3GPP TSG-RAN WG2 Meeting #119bis electronic R2-22xxxxx
Online, October 10 – 19, 2022

Agenda Item: 9.5

Source: Session Chair (Samsung)

Title: Report from session on NR SL

Document for: Approval

Time Schedule
Please refer to the latest schedule in the RAN2 inbox on the public 3GPP servers.

## List and Status of Offline Email Discussions

**[POST] Email discussion**

**[AT] Email discussion**

## Approved outgoing LSs

## 6.15 NR Sidelink enhancements

(NR\_SL\_enh-Core; leading WG: RAN1; REL-17; WID: RP-202846)

Tdoc Limitation: 3 tdocs

Note some agenda item(s) may use pre-meeting discussion based on a summary document.

### 6.15.1 Organizational

Including incoming LSs, rapporteur inputs, etc.

R2-2209310 Reply LS to RAN2 on RRC parameters for IUC Scheme 1 and default CBR configuration (R1-2208090; contact: Huawei) RAN1 LS in Rel-17 NR\_SL\_enh-Core To:RAN2

R2-2209311 Reply LS on power-saving resource allocation with absent sl-AllowedResourceSelectionConfig (R1-2208097; contact: vivo) RAN1 LS in Rel-17 NR\_SL\_enh-Core To:RAN2

R2-2209349 Reply LS to RAN2 on Tx profile (S2-2207033; contact: vivo) SA2 LS in Rel-17 eV2XARC\_Ph2, 5G\_ProSe, NR\_SL\_enh-Core To:RAN2 Cc:CT1

### 6.15.2 Control plane corrections

R2-2209462 Discussion on the LS in R1-2208121 on open-loop power control (OLPC) parameters for NR sidelink vivo discussion Rel-17 NR\_SL\_enh-Core

Proposal 1a: For each Tx pool configuration in SIB12 and dedicated signalling, legacy Rel-16 OLPC parameters for NR SL with suffix “-r16” are not used in Rel-17 Spec (and later release on), meaning:

* A Rel-17 UE will ignore the legacy Rel-16 OLPC parameters for NR SL with suffix “-r16”;
* The Rel-17 gNB will not configure the legacy Rel-16 parameters for NR SL with suffix “-r16”.

Proposal 2: Dummify the Rel-16 OLPC parameters for NR SL in Rel-17 Spec, and capture in the field description for each of the dummified field that “This field is not used in the specification. If received it shall be ignored by the UE.”

Proposal 3: Capture in the field description for each of the new Rel-17 OLPC parameters that for the UE capable of the new OLPC feature for NR SL, indicates the P0 value used for the corresponding OLPC mechanism on the corresponding channel. If not configured, the corresponding OLPC mechanism for NR SL is disabled.

Proposal 4: For the UE incapable of the new Rel-17 OLPC feature for NR SL, confirm that it follows the default operation as if the related OLPC features not configured, i.e. corresponding OLPC mechanism is disabled on the corresponding channel. Capture this in the field description of the new Rel-17 OLPC parameters for NR SL.

R2-2209858 Corrections to 38331 on OLPC parameters Ericsson CR Rel-17 38.331 17.2.0 3514 - F NR\_SL\_enh-Core

R2-2209380 Discussion on left issues on control plane procedure OPPO discussion Rel-17 NR\_SL\_enh-Core

=> Revised in R2-2210779

R2-2210779 Discussion on left issues on control plane procedure OPPO discussion Rel-17 NR\_SL\_enh-Core

Proposal 1 For sl-Condition1-A-2, it is up to UE implementation to evaluate “when it is intended receiver of UE-B”, e.g., it may be judged by the existence of unicast connection. No further specification impact.

