3GPP TSG-RAN WG2 Meeting #118 electronic R2-220xxxx
Online, May 9 – 20, 2022

Agenda Item: 8.8

Source: Session Chair (Samsung)

Title: Report from session on LTE V2X and 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

## 4.3 V2X and Side-link corrections Rel-15 and earlier

REL-15 and Earlier WIs are in scope but not listed explicitly (long list).

Documents in this agenda item will be handled in a break out session.

## 5.2 NR V2X

(5G\_V2X\_NRSL-Core; leading WG: RAN1; REL-16; started: Mar 19; target; Aug 20; WID: RP-200129).

Documents in this agenda item will be handled in a break out session

Tdoc Limitation: See tdoc limitation for Agenda Item 5

CR rapporteurs will take care of miscellaneous CRs to collect small changes. Please contact / coordinate with CR rapporteur company first for small changes (e.g. non-controversial clarification/correction, editorial correction, etc.).

### 5.2.1 General and Stage-2 corrections

Including incoming LSs, rapporteur inputs, etc.

R2-2204454 Reply LS to RAN4 on PEMAX for NR-V2X (R1-2202816; contact: Huawei) RAN1 LS in Rel-16 5G\_V2X\_NRSL-Core To:RAN4 Cc:RAN2

* Noted.

R2-2204513 LS on V2X PC5 link for unicast communication with null security algorithm (R5-222035; contact: HiSilicon) RAN5 LS in To:SA3, CT1, RAN2

* Noted.

R2-2204516 Reply LS on how to receive the first PC5-S unicast message during PC5-S connection setup procedure (S2-2203024; contact: CATT) SA2 LS in Rel-16 eV2XARC, 5G\_V2X\_NRSL-Core To:RAN2

* Noted.

### 5.2.2 Control plane corrections

This agenda item may utilize a summary document on RRC (Huawei).

R2-2204855 Summary of Rel-16 control plane corrections Huawei, HiSilicon discussion Rel-16 5G\_V2X\_NRSL-Core Late

R2-2204856 Miscelleneous corrections Huawei, HiSilicon CR Rel-16 38.331 16.8.0 3002 - F 5G\_V2X\_NRSL-Core

R2-2204857 Miscelleneous corrections Huawei, HiSilicon CR Rel-17 38.331 17.0.0 3003 - A 5G\_V2X\_NRSL-Core

R2-2205109 Clarification on power control parameter ZTE Corporation, Sanechips,vivo CR Rel-16 38.331 16.8.0 3050 - F 5G\_V2X\_NRSL-Core

R2-2206043 Correction on SUI message OPPO CR Rel-16 38.331 16.8.0 3153 F 5G\_V2X\_NRSL-Core

R2-2204572 Correction on field description of sl-DefaultTxConfigIndex OPPO CR Rel-16 38.331 16.8.0 2973 - F 5G\_V2X\_NRSL-Core

R2-2204573 Correction on field description of sl-DefaultTxConfigIndex OPPO CR Rel-17 38.331 17.0.0 2974 - A 5G\_V2X\_NRSL-Core

R2-2204645 Correction on per-FS capability OPPO CR Rel-16 36.331 16.8.0 4782 - F 5G\_V2X\_NRSL-Core

R2-2204646 Correction on per-FS capability OPPO CR Rel-17 36.331 17.0.0 4783 - A 5G\_V2X\_NRSL-Core

R2-2205947 Miscellaneous corrections         Lenovo            draftCR            Rel-16   38.331 16.8.0  F          5G\_V2X\_NRSL-Core, TEI16

R2-2205953 Miscellaneous corrections         Lenovo            draftCR            Rel-17   38.331 17.0.0  A          TEI16, 5G\_V2X\_NRSL-Core

* [AT118-e][701][V2X/SL] Miscellaneous corrections (OPPO)

 **Scope:** Discuss corrections in R2-2204856, R2-2204857, R2-2205109, R2-2206043, R2-2204572, R2-2204573, R2-2204645, R2-2204646, R2-2205947 and R2-2205953. Prepare a merged 38.331/36.331 CR for agreeable corrections.

 **Intended outcome:** Agree 38.331 CR in R2-2206281 and R2-2206282. Agree 36.331 CR in R2-2206283 and R2-2206284. Discussion summary in R2-2206285 (if needed). Email approval.

**Deadline:** 5/16 10:00am UTC

R2-2204844 Discussion on null security algorithm ZTE Corporation, Sanechips discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2205108 (draft)reply LS on null security algorithm ZTE Corporation, Sanechips LS out Rel-16 5G\_V2X\_NRSL-Core To:RAN5 Cc:SA3,CT1

R2-2204859 Clarification on PC5 AS security Huawei, HiSilicon CR Rel-16 38.331 16.8.0 3004 - F 5G\_V2X\_NRSL-Core

R2-2204860 Clarification on PC5 AS security Huawei, HiSilicon CR Rel-17 38.331 17.0.0 3005 - A 5G\_V2X\_NRSL-Core

R2-2204858 [Draft] Reply LS on V2X PC5 link for unicast communication with NULL security algorithm Huawei, HiSilicon LS out Rel-16 5G\_V2X\_NRSL-Core To:RAN5 Cc:SA3, CT1

R2-2205577 Clarifying support of null security algorithm for SL-SRB2 and SL-SRB3 MediaTek Inc. CR Rel-16 38.331 16.8.0 3101 - F 5G\_V2X\_NRSL-Core

R2-2205578 Clarifying support of null security algorithm for SL-SRB2 and SL-SRB3 MediaTek Inc. CR Rel-17 38.331 17.0.0 3102 - A 5G\_V2X\_NRSL-Core

[Session chair]: Should we wait for SA3 response LS or correct RAN2 specification now? [ZTE, Ericsson]: We should wait for SA3 since it’s SA3 scope. In case we correct RAN2 spec now and if we have different SA3 opinion, we should correct it again. [Huawei]: Prefer changing RAN2 spec now.

