**3GPP TSG-** **RAN2 Meeting #119-bis electronic R2-2210890**

**Online, 10th – 19th Oct 2022**

**Agenda item:** 6.7.2.2

**Title:** [Pre119bis-e][401] Summary of AI 6.7.2.2 on relay control plane (Huawei)

**Source:** Huawei, HiSilicon

**Document for:** Discussion and decision

1. Introduction

This is to summarize the company contributions in AI 6.7.2.2.

2. Discussion

There are 30 contributions submitted to AI 6.7.2.2. The changes and proposals are classified into two parts:

* Part 1: editorial changes, or straightforward changes/proposals;
* Part 2: proposals/changes needs technical discussion.

For part 1, the rapporteur just give suggestions in 2.1, e.g. to agree, or not agree. The detailed wording can be further checked in RRC Rapp CR update. For part 2, by taking all related contributions into account, the rapporteur tries to give potential resolutions, and more companies’ views are welcome.

After a short phase for the summary review, the rapporteur will summarize the proposals to be discussed on line for Monday W1 session.

## 2.1 Easy corrections

Table 1

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **TDoc number** | TDoc title | Source | Change summary | Rapp’s suggestions |
| [**R2-2209377**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209377.zip) | Correction for U2N Relay | OPPO | 1. In 5.3.5.3, as for the other bearers and IAB BH RLC channels, resume the Uu Relay RLC channels upon the first *RRCReconfiguration* message after successful completion of the RRC re-establishment procedure. 2. In 5.8.3.2, add the “configured with measurement object associated to L2 U2N Relay UEs” into SUI initiation condition for relay discovery transmission as well. 3. In 5.8.3.2, remove the relay/remote UE AS-layer condition for relay discovery reception, to align with 5.8.13.2 | P1 is reasonable, suggest to agree.  P2 is reasonable, suggest to agree.  P3 is to be discussed in section 2.2 for Others. |
| [**R2-2209378**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209378.zip) | Discussion on left issues for CP | OPPO | Proposal 1 R2 confirms Tx-UE ensures alignment between sl-RLC-ChannelID-PC5-r17 (in PC5-RRC) and sl-EgressRLC-ChannelPC5-r17 (in Uu-RRC).  Proposal 2 Based on NOTE3 in TS 38.331 clause 5.3.3.3, 5.3.13.3, 5.8.15.3, R2 confirms UE can camp on a relay UE upon power-on, and it is up to UE implementation to camp on either cell or relay when both are available.  Proposal 3 Add a NOTE “If both suitable cells and suitable NR sidelink U2N Relay UEs (as specified in TS 38.331 [3]) are available, it is up to NR sidelink U2N Remote UE implementation to select either a cell or a NR sidelink U2N Relay UE.” Into TS 38.304 clause 5.2.1. | P1 is to be discussed in section 2.2 for RLC handling.  P2-P3 are to be discussed in section 2.2 for 38.304 corrections. |
| [**R2-2209500**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209500.zip) | Miscellaneous corrections for NR sidelink Relay in TS 38.304 | OPPO | Add a Note in section 5.2.1 to describe cell (re)selection and relay (re)selection procedure run independently and if both suitable cells and suitable U2N Relays are available, it is up to U2N Remote UE implementation to select either a cell or a U2N Relay UE. | Same as P3 in R2-2209378. |
| [**R2-2209545**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209545.zip) | Correction on relay UE RRC connection establishment failure | SHARP Corporation | Proposal 1: upon RRC connection establishment is aborted in relay UE, relay UE could either indicates to upper layer or send Notification message to remote UE(s). | P1 is reasonable, suggest to agree. |
| [**R2-2209775**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209775.zip) | Discussion on remaining issues on CP procedure for SL Relay | Apple | Proposal 1: RAN2 reverse the earlier agreement (P29 in R2-2208795) and agree “For direct-to-indirect path switch, upon reception of RRCReconfiguration with sl-pathSwitchConfig, mode 1 remote UE switch to use mode 2 with TX pools configured in RRCReconfiguration with sl-pathSwitchConfig”.  Proposal 2: RAN2 confirms that the SL-RLC1 overriding by dedicated configuration means “changing SRAP mapping of SRB1 to a different PC5 Relay RLC channel”.  Proposal 3 RAN2 confirms that “sl-L2RemoteUEconfig” is optionally present in RRCSetup or RRCReestablishment for L2 remote UE.  Proposal 4 The PC5-RRC procedure to establish PC5 Relay RLC channel(s) can be triggered by L2 Remote UE addition without any modification/addition of PC5 Relay RLC channel configuration(s).  Proposal 5 Agree the corresponding corrections in TS 38.331 CR R2-2209776 based on P2, P3 & P4.  Proposal 6: RAN2 confirms “Remote UE performs cell selection as legacy UE when entering RRC\_INACTIVE. It is up to remote UE implementation whether to release or keep the current PC5 link to the relay UE” . | P1 is to be discussed in section 2.2 for Exceptional resource pool during D2I path switch.  P2 is to be discussed in section 2.2 for RLC handling.  P3: the local UE ID needs to be configured in sl-L2RemoteUEconfig, so it should be mandatory in msg.4 for remote UE. Suggest not to agree. We can further check if SRB1 needs to be present in SRAP configuration if default configuration is to be applied.  P4 is to be discussed in section 2.2 for RLC handling.  P5 is pending the technical discussion on the related proposals.  P6 is to be discussed in section 2.2 for entering RRC\_IDLE/RRC\_INACTIVE. |
