# **[100b-e-NR-5G\_V2X\_NRSL-SL\_PHY\_Procedure-02] SL/UL prioritization and UL/SL power sharing**

[100b-e-NR-5G\_V2X\_NRSL-PHY-Procedure-02] Email discussion/approval regarding SL/UL prioritization and UL/SL power sharing

* Prioritization in the cases mentioned in RAN2 LS ([R1-2000161](file:///C:\Users\wanshic\OneDrive%20-%20Qualcomm\Documents\Standards\3GPP%20Standards\Meeting%20Documents\TSGR1_100b\Docs\R1-2000161.zip)), i.e., “how to handle all other physical channels in UL/SL prioritization”
* Prioritization between UL TX and SL TX in case of simultaneous TXs of UL and SL across difference carriers

till 4/23, with potential TPs by 4/28 (Hanbyul, LGE)

**1. SL/UL prioritization for dropping**

Q1 (PSFCH): When PSFCH TX overlaps with UL TX, what is the prioritization rule for dropping?

- Option 1: Use the prioritization rule for UL SCH and SL SCH collision (i.e., the SL transmission is prioritized if the highest priority value of UL LCH(s) with available data is larger than the UL priority threshold and the highest priority value of SL LCH(s) with available data is lower than the SL priority threshold. Otherwise the UL transmission is prioritized.)

- Option 2: Use the LTE rule (i.e., UL TX is down-prioritized if SL-TX is higher than SL-threshold, otherwise prioritized)

- Option 3: Others (please specify it)

Q1-1: Which option do you prefer when PSFCH TX overlaps with UL TX assigned with UL SCH priority by the RAN2 agreements in R1-2000161? Feature lead understands that UL TX in this case includes UL data and UL-triggered SR.

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Q1-2: Which option do you prefer when PSFCH TX overlaps with UL TX NOT assigned with UL SCH priority by the RAN2 agreements in R1-2000161? Feature lead understands that UL TX in this case includes PUCCH with HARQ feedback for DL, CSI, LRR, PUSCH without UL-SCH, and SRS. Note that PUCCH carrying SL HARQ reporting will be discussed in a separate question Q3.

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Q1-3: At least Option 1 and Option 2 require a priority of PSFCH TX. Do you agree that the priority of PSFCH TX is the highest priority of the associated PSCCH/PSSCH?

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Q2 (S-SSB): When S-SSB TX overlaps with UL TX, what is the prioritization rule for dropping?

- Option 1: Use the prioritization rule for UL SCH and SL SCH collision (i.e., the SL transmission is prioritized if the highest priority value of UL LCH(s) with available data is larger than the UL priority threshold and the highest priority value of SL LCH(s) with available data is lower than the SL priority threshold. Otherwise the UL transmission is prioritized.)

- Option 2: Use the LTE rule (i.e., UL TX is down-prioritized if SL-TX is higher than SL-threshold, otherwise prioritized)

- Option 3: Others (please specify it)

Q2-1: Which option do you prefer when S-SSB TX overlaps with UL TX assigned with UL SCH priority by the RAN2 agreements in R1-2000161? Feature lead understands that UL TX in this case includes UL data and UL-triggered SR.

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Q2-2: Which option do you prefer when S-SSB TX overlaps with UL TX NOT assigned with UL SCH priority by the RAN2 agreements in R1-2000161? Feature lead understands that UL TX in this case includes PUCCH with HARQ feedback for DL, CSI, LRR, PUSCH without UL-SCH, and SRS. Note that PUCCH carrying SL HARQ reporting will be discussed in a separate question Q3.

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Q2-3: At least Option 1 and Option 2 require a priority of S-SSB TX. How is the priority of S-SSB determined?

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Q3 (PUCCH carrying SL HARQ reporting): Do you agree that the priority of PUCCH carrying SL HARQ reporting is the highest priority of the associated PSFCH?

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Q3-1: If answer to Q3 is yes, when PUCCH carrying SL HARQ reporting overlaps with SL TX, do you agree that the one with a higher priority is transmitted?

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Q3-2: If answer to Q3 is yes, when PUCCH carrying SL HARQ reporting overlaps with UL TX, do you agree that the rule of UL/SL prioritization applies by treating PUCCH carrying SL HARQ reporting as SL TX?

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Q3-3: If answer to Q3 is no, what is the prioritization rule when PUCCH carrying SL HARQ reporting overlaps with SL TX and when overlaps with another UL TX?

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Q4: For handling the case where more than one SL and UL transmissions overlap, do you agree the following proposal?

* Proposal
  + For more than one SL transmissions overlapping with a UL transmission, the highest priority of SL transmissions is used for the prioritization.
  + For more than one UL transmissions overlapping with a SL transmission, the highest priority of UL transmissions is used for the prioritization.

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**2. Prioritization between UL TX and SL TX in case of simultaneous TXs of UL and SL across difference carriers**

Q5: Do you agree that the prioritization rule between UL TX and SL TX for power sharing reuses the prioritization rule for dropping?

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Q5-1: If the answer to Q5 is yes, do you think the prioritization behavior for power sharing needs to be captured in the physical layer specifications for the cases where RAN2 made agreements for dropping (e.g., UL SCH and SL SCH)?

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Q5-2: If the answer to Q5 is no, what is the prioritization rule for power sharing?

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