R2-2210373 Rapporteur CR on TS 38.331 for SL enhancements Huawei, HiSilicon CR Rel-17 38.331 17.2.0 3541 - F NR\_SL\_enh-Core Late

R2-2209739 Miscellaneous corrections on TS 38.331 for SL DRX CATT CR Rel-17 38.331 17.2.0 3502 - F NR\_SL\_enh-Core

R2-2209740 Miscellaneous corrections on TS 38.331 for SL enhancement CATT CR Rel-17 38.331 17.2.0 3503 - F NR\_SL\_enh-Core

R2-2210542 Miscellaneous corrections on 38.331 vivo CR Rel-17 38.331 17.2.0 3551 - F NR\_SL\_enh-Core

R2-2209878 Correction on 38.331 Xiaomi draftCR Rel-17 38.331 17.2.0 F NR\_SL\_enh-Core

R2-2209772 Correction on SL transmission by OOC UE for SL communication and SL discovery Apple CR Rel-17 38.331 17.2.0 3505 - F NR\_SL\_enh-Core

R2-2209857 Discussion on RAN1 LS R1-2208090 Ericsson discussion Rel-17 NR\_SL\_enh-Core

R2-2210555 Clarification of default CBR parameters Samsung Research America CR Rel-17 38.331 17.2.0 3553 - F NR\_SL\_enh-Core

R2-2209463 Discussion on the LS in R2-2209311 for default resource selection scheme vivo discussion

R2-2209379 Correction for SL DRX OPPO draftCR Rel-17 38.331 17.2.0 F NR\_SL\_enh-Core

R2-2209674 correction on RRC spec for SUI initiation and IUC parameter ZTE Corporation, Sanechips draftCR Rel-17 38.331 17.2.0 F NR\_SL\_enh-Core

* [AT119bis-e][501][V2X/SL] 38.331 corrections (Huawei)

 **Scope:** Discuss proposed corrections in R2-2210373, R2-2209739, R2-2209740, R2-2210542, R2-2209878, R2-2209772, R2-2209857, R2-22010555, R2-2209463, R2-2209674, and P4 and P5 in R2-2210779 (corresponding CR in R2-2209379). Merge agreeable corrections in a CR as much as possible (we may have separate CR if required, it’s up to rapporteur).

 **Intended outcome:** 38.331 CR in R2-2210930 and discussion summary in R2-2210931 (if needed). Email approval.

**Deadline:** 10/17 12:00 (UTC)

R2-2210259 Correction on LCID Assignment for SL LCH InterDigital, ASUSTek CR Rel-16 38.331 16.10.0 3531 - F 5G\_V2X\_NRSL-Core

R2-2210260 Correction on LCID Assignment for SL LCH InterDigital, ASUSTek CR Rel-17 38.331 17.2.0 3532 - A NR\_SL\_enh-Core

R2-2210544 Discussion and TP on LS of TX profile vivo discussion Rel-17

R2-2210543 Miscellaneous corrections to SL DRX vivo CR Rel-17 38.300 17.2.0 0567 - F NR\_SL\_enh-Core

R2-2209677 Correction on Tx profile operation ZTE Corporation, Sanechips draftCR Rel-17 38.300 17.2.0 F NR\_SL\_enh-Core

R2-2210376 Miscellaneous corrections on TS 38.300 for NR sidelink Xiaomi CR Rel-17 38.300 17.2.0 0566 - F NR\_SL\_enh-Core

R2-2209676 correction on SUI message ZTE Corporation, Sanechips draftCR Rel-17 38.331 17.2.0 F NR\_SL\_enh-Core Withdrawn

R2-2210550 Clarification of default CBR parameters Samsung Research America CR Rel-17 38.331 17.2.0 3552 - F NR\_SL\_enh-Core Withdrawn

### 6.15.3 User plane corrections

R2-2210258 Summary of [Post119-e][512][V2X/SL] Remaining Corrections (InterDigital) InterDigital discussion Rel-17 NR\_SL\_enh-Core

Proposal 1: Adopt the following formula for sl-drx-SlotOffset in the current MAC specifications:

* sl-drx-SlotOffset (ms) = (Destination Layer-2 ID modulo the number of slots in one subframe)/(the number of slots in one subframe)

Proposal 2: Agree to first change in R2-2208350 and further discuss handling of 2nd change as part of an CR generated by the email rapporteur.

* Will be revisited next meeting

R2-2210261 Correction on SL DRX Offset Calculation InterDigital, ASUSTek CR Rel-17 38.321 17.2.0 1428 - F NR\_SL\_enh-Core

R2-2210262 UL/SL Prioritization for SL Relay InterDigital, Ericsson discussion Rel-17 NR\_SL\_enh-Core

Proposal 1: For SL transmissions by a UE to NW relay UE, direct comparison of Uu priority of UL transmissions and equivalent Uu priority of relayed SL transmissions is used for UL/SL prioritization.