| [**R2-2209776**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209776.zip) | Correction on PC5 Relay RLC Channel configuration for L2 Relay UE and L2 Remote UE | Apple | 1. In 5.3.5.15.3, corrected the condition to apply default SL-RLC1 for SRB1. Also, we added the text to cover the case the SL-RLC1 used for SRB1 is override by a new SRAP configuration. Finally, added the triggering condition for the case that the relay UE need establish the new PC5 Relay RLC channel by reusing an existing configuration.  2. In 5.3.5.16, added the case that PC5 RLC channel for SRB1 is override by NW for a remote UE.  3. In 5.8.9.7.2, added the triggering condition of PC5 RLC Relay Setup to be also triggered by the change of sl-L2RelayUE-Config  4. In 6.2.2, changed the condition description of “L2RemoteUE” to indicate the sl-L2RemoteUEconfig IE is “optionally present” for L2 relay cas for L2 remote UE for RRCReestablishment and RRCSetup.  5. Fixed the typo “tirgggered” in 5.8.9.7.2 | Change #5 was corrected in last meeting.  Change #1-4 are pending to the discussion on R2-2209775. |
| [**R2-2209816**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209816.zip) | Discussion on NR SL communication transmission using exception pool during D2I path switch | vivo | Proposal 1 RAN2 to revise the previous agreement as “RAN2 confirms during path switch (T420 is running), UE can use exceptional pool for sidelink communication ~~in mode 1 (same as Rel-16 V2X)~~.”, and confirm that this agreement can already be realized via existing NR SL communication procedure with no extra Spec impact. | P1 is to be discussed in section 2.2 for Exceptional resource pool during D2I path switch. |
| [**R2-2209817**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209817.zip) | Corrections to MAC and RLC handling for L2 U2N Relay | vivo | Change 1: In clause 5.3.5.3, add the MAC reset behaviour for L2 U2N Remote UE upon reception of D2I path switch command.  Change 2: In clause 5.3.8.3, clarify that the L2 U2N Remote UE’s RLC re-establishment behaviour for SRB1 is to re-establish the SL RLC entity rather than the Uu RLC entity. | Change #1 is to be discussed in section 2.2 for MAC handling.  Change #2 is to be discussed in section 2.2 for RLC handling. |
| [**R2-2209818**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209818.zip) | Correction to SL-RLC1 | vivo | 1. In clause 5.3.5.2, delete “that is established before RRC connection establishment” to avoid the wrong description to SL-RLC1.  2. In clause 5.8.9.1.3, add “Relay” in accordance with the title of clause 5.8.9.7.2.  3. In clause 9.2.5 , correct some typos in the general description. | Change #1 is reasonable, suggest to agree and merge it into Rapp RRC CR.  Change #2 is editorial, can merge it into Rapp RRC CR.  Change #3 was corrected in last meeting. |
| [**R2-2209847**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209847.zip) | Clarification on SL DRX operation for U2N Remote UE | ASUSTeK | In subclause 5.8.9.6.1, the statement of “For NR sidelink L2 U2N relay communication, the L2 U2N Remote UE may determine its desired sidelink DRX configurations taking its accepted sidelink DRX configurations for other peer UEs or its applied sidelink DRX configurations for sidelink groupcast/broadcast communication into account.” is added in the NOTE. | P1 is to be discussed in section 2.2 for SL DRX handling. |
| [**R2-2209848**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209848.zip) | Correction on RRC connection re-establishment procedure | ASUSTeK | 1. A UE capable of L2 U2N Remote UE operation and in out-of-coverage area cannot access the network via a relay UE during the RRC connection re-establishment procedure.  2. The L2 U2N Remote UE cannot transmit the RRCReestablishmentRequest message to the network via the L2 U2N Relay UE during the RRC connection re-establishment procedure.  3. The L2 U2N Remote UE in RRC\_CONNECTED cannot initiate RRC connection re-establishment procedure after PC5-RRC connection with the relay UE is released due to SL RLF. | Change 1 is reasonable, suggest to agree in general and further discuss the wording during CR update.  Change 2 is reasonable, but it should exclude the case of keeping old PC5 unicast link.  Change 3 is editorial, suggest to agree. |
| [**R2-2209860**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209860.zip) | Alignment between remote UE paging DRX and relay UE Uu DRX | Ericsson | Proposal 1 To avoid paging message being delayed for remote UE in RRC IDLE or RRC INACTIVE, RAN2 to down select the two options  a. Option 1: leave up to relay UE implementation to determine whether relay UE in RRC CONNECTED needs to be active at remote UE’s POs  b. Option 2: remote UE’s POs are defined as DRX active time for relay UE in RRC CONNECTED  Proposal 2 RAN2 to discuss whether a note needs to be added in the MAC spec if it is agreed to leave up to relay UE implementation to determine whether relay UE in RRC CONNECTED needs to be active at remote UE’s POs.  Proposal 3 Adopt the CR captured in [2] if it is agreed that remote UE’s POs are defined as DRX active time for relay UE in RRC CONNECTED. | Discussed in section 2.3. |
| [**R2-2209861**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209861.zip) | Corrections to 38321 on alignment between remote UE paging DRX and relay UE Uu DRX | Ericsson | MAC CR  In clause 5.7, update DRX active time so that remote UE’s PO should be considered as DRX active time for relay UE. | Pending to the discussion on R2-2209860. |
| [**R2-2209879**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209879.zip) | Correction on handover notification forwarding | Xiaomi | Upon handover, relay UE doesn’t send NotificationMessageSidelink message, if the PCell doesn’t change. | Discussed in 2.3. |
| [**R2-2209880**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209880.zip) | Miscelleneous correction on 38.331 | Xiaomi | 1. In 5.8.9.3, remote UE would initiate RRC re-establishment upon SL RLF between remote UE and selected relay UE. 2. Allow remote UE to initiate the transmission of *RemoteUEInformationSidelink*, if remote UE becomes not interested in the requested SIB, which has been indicated in *RemoteUEInformationSidelink* message to the L2 U2N Relay UE before. 3. Correct IE name. | Change #1 is similar as Change 3 in 9848, which seems editorial, suggest to agree.  Change #2: suggest not to further discuss it because the change has been discussed in RAN2 #119, and there was no big support.  Change #3 is editorial, suggest to agree. |