* We should wait for SA3 response LS before updating RAN2 spec.

[Session chair]: Do we need any response LS? [Huawei]: We can just wait.

* No response LS is needed now.

### 5.2.3 User plane corrections

This agenda item may utilize a summary document on MAC (LG).

R2-2204774 PDCPRLC Entity Maintenance for SL-SRBs CATT discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2204775 Corrections on MAC filtering issue for the first unicast PC5-S signalling CATT CR Rel-16 38.321 16.8.0 1259 - F 5G\_V2X\_NRSL-Core

R2-2205126 TB filtering in MAC ASUSTeK CR Rel-16 38.321 16.8.0 1256 - F 5G\_V2X\_NRSL-Core

R2-2205127 TB filtering in MAC ASUSTeK CR Rel-17 38.321 17.0.0 1257 - A 5G\_V2X\_NRSL-Core

R2-2204776 Corrections on RLC entity establishment issue for the first unicast PC5-S signalling CATT CR Rel-16 38.322 16.2.0 0047 - F 5G\_V2X\_NRSL-Core

R2-2204777 Corrections on PDCP entity establishment issue for the first unicast PC5-S signalling CATT CR Rel-16 38.323 16.6.0 0089 - F 5G\_V2X\_NRSL-Core

[Session chair]: Confirm the following working assumptions as agreements?

Proposal 2: RAN2 confirmed that the Rx UE will not deliver the decoded MAC PDU to the disassembly and demultiplexing entity if it doesn’t know the source layer-2 ID used by the Tx UE.

Proposal 3: RAN2 confirmed that the current description for the PDCP/RLC entities

establishment is unclear, some further clarification is needed.

Proposal 4: RAN2 agree to resolve the mac filtering issue and PDCP/RLC entity establishment issue in AS layer.

Proposal 5: RAN2 agree to add one note in MAC spec to solve the mac filtering issue for at least scenario2/3. The below content can be further discussed during phase-III and submitted one CR to the incoming RAN2 meeting.

(38.321)NOTE: If this TB is associated to unicast and this TB is the first TB of a logical channel which associated LCID is equal to 0 or 1, and the DST field of the decoded MAC PDU subheader is equal to the 8 MSB of any of the Source Layer-2 ID(s) of the UE for which the 16 LSB are equal to the Destination ID in the corresponding SCI, deliver the decoded MAC PDU to the disassembly and demultiplexing entity.

Proposal 6: RAN2 agree to add one note in PDCP/RLC spec to solve the PDCP/RLC entity establishment issue for scenario2/3. The below content can be further discussed during phase-III and submitted one CR to the incoming RAN2 meeting.

(38.323)NOTE: The PDCP entity for NR sidelink communication for SL-SRB0 and SL-SRB1 is established as NR sidelink communication for groupcast and broadcast.

(38.322)NOTE: The RLC entity for NR sidelink communication for SL-SRB0 and SL-SRB1 is established as NR sidelink communication for groupcast and broadcast.

* (From RAN2#117-e) Working assumption for proposal 2, 3, 4, 5 and 6 for the case if SA2 confirms the problem. For proposal 6, it is FFS whether we will have normative text or note.
* Confirmed the working assumptions above as agreements.
* [AT118-e][702][V2X/SL] Maintenance of SL-SRBs (CATT)

 **Scope:** Discuss whether we have normative text or note for proposal 6 and corrections in R2-2204775, R2-2205126, R2-2205127, R2-2204776, and R2-2204777. Prepare agreeable CRs.

 **Intended outcome:** Agree 38.321 CR in R2-2206286 and R2-2206287. Agree 38.322 CR in R2-2206288 and R2-2206289. Agree 38.323 CR in R2-2206290 and R2-2206291. Discussion summary in R2-2206292 (if needed). Email approval.

**Deadline:** 5/16 10:00am UTC

R2-2205125 Corrections on SL configured grant and SL BSR ASUSTeK CR Rel-16 38.321 16.8.0 1255 - F 5G\_V2X\_NRSL-Core

* [AT118-e][703][V2X/SL] MAC corrections (ASUSTeK)

 **Scope:** Discuss the correction in R2-2205125. Prepare agreeable CRs (if correction is needed).

 **Intended outcome:** Agree 38.321 CR in R2-2206293 and R2-2206294. Discussion summary in R2-2206295 (if needed). Email approval.

**Deadline:** 5/16 10:00am UTC

R2-2205602 Correction on PDCP SN setting for SLRB transmit operation Samsung CR Rel-16 38.323 16.6.0 0091 - F 5G\_V2X\_NRSL-Core

R2-2205603 Correction on PDCP SN setting for SLRB transmit operation Samsung CR Rel-17 38.323 17.0.0 0092 - A 5G\_V2X\_NRSL-Core

[ZTE, Apple, Vivo]: Agree with the CRs now [CATT]: The CR is not essential (although the intention is correct) since RRC spec already specifies it. [Samsung]: Not sure what/where RRC spec specifies.

* [AT118-e][704][V2X/SL] PDCP corrections (Samsung)

 **Scope:** Discuss the corrections in R2-2205602 and R2-2205603. Prepare agreeable CRs (if corrections are needed).

 **Intended outcome:** Agree 38.323 CR in R2-2206296 and R2-2206297 (if a revision is needed). Discussion summary in R2-2206298 (if needed). Email approval.