Proposal 2: For SL transmissions by a UE to NW relay UE, the equivalent Uu priority of relayed SL transmissions is the priority of Uu LCH corresponding to the received (in the adaptation layer header) remote UE’s bearer ID

Proposal 3: Agree on changes to the MAC specification in the appendix.

R2-2210309 IUC for random resource allocation Nokia, Nokia Shanghai Bell discussion NR\_SL\_enh-Core

Proposal 1: RAN2 to discuss and select a procedure to avoid an unreasonable trigger of sensing;

* Option A: Allow UE-A to discard IUC request in certain scenarios
* Option B: Allow UE-A to send empty IUC information in certain scenarios

Proposal 2: In case option 2 is selected, RAN2 to agree on the CR in R2-2210335

R2-2210335 Draft CR on IUC information transmission considerations Nokia, Nokia Shanghai Bell draftCR Rel-17 38.321 17.2.0 F NR\_SL\_enh-Core

R2-2209387 Discussion on left issues on user plane procedure OPPO discussion Rel-17 NR\_SL\_enh-Core

Proposal 2 RAN2 confirm when SL-RLF (TS 38.331 clause 5.8.9.3, due to max ARQ retransmission, T400 expiry, IP check failure, max DTX reception) happens, UE quits from active-time of the concerned unicast link.

Proposal 3 RAN2 capture UE quits from active time of the concerned unicast link when SL-RLF happens via a NOTE as in appendix.

R2-2209684 Clarification on quitting from active time Huawei, HiSilicon discussion Rel-17 NR\_SL\_enh-Core Late

Proposal 2: RAN2 discuss three following options for UE to quit from active time when the link establishment is failed, and select TP 1 or TP 2 for corresponding spec changes:

* Option 1: UE quits from active time when the link establishment is failed, how to determine the link establishment is failed is up to UE implementation.
* Option 2: UE quits from active time when upper layer provided the indication of deactivation of the PC5 unicast security protection and deletion of security context for the PC5 unicast link, in case that link is not established.
* Option 3: UE quit from active time when receiving the indication of link establishment failure from upper layer.

R2-2210188 User plane corrections on NR Sidelink enhancements LG Electronics France CR Rel-17 38.321 17.2.0 1426 - F NR\_SL\_enh-Core Late

R2-2209388 Miscellaneous corrections on TS 38.321 for SL enhancements OPPO draftCR Rel-17 38.321 17.2.0 F NR\_SL\_enh-Core

R2-2209542 Correction to resource (re-)selection for SL DRX SHARP Corporation CR Rel-17 38.321 17.2.0 1410 - F NR\_SL\_enh-Core

R2-2209543 Correction to resource (re-)selection for UE configured with neither SL DRX nor IUC SHARP Corporation CR Rel-17 38.321 17.2.0 1411 - F NR\_SL\_enh-Core

R2-2209544 Corrections to resource (re-)selection for Inter-UE coordination SHARP Corporation CR Rel-17 38.321 17.2.0 1412 - F NR\_SL\_enh-Core

R2-2209675 Correction on MAC Spec for IUC ZTE Corporation, Sanechips draftCR Rel-17 38.321 17.2.0 F NR\_SL\_enh-Core

R2-2209741 Miscellaneous corrections on TS 38.321 for NR sidelink CATT CR Rel-17 38.321 17.2.0 1415 - F NR\_SL\_enh-Core

R2-2209853 Corrections on SL enhancements ASUSTeK CR Rel-17 38.321 17.2.0 1416 - F NR\_SL\_enh-Core

R2-2209859 Capturing TX profile in the MAC spec Ericsson discussion Rel-17 NR\_SL\_enh-Core

R2-2209874 Corrections to BWP inactivity timer handling for SL Samsung Electronics CR Rel-17 38.321 17.2.0 1419 - F NR\_SL\_enh-Core

R2-2209895 Clarification on destination UE(s) for SL DRX Huawei, HiSilicon CR Rel-17 38.321 17.2.0 1421 - F NR\_SL\_enh-Core Late

R2-2210113 Correction on resource re-selection in IUC scheme 2 NEC Corporation CR Rel-17 38.321 17.2.0 1424 - F NR\_SL\_enh-Core