| [**R2-2209885**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209885.zip) | Correction on remote UE's resource allocation | Xiaomi | Remote UE in RRC\_IDLE/INACTIVE can use preconfigured resource if the forwarded SIB12 doesn’t include normal pool and exception pool. | To be discussed in section 2.2 for others. |
| [**R2-2209892**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209892.zip) | Calarification on emergency service support in Rel-17 U2N relay | CATT | Add one note to clarify that the emergency service is not supported in Rel-17 U2N relay. | To be discussed in section 2.2 for others. |
| [**R2-2209902**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209902.zip) | Discussion on SL synchronization for SL relay | ZTE, Sanechips | Observation1: In case the SL frequency is IC or the SL frequency is included in SL configuration within RRCReconfiguration/SIB12 via serving cell, and the sync priority is set to gNBeNB, then UE shall select the cell as the reference source.  Observation2: If connecting the gNB via relay UE, remote UE’s serving cell/Pcell is the serving cell of relay UE.  Observation3: After connecting the gNB via relay UE, the serving cell of remote UE is the serving cell of relay UE. remote UE can obtains the SIB12/sl-ConfigCommonNR via relay UE, in this case, it is possible that remote UE is configured to select a cell as the synchronization reference source.  Observation4: for remote UE in OOC, remote UE can not synchronize with the cell, if the serving cell is selected as synchronization reference source for remote UE in OOC, it can not perform sidelink communication  Proposal1: RAN2 is suggested to discuss how to handle the case that OOC remote UE select the cell as reference source. | Discussed in section 2.3. |
| [**R2-2209903**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209903.zip) | Correction on control plane for L2 U2N relay | ZTE, Sanechips | 1. Add ‘or if the same cause value is received from upper layer’ in clause 5.3.3.3.  2. Add a bullet to specify when sl-ConfigDedicatedNR and sl-L2RemoteUE-Config are included in RRCSetup message or not in clause 5.3.3.4.  3. Add specified SL-SRB0 configuration in clause 5.3.5.5.2.  4. Change ‘and sl-DiscConfig is included in RRCReconfiguration’, ‘and sl-DiscConfig is included in RRCReconfiguration’, ‘and sl-DiscConfigCommon is included in SIB12’, ‘and sl-DiscConfigCommon is included in SIB12’ to U2N relay case in clause 5.8.13.3.  5. Add ‘RRCRelease’ in clause 9.2.5. | Change #1: it seems just the legacy UE behavior when relay UE enters connected state for its own service, but NOTE in 5.3.3.3 is only for the case that relay UE does not have its service, so the change seems not needed.  Change #2: it is obvious that the UE can only apply xx when it receives xx, so the changes seem not necessary.  Change #3: in D2I path switch, the first RRC message is RRCReconfigurationComplete message in target side which is SRB1 message, do not see the need to establish entities for SRB0 message, so suggest not to agree.  Change #4 is reasonable and suggest to agree.  Change #5 is editorial and suggest to agree. |
| [**R2-2210170**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210170.zip) | Correction for receiving notification message during path switching | Lenovo Information Technology | In section 5.8.9.10.4, ‘T304 is not running’ is added. | To be discussed in section 2.2 for others. |
| [**R2-2210325**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210325.zip) | Clarification on UAC procedure for U2N Relay UE | Ericsson | Section 5.3.3.2  - Clarify that if the L2 U2N Relay UE initiates the procedure because need to serve a L2 U2N Remote UE, it should stop the timers related to UAC.  Section 5.3.13.2  - Clarify that if the L2 U2N Relay UE initiates the procedure because need to serve a L2 U2N Remote UE, it should stop the timers related to UAC. | The changes are not needed, because the relay UE will stop the timers upon reception of RRCSetup/RRCResume in 5.3.3.4/5.3.13.4 as legacy UEs. |
| [**R2-2210326**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210326.zip) | Clarification on setting the transaction identifier for sidelink | Ericsson | Annex A.5  - It is clarified when a transaction identifier should be include for messages sent over the PC5-RRC. | It seems the change is not for SL relay topic, because the two new PC5 message introduced for relay are RemoteUEInformationSidelink and UuMessageTransferSidelink which do not contain transaction identifier. |
| [**R2-2210378**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210378.zip) | Correction on SRAP handling for NR sidelink relay | Xiaomi | In section 5.3.7.4, delete the corresponding text procedure to establish the SRAP entity for SRB1. | The change is editorial, suggest to agree. |
| [**R2-2210432**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210432.zip) | Correction on derivation of serving Relay UE measurement results | Sharp | Proposal 1: A L2 U2N remote UE derives measurement results of serving L2 U2N Relay UE based on the description in section 5.8.10.3.2 (Derivation of NR sidelink measurement results).  Proposal 2: Adopt the text proposal in Annex. | P1-P2: the intention is to add related description of deriving measurement results for serving relay, which is reasonable, so suggest to agree P1 with modification as ” add the procedural text in 5.5.3.4 for A L2 U2N remote UE derives measurement results of serving L2 U2N Relay UE ~~based on the description in section 5.8.10.3.2 (Derivation of NR sidelink measurement results).~~”and further check if serving relay is also missing in other places in RRC spec. |