**Deadline:** 5/16 10:00am UTC

R2-2204778 Correction on user plane aspects (Rapporteur CR) LG Electronics France CR Rel-16 38.321 16.8.0 1234 - F 5G\_V2X\_NRSL-Core Late

=> Withdrawn

R2-2205144 Summary of MAC corrections (Rapporteur) LG Electronics France discussion Rel-16 38.321 5G\_V2X\_NRSL-Core Late

=> Withdrawn

## 6.15 NR Sidelink enhancements

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

WI has been declared 100% complete

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.

R2-2204525 Reply LS on Tx Profile (S2-2203595; contact: LGE) SA2 LS in Rel-17 NR\_SL\_enh-Core, 5G\_ProSe, eV2XARC\_Ph2 To:RAN2 Cc:CT1

* Noted.
* [AT118-e][705][V2X/SL] Response LS on TX profile (Vivo)

 **Scope:** Inform SA2 of RAN2 agreements on TX profile

 **Intended outcome:** Approve the LS in R2-2206299. Email approval.

**Deadline:** 5/20 10:00am UTC

R2-2206133 Misc Class 0 corrections on TS 38.331 for SL enhancement Huawei, HiSilicon CR Rel-17 38.331 17.0.0 3174 - D NR\_SL\_enh-Core

R2-2206134 Misc Class 1 Class 2 corrections on TS 38.331 for SL enhancement Huawei, HiSilicon CR Rel-17 38.331 17.0.0 3175 - F NR\_SL\_enh-Core

* [AT118-e][710][V2X/SL] Misc corrections (Huawei)

 **Scope:** Discuss R2-2206133 and R2-2206134. Prepare an agreeable CR.

 **Intended outcome:** Agree 38.331 CR in R2-2206306. Email approval.

**Deadline:** 5/16 10:00am UTC

R2-2206135 Summary of pre-discussion on RIL issues Huawei, HiSilicon discussion Rel-17 NR\_SL\_enh-Core

R2-2206138 Rapporteur resolution for various RILs Huawei, HiSilicon discussion Rel-17 NR\_SL\_enh-Core

R2-2204644 Introduction of UE capability for Rel-17 sidelink OPPO CR Rel-17 36.331 17.0.0 4781 - B NR\_SL\_enh-Core

[Apple]: Category should be changed to “F”. [Ericsson]: Is it related to SL relay? [OPPO]: It has nothing to do with SL relay.

* [AT118-e][711][V2X/SL] UE capability (OPPO)

 **Scope:** Discuss R2-2204644. Prepare an agreeable CR (with category F).

 **Intended outcome:** Agree 36.331 CR in R2-2206307 (if revision is needed). Email approval.

**Deadline:** 5/16 10:00am UTC

R2-2205952 Miscellaneous Corrections to eSL InterDigital (Rapporteur) CR Rel-17 38.300 17.0.0 0469 - D NR\_SL\_enh-Core

* [AT118-e][706][V2X/SL] RRC corrections (Huawei)

 **Scope:** Discuss proposals/corrections (including the need of proposals/corrections) proposed in R2-2204643, R2-2205106, R2-2205317, R2-2205347, R2-2205782, R2-2206136, R2-2206137, R2-2204639, R2-2204640, R2-2205183, R2-2205184, R2-2205316, R2-2205318, R2-2205620, R2-2205642, R2-2205644, R2-2204566, R2-2204567, R2-2204577, R2-2204582, R2-2204641 and R2-2205102. Prepare a merged CR for the agreeable proposals/corrections. Note rapporteur can add additional ones if it has higher priority issue from ASN.1 point of view.

 **Intended outcome:** Summary discussion in R2-2206300 and 38.331 CR in R2-2206301. Email approval.

**Deadline:** 5/16 10:00am UTC

* [AT118-e][707][V2X/SL] MAC corrections (LG)

 **Scope:** Discuss proposals/corrections in AI 6.15.2.3 (except the pre-selected issues for online discussion). Prepare a merged CR for the agreeable proposals/corrections.

 **Intended outcome:** Summary discussion in R2-2206302 and 38.321 CR in R2-2206303. Email approval.

**Deadline:** 5/16 10:00am UTC

### 6.15.2 Essential corrections

No documents should be submitted to 6.15.2. Please submit to 6.15.2.x.

#### 6.15.2.1 Control plane procedure for UC DRX

Including whether Rx-UE use the message of RRCReconfigurationCompleteSidelink or RRCReconfigurationFailureSidelink to reject a DRX configuration, default SL DRX configuration for non-initial SL DRX configuration when reject happens, whether the TX UE should keep in active time after sending RRCReconfigurationSL, detailed (configuration) information included into each PC5-RRC, etc.

Need of inactivity timer in assistance information from RX UE?

* Yes (e.g. in R2-2205099): Apple, ZTE
* No (e.g. in R2-2204578): Ericsson, Xiaomi, Nokia, Qualcomm, OPPO, LGE, IDT, Lenovo, Huawei, Samsung, Intel

[Session chair]: Most companies supported “No” based on contributions. Can we go “No”? [Apple, ZTE]: Prefer having inactivity timer in assistance information. [Session chair]: Check companies views:

* Yes: Apple, ZTE (2)
* No: Ericsson, Xiaomi, Nokia, Qualcomm, OPPO, LGE, IDT, Lenovo, Huawei, Samsung, Intel (11)
* No inactivity timer in assistance information from RX UE.

How to signal multiple DRX settings in assistance information?

