3GPP TSG-RAN WG2 Meeting #119 electronic R2-220xxxx
Online, August 17 – 29, 2022

Agenda Item: 9.5

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**

* [POST119-e][508][V2X/SL] 38.331 corrections (Huawei)

 **Scope:** Discuss proposed corrections in R2-2208053, R2-2207016, R2-2207213, R2-2207281, R2-2207523, R2-2207524, R2-2208692, R2-2207760, and R2-2208283 (including need of corrections and detailed wordings). Note corrections that are related to the discussion in [AT119-e][509] will not be discussed. Merge agreeable corrections in a CR as much as possible (we can have separate CR for big change in NBC). Contents in RAN1 LS (R1-2208123 and R1-2208121) will be also considered in CR implementation.

 **Intended outcome:** 38.331 CR in R2-2208850 -> revised in R2-2208869.. Email approval.

**Deadline:** Short email discussion

* [POST119-e][512][V2X/SL] Remaining corrections (IDC)

 **Scope:** Continue the discussion and conclude on P13 in R2-2208857 (sl-drx-SlotOffset formula) and P9 in R2-2208836 (LCID assignment).

 **Intended outcome:** Discussion summary and corresponding CRs

**Deadline:** Long email discussion

**[AT] Email discussion**

* [AT119-e][501][V2X/SL] Correction on null security algorithm (ZTE)

 **Scope:** Discuss proposed corrections in R2-2207217/R2-2207218, R2-2208050/R2-2208051 and R2-2208287/R2-2208284 (including need of corrections and detailed wordings). Prepare a reply LS to RAN5 (Cc: SA3, CT1).

 **Intended outcome:** 38.331 CR in R2-2208831/R2-2208860, reply LS in R2-2208832 and discussion summary in R2-2208833 (if needed). Email approval.

**Deadline:** 8/23 13:00 (UTC) => completed.

* [AT119-e][502][V2X/SL] 38.331 corrections (Huawei)

 **Scope:** Discuss proposed corrections in R2-2208045, R2-2208350, and R2-2208600 (including need of corrections and detailed wordings). Merge agreeable corrections in a CR.

 **Intended outcome:** 38.331 CR in R2-2208834/R2-2208835 and discussion summary in R2-2208836 (if needed). Email approval.

**Deadline:** 8/23 13:00 (UTC) => completed.

* [AT119-e][503][V2X/SL] 38.306 corrections (Xiaomi)

 **Scope:** Discuss proposed corrections in R2-2208902 and R2-2208217 (including need of corrections and detailed wordings). Merge agreeable corrections in a CR.

 **Intended outcome:** 38.306 CR in R2-2208837/R2-2208838 and discussion summary in R2-2208839 (if needed). Email approval.

**Deadline:** 8/23 13:00 (UTC) => completed

* [AT119-e][504][V2X/SL] 38.321 corrections (Vivo)

 **Scope:** Discuss proposed corrections in R2-2207659, R2-2207661, R2-2207663/R2-2207664/R2-2207666, R2-2208047, and the agreement made from R2-2208352 (including need of corrections and detailed wording).

 **Intended outcome:** 38.321 CR on SL-BSR format in R2-2208840/R2-2208841, 38.321 CR on other corrections in R2-2208842/R2-2208843, and discussion summary in R2-2208844 (if needed). Email approval.

**Deadline:** 8/23 13:00 (UTC) => completed.

* [AT119-e][505][V2X/SL] 38.300 corrections (Nokia)

 **Scope:** Discuss proposed corrections in R2-2208220, R2-2207175, and R2-2208257 (including need of corrections and detailed wordings). Merge agreeable corrections in a CR.

 **Intended outcome:** 38.300 CR in R2-2208845 and discussion summary in R2-2208846 (if needed). Email approval.

**Deadline:** 8/23 13:00 (UTC) => completed.

* [AT119-e][506][V2X/SL] Priority for IUC (Vivo)

 **Scope:** Prepare a reply LS to RAN1

 **Intended outcome:** LS in R2-2208847. Email approval.

**Deadline:** 8/19 09:00 (UTC) => completed.

* [AT119-e][507][V2X/SL] Missing RRC parameter in IUC (Apple)

 **Scope:** Prepare a LS to RAN1

 **Intended outcome:** LS in R2-2208849. Email approval.

**Deadline:** 8/19 09:00 (UTC) => completed.

* [AT119-e][508][V2X/SL] 38.331 corrections (Huawei)

 **Scope:** Discuss proposed corrections in R2-2208053, R2-2207016, R2-2207213, R2-2207281, R2-2207523, R2-2207524, R2-2208692, R2-2207760, and R2-2208283 (including need of corrections and detailed wordings). Note corrections that are related to the discussion in [AT119-e][509] will not be discussed. Merge agreeable corrections in a CR as much as possible (we can have separate CR for big change in NBC).

 **Intended outcome:** 38.331 CR in R2-2208850 and discussion summary in R2-2208851 (if needed). Email approval.

**Deadline:** 8/23 13:00 (UTC) => extended to 8/24 13:00 (UTC) => Short email discussion

* [AT119-e][509][V2X/SL] CP discussion (OPPO)

 **Scope:** Discuss and decide proposals in R2-2207017, R2-2207216, R2-2208901, R2-2208056 and R2-2207887. Prepare 38.331 CR, 38.306 CR and 38.321 CR (if needed).

 **Intended outcome:** 38.331 CR in R2-2208852, 38.306 CR in R2-2208853, 38.321 CR in R2-2208854 (if needed) and discussion summary in R2-2208855. Email approval.

**Deadline:** 8/22 13:00 (UTC) for discussion summary, 8/25 13:00 (UTC) for CRs => completed

* [AT119-e][510][V2X/SL] 38.321 corrections (LG)

 **Scope:** Discuss proposed corrections in R2-2208281, R2-2206984, R2-2206985, R2-2207030, R2-2207183, R2-2207214, R2-2207249, R2-2207759, R2-2207850, R2-2207851, R2-2208054, R2-2208057, R2-2208258, R2-2208365, R2-2208513, R2-2208549, and R2-2208599 (including need of corrections and detailed wordings). Note corrections that are related to the discussion in [AT119-e][509] and [AT-119-e][511] will not be discussed. Merge agreeable corrections in a CR as much as possible (we can have separate CR for big change in NBC).

 **Intended outcome:** 38.321 CR in R2-2208856 and discussion summary in R2-2208857 (if needed). Email approval.

**Deadline:** 8/23 13:00 (UTC) => completed

* [AT119-e][511][V2X/SL] UP discussion (OPPO)

 **Scope:** Discuss and decide proposals in R2-2207029, R2-2207174, R2-2208150, R2-2208183, R2-2208605, R2-2207215, R2-2207248, R2-2207454, R2-2207455, R2-2207525, R2-2207526, R2-2207890, R2-2208055, R2-2208148, R2-2208149, R2-2208602, and R2-2208222. Prepare 38.321 CR (if needed)

 **Intended outcome:** 38.321 CR in R2-2208858 (if needed) and discussion summary in R2-2208859. Email approval.

**Deadline:** 8/22 13:00 (UTC) for discussion summary, 8/25 13:00 (UTC) for CRs. => completed

## Approved outgoing LSs

R2-2208832 Reply LS on null security algorithm LS out Rel-16 5G\_V2X\_NRSL-Core To:RAN5 Cc:CT1, SA3

R2-2208953 Reply LS to RAN1 on priority for IUC LS out Rel-17 NR\_SL\_enh-Core To:RAN1

R2-2208849 LS on missing RRC parameter in IUC Scheme 2 LS out Rel-17 NR\_SL\_enh-Core To:RAN1

R2-2208853 LS on TX profile LS out Rel-17 NR\_SL\_enh-Core, eV2XARC\_Ph2, 5G\_ProSe To:CT1, Cc:SA2

R2-2208867 LS on Per-FS L1 feature for NR sidelink discovery BC-list LS out Rel-17 NR\_SL\_enh-Core, NR\_SL\_Relay-Core To:RAN1

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

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

## 5.2 NR V2X

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

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.

R2-2206905 Reply LS on V2X PC5 link for unicast communication with null security algorithm (C1-223972; contact: Huawei) CT1 LS in Rel-17 To:RAN5 Cc:SA3, RAN2

* Noted

R2-2206975 Reply LS on V2X PC5 link for unicast communication with null security algorithm (S3-221590; contact: Lenovo) SA3 LS in Rel-17 eV2XARC To:RAN5 Cc:CT1, RAN2

* Noted

R2-2206950 Reply LS on signalling of PC2 V2X intra-band con-current operation (R4-2210733; contact: CATT) RAN4 LS in Rel-16 5G\_V2X\_NRSL-Core To:RAN2

* Noted

### 5.2.2 Control plane corrections

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

R2-2207217 Correction on null security algorithm ZTE Corporation, Sanechips CR Rel-17 38.331 17.1.0 3234 - F 5G\_V2X\_NRSL-Core

* Treated in [AT119-e][501].