| [**R2-2210433**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210433.zip) | Correction on full configuration for remote UE | Sharp | Proposal 1: For full configuration procedure, if the UE is acting as L2 U2N Remote UE, the UE doesn’t apply default MAC Cell Group configuration as specified in 9.2.2.  Proposal 2: The network can explicitly provide PC5 Relay RLC channel configurations to establish PC5 Relay RLC channels after release due to fullConfig and a NOTE can be added.  Proposal 3: Adopt the text proposal in Annex. | P1 seems reasonable, so suggest to agree.  P2 is to be discussed in section 2.2 for RLC handling.  P3 is pending to the technical discussion on the related proposals. |
| [**R2-2210434**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210434.zip) | Correction on RRC connection suspension of remote UE | Sharp | Proposal 1: When RRC connection is suspended, if L2 U2N remote UE maintains PC5-RRC connection, it establishes or re-establishes (e.g. via release and add) SL RLC entity for SRB1.  Proposal 2: When RRC connection is suspended, if L2 U2N remote UE maintains PC5-RRC connection, it resets SL MAC.  Observation 1: When RRC connection is suspended, if L2 U2N remote UE releases PC5-RRC connection, some clarifications are still needed, e.g. indicate upper layers to trigger PC5 unicast link release, exclude legacy MAC handling and legacy RLC handling.  Observation 2: When RRC connection is suspended, cell selection doesn’t imply relay reselection and PC5-RRC connection release, unless relay reselection is explicitly added in the spec.  Proposal 3: Adopt the text proposal in Annex. | P1 is to be discussed in section 2.2 for RLC handling.  P2 is to be discussed in section 2.2 for MAC handling.  P3 is to be discussed in section 2.2 for Entering RRC\_IDLE/RRC\_INACTIVE. |
| [**R2-2210494**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210494.zip) | Remaining CP correction for sidelink relay | Huawei, HiSilicon | Observation 1: Following current specification, upon going to RRC\_IDLE in 5.3.11 or to RRC\_INACTIVE in 5.3.8.3, the Remote UE shall first perform cell selection as legacy, after that relay (re)selection is allowed when the UE is in IDLE/INACTIVE state.  Observation 2: After initiation of RRC reestablishment procedure, the Remote UE can perform cell selection as legacy, and can also determine to keep the existing PC5 unicast link or perform relay (re)selection.  Observation 3: For SRAP entity handling, the current UE behaviour in the spec is sufficient.  Observation 4: In Rel-16 sidelink communication, the specified configurations of SL SRBs are applied to establish Tx and Rx RLC entities, while for SL DRBs the principle is Tx UE to configure Rx UE with RLC configuration via RRCReconfigurationSidelink message.  Proposal 1: Upon going to RRC\_IDLE/INACTIVE, a Remote UE follows the legacy step of “enter RRC\_IDLE/RRC\_INACTIVE and perform cell selection as specified in TS 38.304”, which means Remote UE has to release the PC5 unicast link. (No spec change).  Proposal 2: The same principle of Rel-16 sidelink communication should be applied to relay case, i.e. the specified SL\_RLC0 configuration is used to establish Tx and Rx RLC entities for SRB0 messages without peer UE’s indication, and for SL\_RLC1 the Rx UE establishes the RLC entity following Tx UE’s indication.  Proposal 3: A RLC channel ID (i.e. 1) is reserved for the SL\_RLC1 to enable reconfiguration of SL\_RLC1, e.g. when the RLC channel is added, the default configuration is applied only if the dedicated configuration is absent. | P1 is to be discussed in section 2.2 for Entering RRC\_IDLE/RRC\_INACTIVE.  P2-3 are to be discussed in section 2.2 for RLC handling. |
| [**R2-2210495**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210495.zip) | Discussion on support of QoE in L2 U2N relay | Huawei, HiSilicon | Proposal 1: RAN2 to clarify SRB4 and application layer measurement are not supported for L2 U2N Remote UE, which means the gNB has to release the SRB4 and the application layer measurement configuraiton before D2I path switch/releasing UE to inactive, or in path switch command/RRC resume message. | P1 is to be discussed in section 2.2 for Others. |
| [**R2-2210496**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210496.zip) | RRC CR for clarification on no support of QoE for L2 U2N Remote UE | Huawei, HiSilicon | In 6.2.2, for RRCReconfiguration Message and RRCResume message, clarify sl-L2RemoteUE-Config cannot be configured to a UE if appLayerMeasConfig and SRB4 are configured/not released. | To be discussed in section 2.2 for Others. |
| **R2-2210625** | U2N relay related clarifications | Nokia, Nokia Shanghai Bell | 304 CR  1. In clause 4.1. it is clarified that an L2 U2N Remote UE in RRC\_IDLE or in RRC\_INACTIVE from network perspective may perform all of the relevant procedures via the L2 U2N Relay UE and the cell reselection procedures are not mandatory for an L2 U2N Remote UE.  2. In Clause 4.3. it is clarified that that limited service level is not supported for an L2 U2N Remote UE.  3. In clause 5.4 it is clarified that the AS of an L2 U2N Remote UE in RRC\_INACTIVE or in RRC\_IDLE may report the tracking area information to NAS based on the system information received from the connected L2 U2N Relay UE.  4. In clause 8.1 "or receive" is remove from the sentence "The U2N Remote UE, the U2N Relay UE, or both may transmit or receive NR sidelink relay discovery (i.e., as specified in TS 23.304 [22]) if it fulfills the condition(s) defined in TS 38.331 [3].". | Change #1 and #3 are to be discussion in section 2.2 for 38.304 corrections.  Change #2 and #4 is to be discussed in section 2.2. for Others. |