* Option1: List of SL-PreferredDRXConfig-r17 w/o signalling optimization (e.g. in R2-2205537):
* Option2: W/ signalling optimization (e.g. to use value range of each timer in R2-2204578):

[Session chair]: Check companies’ views

* Option 1: LGE, CATT, Xiaomi, IDT, Samsung, Vivo, Lenovo, Huawei, Qualcomm (9)
* Option 2: Ericsson, Apple, ZTE, OPPO, Nokia, OPPO (6)
* List of SL-PreferredDRXConfig-r17 w/o signalling optimization is included in assistance information from RX UE (e.g. in R2-2205537)

Which SL RRC message is used to reject SL DRX configuration (assuming all other configurations in RRC reconfiguration sidelink (e.g. SL radio bearer configurations, etc.) are ok)?

* RRC reconfiguration complete sidelink (e.g. in R2-2204578)
	+ Option 1: W/ partial scuess/failure (only SL DRX configuration fails and others are configured)
* RRC reconfiguration failure sidelink (e.g. in R2-2204954)
	+ Option 2: W/ partial success/failure
	+ Option 3: W/o partial success/failure

[OPPO]: RRC reconfiguration complete is preferred. It seems more aligned with Uu case. [Session chair]: If we use RRC reconfiguration failure, SL communication itself will be delayed until RX UE likes it. Is it critical? [Apple]: Either way is ok, but key point is that we need an indication. Slightly prefer RRC reconfiguration complete sidelink. [LG]: We need to include an indication into both messages, e.g. when both SL RB configuration and SL DRX configuration fail, we still need an indication in RRC reconfiguration failure sidelink to inform SL DRX configuration is rejected. [Ericsson]: We don’t have any partial success/failure in Uu. Prefer RRC reconfiguration failure in that sense (whole SL configurations will fail although only SL DRX configuration fails while other configurations are ok) [Session chair]: Check companies’ views

* Option 1: OPPO, Huawei, Apple, Xiaomi, IDT, NEC, Intel, Samsung (8)
* Option 2: ZTE, Qualcomm, Lenovo, IDT, LGE, CATT (6)
* Option 3: Qualcomm, Nokia, Ericsson, CATT (4)
* Option 1 with an indication

Which UL RRC message is used to forward SL DRX configuration reject (e.g. in case of mode 1) to the gNB?

* Sidelink UE Information NR (w/ indication) (e.g. in R2-2205097)
* Sidelink UE Information NR with indication.

Default SL DRX configuration for non-initial SL DRX configuration if rejected?

* Option1: No SL DRX (e.g. in R2-2204578)
* Option2: Latest applied SL DRX configuration (e.g. in R2-2204861)
* Option3: Default SL DRX configuration for GC/BC (e.g. in R2-2204578)

[OPPO]: Critical issue for option 2 is how gNB/TX UE is aware of previously applied SL DRX configuration (e.g. in mode change). We need to discuss additional mechanism for the gNB/TX UE to be aware of it. [Qualcomm, Ericsson]: Previous SL DRX configuration should be informed to the gNB/TX UE. [IDT]: Another critical issue for option2 is it makes more difficult for the gNB/TX UE can reconfigure SL DRX configuration even though it is needed for some reasons in TX side.

* Option 1: OPPO, Vivo, IDT, Samsung, ASUSTek, NEC, CATT, Nokia, Ericsson (9)
* Option 2: Lenovo, LGE, Huawei, ZTE, Apple, Qualcomm, Intel (7)
* Option 3: X

[Ericsson]: We should maximize power saving gain, so prefer option 2. [IDT]: System operation should be prioritized over power saving. Power saving operation is done in the best-effort manner when it is ok to be applied in overall system point of view. [OPPO]: GNB/TX UE should be able to release SL DRX configuration. In this case, anyway option1 should be applied. We may consider option 1 for SL DRX configuration release/reset case and otherwise option 2 as compromise. [Huawei]: What about option 3 as compromise? The UE still can have power saving gain and some issue of option 2 will not exist. [Session chair]: Check companies’ views

* Option 3: OPPO, Qualcomm, Huawei, IDT, ZTE, LGE (6)

[Ericsson]: To make a progress, we are ok to support option 1.

* Option 1 is agreed.

Whether TX UE remains active for RRC reconfiguration complete/failure sidelink reception?

* Yes (e.g. in R2-2204862)
* No (e.g. in R2-2204578)

[Session chair]: To R2-2204578, we already agreed SL DRX for UC is per direction, which means “No” should be. [Qualcomm]: It may depend on how far two SL DRX configuration procedure are. If far away, the timer T400 may expire and it brings SL DRX configuration failure. [Vivo]: Agree with Qualcomm. Yes, SL DRX configuration failure can happen if T400 is too short. [OPPO]: WI is completed and if we go “No”, we don’t have additional issues, but if we go “Yes”, we need to spend time for additional issues. For concerns from Qualcomm, we do not consider it is a critical issue to be handled in Rel-17. Prefers “No”.

R2-2204578 Discussion on left issues on control plane procedure for UC DRX OPPO discussion Rel-17 NR\_SL\_enh-Core

R2-2204643 Correction on [O099] OPPO draftCR Rel-17 38.331 17.0.0 F NR\_SL\_enh-Core

R2-2204861 Discussion and TP for correction on RX UE reject behaviour Huawei, HiSilicon discussion Rel-17 NR\_SL\_enh-Core

R2-2204862 Consideration on active time during uincast connection establishment Huawei, HiSilicon discussion Rel-17 NR\_SL\_enh-Core

R2-2204954 Consideration for Control Plane Procedure for UC DRX CATT discussion Rel-17 NR\_SL\_enh-Core

R2-2204955 Correction on the SL Active Time CATT draftCR Rel-17 38.321 17.0.0 NR\_SL\_enh-Core

R2-2204970 Remaining issues on SL DRX UC CP aspects for UC procedure Lenovo discussion Rel-17

R2-2204971 Remaining issues for user plane of sidelink enhancement Lenovo discussion Rel-17