R2-2207218 Correction on null security algorithm ZTE Corporation, Sanechips CR Rel-16 38.331 16.9.0 3235 - F 5G\_V2X\_NRSL-Core

* Treated in [AT119-e][501].

R2-2208050 Clarification on PC5 AS security Huawei, HiSilicon CR Rel-16 38.300 16.9.0 0527 - F 5G\_V2X\_NRSL-Core

* Treated in [AT119-e][501].

R2-2208051 Clarification on PC5 AS security Huawei, HiSilicon CR Rel-17 38.300 17.1.0 0528 - A 5G\_V2X\_NRSL-Core

* Treated in [AT119-e][501].

R2-2208287 Clarification of NULL security algorithm Samsung Electronics Co., Ltd CR Rel-16 38.331 16.9.0 3398 - F 5G\_V2X\_NRSL-Core

* Treated in [AT119-e][501].

R2-2208284 Clarification of NULL security algorithm Samsung Electronics Co., Ltd CR Rel-17 38.331 17.1.0 3397 - A 5G\_V2X\_NRSL-Core

* Treated in [AT119-e][501].

R2-2207219 (draft)reply LS on null security algorithm ZTE Corporation, Sanechips LS out Rel-16 5G\_V2X\_NRSL-Core To:RAN5 Cc:SA3,CT1

* Treated in [AT119-e][501].

R2-2208049 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

* Treated in [AT119-e][501].
* [AT119-e][501][V2X/SL] Correction on null security algorithm (ZTE)

 **Scope:** Discuss proposed corrections in R2-2207217/R2-2207218, R2-2208050/R2-2208051 and R2-2208287/R2-2208284 (including need of corrections and detailed wordings). Prepare a reply LS to RAN5 (Cc: SA3, CT1).

 **Intended outcome:** 38.331 CR in R2-2208831/R2-2208860, reply LS in R2-2208832 and discussion summary in R2-2208833 (if needed). Email approval.

**Deadline:** 8/23 13:00 (UTC) => completed.

R2-2208833 Summary of [501] ZTE discussion Rel-16 5G\_V2X\_NRSL-Core

Proposal 1 (modified): For null security algorithm, RAN2 confirms that there is no normative change due to support of null security algorithm.

Proposal 2 (modified): Adding a note to clarify the null security algorithm issue.

* Proposal 1 and 2 are agreed.

R2-2208831 Clarification of NULL security algorithm ZTE, Samsung, Vivo CR Rel-16 38.331 16.9.0 3398 1 F 5G\_V2X\_NRSL-Core

* Agreed.

R2-2208860 Clarification of NULL security algorithm ZTE, Samsung, Vivo CR Rel-17 38.331 17.1.0 3397 1 A 5G\_V2X\_NRSL-Core

* Agreed.

R2-2208832 Reply LS on null security algorithm LS out Rel-16 5G\_V2X\_NRSL-Core To:RAN5 Cc:CT1, SA3

* Approved.

R2-2208052 Summary on Rel-16 control plane corrections Huawei, HiSilicon discussion Rel-16 5G\_V2X\_NRSL-Core Late

* Treated in [AT119-e][502].

R2-2208045 Miscelleneous CR on 38.331 Huawei, HiSilicon CR Rel-16 38.331 16.9.0 3346 - F 5G\_V2X\_NRSL-Core

* Treated in [AT119-e][502].

R2-2208046 Miscelleneous CR on 38.331 Huawei, HiSilicon CR Rel-17 38.331 17.1.0 3347 - A 5G\_V2X\_NRSL-Core

* Treated in [AT119-e][502].

R2-2208350 Correction on LCID assignment for SL LCH ASUSTeK CR Rel-16 38.331 16.9.0 3408 - F 5G\_V2X\_NRSL-Core

* Treated in [AT119-e][502].

R2-2208351 Correction on LCID assignment for SL LCH ASUSTeK CR Rel-17 38.331 17.1.0 3409 - A 5G\_V2X\_NRSL-Core

* Treated in [AT119-e][502].

R2-2208600 Correction on Missing UE behavior on sidelink reset vivo CR Rel-16 38.331 16.9.0 3450 - F 5G\_V2X\_NRSL-Core

* Treated in [AT119-e][502].

R2-2208601 Correction on Missing UE behavior on sidelink reset vivo CR Rel-17 38.331 17.1.0 3451 - F 5G\_V2X\_NRSL-Core

* Treated in [AT119-e][502].
* [AT119-e][502][V2X/SL] 38.331 corrections (Huawei)

 **Scope:** Discuss proposed corrections in R2-2208045, R2-2208350, and R2-2208600 (including need of corrections and detailed wordings). Merge agreeable corrections in a CR.

 **Intended outcome:** 38.331 CR in R2-2208834/R2-2208835 and discussion summary in R2-2208836 (if needed). Email approval.

**Deadline:** 8/23 13:00 (UTC) => completed.

R2-2208836 Summary of [AT119-e][502][V2X/SL] 38.331 corrections (Huawei) Huawei discussion Rel-16 5G\_V2X\_NRSL-Core

[Proposal 1] Change the level 4 action in clause 5.2.2.4.13 (as indicated in R2-2208045) from " perform CBR measurement on the transmission resource pool(s) indicated by sl-TxPoolSelectedNormal and sl-TxPoolExceptional for NR sidelink communication transmission, as specified in 5.5.3.1; " to " perform CBR measurement on the transmission resource pool(s) indicated by sl-TxPoolSelectedNormal or sl-TxPoolExceptional for NR sidelink communication transmission, as specified in 5.5.3.1;".

[Proposal 2] Change two level 4 actions in clause 5.5.3.1 (as indicated in R2-2208045) from " perform CBR measurement on pools in sl-TxPoolSelectedNormal and sl-TxPoolExceptional for the concerned frequency in SIB12;" to " perform CBR measurement on pool(s) in sl-TxPoolSelectedNormal or sl-TxPoolExceptional for the concerned frequency in SIB12;".

[Proposal 3] Change the level 2 action in clause 5.5.3.1 (as indicated in R2-2208045) from " perform CBR measurement on pool(s) in sl-TxPoolSelectedNormal and sl-TxPoolExceptional in SidelinkPreconfigNR for the concerned frequency." to " perform CBR measurement on pool(s) in sl-TxPoolSelectedNormal and/or sl-TxPoolExceptional in SidelinkPreconfigNR for the concerned frequency.".

[Proposal 4] The second change for clause 5.8.8 in R2-2208045 is agreed.

[Proposal 5] The changes for field description of RIV and TRIV in R2-2208045 are agreed.

[Proposal 6] The change on field description of sl-HARQ-ProcID-Offset in R2-2208045 is agreed.

[Proposal 7] The addition of unit for “sl-PSFCH-ToPUCCH” in R2-2208045 is agreed.

[Proposal 8a] In clause 5.8.9.1.2, change "2> set the SLRB-PC5-ConfigIndex included in the slrb-ConfigToReleaseList corresponding to the sidelink DRB;" to "2> set the entry included in the slrb-ConfigToReleaseList corresponding to the sidelink DRB;".

[Proposal 8b] In clause 5.8.9.1.3, change "2> for each SLRB-PC5-ConfigIndex value included in the slrb-ConfigToReleaseList that is part of the current UE sidelink configuration;" to "2> for each entry included in the slrb-ConfigToReleaseList that is part of the current UE sidelink configuration;".

[Proposal 8c] The changes for slrb-PC5-ConfigIndex and sl-DestinationIndex in R2-2208945 are not agreed.

[Proposal 9] CR in R2-2208350 is not agreed, postpone the related discussion to next meeting.

* All proposals above are agreed.

[Proposal 10] CR in R2-2208600 is not agreed, can be discussed next meeting.

[Huawei]: Prefer not to have any impact in note. Once we start this job for optional parameter, it will bring many similar jobs for other optional parameters. [OPPO, Vivo]: It is somewhat different from other optional parameters. For other optional parameters, it is specified when it is sent. The change will be helpful to avoid any misunderstanding. [Vivo]: Another alternative would be to change the wording “include” for sl-ResetConfig (instead of adding “whether”)

* Change from R2-2208600/R2-2208601 is agreed in R2-2208864/R2-2208870 with adding “Whether” before “how” in NOTE1.

R2-2208834 Miscelleneous CR on 38.331 Huawei, HiSilicon CR Rel-16 38.331 16.9.0 3346 1 F 5G\_V2X\_NRSL-Core

* Agreed.

R2-2208835 Miscelleneous CR on 38.331 Huawei, HiSilicon CR Rel-17 38.331 17.1.0 3347 1 A 5G\_V2X\_NRSL-Core

* Agreed.