R2-2210374 Handling the running SL DRX timers upon receiving the SL DRX reconfiguration Huawei, HiSilicon discussion Rel-17 NR\_SL\_enh-Core Late

R2-2210382 Miscellaneous corrections on TS 38.321 for NR sidelink Xiaomi CR Rel-17 38.321 17.2.0 1431 - F NR\_SL\_enh-Core

R2-2210545 Miscellaneous corrections on 38.321 vivo CR Rel-17 38.321 17.2.0 1433 - F NR\_SL\_enh-Core

R2-2210558 Clarification of slot(s) associated with the announced periodic transmission(s) Samsung Research America CR Rel-17 38.321 17.2.0 1435 - F NR\_SL\_enh-Core

R2-2210608 Correction to transmission of IUC information request Nokia, Nokia Shanghai Bell draftCR Rel-17 38.321 17.2.0 F NR\_SL\_enh-Core

* [AT119bis-e][502][V2X/SL] 38.321 corrections (LG)

 **Scope:** Discuss proposed corrections in R2-2210188, R2-2209388, R2-2209542, R2-2209543, R2-2209544, R2-2209675, R2-2209741, R2-2209853, R2-2209859, R2-2209874, R2-2209895, R2-2210113, R2-2210374, R2-2210382, R2-2210545, R2-2210558, R2-2210608, P1 in R2-2209387, P1 in R2-2209684, and P2, P3 in R2-2210779. Merge agreeable corrections in a CR as much as possible (we may have separate CR if required, it’s up to rapporteur).

 **Intended outcome:** 38.321 CR in R2-2210932 and discussion summary in R2-2210933 (if needed). Email approval.

**Deadline:** 10/17 12:00 (UTC)

R2-2210377 Miscellaneous corrections on TS 38.320 for NR sidelink Xiaomi CR Rel-17 38.321 17.2.0 1430 - F NR\_SL\_enh-Core Withdrawn

R2-2210551 Clarification of slot(s) associated with the announced periodic transmission(s) Samsung Research America CR Rel-17 38.321 17.2.0 1434 - F NR\_SL\_enh-Core Withdrawn

## 8.15 NR Sidelink evolution

(NR\_SL\_enh2; leading WG: RAN1; REL-18; WID: RP-221938)

Time budget: 0.5 TU

Tdoc Limitation: 2 tdocs

Note some agenda item(s) may use pre-meeting discussion based on a summary document.

### 8.15.1 Organizational

Incoming LS and rapporteur inputs.

R2-2209374 Work plan of R18 SL-Evo OPPO Work Plan Rel-18 NR\_SL\_enh2

### 8.15.2 SL-U: RAN2 scope

CAPC definition (e.g. relation to SL priority or PQI, fixed or configurable, etc.), LBT impact to MAC (LBT failure, resource allocation, DRX operation, etc.), and any other RAN2 scopes.

* [AT119bis-e][503][V2X/SL] CAPC (OPPO)

 **Scope:** Discuss SL CAPC:

 Q1: SL CAPC determination based on PQI or SL priority or any other?

 Q2: For SL DRBs, is SL CAPC (pre)configurable or fixed?

 Q3: For SL SRBs, is SL CAPC (pre)configurable or fixed?

 Q4: If SL CAPC is determined based on PQI, how to define mapping between CPAC and PQI?

 Q5: If SL CAPC is determined based on PQI, how to handle non-standardized PQI?

 Q6: How to SL CAPC when different SL LCHs, SL MAC CEs and SL SRBs are multiplexed?

 **Intended outcome:** Discussion summary in R2-2210934.

**Deadline:** 10/13 10:00 (UTC).

* [AT119bis-e][504][V2X/SL] LBT Failure (Vivo)

 **Scope:** Discuss SL LBT Failure:

 Q1: Need of SL LBT Failure indication from PHY?

 Q2: MAC/RRC behaviour when SL LBT failure indication is received?

 Q3: SL LBT Failure indication granularity?

 Q4: Need of consistent SL LBT failure declaration in MAC?

 Q5: How to declare consistent SL LBT failure?

 Q6: MAC/RRC behaviour when MAC declares consistent LBT failure?