R2-2205096 Discussion on the case that no SL DRX configuration is received from TX UE ZTE Corporation, Sanechips discussion Rel-17 NR\_SL\_enh-Core

R2-2205097 Discussion on remaining issues for SL DRX rejection ZTE Corporation, Sanechips discussion Rel-17 NR\_SL\_enh-Core

R2-2205106 [Z684]Correction on Destination ID list ZTE Corporation, Sanechips CR Rel-17 38.331 17.0.0 3049 - F NR\_SL\_enh-Core

R2-2205116 remaining issues for control plane procedure for UC DRX LG Electronics France discussion

R2-2205148 Discussion on Rx UE’s rejection for SL DRX configuration NEC Corporation discussion

R2-2205178 Remaining control procedure of SL DRX Ericsson discussion Rel-17 NR\_SL\_enh-Core

R2-2205263 Remaining issues on CP procedure for UC DRX vivo discussion Rel-17

R2-2205264 Uu RRC impact by SL-DRX rejection from RX UE vivo discussion Rel-17

R2-2205315 Discussion on UC sidelink DRX reject procedure Xiaomi discussion

R2-2205317 [X202][H663] Discussion on how RX UE to report accepted SL DRX and interested QoS Xiaomi discussion

R2-2205346 Correction on control plane ZTE Corporation, Sanechips CR Rel-17 38.331 17.0.0 3069 - F NR\_SL\_enh-Core Late

R2-2205347 Correction on [Z677,Z680] ZTE Corporation, Sanechips CR Rel-17 38.331 17.0.0 3070 - F NR\_SL\_enh-Core

R2-2205534 DRX configuration reject Samsung discussion

R2-2205605 Correction of SL DRX for SL discovery Samsung discussion Rel-17 NR\_SL\_enh-Core

R2-2205606 Correction of SL DRX for L2 U2N Relay Samsung discussion Rel-17 NR\_SL\_enh-Core

R2-2205706 Discussion on Procedure for UC SL DRX Qualcomm India Pvt Ltd discussion

R2-2205782 [E101] Correction on resource pool handling Ericsson draftCR Rel-17 38.331 17.0.0 F NR\_SL\_enh-Core

R2-2205790 Open issues for SL DRX Intel Corporation discussion Rel-17 NR\_SL\_enh-Core

R2-2205913 Open Issues on Signaling for Unicast DRX Configuration InterDigital discussion Rel-17 NR\_SL\_enh-Core

R2-2205914 Handling DRX Following DCR Message InterDigital, Ericsson, Apple discussion Rel-17 NR\_SL\_enh-Core

R2-2206136 [H660][V402][V403] Discussion on actions related to reception of UEAssistanceInformationSidelink message Huawei, HiSilicon discussion Rel-17 NR\_SL\_enh-Core

R2-2206137 [H663] [Z679] [X202] Discussion on implementation of RX UE reporting information related to SL DRX Huawei, HiSilicon discussion Rel-17 NR\_SL\_enh-Core

#### 6.15.2.2 Configuration aspects

Including TX profile for GC/BC, detailed configuration aspects, value ranges of timers/offsets (including other SL DRX related parameters), etc.

*Do not confirm the previous WAs*

* *“No additional RAN2 work if SA2 confirms it’s feasible for Rel-17 SL DRX operation, L2 id is only associated with either DRX-based TX profile(s) or non-DRX based TX profile(s)”.*
* *“For GC, we will check with SA2 whether the mapping from L2 id to TX profile is feasible in the gNB (like what we did in LTE). Working assumption: no additional RAN2 work if SA2 confirms it’s feasible.”*

*How can the gNB know L2 id and the corresponding TX profile(s)?*

* *UE reports L2 id and the corresponding TX profile(s) information (e.g. in R2-2204863)*
	+ *What information for TX profile(s)?*
		- *QoS information?*
		- *Any information else?*
	+ *Any need of restriction (e.g. that specify UE only reports them when L2 id is randomly selected by the UE)?*
		- *No (e.g. in R2-2205538)*

*How to handle the case that multiple TX profiles (w/ SL DRX and w/o SL DRX) are mapped to a L2 id?*

* *SL DRX is supported only when all TX profiles support SL DRX (e.g. in R2-2204579)*

*How to handle the case that no TX profile is mapped to a L2 id?*

* *No SL DRX is applied (e.g. in R2-2204863)*

*Need of TX profile for a default SL DRX operation (e.g. for DCR)?*

* *Yes (e.g. in R2-2204863)*
* *No (e.g. in R2-2204953)*

R2-2204579 Discussion on DRX left issues for configuration aspects OPPO discussion Rel-17 NR\_SL\_enh-Core

R2-2204639 Discussion on Tx profile implementation [O074] OPPO discussion Rel-17 NR\_SL\_enh-Core

R2-2204640 Correction on [O027, O028, O030, O031, O034-O046] OPPO draftCR Rel-17 38.331 17.0.0 F NR\_SL\_enh-Core

R2-2204863 Discussion on TX profile for broadcast and groupcast Huawei, HiSilicon discussion Rel-17 NR\_SL\_enh-Core

R2-2204953 Issues corresponding to TX Profile CATT discussion Rel-17 NR\_SL\_enh-Core

R2-2205098 Discussion on Sidelink UE information ZTE Corporation, Sanechips discussion Rel-17 NR\_SL\_enh-Core

R2-2205099 Discussion on SL DRX remaining issues for IE design ZTE Corporation, Sanechips discussion Rel-17 NR\_SL\_enh-Core

R2-2205100 Discussion on TX profile issues for SL DRX ZTE Corporation, Sanechips discussion Rel-17 NR\_SL\_enh-Core