Proposal 0: For the changes/proposals suggested to agree in Table 1, merge the changes in RRC Rapp CR and further check the wording in CR update.

## 2.2 For further discussion

### RLC handling

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| **TDoc number** | TDoc title | Source | Proposals | Rapporteur’s comment |
| [**R2-2209378**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209378.zip) | Discussion on left issues for CP | OPPO | Proposal 1 R2 confirms Tx-UE ensures alignment between sl-RLC-ChannelID-PC5-r17 (in PC5-RRC) and sl-EgressRLC-ChannelPC5-r17 (in Uu-RRC). | The rapporteur understands the intention is to enable the Remote UE differentiate between DRB1/2 and SRB1/2 by check ingress PC5 Relay RLC channel and SRAP configuration which only contains the mapping from E2E bearer to Egress RLC channel, so it requires the Egress RLC channel and Ingress RLC channel in PC5 link share the same RLC channel ID. For further clarification, this also means the network needs to provide the same Egress PC5 Relay RLC channel ID to remote UE and relay UE for the same E2E bearer.  The proposal is reasonable to address the issue, so suggest to agree. |
| [**R2-2209775**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209775.zip) | Discussion on remaining issues on CP procedure for SL Relay | Apple | Proposal 2: RAN2 confirms that the SL-RLC1 overriding by dedicated configuration means “changing SRAP mapping of SRB1 to a different PC5 Relay RLC channel”. | The proposal is to say for SRB1 messages, SL\_RLC1 is just the PC5 Relay RLC channel using default configuration, and if network wants to provide dedicated configuration, it configures another PC5 Relay RLC channel mapped to SRB1.  Related to this proposal, the rapporteur would like to clarify the following aspects:   * SL\_RLC1 is used for both of Tx and Rx configuration, which means when the Tx-UE is using SL\_RLC1 for SRB1 messages, it’s not necessary to configure it to the Rx-UE. Otherwise, the network needs to provide a RLC channel ID so that the Tx-UE can generate the same channel ID in PC5. * If the dedicated configuration of PC5 Relay RLC channel mapped to SRB1 is provided to Tx UE, it needs to generate the corresponding new configuration to the Rx UE. Meanwhile, the network needs to ensure a corresponding SRAP configuration is provided to the peer UE, so that it can stop using SL\_RLC1 and use the new RLC channel. * The network needs to ensure the RRCReestablishment/RRCResume/RRCReconfigurationComplete message during D2I path switch to a IDLE/INACTIVE relay UE is transmitted/received via SL\_RLC1, i.e. the dedicated configuration can only be provided after that.   The proposal is workable to address the issue, so suggest to agree. |
| **[R2-2209775](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209775.zip)** | Discussion on remaining issues on CP procedure for SL Relay | Apple | Proposal 4 The PC5-RRC procedure to establish PC5 Relay RLC channel(s) can be triggered by L2 Remote UE addition without any modification/addition of PC5 Relay RLC channel configuration(s). | The rapporteur understand in Rel-16 each bearer in the RLC bearer list configured to Tx UE associates with one slrb of one peer UE identified by sl-ServedRadioBearer/SLRB-Uu-ConfigIndex which further mapped to SL-RadioBearerConfig containing a QoS flow list which is reported for one L2 ID. And in Rel-17 we’d better to follow the same logic to do the configuration. But if the spec is not crystal clear on this point we can try to make clarification to avoid any ambiguity on how should the UE to comprehend the configuration. So one proposal is given for this. |
| [**R2-2210494**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210494.zip) | Remaining CP correction for sidelink relay | Huawei, HiSilicon | Proposal 2: The same principle of Rel-16 sidelink communication should be applied to relay case, i.e. the specified SL\_RLC0 configuration is used to establish Tx and Rx RLC entities for SRB0 messages without peer UE’s indication, and for SL\_RLC1 the Rx UE establishes the RLC entity following Tx UE’s indication.  Proposal 3: A RLC channel ID (i.e. 1) is reserved for the SL\_RLC1 to enable reconfiguration of SL\_RLC1, e.g. when the RLC channel is added, the default configuration is applied only if the dedicated configuration is absent. | As commented on 9775, if assuming SL\_RLC1 is just the RLC channel using default configuration but not the generic name for the RLC channel mapped to SRB1, UE can directly use SL\_RLC1 for Rx operation without Tx-UE’s configuration. So the proposal can be revised as:  *RAN2 confirms the specified SL\_RLC0/default SL\_RLC1 configuration is used to establish Tx and Rx RLC entities for SRB0/SRB1 messages without peer UE’s indication.*  For P3, if the proposal in 9378 is agreed, it means the PC5 Relay RLC channel ID in PC5 RRC message should in line with the one received via Uu RRC message, so for different remote UEs the channel ID should be different, and P3 is not feasible. In this case, the solution in 9775 is preferred. |
| [**R2-2210433**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210433.zip) | Correction on full configuration for remote UE | Sharp | Proposal 2: The network can explicitly provide PC5 Relay RLC channel configurations to establish PC5 Relay RLC channels after release due to fullConfig and a NOTE can be added. | According to the current description, the remote UE will release all redio resource including PC5 Relay RLC channels. The question is whether the UE establishes SL\_RLC1 using default configuration for SRB1. If so, the network can keep the configuration or override the configuration as discussed in 9775; if not, the network needs to provide dedicated configuration. To more align with the legacy spec, the rapporteur suggest:  *RAN2 confirms the remote UE establishes SL\_RLC1 using default configuration for SRB1 upon full configuration, and network can explicitly provide PC5 Relay RLC channel configurations to override SL\_RLC1.* |
| [**R2-2209817**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209817.zip) | Corrections to MAC and RLC handling for L2 U2N Relay | vivo | Change 2: In clause 5.3.8.3, clarify that the L2 U2N Remote UE’s RLC re-establishment behaviour for SRB1 is to re-establish the SL RLC entity rather than the Uu RLC entity. | One related issue is that upon released to RRC\_IDLE/INACTIVE, whether the UE can directly perform relay selection which was not supported by majority.  Another way to do the change is to add establish SL RLC entity in 5.3.13.2 when initiating RRC resume procedure.  In this case, the rapporteur suggests to double check this point after concluding the discussion on Entering RRC\_IDLE/RRC\_INACTIVE. |
| [**R2-2210434**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210434.zip) | Correction on RRC connection suspension of remote UE | Sharp | Proposal 1: When RRC connection is suspended, if L2 U2N remote UE maintains PC5-RRC connection, it establishes or re-establishes (e.g. via release and add) SL RLC entity for SRB1. | The key point is upon released to RRC\_IDLE/INACTIVE, whether the UE can keep connected with relay UE which was not supported by majority.  Another way to do the change is to add establish SL RLC entity in 5.3.13.2 when initiating RRC resume procedure.  In this case, the rapporteur suggests to double check this point after concluding the discussion on Entering RRC\_IDLE/RRC\_INACTIVE. |

**Proposal 1 RAN2 confirms Tx-UE ensures alignment between sl-RLC-ChannelID-PC5-r17 (Generated by Tx-UE to configure Rx-UE via PC5-RRC) and sl-EgressRLC-ChannelPC5-r17 (Received by Tx-UE via Uu-RRC), and network ensures alignment on sl-EgressRLC-ChannelPC5-r17 configured to remote UE and relay UE for the same E2E bearer.**

**Proposal 2.1: RAN2 confirms the specified SL\_RLC0 configuration is used to establish Tx and Rx RLC channels for SRB0 messages without peer UE’s indication.**