R2-2208902 Correction on sidelink power class capability indication Xiaomi CR Rel-16 38.306 16.9.0 0797 - F 5G\_V2X\_NRSL-Core Late

* Treated in [AT119-e][503].

R2-2208903 Correction on sidelink power class capability indication Xiaomi CR Rel-17 38.306 17.1.0 0798 - F 5G\_V2X\_NRSL-Core Late

* Treated in [AT119-e][503].

R2-2208217 Clarifications on PC5 UE capabilities for V2X Nokia, Nokia Shanghai Bell draftCR Rel-17 38.306 17.1.0 5G\_V2X\_NRSL-Core

* Treated in [AT119-e][503].
* [AT119-e][503][V2X/SL] 38.306 corrections (Xiaomi)

 **Scope:** Discuss proposed corrections in R2-2208902 and R2-2208217 (including need of corrections and detailed wordings). Merge agreeable corrections in a CR.

 **Intended outcome:** 38.306 CR in R2-2208837/R2-2208838 and discussion summary in R2-2208839 (if needed). Email approval.

**Deadline:** 8/23 13:00 (UTC) => completed

R2-2208839 Summary of offline-503 discussion Xiaomi discussion Rel-16 5G\_V2X\_NRSL-Core

Proposal 1: The first change in R2-2208902 is agreed with the revision of ‘band’ to ‘interface’.

Proposal 2: The second change in R2-2208902 is agreed.

Proposal 3: The changes in R2-2208902 applies to R16 and R17.

Proposal 4: The changes in R2-2208217 are agreed.

* All proposals above are agreed.

R2-2208837 Correction on sidelink capability Xiaomi CR Rel-16 38.306 16.9.0 0797 1 F 5G\_V2X\_NRSL-Core

[Session chair]: Is the change in R2-2208217 applied from Rel-16? [Nokia]: Yes

* Change in R2-2208217 will be included. Cover page will be updated accordingly.
* Agreed in R2-2208862 with the update above.

R2-2208838 Correction on sidelink capability Xiaomi CR Rel-17 38.306 17.1.0 0798 1 F 5G\_V2X\_NRSL-Core

* Category should be corrected to “A”
* Agreed in R2-2208863 with the update above.

### 5.2.3 User plane corrections

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

R2-2208352 Discussion on UL skipping and SL BSR ASUSTeK discussion Rel-16 38.321 5G\_V2X\_NRSL-Core

Proposal 1A: RAN2 confirm UL skipping can be supported with sidelink UE.

Proposal 1B: RAN2 conclude that UL skipping is not allowed to be enabled in sidelink UE and capture the conclusion in meeting minutes.

[Vivo, LG, OPPO, MediaTek, Qualcomm]: UL skipping is a kind of optimization. It is not applied to SL. [Qualcomm]: No need of any correction.

* UL skipping is not applied to SL.

R2-2208353 Corrections on UL skipping and SL BSR ASUSTeK CR Rel-16 38.321 16.9.0 1380 - F 5G\_V2X\_NRSL-Core

* Rejected.

R2-2208354 Corrections on UL skipping and SL BSR ASUSTeK CR Rel-17 38.321 17.1.0 1381 - A 5G\_V2X\_NRSL-Core

* Rejected.

R2-2207659 CR on SL MAC CE handling vivo CR Rel-16 38.321 16.9.0 1328 - F 5G\_V2X\_NRSL-Core

* Treated in [AT119-e][504].

R2-2207660 CR on SL MAC CE handling vivo CR Rel-17 38.321 17.1.0 1329 - A 5G\_V2X\_NRSL-Core

* Treated in [AT119-e][504].

R2-2207661 Correction on SL LCP restriction for sl-HARQ-FeedbackEnabled vivo CR Rel-16 38.321 16.9.0 1330 - F 5G\_V2X\_NRSL-Core

* Treated in [AT119-e][504].

R2-2207662 Correction on SL LCP restriction for sl-HARQ-FeedbackEnabled vivo CR Rel-17 38.321 17.1.0 1331 - A 5G\_V2X\_NRSL-Core

* Treated in [AT119-e][504].

R2-2207663 Discussion on the Buffer Size field in the Sidelink BSR formats vivo discussion

* Treated in [AT119-e][504].

R2-2207664 Clarification on the Buffer Size field in the Sidelink BSR formats (Option 1) vivo CR Rel-16 38.321 16.9.0 1332 - F 5G\_V2X\_NRSL-Core

* Treated in [AT119-e][504].

R2-2207665 Clarification on the Buffer Size field in the Sidelink BSR formats (Option 1) vivo CR Rel-17 38.321 17.1.0 1333 - A 5G\_V2X\_NRSL-Core

* Treated in [AT119-e][504].

R2-2207666 Clarification on the Buffer Size field in the Sidelink BSR formats (Option 2) vivo CR Rel-16 38.321 16.9.0 1334 - F 5G\_V2X\_NRSL-Core

* Treated in [AT119-e][504].

R2-2207667 Clarification on the Buffer Size field in the Sidelink BSR formats (Option 2) vivo CR Rel-17 38.321 17.1.0 1335 - A 5G\_V2X\_NRSL-Core

* Treated in [AT119-e][504].

R2-2208047 Clarification on UE handling when performing operations on multiple RPs Huawei, HiSilicon CR Rel-16 38.321 16.9.0 1364 - F 5G\_V2X\_NRSL-Core

* Treated in [AT119-e][504].

R2-2208048 Clarification on UE handling when performing operations on multiple RPs Huawei, HiSilicon CR Rel-17 38.321 17.1.0 1365 - A 5G\_V2X\_NRSL-Core

* Treated in [AT119-e][504].
* [AT119-e][504][V2X/SL] 38.321 corrections (Vivo)

 **Scope:** Discuss proposed corrections in R2-2207659, R2-2207661, R2-2207663/R2-2207664/R2-2207666, R2-2208047, and the agreement made from R2-2208352 (including need of corrections and detailed wording).

 **Intended outcome:** 38.321 CR on SL-BSR format in R2-2208840/R2-2208841, 38.321 CR on other corrections in R2-2208842/R2-2208843, and discussion summary in R2-2208844 (if needed). Email approval.

**Deadline:** 8/23 13:00 (UTC) => completed.

R2-2208844 Summary of [AT119-e][504][V2X/SL] 38.321 corrections (vivo) Vivo discussion Rel-16 5G\_V2X\_NRSL-Core

Proposal 1: The CRs in R2-2207659 and R2-2207660 are not pursued.

Proposal 2-1: Agree the intention of the CRs in R2-2207661 and R2-2207662, and upgrade SL LCP restriction condition on sl-HARQ-FeedbackEnabled into the same level as other SL LCP restrictions.

Proposal 2-2: Revise the CRs to make the “if” conditions better adapt into the description style of the SL LCP subclause.

Proposal 3-1: Option 2 in R2-2207663 is adopted, i.e. in the MAC Spec, remove the NOTE in subclause 6.1.3.33 and keep the current SL-BSR/Truncated SL-BSR format in Figure 6.1.3.33-1.

Proposal 3-2: Agree the changes in CRs R2-2207666 and R2-2207667. Revise the cover sheet with the addition of the inter-operability statement between two UEs implementing/not implementing the CRs respectively.

Proposal 4: The CRs in R2-2208047 and R2-2208048 are not pursued from RAN2 perspective.

Proposal 5: Postpone the discussions on what/whether Spec changes are really needed to support the agreement “UL skipping is not applied to SL”.

* All proposals above are agreed.

R2-2208840 Clarification on the Buffer Size field in the Sidelink BSR formats vivo CR Rel-16 38.321 16.9.0 1334 1 F 5G\_V2X\_NRSL-Core

* Agreed.

R2-2208841 Clarification on the Buffer Size field in the Sidelink BSR formats vivo CR Rel-17 38.321 17.1.0 1335 1 A 5G\_V2X\_NRSL-Core

* Agreed.

R2-2208842 Correction on the SL LCP restriction for sl-HARQ-FeedbackEnabled vivo CR Rel-16 38.321 16.9.0 1330 1 F 5G\_V2X\_NRSL-Core

* Agreed.

R2-2208843 Correction on the SL LCP restriction for sl-HARQ-FeedbackEnabled vivo CR Rel-17 38.321 17.1.0 1331 1 A 5G\_V2X\_NRSL-Core

* Agreed.

## 6.15 NR Sidelink enhancements

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

Tdoc Limitation: 4 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.

R2-2206915 Reply LS on the inter-UE coordination mechanism (R1-2205400; contact: vivo) RAN1 LS in Rel-17 NR\_SL\_enh-Core To:RAN2

* Noted.

### 6.15.2 Stage 2 corrections

R2-2208220 Sidelink enhancement stage 2 corrections Nokia, Nokia Shanghai Bell draftCR Rel-17 38.300 17.1.0 NR\_SL\_enh-Core

* Treated in [AT119-e][505].