R2-2205117 remaining issues related to the TX profile LG Electronics France discussion

R2-2205176 Configuration aspects of SL DRX Ericsson discussion Rel-17 NR\_SL\_enh-Core

R2-2205183 Correction on RIL issue E042 Ericsson draftCR Rel-17 38.331 17.0.0 NR\_SL\_enh-Core

R2-2205184 Correction on RIL issue E046 Ericsson draftCR Rel-17 38.331 17.0.0 NR\_SL\_enh-Core

R2-2205185 Correction on RIL issue E047 Ericsson draftCR Rel-17 38.331 17.0.0 NR\_SL\_enh-Core

R2-2205316 [X209] Discussion on preconfigured GC/BC SL DRX usage Xiaomi discussion

R2-2205318 [X210] Discussion on GC/BC sidelink DRX operation in partial coverage Xiaomi discussion

R2-2205335 Reply LS to SA2 on Tx Profile LG Electronics France LS out Rel-17 To:SA2 Late

R2-2205537 Preferred DRX configuration Samsung discussion

R2-2205538 TX profile for GC/BC Samsung discussion

R2-2205620 [B200][B201][B202][B203]Some correction for SL DRX Configuration Lenovo discussion NR\_SL\_enh-Core

R2-2205642 [A914][A918][A919] Discussion on corrections of IUC Scheme 1 configurations in RRC Apple discussion Rel-17 NR\_SL\_enh-Core

R2-2205643 [Draft] LS on RRC parameters for IUC Scheme 1 Apple LS out Rel-17 NR\_SL\_enh-Core To:RAN1

R2-2205644 [A904][A905][V380] Discussion on RRC configuration for power-saving resource pools Apple discussion Rel-17 NR\_SL\_enh-Core

R2-2205707 Discussion on Configuration Aspects Qualcomm India Pvt Ltd discussion

R2-2206048 On corrections of TX UE reporting reject related to [H654] Huawei, HiSilicon discussion Rel-17 NR\_SL\_enh-Core

R2-2205101 (draft)Reply LS to SA2 on Tx Profile ZTE Corporation, Sanechips LS out Rel-17 NR\_SL\_enh-Core To:SA2

R2-2205175 Discussion on SA2 LS (S2-2203595) Ericsson discussion Rel-17 NR\_SL\_enh-Core

R2-2205262 Discussion on SA2 reply LS about TX profile associated with L2 ID(s) vivo discussion Rel-17

R2-2205265 Draft reply LS to SA2 on TX profile associated with L2 ID(s) vivo LS out Rel-17 To:SA2 Cc:CT1

R2-2206079 (draft)Reply LS to SA2 on Tx Profile ZTE Corporation, Sanechips LS out Rel-17 NR\_SL\_enh-Core

#### 6.15.2.3 User plane aspects

Including detailed behavior for timers/offsets, resource reselection, HARQ A/N when grant is dropped due to no RX-UE in activet time, etc.

*Confirm the previous WAs?*

* *“If there is no SL grant in the SL DRX active time of the destination that has data to be sent, trigger resource reselection.”.*
* *“For mode-1 re-transmission grant, if the re-transmission grant is dropped due to no Rx-UE in active time, Tx-UE report NACK to network via PUCCH.”*

*Number of configured HARQ RTTs? (e.g. 2 timers in R2-2206138 (same timer value for timer#2 and timer#3), 3 timers in R2-2204579, 1 timer in R2-2205185 (timer#1 only))*

* *Timer#1: HARQ enabled w/ PSFCH*
* *Timer#2: HARQ disabled w/ PSFCH*
* *Timer#3: HARQ disabled w/o PSFCH*

*Calculation of sl-drx-SlotOffset (e.g. in R2-2205136)?*

*SL triggering for SL DRX command indication (e.g. in R2-2205136)?*

*Need of active time extension after the announced periodic resource (e.g. in R2-2205833)?*

R2-2204552 Clarification on resource re-selection for pre-empted resource with SL DRX SHARP Corporation discussion NR\_SL\_enh-Core

R2-2204574 Correction on user plane aspects for SL DRX OPPO CR Rel-17 38.321 17.0.0 1221 - F NR\_SL\_enh-Core

R2-2204575 Miscellaneous correction on user plane aspects for SL DRX OPPO CR Rel-17 38.321 17.0.0 1222 - F NR\_SL\_enh-Core

R2-2204580 Discussion on DRX left issues for user plane aspect OPPO discussion Rel-17 NR\_SL\_enh-Core

R2-2204642 Correction on [O069, O096, O097] OPPO draftCR Rel-17 38.331 17.0.0 F NR\_SL\_enh-Core

R2-2204779 Correction on user plane aspects for SL DRX (Rapporteur CR) LG Electronics France CR Rel-17 38.321 17.0.0 1235 - F NR\_SL\_enh-Core Late

R2-2204781 Correction on user plane aspects for SL DRX LG Electronics France CR Rel-17 38.321 17.0.0 1237 - F NR\_SL\_enh-Core

R2-2204782 Discussion on remaining issues for user plane aspect LG Electronics France discussion Rel-17 38.321

R2-2204864 Further consideration on SL DRX with TP for MAC spec corrections Huawei, HiSilicon discussion Rel-17 NR\_SL\_enh-Core

R2-2204865 Clarification on Uu DRX for SL communication Huawei, HiSilicon discussion Rel-17 NR\_SL\_enh-Core

R2-2204922 Miscellaneous correction on TS 38.321 for SL DRX Huawei, HiSilicon CR Rel-17 38.321 17.0.0 1242 - F NR\_SL\_enh-Core

R2-2204946 Combination of SL DRX, Discovery and relay-related Communication CATT discussion Rel-17 NR\_SL\_enh-Core

