**#3GPP TSG RAN WG1 #103-e R1-200xxxx**

**e-Meeting, October 26th – November 13th, 2020**

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**Source:** Moderator (LG Electronics)

**Title:** Feature lead summary#1 for physical layer procedure aspects in AI 7.2.4

**Document for:** Discussion and decision

# **Potential issues for email discussions**

* Physical layer procedure
  + Thread 1
    - Issue #2: Prioritization rule between PSCCH/PSSCH and PUCCH without SL HARQ reports/PUSCH without UL-SCH/SRS
    - Issue #3: Prioritization rule between PSFCH/S-SSB reception(s) and UL transmission(s)
    - Issue #4: MsgA PUSCH is prioritized over SL transmission
  + Thread 2
    - Issue #7: Interpretation of sidelink slot for TRIV and resource reservation

# **Physical layer procedure**

Issue #1: Prioritization rule between PUSCH carrying SL HARQ-ACK reports and SL transmission [Huawei,4] [LGE,9] [Apple,48] [vivo,68] [KT,69] [Ericsson,70]

* Option 1: Reuse prioritization between 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 [LGE,9]
  + No spec change is needed
* Option 2: SL transmission is prioritized when the SL transmission is prioritized over both UL-SCH and SL HARQ-ACK reporting [Huawei,4] [Apple,48] [vivo,68] [KT,69] [Ericsson,70]
  + Relevant TP can be found in [Huawei,4] [Apple,48] [vivo,68]

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

* Reuse prioritization between 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 [LGE,9] [ZTE,21] [DCM,59]
  + Relevant TP can be found in [LGE,9] [ZTE,21] [DCM,59]
* PRACH is prioritized over PSCCH/PSSCH [DCM,59]

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

* Reuse prioritization between 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 [LGE,9] [ZTE,21] [Ericsson,70]
  + Relevant TP can be found in [LGE,9] [ZTE,21]

Issue #4: MsgA PUSCH is prioritized over SL transmission

* Support: [Apple,48] [vivo,68] [Ericsson,70]
  + Relevant TP can be found in [Apple,48] [vivo,68]

Issue #5: Prioritization rule between PSFCH TX and PSFCH RX or between PSFCH TX and PSFCH TX for tie-break

* Up to UE implementation [LGE,9] [Apple,48]
* Additional rule based on HARQ-ACK feedback option and HARQ-ACK state [CATT,16] [KT,69] [Ericsson,70]
  + Relevant TP can be found in [CATT,16]

Issue #6: Prioritization rule between PUCCH carrying SL HARQ-ACK reporting and SL transmission for tie-break

* Up to UE implementation [LGE,9] [ZTE,21] [Apple,48]
* Additional rule [Ericsson,70]

Issue #7: Interpretation of sidelink slot for TRIV and resource reservation [Huawei,4] [LGE,5] [OPPO,32] [Apple,48]

* Option 1: For TRIV interpretation and resource reservation period, the logical slots belonging to a resource pool. [Huawei,4] [LGE,5] [Apple,48]
  + Relevant TP can be found in [Huawei,4] [LGE,5]
* Option 2: For TRIV interpretation and resource reservation period, the logical slots can belong to a resource pool [OPPO,32]
  + Relevant TP can be found in [OPPO,32]

Issue #8: Capture constraint on total SL TX power in case of simultaneous transmission of SL and UL

* Support: [LGE,9] [Spreadtrum,31]
  + Relevant TP can be found in [LGE,9] [Spreadtrum,31]

Issue #9: Whether or how to handle the case where SL HARQ-ACK reports and Uu UCI are collided in a PUSCH [DCM,59]

* Non-overlapping PUCCH can overlapping with a PUSCH
* After resolving overlapping PUCCH(s), Uu UCI or SL HARQ-ACK reporting on PUCCH is collided with Uu UCI on PUSCH

Issue #10: UCI piggybacking on PUSCH based on priority value of SL and priority index of Uu link [vivo,68]

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