R2-2207175 Correction on TX profile Xiaomi CR Rel-17 38.300 17.1.0 0501 - F NR\_SL\_enh-Core

* Treated in [AT119-e][505].

R2-2208257 Correction on SL DRX for SL discovery Samsung CR Rel-17 38.300 17.1.0 0537 - F NR\_SL\_enh-Core

* Treated in [AT119-e][505].
* [AT119-e][505][V2X/SL] 38.300 corrections (Nokia)

 **Scope:** Discuss proposed corrections in R2-2208220, R2-2207175, and R2-2208257 (including need of corrections and detailed wordings). Merge agreeable corrections in a CR.

 **Intended outcome:** 38.300 CR in R2-2208845 and discussion summary in R2-2208846 (if needed). Email approval.

**Deadline:** 8/23 13:00 (UTC) => completed.

R2-2208846 Summary of [AT119-e][505][V2X/SL] 38.300 corrections Nokia discussion Rel-17 NR\_SL\_enh-Core

Proposal 1.1: Change in R2-2207175 is agreed.

Proposal 2.1: Change 1 proposed in R2-2208220 is agreed, including adding “information” in missing places.

Proposal 2.2: Change 2 proposed in R2-2208220 is agreed with revision.

Proposal 2.3: Change 3 in R2-2208220 is rejected.

Proposal 3.1: Change in R2-2208257 is agreed.

* All proposals above are agreed.

R2-2208845 38.300 corrections for sidelink enhancements Nokia, Nokia Shanghai Bell, Samsung, Xiaomi CR Rel-17 38.300 17.1.0 0547 1 F NR\_SL\_enh-Core

[Session chair]: R2-2208845 is the first CR with CR#0547 (revision number is not correct)

* Agreed in R2-2208865 (with revision number 1)

### 6.15.3 Control plane corrections

R2-2208598 Discussion and draft Reply LS to RAN1 on priority for IUC information vivo discussion Rel-17

Proposal 1: The following parameters are dummified in TS 38.331:

- sl-PriorityCoordInfoExplicit-r17

- sl-PriorityCoordInfoCondition-r17

- sl-PriorityRequest-r17

[LG]: It is related to sensing and candidate resource selection in PHY. To PHY specification, it is allowed not always to have the highest priority for IUC and IUC REQ in sensing and candidate resource selection. Prefer to keep them as they are. [Vivo]: When it was discussed in RAN2, we discussed two kinds of priorities. One is for IUC and/or IUC REQ itself and the other one is for the corresponding data that IUC and/or IUC REQ is used for. RAN1 response is sensing and candidate resource selection for IUC and/or IUC REQ itself, then we should fix the priority to “1” as “1” is used for them in MAC LCP. [Huawei]: We can modify the corresponding field descriptions instead of making dummies on them, e.g. to clarify the parameters are only used in sensing and candidate resource selection in PHY and fixed value “1” is used in MAC LCP. [OPPO, ZTE, Ericsson, Intel, Qualcomm, Xiaomi, Nokia]: Agree with LG and Huawei. [NEC, CATT]: Supports proposal. [Session chair]: Do we allow different priority for IUC and IUC REQ in MAC and PHY, which is not aligned for SL data case (for SL data, same SL priority is used for PHY and MAC)? If we want to apply same priority in both MAC and PHY, it sounds more natural to fix it to “1”, and we still can avoid ASN.1 NBC change (making them dummies) by adding that restriction into the field description. [Apple, Vivo, IDC]: Agree with session chair. [Ericsson, Huawei]: Don’t agree to fix it as “1” for sensing and candidate resource selection in PHY. [LG]: If network wants to fix it as “1”, it can be configured by network implementation. The purpose is to allow different priorities in PHY procedures.

* Keep those parameters to use them in sensing and candidate resource selections in PHY and use the fixed value “1” for IUC and IUC REQ MAC CE in MAC LCP.

R2-2207172 Removal of three priority parameters in SL-InterUE-CoordinationConfig NEC Corporation discussion Rel-17

R2-2207970 Open issues for IUC Intel Corporation discussion Rel-17 NR\_SL\_enh-Core

* [AT119-e][506][V2X/SL] Priority for IUC (Vivo)

 **Scope:** Prepare a reply LS to RAN1

 **Intended outcome:** LS in R2-2208847. Email approval.

**Deadline:** 8/19 09:00 (UTC) => completed.

R2-2208847 Reply LS to RAN1 on priority for IUC LS out Rel-17 NR\_SL\_enh-Core To:RAN1

[Session chair]: Filename inside the zip file has with “draft” in it.

* Filename inside the zip file needs to be updated.
* Approved in R2-2208953 with the correction above.

R2-2207456 Discussion on missing RRC parameter in IUC Scheme 2 Apple discussion Rel-17 NR\_SL\_enh-Core

Proposal 2 (modified): Send an urgent LS to RAN1 to request the value range of “deltaRSRPThresh”.

[OPPO, Qualcomm, Nokia, Vivo, Huawei]: Supports the proposal. [Huawei]: Correction is included in the rapporteur CR and the value range is same as the normal value range of RSRP. [Session chair]: We can include the question something like “RAN2 assumes the same value range as normal RSRP. We would like to ask RAN1 confirmation” in the LS. [Vivo]: Will Huawei’s correction be discussed under rapporteur’s discussion or in separate? [Session chair]: It can be discussed in the email discussion that includes the corresponding CR.

* Agreed. We can also add something like “RAN2 assumes the same value range as normal RSRP. We would like to ask RAN1 confirmation” in the LS.
* [AT119-e][507][V2X/SL] Missing RRC parameter in IUC (Apple)

 **Scope:** Prepare a LS to RAN1

 **Intended outcome:** LS in R2-2208849. Email approval.

**Deadline:** 8/19 09:00 (UTC) => completed.

R2-2208849 LS on missing RRC parameter in IUC Scheme 2 LS out Rel-17 NR\_SL\_enh-Core To:RAN1

* Approved.

R2-2207668 On corrections to transmission procedures using exceptional pool for NR SL communication and NR SL discovery vivo discussion

Proposal 1 (modified): For NR SL communication, RAN2 agrees the following condition that the UE uses the exceptional pool for transmission:

 - if the UE selects to perform sensing based operation (i.e. full sensing or partial sensing) for transmission and is allowed by a pool(s) of resources configured in sl-TxPoolSelectedNormal; and

 - If a result of sensing on the resources configured in the sl-TxPoolSelectedNormal is not available.

[OPPO]: Ok with intention. Prefer removing “which is supported by the UE” and “within sl-BWP-PoolConfigCommon” [Apple, Intel]: Support intention. [Apple, Qualcomm]: Intention of OPPO’s comment is to get rid of all BWP mentioning, as sl-TxPoolSelectedNormal can be included in any of the following four different BWPs in RRC (SL-BWP-PoolConfigCommon, SL-BWP-PoolConfig, SL-BWP-PoolConfigCommonPS, SL-BWP-PoolConfigPS). “sl-BWP-PoolConfigCommonPS” should be also removed.

* Agreed.

Proposal 2: RAN2 reaches the common understanding that how the UE selects the resource allocation scheme that is used to check above condition for exceptional pool usage in P1 is up to UE implementation. No spec impact is needed.

* Agreed.

Proposal 3: RAN2 implements the conclusions to be reached based on Proposal 1 and Proposal 2 also to the NR SL discovery transmission procedure with necessary adjustments (e.g. pools in sl-DiscTxPoolSelected).

* Agreed.

R2-2207669 On power-saving resource allocation for NR SL communication transmission and NR SL discovery transmission vivo discussion

[Session chair]: Working assumption was already confirmed in [AT119-e][509]. Any spec impact can be discussed as part of [AT119-e][509] phase-2 discussion.

* Treated in [AT119-e][509].

R2-2207250 Remaing issues on power saving resource allocation Ericsson discussion Rel-17 NR\_SL\_enh-Core

* Treated in [AT119-e][509].

R2-2208053 Miscellaneous corrections on TS 38.331 for SL enhancements Huawei, HiSilicon CR Rel-17 38.331 17.1.0 3348 - F NR\_SL\_enh-Core

* Treated in [AT119-e][508].

R2-2207016 Correction for SL DRX OPPO CR Rel-17 38.331 17.1.0 3206 - F NR\_SL\_enh-Core

* Treated in [AT119-e][508].

R2-2207213 Corrections on RRC for SL enhancements ZTE Corporation, Sanechips CR Rel-17 38.331 17.1.0 3233 - F NR\_SL\_enh-Core

* Treated in [AT119-e][508].

R2-2207281 Error handling on PC5 MediaTek Inc. discussion Rel-17

* Treated in [AT119-e][508].

R2-2207523 Corrections on the reception of RRCReconfigurationSidelink message CATT CR Rel-17 38.331 17.1.0 3274 - F NR\_SL\_enh-Core

* Treated in [AT119-e][508].