R2-2204947 Discussion on the SL DRX Inactivity Timer Maintenance CATT discussion Rel-17 NR\_SL\_enh-Core

R2-2204948 Correction on the SL DRX Inactivity Timer Maintenance CATT draftCR Rel-17 38.321 17.0.0 NR\_SL\_enh-Core

R2-2204949 Discussion on the SL DRX Retransmission Timer Maintenance CATT discussion Rel-17 NR\_SL\_enh-Core

R2-2204950 Correction on the SL DRX Retransmission Timer Maintenance CATT draftCR Rel-17 38.321 17.0.0 NR\_SL\_enh-Core

R2-2204951 Miscellaneous corrections on SL DRX CATT draftCR Rel-17 38.321 17.0.0 NR\_SL\_enh-Core

R2-2205104 Correction on resource pool selection for IUC ZTE Corporation, Sanechips CR Rel-17 38.321 17.0.0 1252 - F NR\_SL\_enh-Core

R2-2205105 Discussion on user plane FFS issues for SL DRX ZTE Corporation, Sanechips discussion Rel-17 NR\_SL\_enh-Core

R2-2205107 Correction on Destination ID index in SL BSR ZTE Corporation, Sanechips CR Rel-17 38.321 17.0.0 1253 - F NR\_SL\_enh-Core

R2-2205136 Discussion on SL MAC aspects ASUSTeK discussion Rel-17 38.321 NR\_SL\_enh-Core

R2-2205180 Corrections of 38.321 on TX resource selection Ericsson draftCR Rel-17 38.321 17.0.0 F NR\_SL\_enh-Core

R2-2205181 Corrections of 38.321 on SL grant reception Ericsson draftCR Rel-17 38.321 17.0.0 F NR\_SL\_enh-Core

R2-2205182 Corrections of 38.321 on IUC MAC CE Ericsson draftCR Rel-17 38.321 17.0.0 F NR\_SL\_enh-Core

R2-2205536 MAC open issues Samsung discussion

R2-2205622 Aligning Parameter names for UC GC and BC Lenovo CR Rel-17 38.321 17.0.0 1275 - F NR\_SL\_enh-Core

R2-2205833 Discussion on active time of SL DRX for the announced periodic transmissions Nokia, Nokia Shanghai Bell discussion NR\_SL\_enh-Core

R2-2205910 Corrections on HARQ RTT Handling in MAC Specification InterDigital, Ericsson, Apple draftCR Rel-17 38.331 17.0.0 NR\_SL\_enh-Core

R2-2205911 Corrections on Inactivity Timer Resetting for Groupcast InterDigital draftCR Rel-17 38.331 17.0.0 NR\_SL\_enh-Core

R2-2205912 Corrections on Active Time Definition at the TX UE InterDigital draftCR Rel-17 38.331 17.0.0 NR\_SL\_enh-Core

R2-2204783 Discussion on remaining issues for user plane aspect LG Electronics France discussion Rel-17 38.321 Withdrawn

#### 6.15.2.4 Inter-UE Coordination

Including priority order between IUC REQ and IUC MAC CEs, need of timer-based latency bound restriction for condition-based IUC (including details if needed), timer value, maximum number of resource combinations that can be included in IUC INFO MAC CE, etc.

*Confirm the previous WA?*

* *“For explicit request based IUC procedure that UE-B sets timer value to UE-A through PC5 RRC signalling”*
* *Yes (e.g. in R2-2205177)*
* *No (e.g. in R2-2205640)*

*Priority order between IUC and IUC REQ?*

* *Same (e.g. in R2-2204923)*
* *IUC REQ is higher (e.g. in R2-2204784)*
* *IUC is higher (e.g. in R2-2205708)*

*Max number of resource combination in IUC?*

* *Fixed (e.g. in R2-2204581)*
* *Variable with L field (e.g. in R2-2205639)*
* *Variable with configuration (e.g. in R2-2205103)*

*Need of specified timer-based latency handling for contention-based IUC?*

* *Yes (e.g. in R2-2204952)*
* *No (e.g. in R2-2204581)*

*IUC-based resource allocation and LCP (e.g. in R2-2204968)?*

R2-2204553 Remaining issues on resource selection for Inter-UE coordination SHARP Corporation discussion NR\_SL\_enh-Core

R2-2204576 Correction on user plane aspects for inter-UE coordination OPPO CR Rel-17 38.321 17.0.0 1223 - F NR\_SL\_enh-Core

R2-2204581 Discussion on left issue of inter-UE coordination OPPO discussion Rel-17 NR\_SL\_enh-Core

R2-2204780 Correction on user plane aspects for Inter-UE Coordination (Rapporteur CR) LG Electronics France CR Rel-17 38.321 17.0.0 1236 - F NR\_SL\_enh-Core Late

R2-2204784 Discussion on remaining issues for Inter-UE Coordination LG Electronics France discussion Rel-17 38.321

R2-2204923 Remaining issues on inter-UE coordination MAC CE Huawei, HiSilicon discussion NR\_SL\_enh-Core

R2-2204924 Discussion on latency bound for inter-UE coordination Huawei, HiSilicon discussion NR\_SL\_enh-Core

R2-2204952 Open Issues of Inter-UE Coordination CATT discussion Rel-17 NR\_SL\_enh-Core

R2-2204968 Remaining issues on inter-UE coordination Lenovo discussion Rel-17

R2-2205103 Discussion on inter-UE coordination ZTE Corporation, Sanechips discussion Rel-17 NR\_SL\_enh-Core

R2-2205137 Correction on inter-UE coordination ASUSTeK CR Rel-17 38.321 17.0.0 1258 - F NR\_SL\_enh-Core