**Proposal 2.2: RAN2 to discuss if the default SL\_RLC1 configuration is used to establish Rx RLC channels for SRB1 messages without Tx UE’s indication, or to adopt PC5-RRC from Tx to Rx for the default SL\_RLC1 configuration. [UEs need to align the understanding]**

**Proposal 3.1: RAN2 confirms that overriding the SL-RLC1 by dedicated configuration means “changing SRAP mapping of SRB1 from ‘without PC5 RLC channel configured for SRB1’ to ‘with PC5 RLC channel configured to SRB1’ ”.**

**Proposal 3.2: RAN2 confirms the remote UE establishes SL\_RLC1 using default configuration for SRB1 upon full configuration, and network can explicitly provide PC5 Relay RLC channel configurations to override SL\_RLC1.**

**Proposal 13: RAN2 confirms that each PC5** **Relay RLC channel configuration provided by network to Relay UE is uniquely associated with one Remote UE.**

### MAC handling

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| **TDoc number** | TDoc title | Source | Proposals | Rapporteur’s comment |
| [**R2-2209817**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209817.zip) | Corrections to MAC and RLC handling for L2 U2N Relay | vivo | Change 1: In clause 5.3.5.3, add the MAC reset behaviour for L2 U2N Remote UE upon reception of D2I path switch command. | The change seems reasonable, so suggest to agree. |
| [**R2-2210434**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210434.zip) | Correction on RRC connection suspension of remote UE | Sharp | Proposal 2: When RRC connection is suspended, if L2 U2N remote UE maintains PC5-RRC connection, it resets SL MAC. | The key point is upon released to RRC\_IDLE/INACTIVE, whether the UE can keep connected with relay UE which was not supported by majority.  In this case, the rapporteur suggests to double check this point after concluding the discussion on Entering RRC\_IDLE/RRC\_INACTIVE. |

**Proposal 4: RAN2 confirms the MAC is reset by L2 U2N Remote UE upon reception of D2I path switch command.**

### Entering RRC\_IDLE/RRC\_INACTIVE

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| **TDoc number** | TDoc title | Source | Proposals | Rapporteur’s comment |
| [**R2-2209775**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209775.zip) | Discussion on remaining issues on CP procedure for SL Relay | Apple | Proposal 6: RAN2 confirms “Remote UE performs cell selection as legacy UE when entering RRC\_INACTIVE. It is up to remote UE implementation whether to release or keep the current PC5 link to the relay UE” . | The key issue discussed in these contribution is that whether the Remote UE releases the PC5 unicast link upon released to IDLE/INACTIVE.  From Remote UE side, it seems feasible to keep the current unicast link. However, from Relay UE side, network is likely to configure remote UE release to the relay UE, and following the current spec, the relay UE will release the PC5 connection, in this case, there is no point to let Remote UE to keep the unicast. Meanwhile, after the remote UE release the unicast, it can decide to perform cell selection or relay selection based on implementation which should in line with the existing IDLE/INACTIVE UE behavior.  So the rapporteur suggest:  *RAN2 confirms upon entering RRC\_IDLE/INACTIVE, the Remote UE releases the PC5 unicast link. After that, it is up to UE implementation whether to perform cell selection, relay selection or both.* |
| [**R2-2210434**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210434.zip) | Correction on RRC connection suspension of remote UE | Sharp | Proposal 1: When RRC connection is suspended, if L2 U2N remote UE maintains PC5-RRC connection, it establishes or re-establishes (e.g. via release and add) SL RLC entity for SRB1.  Proposal 2: When RRC connection is suspended, if L2 U2N remote UE maintains PC5-RRC connection, it resets SL MAC.  Observation 1: When RRC connection is suspended, if L2 U2N remote UE releases PC5-RRC connection, some clarifications are still needed, e.g. indicate upper layers to trigger PC5 unicast link release, exclude legacy MAC handling and legacy RLC handling.  Observation 2: When RRC connection is suspended, cell selection doesn’t imply relay reselection and PC5-RRC connection release, unless relay reselection is explicitly added in the spec.  Proposal 3: Adopt the text proposal in Annex. |
| [**R2-2210494**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210494.zip) | Remaining CP correction for sidelink relay | Huawei, HiSilicon | Observation 1: Following current specification, upon going to RRC\_IDLE in 5.3.11 or to RRC\_INACTIVE in 5.3.8.3, the Remote UE shall first perform cell selection as legacy, after that relay (re)selection is allowed when the UE is in IDLE/INACTIVE state.  Observation 2: After initiation of RRC reestablishment procedure, the Remote UE can perform cell selection as legacy, and can also determine to keep the existing PC5 unicast link or perform relay (re)selection.  Proposal 1: Upon going to RRC\_IDLE/INACTIVE, a Remote UE follows the legacy step of “enter RRC\_IDLE/RRC\_INACTIVE and perform cell selection as specified in TS 38.304”, which means Remote UE has to release the PC5 unicast link. (No spec change). |

**Proposal 5: RAN2 confirms upon entering RRC\_IDLE/INACTIVE, the Remote UE releases the PC5 unicast link. After that, it is up to UE implementation whether to perform cell selection, relay selection or both.**

### Exceptional resource pool during D2I path switch

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| **TDoc number** | TDoc title | Source | Proposals | Rapporteur’s comment |
| [**R2-2209775**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209775.zip) | Discussion on remaining issues on CP procedure for SL Relay | Apple | Proposal 1: RAN2 reverse the earlier agreement (P29 in R2-2208795) and agree “For direct-to-indirect path switch, upon reception of RRCReconfiguration with sl-pathSwitchConfig, mode 1 remote UE switch to use mode 2 with TX pools configured in RRCReconfiguration with sl-pathSwitchConfig”. | The rapporteur understands the intention of the two contributions is aligned. But the proposal in 9775 can be misunderstood as there is an autonomous UE behavior of switching configured resource. Then the wording in 9816 is preferred, i.e.  *RAN2 to revise the previous agreement as “RAN2 confirms during path switch (T420 is running), UE can use exceptional pool for sidelink communication ~~in mode 1 (same as Rel-16 V2X)~~.”, and confirm that this agreement can already be realized via existing NR SL communication procedure with no extra Spec impact.* |
| [**R2-2209816**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209816.zip) | Discussion on NR SL communication transmission using exception pool during D2I path switch | vivo | Proposal 1 RAN2 to revise the previous agreement as “RAN2 confirms during path switch (T420 is running), UE can use exceptional pool for sidelink communication ~~in mode 1 (same as Rel-16 V2X)~~.”, and confirm that this agreement can already be realized via existing NR SL communication procedure with no extra Spec impact. |