R2-2207524 Corrections on the transmission of SidelinkUEInformationNR message CATT CR Rel-17 38.331 17.1.0 3275 - F NR\_SL\_enh-Core

* Treated in [AT119-e][508].

R2-2207587 Corrections of 38.331 on RRCReconfigurationCompleteSidelink Ericsson CR Rel-17 38.331 17.1.0 3288 - F NR\_SL\_enh-Core

=> Revised in R2-2208692

R2-2208692 Corrections of 38.331 on RRCReconfigurationCompleteSidelink Ericsson CR Rel-17 38.331 17.1.0 3288 1 F NR\_SL\_enh-Core

* Treated in [AT119-e][508].

R2-2207760 Miscellaneous corrections on TS 38.331 for NR sidelink Xiaomi CR Rel-17 38.331 17.1.0 3308 - F NR\_SL\_enh-Core

* Treated in [AT119-e][508].

R2-2208283 Control plane correction on NR Sidelink enhancements LG Electronics France CR Rel-17 38.331 17.1.0 3396 - F 5G\_V2X\_NRSL-Core

* Treated in [AT119-e][508].
* [AT119-e][508][V2X/SL] 38.331 corrections (Huawei)

 **Scope:** Discuss proposed corrections in R2-2208053, R2-2207016, R2-2207213, R2-2207281, R2-2207523, R2-2207524, R2-2208692, R2-2207760, and R2-2208283 (including need of corrections and detailed wordings). Note corrections that are related to the discussion in [AT119-e][509] will not be discussed. Merge agreeable corrections in a CR as much as possible (we can have separate CR for big change in NBC).

 **Intended outcome:** 38.331 CR in R2-2208850 and discussion summary in R2-2208851 (if needed). Email approval.

**Deadline:** 8/23 13:00 (UTC) => extended to 8/24 13:00 (UTC) => short email discussion

R2-2208851 Summary of [AT119-e][508][V2X/SL] 38.331 corrections (Huawei) Huawei discussion Rel-17 NR\_SL\_enh-Core

[Proposal 1] Changes in R2-2208053 for clause 5.8.3.2 and 5.8.3.3 are agreeable (further rewording, addition of Mode-1 restriction to be done in CR review).

[Proposal 2] Field description change on the three priority parameters (as originally in R2-2208053) are agreeable.

[Proposal 3] Wait for RAN1 reply regarding changes on the missing delta RSRP threshold parameter.

[Proposal 4] Wait for RAN1 reply regarding the missing delta RSRP threshold parameter before making changes on FD for sl-OptionForCondition2-A-1.

[Proposal 5] Various editorial changes in section 2.1.5 are agreed.

[Proposal 6] Changes in R2-2207016 on initiating SUI are agreeable, to be further reviewed in CR.

[Proposal 7] Changes in R2-2207016 on setting SUI are agreeable, to be further reviewed in CR.

[Proposal 8] RAN2 further discuss (online) the need of extra initiation conditions for SUI in R2-2207016. (First change for unicast: 11/13, second change for unicast 9/13. Changes for GC/BC: 10/13)

[Proposal 9] Changes on various FDs in R2-2207016 are agreeable (to be further reviewed in CR).

[Proposal 10] Various editorial changes in R2-2207016 are agreed.

[Proposal 11] (modified) Change proposed in R2-2207213 for clause 5.8.9.1.3 is not agreed.

[Proposal 12] Change proposed in R2-2207760 for clause 5.8.9.1.3 is agreed.

[Proposal 13] Change proposed in R2-2207523 for clause 5.8.9.1.3 is not agreed. Can discuss in next meeting

[Proposal 14] CR in R2-2207281 is not agreed.

[Proposal 15] CR in R2-2208692 is agreeable, FFS BC based implementation (to be reviewed in CR).

[Proposal 16] Change in R2-2208283 is agreeable.

* All proposals above are agreed.

[Proposal 8] RAN2 further discuss (online) the need of extra initiation conditions for SUI in R2-2207016. (First change for unicast: 11/13, second change for unicast 9/13. Changes for GC/BC: 10/13)

[Session chair]: Main question would be “will we have similar conditions for SUI transmission as legacy conditions we already have, which can be applied to SL DRX (in terms of SL DRX)?” [OPPO]: We can agree with general principle here and detailed wordings can be further discussion during short email discussion. [Xiaomi]: Agreed with OPPO

* We will have similar conditions for SUI transmission as legacy conditions we already have, which can be applied to SL DRX (in terms of SL DRX). Detailed wordings can be further checked during short email discussion.

[Proposal 11] Change proposed in R2-2207213 for clause 5.8.9.1.3 is not agreed. Can discuss in next meeting

[Session chair]: What does “comply to SL-DRX configuration” mean? Is it same or different as SL-DRX configuration is accepted (not rejected)? [CATT]: For SL DRX configuration, UE complies first then if complies, the UE will determine whether it’s accepted/rejected. No spec change is required. [Session chair]: Share the view with CATT [Apple]: Don’t agree with CATT. [OPPO]: Agree with CATT and session chair. The current spec is ok. [IDC, Samsung, MediaTek, Xiaomi, Huawei, Qualcomm, Vivo]: Same understanding as CATT and OPPO. “Comply” includes ASN.1 coding or UE capability aspects, but SL-DRX reject is more like for preference.

* No change is needed.

R2-2208850 Miscellaneous corrections on TS 38.331 for SL enhancements Huawei, HiSilicon CR Rel-17 38.331 17.1.0 3348 1 F NR\_SL\_enh-Core

[Session chair]: RAN1 approved LS in R1-2208123 on missing IUC parameter, it responded:

“Reply to request: The unit of deltaRSRPThreshold is in dB; the value range of deltaRSRPThreshold is from -30 dB to 30 dB; the step size of deltaRSRPThreshold is 2 dB. RAN1 would additionally like to tell RAN2 that this parameter is expected to be resource pool specific.” Although we didn’t handle new incoming LS, can we include it to 38.331 CR since the required change seems straightforward?

[Huawei, Apple, Xiaomi, ZTE, Qualcomm, CATT, MediaTek]: Prefer including this contents into LS. FD on delta threshold can be also easily solved. [Vivo]: There is also another LS for power control (R1-2208121), we can also consider the content in that LS into CR. [Apple]: LS on power control is for Rel-16 or Rel-17? [Vivo, Qualcomm]: RAN1 discussed and decided to apply it from Rel-17.

* Contents in RAN1 LS (R1-2208123 and R1-2208121) will be also considered in the [508] CR implementation. Companies can further check with RAN1 during short email discussion period.

R2-2207017 Discussion on left issues on control plane procedure OPPO discussion Rel-17 NR\_SL\_enh-Core

* Treated in [AT119-e][509].

R2-2207216 Discussion on SL DRX remaining issues ZTE Corporation, Sanechips discussion Rel-17 NR\_SL\_enh-Core

* Treated in [AT119-e][509].

R2-2208901 Discussion on left issues on UE capability OPPO discussion Late

* Treated in [AT119-e][509].

R2-2208056 Consideration on active time during unicast connection establishment Huawei, HiSilicon CR Rel-17 38.321 17.1.0 1367 - F NR\_SL\_enh-Core

* Treated in [AT119-e][509].

R2-2207887 Correction on SL DRX behaviour for unicast link establishment Lenovo CR Rel-17 38.321 17.1.0 1346 - F NR\_SL\_enh-Core

* Treated in [AT119-e][509].
* [AT119-e][509][V2X/SL] CP discussion (OPPO)

 **Scope:** Discuss and decide proposals in R2-2207017, R2-2207216, R2-2208901, R2-2208056 and R2-2207887. Prepare 38.331 CR, 38.306 CR and 38.321 CR (if needed).

 **Intended outcome:** 38.331 CR in R2-2208852, 38.306 CR in R2-2208853, 38.321 CR in R2-2208854 (if needed) and discussion summary in R2-2208855. Email approval.

**Deadline:** 8/22 13:00 (UTC) for discussion summary, 8/25 13:00 (UTC) for CRs => completed

R2-2208855 Summary of [AT119-e][509][V2X/SL] CP discussion (OPPO) OPPO discussion Rel-17 NR\_SL\_enh-Core

Proposal 1 (15/16) UE quits from active time if upper layer aborts the link establishment procedure.

Proposal 2 RAN2 discuss, in case a UE performs “transmission of RRCReconfiguration including initial DRX configuration” after “reception of RRCReconfigurationSidelink message including initial DRX configuration”, whether the UE shall be in Active-Time during the time gap (6/12) or not (6/12).