R2-2205141 Discussion on need of timer-based latency bound restriction for condition-based scenario NEC Corporation discussion Rel-17

R2-2205177 Remaing issues of inter-UE coordination Ericsson discussion Rel-17 NR\_SL\_enh-Core

R2-2205344 Further Issues on Collision Avoidance of IUC messages Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_SL\_enh-Core

R2-2205366 Validity of IUCInformation Messages Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_SL\_enh-Core

R2-2205535 IUC open issues Samsung discussion

R2-2205604 Correction on SL grant selection procedure for inter UE coordination Samsung CR Rel-17 38.321 17.0.0 1274 - F NR\_SL\_enh-Core

R2-2205639 Discussion on limit of resource combinations in IUC-info MAC CE Apple, Ericsson, InterDigital, vivo discussion Rel-17 NR\_SL\_enh-Core

R2-2205640 Discussion on the timers for IUC INFO delivery Apple discussion Rel-17 NR\_SL\_enh-Core

R2-2205641 Lack of priority information for preferred resource set in IUC INFO Apple discussion Rel-17 NR\_SL\_enh-Core

R2-2205703 Multiple MAC CE handling and remaining PDB related to inter-UE coordination vivo discussion Rel-17

R2-2205708 Discussion on Inter-UE Coordination Qualcomm India Pvt Ltd discussion

R2-2205791 Open issues for Inter-UE coordination Intel Corporation discussion Rel-17 NR\_SL\_enh-Core

R2-2205881 Enabling unsolicited transmission of IUC Nokia, Nokia Shanghai Bell draftCR Rel-17 38.321 17.0.0 NR\_SL\_enh-Core

* [AT118-e][708][V2X/SL] Inter-UE coordination (Apple)

 **Scope:** Discuss proposals/corrections in AI 6.15.2.4 (except the pre-selected issues for online discussion).

 **Intended outcome:** Summary discussion in R2-2206304. Email approval.

**Deadline:** 5/16 10:00am UTC

#### 6.15.2.5 Power-saving resource allocation

Including details of resource pool and partial-sensing based resource allocation/random selection.

*Power-saving resource allocation can be applied to SL discovery?*

* *Yes (e.g. in R2-2204565)*

R2-2204565 [V380] Discussion on the applicability of power-saving resource allocation to NR SL discovery vivo discussion R2-2204323

R2-2204566 [V351] On corrections to NR SL communication procedure using exceptional pool vivo discussion

R2-2204567 [V350] Corrections on NR SL communication transmission procedures in mode-2 normal pools vivo discussion

R2-2204577 [O092] Correction on default CBR configuration OPPO CR Rel-17 38.331 17.0.0 2975 - F NR\_SL\_enh-Core

R2-2204582 [O092] Discussion on default CBR measurement value OPPO discussion Rel-17 NR\_SL\_enh-Core

R2-2204641 Correction on [O066, O067] OPPO draftCR Rel-17 38.331 17.0.0 F NR\_SL\_enh-Core

R2-2205102 correction on exceptional resource pool for power saving ZTE Corporation, Sanechips CR Rel-17 38.331 17.0.0 3048 - F NR\_SL\_enh-Core

R2-2205142 Correction on user plane aspects for power saving (Rapporteur CR) LG Electronics France CR Rel-17 38.321 17.0.0 1260 - F NR\_SL\_enh-Core Late

=> Withdrawn

R2-2204568 [O092] Clarification on the CBR related default parameters vivo discussion Withdrawn

### 6.15.3 Other

Including any other corrections.

*Whether SL DRX can be applied to L2 relay (including L2 relay discovery) (e.g. in R2-2204588)?*

* *Yes (e.g. in R2-2204588)*
* *No (e.g. in R2-2205179)*

R2-2204588 Discussion on Sidelink DRX for Sidelink Relay MediaTek Inc., APPLE, OPPO discussion Rel-17 NR\_SL\_relay-Core

R2-2204673 Discussion on the need of capability filter OPPO discussion Rel-17 NR\_SL\_enh-Core

R2-2205179 Issues of SL DRX for L2 U2N relay Ericsson discussion Rel-17 NR\_SL\_enh-Core

R2-2205269 Corrections on the Sidelink DRX NEC Corporation CR Rel-17 38.300 17.0.0 0457 - F NR\_SL\_enh-Core

R2-2205272 Way forward for Sidelink DRX configuration report for Relay purpose MediaTek Inc. discussion Rel-17 NR\_SL\_relay-Core Late

R2-2206047 Correction on SL DRX configuration for SL Relay MediaTek Inc., Huawei, ZTE, OPPO draftCR Rel-17 38.331 17.0.0 NR\_SL\_relay-Core

* [AT118-e][709][V2X/SL] SL DRX and L2 relay in Rel-17 (Ericsson)

 **Scope:** Discuss whether there are real technical blocking issues that cannot apply SL DRX into L2 relay. Companies not supporting SL DRX should identify the technical blocking issues and companies supporting SL DRX can argue why they’re not real technical blocking issues (or if they can be easily solved by CR implementation). Based on each side arguments and analysis, check companies’ views whether there is real technical blocking issue or not.

 **Intended outcome:** Summary discussion in R2-2206305.

**Deadline:** 5/16 10:00am UTC

 [OPPO, ZTE]: Prefer some neutral company to lead this email discussion. [Ericsson]: Cannot accept any change of offline discussion rapporteur. Declare Ericsson will do this job very well in fair. [Ericsson]: There would be some more related contributions in relay session. [Session chair]: Let me know by email to determine whether it will be added into this session or not. [MediaTek]: This email discussion would be for Rel-17 or Rel-18? [Session chair]: Only for Rel-17.