**Proposal 6: RAN2 to revise the previous agreement as “RAN2 confirms during path switch (T420 is running), UE can use exceptional pool for sidelink communication ~~in mode 1 (same as Rel-16 V2X)~~.”, and confirm that this agreement can already be realized via existing NR SL communication procedure with no extra Spec impact.**

### DRX handling

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| **TDoc number** | TDoc title | Source | Proposals | Rapporteur’s comment |
| [**R2-2209847**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209847.zip) | Clarification on SL DRX operation for U2N Remote UE | ASUSTeK | In subclause 5.8.9.6.1, the statement of “For NR sidelink L2 U2N relay communication, the L2 U2N Remote UE may determine its desired sidelink DRX configurations taking its accepted sidelink DRX configurations for other peer UEs or its applied sidelink DRX configurations for sidelink groupcast/broadcast communication into account.” is added in the NOTE. | The rapporteur understands the similar discussion happened in SL enh WI, and the conclusion is the smart UE implementation can consider the accepted DRX configuration(s) and generate preferred DRX configuration(s) to other Tx-UE. There is no particular optimization required for relay case. Thus no proposal is given for this contribution. |
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### 38.304 corrections

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| **TDoc number** | TDoc title | Source | Proposals | Rapporteur’s comment |
| [**R2-2209378**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209378.zip) | Discussion on left issues for CP | OPPO | Proposal 2 Based on NOTE3 in TS 38.331 clause 5.3.3.3, 5.3.13.3, 5.8.15.3, R2 confirms UE can camp on a relay UE upon power-on, and it is up to UE implementation to camp on either cell or relay when both are available.  Proposal 3 Add a NOTE “If both suitable cells and suitable NR sidelink U2N Relay UEs (as specified in TS 38.331 [3]) are available, it is up to NR sidelink U2N Remote UE implementation to select either a cell or a NR sidelink U2N Relay UE.” Into TS 38.304 clause 5.2.1. | P2 seems reasonable, suggest to agree, and the detailed wording can be discussed during 38.304 CR update. |
| [**R2-2209500**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209500.zip) | Miscellaneous corrections for NR sidelink Relay in TS 38.304 | OPPO | Add a Note in section 5.2.1 to describe cell (re)selection and relay (re)selection procedure run independently and if both suitable cells and suitable U2N Relays are available, it is up to U2N Remote UE implementation to select either a cell or a U2N Relay UE. | Same as P2 in R2-2209378. |
| [**R2-2210625**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210625.zip) | U2N relay related clarifications | Nokia, Nokia Shanghai Bell | 304 CR  1. In clause 4.1. it is clarified that an L2 U2N Remote UE in RRC\_IDLE or in RRC\_INACTIVE from network perspective may perform all of the relevant procedures via the L2 U2N Relay UE and the cell reselection procedures are not mandatory for an L2 U2N Remote UE.  3. In clause 5.4 it is clarified that the AS of an L2 U2N Remote UE in RRC\_INACTIVE or in RRC\_IDLE may report the tracking area information to NAS based on the system information received from the connected L2 U2N Relay UE. | Change #1 and #3 seem to be clarifications. The detailed wording can be further checked during 38304 Rapp CR update. |

**Proposal 7: The intention of change in 9500 and the change #1 and #3 in 0625 can be agreed, and how to capture is up to TS 38.304 rapporteur in CR update.**