Proposal 3 If Yes to P2, capture additional active time as “the time between the transmission/reception of PC5-S Direct Communication Request message and the reception of RRCReconfigurationCompleteSidelink or RRCReconfigurationFailureSidelink message for the RRCReconfigurationSidelink message including initial DRX configuration”, and “the time between the transmission/reception of PC5-S Direct Communication Request message and the reception of RRCReconfigurationSidelink message including initial DRX configuration”.

Proposal 4 If No to P2, capture additional active time as “the time between transmission/reception of PC5-S Direct Communication Request message and reception of RRCReconfigurationSidelink message including initial DRX configuration ”, and “the time between transmission of RRCReconfigurationSidelink message including initial DRX configuration and reception of corresponding RRCReconfigurationCompleteSidelink or RRCReconfigurationFailureSidelink message” separately.

Proposal 5 (14/16) TX-UE store and report the related information (assistance information, DRX on-off indication) upon changing from mode-2 to mode-1. No spec impact.

Proposal 6 (16/16) When the UE is monitoring both DRX disabled traffic and DRX enabled traffic, the UE does not perform SUI reporting of “for NR sidelink groupcast or broadcast reception, the Destination Layer-2 ID and QoS profile associated with its interested services”.

Proposal 7 (13/14) RAN2 send LS to CT1, explain the current RAN2 spec status and observation of CT1 spec, to ask CT1 to confirm 1) whether CT1 spec refer to RAN2 spec for a value instead of a list of TX profile, 2) whether CT1 spec define the TX profile list separately from the pre-configuration.

Proposal 8 (16/16) RAN2 confirm the WA “power-saving resource allocation schemes apply to NR SL discovery transmission in the dedicated discovery TX pool(s).”

Proposal 9 (6/9) RAN2 assume the sidelink per-FS L1 features also apply to and thus should be reported in discovery BC-list. Send LS to RAN1 to ask if any concern (4/9). In the LS, also ask RAN1 for a same BC supporting both communication and discovery, whether these per-FS L1 features can be different depending on the usage for Communication or for Discovery.

Proposal 10 RAN2 not pursue change-2 of R2-2208056.

Proposal 11 RAN2 not pursue Proposal-2 of R2-2207216.

* All proposals except P2, P3 and P4 are agreed.

Proposal 2 RAN2 discuss, in case a UE performs “transmission of RRCReconfiguration including initial DRX configuration” after “reception of RRCReconfigurationSidelink message including initial DRX configuration”, whether the UE shall be in Active-Time during the time gap (6/12) or not (6/12).

[Lenovo]: Whether to apply SL DRX during the gap duration sounds optimization issue. [Session chair]: Doesn’t it sound natural to apply SL DRX configuration included in SL RRC reconfiguration once SL RRC reconfiguration is received and SL DRX configuration is considered as valid configuration (just like other configuration in SL RRC reconfiguration). [OPPO, IDC, Nokia, Huawei, Qualcomm, CATT, Ericsson, MediaTek, LG]: Agree with session chair.

* The time gap is not considered as active time. Detailed wordings will be discussed in [AT119-e][509] CR implementation.

R2-2208852 Correction for power-saving resource allocation OPPO CR Rel-17 38.331 17.1.0 3574 - F NR\_SL\_enh-Core

* In cover page, WI code “NR\_SL\_relay\_enh-Core” needs to be corrected to “NR\_SL\_enh-Core”
* In cover page, “or sl-BWP-PoolConfigCommonPS” in Proposal 1 needs to be removed.
* Agreed in R2-2208866 with the updates above.

R2-2208854 Correction on active time OPPO CR Rel-17 38.321 17.1.0 1405 - F NR\_SL\_enh-Core

* Agreed.

R2-2208853 LS on TX profile LS out Rel-17 NR\_SL\_enh-Core, eV2XARC\_Ph2, 5G\_ProSe To:CT1, Cc:SA2

* Approved.

R2-2208867 LS on Per-FS L1 feature for NR sidelink discovery BC-list LS out Rel-17 NR\_SL\_enh-Core, NR\_SL\_Relay-Core To:RAN1

* Approved.

R2-2207251 Corrections of 38.331 on RRCReconfigurationCompleteSidelink Ericsson draftCR Rel-17 38.331 17.1.0 F NR\_SL\_enh-Core Withdrawn

### 6.15.4 User plane corrections

R2-2208281 User plane corrections on NR Sidelink enhancements LG Electronics France CR Rel-17 38.321 17.1.0 1379 - F 5G\_V2X\_NRSL-Core Late

* Treated in [AT119-e][510].

R2-2206984 Correction on IUC for resource re-selection in re-evaluation and pre-emption SHARP Corporation CR Rel-17 38.321 17.1.0 1304 - F NR\_SL\_enh-Core

* Treated in [AT119-e][510].

R2-2206985 Correction on resource re-selection for non-preferred resource set SHARP Corporation CR Rel-17 38.321 17.1.0 1305 - F NR\_SL\_enh-Core

* Treated in [AT119-e][510].

R2-2207030 Correction on user plane aspects OPPO CR Rel-17 38.321 17.1.0 1306 - F NR\_SL\_enh-Core

* Treated in [AT119-e][510].

R2-2207183 Correction on SL grant selection procedure NEC Corporation CR Rel-17 38.321 17.1.0 1307 - F NR\_SL\_enh-Core

* Treated in [AT119-e][510].

R2-2207214 Correction on MAC for SL enhancement ZTE Corporation, Sanechips CR Rel-17 38.321 17.1.0 1309 - F NR\_SL\_enh-Core

* Treated in [AT119-e][510].

R2-2207249 Configuration aspects of SL DRX Ericsson discussion Rel-17 NR\_SL\_enh-Core

* Treated in [AT119-e][510].

R2-2207759 Miscellaneous corrections on TS 38.321 for NR sidelink Xiaomi CR Rel-17 38.321 17.1.0 1337 - F NR\_SL\_enh-Core

* Treated in [AT119-e][510].

R2-2207850 Correction for Sidelink DRX Sharp discussion Rel-17 NR\_SL\_enh-Core

* Treated in [AT119-e][510].

R2-2207851 Correction for Sidelink DRX Sharp CR Rel-17 38.321 17.1.0 1354 - F NR\_SL\_enh-Core

* Treated in [AT119-e][510].

R2-2208054 Correction on inter-UE coordination Huawei, HiSilicon CR Rel-17 38.321 17.1.0 1366 - F NR\_SL\_enh-Core

* Treated in [AT119-e][510].

R2-2208057 Correction on sl-drx-inactivityTimer and LCP for discovery Huawei, HiSilicon CR Rel-17 38.321 17.1.0 1368 - F NR\_SL\_enh-Core

* Treated in [AT119-e][510].

R2-2208258 Correction on SL grant (re)selection based on sl-interUE-CoordinationSchemeN Samsung CR Rel-17 38.321 17.1.0 1374 - F NR\_SL\_enh-Core

* Treated in [AT119-e][510].

R2-2208365 Correction on DRX timers for SL ASUSTeK CR Rel-17 38.321 17.1.0 1382 - F NR\_SL\_enh-Core

* Treated in [AT119-e][510].

R2-2208513 Correction to inter-UE coordination information triggered by a condition Qualcomm India Pvt Ltd CR Rel-17 38.321 17.1.0 1387 - B NR\_SL\_enh-Core

* Treated in [AT119-e][510].

R2-2208549 Corrections on SL DRX operation ASUSTEK COMPUTER (SHANGHAI) CR Rel-17 38.321 17.1.0 1390 - F NR\_SL\_enh-Core

* Treated in [AT119-e][510].

R2-2208599 Correction on UE behavior in LCP considering PSFCH reception capability vivo CR Rel-17 38.321 17.1.0 1394 - F NR\_SL\_enh-Core

* Treated in [AT119-e][510].
* [AT119-e][510][V2X/SL] 38.321 corrections (LG)

 **Scope:** Discuss proposed corrections in R2-2208281, R2-2206984, R2-2206985, R2-2207030, R2-2207183, R2-2207214, R2-2207249, R2-2207759, R2-2207850, R2-2207851, R2-2208054, R2-2208057, R2-2208258, R2-2208365, R2-2208513, R2-2208549, and R2-2208599 (including need of corrections and detailed wordings). Note corrections that are related to the discussion in [AT119-e][509] and [AT-119-e][511] will not be discussed. Merge agreeable corrections in a CR as much as possible (we can have separate CR for big change in NBC).

 **Intended outcome:** 38.321 CR in R2-2208856 and discussion summary in R2-2208857 (if needed). Email approval.

**Deadline:** 8/23 13:00 (UTC) => completed

R2-2208857 Summary of [AT119-e][510][V2X/SL] 38.321 corrections LG discussion Rel-17 NR\_SL\_enh-Core

(12, 0) Proposal 1: RAN2 is to agree on the correction (“Modify the MAC reset for cancelling SL IUC/DRX command MAC CE in 5.12”) in the R2-2208281.