 **Intended outcome:** Discussion summary in R2-2210935.

**Deadline:** 10/13 10:00 (UTC).

R2-2209385 Discussion on CAPC definition in SL-U OPPO discussion Rel-18 NR\_SL\_enh2

R2-2209386 Discussion on LBT impact in SL-U OPPO discussion Rel-18 NR\_SL\_enh2

R2-2209464 Discussion on RAN2 aspects for SL-U vivo discussion

R2-2209465 On CAPC in SL-U vivo discussion

R2-2209521 Channel Access Priority Classes for SL-U MediaTek Inc. discussion NR\_SL\_enh2

R2-2209535 Discussion on LBT for SL-U Huawei, HiSilicon discussion Rel-18 NR\_SL\_enh2

R2-2209598 Discussion on CAPC for SL-U Huawei, HiSilicon discussion Rel-18 NR\_SL\_enh2

R2-2209612 Discussion on RAN2 aspects in SL-U LG Electronics France discussion Rel-18 NR\_SL\_enh2

R2-2209678 Discussion on RAN2 scope of SL-U ZTE Corporation, Sanechips discussion Rel-18 NR\_SL\_enh2

R2-2209679 Discussion on CAPC definition and consistent sidelink LBT failure handling ZTE Corporation, Sanechips discussion Rel-18 NR\_SL\_enh2

R2-2209737 On CAPC for SL-U Intel Corporation discussion Rel-18 NR\_SL\_enh2

R2-2209738 MAC related aspects for SL-U Intel Corporation discussion Rel-18 NR\_SL\_enh2

R2-2209742 Consideration on CAPC for SL-U CATT discussion Rel-18 NR\_SL\_enh2

R2-2209743 Discussion on the SL-U Scenarios and LBT CATT discussion Rel-18 NR\_SL\_enh2

R2-2209761 Control plane aspects of sidelink on unlicensed spectrum (SL-U) Apple discussion Rel-18 NR\_SL\_enh2

R2-2209762 User plane aspects of sidelink on unlicensed spectrum (SL-U) Apple discussion Rel-18 NR\_SL\_enh2

R2-2209891 Discussion on channel access priority for NR SL-U Lenovo discussion Rel-18 NR\_SL\_enh2-Core

R2-2209936 Discussion on LBT impact to MAC for NR SL-U Lenovo discussion Rel-18

R2-2209973 Consideration on channel access priority in SL-U Spreadtrum Communications discussion Rel-18

R2-2209996 LBT failure handling for SL-U Spreadtrum Communications discussion Rel-18

R2-2210002 Discussion on consistent LBT failure for SL-U NEC discussion Rel-18 NR\_SL\_enh2

R2-2210249 Aspects of channel access mechanisms Ericsson discussion Rel-18 NR\_SL\_enh2

R2-2210250 CAPC table and MAC multiplex rules Ericsson discussion Rel-18 NR\_SL\_enh2

R2-2210256 CAPC and COT sharing for SL Unlicensed InterDigital discussion Rel-18 NR\_SL\_enh2

R2-2210257 LBT Impacts to the MAC Layer InterDigital discussion Rel-18 NR\_SL\_enh2

R2-2210280 Discussion on sidelink CAPC Qualcomm India Pvt Ltd discussion

R2-2210281 Discussion on sidelink LBT impact Qualcomm India Pvt Ltd discussion

R2-2210342 Considerations on resource allocation for SL-U Nokia, Nokia Shanghai Bell discussion NR\_SL\_enh2

R2-2210357 On channel access priority class and HARQ feedback Nokia, Nokia Shanghai Bell discussion NR\_SL\_enh2

R2-2210366 Discussion on RAN2 Aspects in SL-U Fraunhofer IIS, Fraunhofer HHI discussion Rel-18 NR\_SL\_enh2

R2-2210379 Discussion on channel access for sidelink operation on unlicensed spectrum Xiaomi discussion NR\_SL\_enh2

R2-2210380 Discussion on LBT for sidelink operation on unlicensed spectrum Xiaomi discussion NR\_SL\_enh2

R2-2210486 HARQ-based Sidelink RLF due to LBT failure MediaTek Inc. discussion Rel-18

R2-2210552 SL CAPC Samsung Research America discussion Rel-18 NR\_SL\_enh2

R2-2210553 SL resource allocation Samsung Research America discussion Rel-18 NR\_SL\_enh2

R2-2210588 Discussion on sidelink un-licensed ITL discussion Rel-18