(1, 11) Proposal 2: RAN2 is not to agree on the correction (“Modify the MAC reset for Uu DRX timer in 5.12”) in the R2-2208281.

(12, 0) Proposal 3: RAN2 is to agree on the correction (“Modify the SL BWP deactivation in 5.15.2”) in the R2-2208281.

(2, 10) Proposal 4: RAN2 is not to agree on the correction (“adding a new section: 5.22.1.x UE procedure for indicating an information to be used for physical layer to determine a set of preferred or non-preferred resources”) in the R2-2208281.

(1, 6) Proposal 5: RAN2 discusses whether MAC needs to provide PHY information on resource pools for IUC.

(7, 0) Proposal 6: RAN2 is to agree on the correction (“Add a NOTE in 5.22.1.1”) in the R2-2208281.

(2, 10) Proposal 7: RAN2 is not to agree on the correction in the R2-2206984.

(1, 10) Proposal 8: RAN2 is not to agree on the correction in the R2-2206985.

(6, 0) Proposal 9: RAN2 is to agree on the correction (In section 5.22.1.1, change the “a MAC PDU” into “SL-SCH data”) in the R2-2207030.

(10, 1) Proposal 10: RAN2 is to agree on the correction (In section 5.22.1.3.2, change “the destination” into “any destination” in the initial transmission case) in the R2-2207030.

(12, 0) Proposal 11: RAN2 is to agree on the correction (In section 5.28.2 and 5.28.3, modify the name of SL DRX timers (sl-DRX-GC-BC-OndurationTimer/sl-DRX-GC-InactivityTimer/sl-DRX-GC-BC-Cycle/sl-DRX-GC-RetransmissionTimer) for groupcast/broadcast) in the R2-2207030.

(7, 1) Proposal 12: RAN2 is to agree on the correction (In section 5.28.2, add the UE behaviour on determining SL groupcast/broadcast DRX parameters based on QoS information.) in the R2-2207030.

(10, 0) Proposal 13: RAN2 discusses change the formula of sl-drx-SlotOffset.

- option 1: sl-drx-SlotOffset into “sl-drx-SlotOffset (ms) = (Destination Layer-2 ID modulo the number of slots in one subframe)/32 (ms)

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

(12, 0) Proposal 14: RAN2 is to agree on the correction (In section 5.22.1.1 and 5.28.2, fix some typos, i.e., add an “(s)” after “one or multiple SL DRX” and missing space between “sl-InterUE-CoordinationScheme1” and “enabling”, remove the “s” from “SL-QoS-Profiles”.) in the R2-2207030.

(11, 0) Proposal 15: RAN2 is to agree on the correction (1.in section 5.22.1.1, for the resource selection for a single MAC PDU case, remove the sentence for resource seletion for a set of periodic resources. 2. Use the correction instead of current one to determine SL grant for single MAC PDU. 3. Adjust the hierarchical level accordingly. i.e., change "4>" to "3>" in section 5.22.1.1.) in the R2-2207183.

(11, 0) Proposal 16: RAN2 is to agree on the correction (rapporteur suggested correction: “if configured by RRC, sl-InterUE-CoordinationScheme1 enabling reception/transmission”) in the R2-2207183.

(11, 0) Proposal 17: RAN2 is to agree on the correction (In section 5.28.1, change “broadcast transmission” to “SL broadcast communication”.) in the R2-2207214.

(10, 0) Proposal 18: RAN2 is to agree on the correction (In section 5.28.1, change “broadcast transmission” to “SL broadcast process”.) in the R2-2207214.

(9, 3) Proposal 19: RAN2 is to agree on the correction (In section 5.28.2, change “scheduled” to “indicated”.) in the R2-2207214.

(4, 7) Proposal 20: RAN2 is not to agree on the correction (In section 5.28.2, change description of “retransmission resource timing of the next retransmission resource” to “timing of the next retransmission resource”.) in the R2-2207214.

(1, 9) Proposal 21: RAN2 is not to agree on the correction (In section 5.28.2, change “PSSCH transmission (i.e., currently received PSSCH)” to “PSSCH reception”.) in the R2-2207214.

(10, 1) Proposal 22: RAN2 is to agree on the correction (In section 5.28.3, add a NOTE that A UE may send SL DRX Command MAC CE to receiving UE for unicast and when to send SL DRX Command MAC CE is up to UE implementation.) in the R2-2207214.

(8, 0) Proposal 23: RAN2 is to agree on the correction (Add procedure texts of SR trigger for SL DRX Command MAC CE in clause 5.28.3 of TS 38.321.) in the R2-2207249.

(10, 0) Proposal 24: RAN2 is to agree on the correction (Add corresponding descriptions for TX UE to start the inactivity timer upon a new groupcast transmission in section 5.28.2.) in the R2-2207759. Detail wording is discussed in CR discussion.

(12, 0) Proposal 25: RAN2 is to agree on the correction (Clarify different RTT timers are applied to HARQ enabled case and HARQ disabled with PSFCH configured case during RTT timer handling procedure.) in the R2-2207759. Detail wording is discussed in CR discussion.

(11, 0) Proposal 26: RAN2 is to agree on the correction (modification of definition of drx-InactivityTimer in section 5.7.) in the R2-2207851.

(7, 2) Proposal 27: RAN2 is to agree on the correction (In 5.28.2, the start or restart timing for sl-drx-InactivityTimer is changed to in the first slot after SCI reception.) in the R2-2208057.

(10, 0) Proposal 28: RAN2 is to agree on the correction in the R2-2208258.

(2, 8) Proposal 29: RAN2 is not to agree on the correction (Modified description on active time for SL-CSI reporting in section 5.28.2) in the R2-2208549.

(12, 0) Proposal 30: RAN2 is to agree on the correction (Clarified that SL active time can include multiple slots or include single periodic transmission opportunity announced by a Tx UE.) in the R2-2208549.

(8, 3) Proposal 31: RAN2 is to agree on the correction (In 5.22.1.4.1.2, the LCH selection considering not only the PSFCH resource configuration, but also the UE capability of PSFCH reception.) in the R2-2208599.

* All proposals above are agreed.

(1, 6) Proposal 5: RAN2 discusses whether MAC needs to provide PHY information on resource pools for IUC.

[LG]: We have two options i) MAC specifies RAN1 agreements or ii) PHY specifies RAN1 agreements. CR rapporteur point of view, we already have similar sentence for non-preferred resource. So same principle can be applied to preferred resource. [Lenovo]: Different understanding on two options, either i) above or ii) leave it to UE implementation. [Session chair]: It is true we specify something for non-preferred resource or DRX active time, however it’s also true we don’t specify all. [Apple]: If PHY receives that information from SCI, PHY already knows it. [Qualcomm]: Prefer leaving it to UE implementation. [Apple]: If we have simple procedure, it needs to distinguish two cases, when PHY receives that information by SCI and not. [Vivo]: Similar discussion was already happened for CSI-RS reporting MAC CE and it was decided not to specify anything. [IDC]: Prefer leaving it to UE implementation.

* Leave it to UE implementation.

R2-2208856 38.321 corrections for SL enhancement LG Electronics France CR Rel-17 38.321 17.1.0 1400 - F 5G\_V2X\_NRSL-Core

* Revised to R2-2208994

R2-2208994 38.321 corrections for SL enhancement LG Electronics France CR Rel-17 38.321 17.1.0 1400 1 F 5G\_V2X\_NRSL-Core

* Revised to R2-2208868

R2-2208868 38.321 corrections for SL enhancement LG Electronics France CR Rel-17 38.321 17.1.0 1400 2 F 5G\_V2X\_NRSL-Core

* Agreed.

R2-2207029 Discussion on left issues on user plane procedure OPPO discussion Rel-17 NR\_SL\_enh-Core

* Treated in [AT119-e][511].

R2-2207174 Discussion on retransmission issue Xiaomi discussion

* Treated in [AT119-e][511].

R2-2208150 UL/SL Prioritization for SL Relay InterDigital discussion Rel-17 NR\_SL\_enh-Core

* Treated in [AT119-e][511].

R2-2208183 Open issue on SL-DRX Intel Corporation discussion Rel-17 NR\_SL\_enh-Core

* Treated in [AT119-e][511].

R2-2208605 Down selection of SR configuration for SL DRX MAC Command CE Nokia, Nokia Shanghai Bell discussion NR\_SL\_enh-Core

* Treated in [AT119-e][511].

R2-2207215 Discussion on inter-UE coordination ZTE Corporation, Sanechips discussion Rel-17 NR\_SL\_enh-Core

* Treated in [AT119-e][511].

R2-2207248 Impact of IUC inofmation on LCP Ericsson discussion Rel-17 NR\_SL\_enh-Core

* Treated in [AT119-e][511].

R2-2207454 Correction on TX Pool Selection for Inter-UE Coordination Apple CR Rel-17 38.321 17.1.0 1319 - F NR\_SL\_enh-Core

* Treated in [AT119-e][511].

R2-2207455 Clarification on destination selection for Inter-UE Coordination Apple CR Rel-17 38.321 17.1.0 1320 - F NR\_SL\_enh-Core

* Treated in [AT119-e][511].

R2-2207525 UP Leftover Issues on SL DRX CATT discussion Rel-17 NR\_SL\_enh-Core

* Treated in [AT119-e][511].

R2-2207526 Open Issues of Inter-UE Coordination CATT discussion Rel-17 NR\_SL\_enh-Core

* Treated in [AT119-e][511].

R2-2207890 LCP impacts for SL inter-UE coordination Lenovo discussion Rel-17 NR\_SL\_enh-Core

* Treated in [AT119-e][511].

R2-2208055 Clarification on Uu DRX for SL communication Huawei, HiSilicon discussion Rel-17 NR\_SL\_enh-Core

* Treated in [AT119-e][511].

R2-2208148 HARQ RTT for pools without PSFCH InterDigital discussion Rel-17 NR\_SL\_enh-Core

* Treated in [AT119-e][511].

R2-2208149 SR Configuration for SL DRX Command InterDigital discussion Rel-17 NR\_SL\_enh-Core

* Treated in [AT119-e][511].

R2-2208602 Remaining issues for Inter-UE coordination procedure vivo discussion Rel-17

* Treated in [AT119-e][511].

R2-2208222 Further considerations on sidelink IUC scheme 2 Nokia, Nokia Shanghai Bell discussion NR\_SL\_enh-Core

* Treated in [AT119-e][511].
* [AT119-e][511][V2X/SL] UP discussion (OPPO)

 **Scope:** Discuss and decide proposals in R2-2207029, R2-2207174, R2-2208150, R2-2208183, R2-2208605, R2-2207215, R2-2207248, R2-2207454, R2-2207455, R2-2207525, R2-2207526, R2-2207890, R2-2208055, R2-2208148, R2-2208149, R2-2208602, and R2-2208222. Prepare 38.321 CR (if needed)

 **Intended outcome:** 38.321 CR in R2-2208858 (if needed) and discussion summary in R2-2208859. Email approval.

**Deadline:** 8/22 13:00 (UTC) for discussion summary, 8/25 13:00 (UTC) for CRs. => completed

R2-2208859 Summary of [AT119-e][511][V2X/SL] UP discussion (OPPO) OPPO discussion Rel-17 NR\_SL\_enh-Core

Proposal 1 (12/18) Rely on the fixed RTT timer value “0” in this release for the case that the next retransmission opportunity is not scheduled in the SCI and PSFCH resource is not configured for the SL grant associated to the SCI.

Proposal 2 (19/19) For configured SL grant, when the PUCCH resource is configured, start drx-HARQ-RTT-TimerSL for configured sidelink grant at the first symbol after the end of the corresponding PUCCH resource.

Proposal 3 (19/19) For configured SL grant, when the PUCCH resource is not configured, start drx-HARQ-RTT-TimerSL for configured sidelink grant at the first symbol after the end of the PSSCH occasion for configured sidelink grant.

Proposal 4 (13/19) RAN2 to discuss the change proposed by Proposal 4 in R2-2207525, i.e., remove “due to UL/SL prioritization” in 5.7 of 38.321.

Proposal 5 (19/19) SL DRX Command MAC CE reuses the SR configuration for CSI report.

Proposal 6 (18/19) RAN2 agree on the change proposed by Proposal 4 in R2-2207029, i.e., aligning down-selection of inactivity timer length with the down-selection of cycle/on-duration timer length.

Proposal 7 (16/17) RAN2 agree on the change proposed by Proposal 6 in R2-2207029, i.e., removing the text “5> if selected resource for initial transmission occasion is not in the SL DRX Active time as specified in clause 5.28.1 of any destination that has data to be sent: 6> use retransmission occasion(s) for initial transmission of PSCCH and PSSCH.” in 5.22.1.1 of 38.321.

Proposal 8 RAN2 to discuss whether to agree (7/17) or not (10/17) with the change proposed by Proposal 7 in R2-2207029, i.e., removing the text “2> if all PSCCH duration(s) and PSSCH duration(s) for initial transmission of a MAC PDU of the dynamic sidelink grant or the configured sidelink grant is not in SL DRX Active time as specified in clause 5.28.3 of the destination that has data to be sent: 3> ignore the sidelink grant.” in 5.22.1.3.1 of 38.321.

Proposal 9 (12/18) RAN2 uses the NOTE-based approach to capture Tx resource pool selection considering IUC-info/IUC-REQ. (12/14) Take “For the transmission of Sidelink Inter-UE Coordination Request MAC CE, the MAC entity selects the TX pool of resource where the IUC resource set is required. For the transmission of Sidelink Inter-UE Coordination Information MAC CE, the MAC entity selects the TX pool of resource where the IUC resource set is located” as baseline, and further refine it in Phase-2.

Proposal 10 RAN2 to discuss 1) Use the NOTE-based approach and take “When UE-B receives multiple preferred resource sets from the different UE-A, it is up to UE-B implementation to decide preferred resource set from which UE-A to be used during resource selection” as baseline and further refine it in the CR discussion (9/15) or 2) No RAN2 specification effort is needed (12/15).

Proposal 11 (17/19) The change proposed by Proposal 3 in R2-2207215 is not needed.

* Proposals except P4, P8 and P10 are agreed.

Proposal 4 (13/19) RAN2 to discuss the change proposed by Proposal 4 in R2-2207525, i.e., remove “due to UL/SL prioritization” in 5.7 of 38.321.

[Session chair]: UL/SL prioritization is the only reason why the UE is not able to send PUCCH? If others, it would be good not to restrict it. [CATT]: The UE may not be able to send PUCCH due to measurement gap. [IDC]: Up to now, we only discussed UL/SL prioritization issue. [OPPO]: Agree with CATT. [Xiaomi]: In Uu case, the case PUCCH is not transmitted due to measurement gap is not specified in starting drx-HARQ-RTT-TimerDL. Why should we consider it here? [Session chair]: Check companies’ views if any changed.

Company supporting removal of “due to UL/SL prioritization”: Lonovo, CATT, ZTE, AsusTek, Ericsson, OPPO, Qualcomm, Vivo, Intel, MediaTek, Apple, Samsung (12)

Company not supporting removal of “due to UL/SL prioritization”: LG, IDC, Huawei, NEC, Xiaomi (5)

* Remove “due to UL/SL prioritization” in 5.7 of 38.321

Proposal 8 RAN2 to discuss whether to agree (7/17) or not (10/17) with the change proposed by Proposal 7 in R2-2207029, i.e., removing the text “2> if all PSCCH duration(s) and PSSCH duration(s) for initial transmission of a MAC PDU of the dynamic sidelink grant or the configured sidelink grant is not in SL DRX Active time as specified in clause 5.28.3 of the destination that has data to be sent: 3> ignore the sidelink grant.” in 5.22.1.3.1 of 38.321.

[Lenovo, LG]: No harm to keep the sentence and it was already discussed last meeting. [Lenovo, ZTE]: With the current sentence, the UE ignores before LCP runs. [Session chair]: Upper level condition 2> seems a part of LCP, then isn’t it duplicated? In addition, we already had similar situation for initial transmission in Rel-16, e.g. grant is received but MAC PDU is not available. Then do we have any similar sentence for Rel-16? If not, why we need the sentence only for SL active time issue. [Lenovo]: To determine condition 2>, LCP is not required although it is also part of LCP behaviours. It can be determined by other means. [Session chair]: It may be ok if majority companies want to keep the sentence and it doesn’t bring real problem. See companies’ views.

* Company supporting removal of the text: Nokia, OPPO, Xiaomi, Huawei, Samsung, CATT (6)
* Company not supporting removal of the text: Lenovo, Intel, LG, Apple, Vivo, ZTE, MediaTek, AsusTek, Qualcomm, NEC (10)
* Not pursued.

Proposal 10 RAN2 to discuss 1) Use the NOTE-based approach and take “When UE-B receives multiple preferred resource sets from the different UE-A, it is up to UE-B implementation to decide preferred resource set from which UE-A to be used during resource selection” as baseline and further refine it in the CR discussion (9/15) or 2) No RAN2 specification effort is needed (12/15).

[Vivo]: Even with a note, the note should not change the intended UE behaviour. [Session chair]: Based on email discussion, it seems clear majority companies support not to have normative text. Also it seems quite difficult to have a note that makes everyone happy. Suggest to go option 2. [Vivo]: Do we need to send a LS to RAN1? [OPPO]: No need.

* Go option 2) No RAN2 specification effort is needed.

R2-2208858 Correction on user plane aspects OPPO CR Rel-17 38.321 17.1.0 1406 - F NR\_SL\_enh-Core

* Agreed.