### Others

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| **TDoc number** | TDoc title | Source | Proposals | Rapporteur’s comment |
| [**R2-2209377**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209377.zip) | Correction for U2N Relay | OPPO | 3. In 5.8.3.2, remove the relay/remote UE AS-layer condition for relay discovery reception, to align with 5.8.13.2 | The intention is to align the descriptions in RRC as well as TS 38.304, to say there is no need to check remote UE AS-layer condition for sidelink discovery reception. However the issue is if remove remote UE AS condition for discovery reception, it seems there is no way to control a UE being a remote UE in Model A (annouce and monitor). The other way to align 5.8.13.2 is to add the AS condition in 5.8.13.2. Suggest to further discuss. So the rapporteur would like to suggest:  *RAN2 confirms for sidelink discovery reception the remote UE also needs to check remote UE AS-layer condition.* |
| [**R2-2210625**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210625.zip) | U2N relay related clarifications | Nokia, Nokia Shanghai Bell | 4. In clause 8.1 "or receive" is remove from the sentence "The U2N Remote UE, the U2N Relay UE, or both may transmit or receive NR sidelink relay discovery (i.e., as specified in TS 23.304 [22]) if it fulfills the condition(s) defined in TS 38.331 [3].". |
| [**R2-2209885**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209885.zip) | Correction on remote UE's resource allocation | Xiaomi | Remote UE in RRC\_IDLE/INACTIVE can use preconfigured resource if the forwarded SIB12 doesn’t include normal pool and exception pool. | The rapporteur understand the intention is to clarify the Remote UE can use resource pool in pre-config to perform SL communication before acquisition of dedicated configuration of resource pool, but not to allow Remote UE use pre-config in any case. Then the proposal can be revised to:  *RAN2 confirms the Remote UE can use pre-config for sidelink communication before acquisition of dedicated configuration of resource pool from network.* |
| [**R2-2209892**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209892.zip) | Calarification on emergency service support in Rel-17 U2N relay | CATT | Add one note to clarify that the emergency service is not supported in Rel-17 U2N relay. | The rapporteur understands the change is not essential because emergency service is initiated by upper layers, therefore whether it is supported or not in relay case can be agnostic to AS spec. But it would be good to double check others’ view.  *RAN2 to discuss whether to clarify in AS specifications that emergency services/limited service level is not supported by remote UE in Rel-17* |
| [**R2-2210625**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210625.zip) | U2N relay related clarifications | Nokia, Nokia Shanghai Bell | 2. In Clause 4.3. it is clarified that that limited service level is not supported for an L2 U2N Remote UE. |
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| [**R2-2210170**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210170.zip) | Correction for receiving notification message during path switching | Lenovo Information Technology | In section 5.8.9.10.4, ‘T304 is not running’ is added. | The rapporteur understands the change is not essential because it should be a rare case that remote UE is performing I2D path switch meanwhile does not release source PC5 unicast link immediately, and the source relay UE does not receive network configuration to release the remote UE yet but needs to send notification message to the remote UE.  But it would be good to double check others’ view whether the change is needed or not. So suggest:  *RAN2 to discuss the change in R2-2210170, i.e. “if T301 and T304 ~~is~~ are not running, initiate the RRC connection re-establishment procedure as specified in 5.3.7”.* |
| [**R2-2210495**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210495.zip) | Discussion on support of QoE in L2 U2N relay | Huawei, HiSilicon | Proposal 1: RAN2 to clarify SRB4 and application layer measurement are not supported for L2 U2N Remote UE, which means the gNB has to release the SRB4 and the application layer measurement configuraiton before D2I path switch/releasing UE to inactive, or in path switch command/RRC resume message. | Among the 3 alternative, the way in P1 is with minimum spec impact, thus suggest to agree it.  *RAN2 confirms SRB4 and application layer measurement are not supported for L2 U2N Remote UE, which means sl-L2RemoteUE-Config cannot be configured to a UE if appLayerMeasConfig and SRB4 are configured/not released.* |
| [**R2-2210496**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210496.zip) | RRC CR for clarification on no support of QoE for L2 U2N Remote UE | Huawei, HiSilicon | In 6.2.2, for RRCReconfiguration Message and RRCResume message, clarify sl-L2RemoteUE-Config cannot be configured to a UE if appLayerMeasConfig and SRB4 are configured/not released. |

**Proposal 8: RAN2 confirms for sidelink discovery reception the remote UE also needs to check remote UE AS-layer condition.**

**Proposal 10: RAN2 to discuss whether to clarify in AS specifications that emergency services/limited service level is not supported by remote UE in Rel-17.**

**Proposal 11: RAN2 confirms SRB4 and application layer measurement are not supported for L2 U2N Remote UE, which means sl-L2RemoteUE-Config cannot be configured to a UE if appLayerMeasConfig and SRB4 are configured/not released.**

**Proposal 12: RAN2 to discuss the change in R2-2210170, i.e. “if T301 and T304 ~~is~~ are not running, initiate the RRC connection re-establishment procedure as specified in 5.3.7”.**

## 2.3 Optimizations/low priority issues (can discuss if time left)

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| **TDoc number** | TDoc title | Source | Proposals | Rapporteur’s comment |
| **[R2-2209879](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209879.zip)** | Correction on handover notification forwarding | Xiaomi | Upon handover, relay UE doesn’t send NotificationMessageSidelink message, if the PCell doesn’t change. | The similar case for idle/inactive remote UE has been discussed, and majority did not support this kind of optimization.  *[13/15]Proposal 8 (modified): No further distinction on whether Relay UE’s PCell is changed or not when IDLE/INACTIVE Remote UE receives NotificationMessageSidelink indicating Relay UE’s HO (No spec change).*  So for the case for connected remote UE, it can be discussed only when there is time left. |
| **[R2-2209860](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209860.zip)** | Alignment between remote UE paging DRX and relay UE Uu DRX | Ericsson | Proposal 1 To avoid paging message being delayed for remote UE in RRC IDLE or RRC INACTIVE, RAN2 to down select the two options  a. Option 1: leave up to relay UE implementation to determine whether relay UE in RRC CONNECTED needs to be active at remote UE’s POs  b. Option 2: remote UE’s POs are defined as DRX active time for relay UE in RRC CONNECTED  Proposal 2 RAN2 to discuss whether a note needs to be added in the MAC spec if it is agreed to leave up to relay UE implementation to determine whether relay UE in RRC CONNECTED needs to be active at remote UE’s POs.  Proposal 3 Adopt the CR captured in [2] if it is agreed that remote UE’s POs are defined as DRX active time for relay UE in RRC CONNECTED. | The rapporteur understands the intention is to reduce potential delay of forwarding paging message from relay UE to remote UE, but there should be no issue to receive paging by relay UE from network either via Uu paging monitoring or via dedicated RRC message. So the solution is also optimization to me, can be discussed if time left. |
| **[R2-2209861](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209861.zip)** | Corrections to 38321 on alignment between remote UE paging DRX and relay UE Uu DRX | Ericsson | MAC CR  In clause 5.7, update DRX active time so that remote UE’s PO should be considered as DRX active time for relay UE. | Pending to the discussion on 9860. |
| **[R2-2209902](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209902.zip)** | Discussion on SL synchronization for SL relay | ZTE, Sanechips | Observation1: In case the SL frequency is IC or the SL frequency is included in SL configuration within RRCReconfiguration/SIB12 via serving cell, and the sync priority is set to gNBeNB, then UE shall select the cell as the reference source.  Observation2: If connecting the gNB via relay UE, remote UE’s serving cell/Pcell is the serving cell of relay UE.  Observation3: After connecting the gNB via relay UE, the serving cell of remote UE is the serving cell of relay UE. remote UE can obtains the SIB12/sl-ConfigCommonNR via relay UE, in this case, it is possible that remote UE is configured to select a cell as the synchronization reference source.  Observation4: for remote UE in OOC, remote UE can not synchronize with the cell, if the serving cell is selected as synchronization reference source for remote UE in OOC, it can not perform sidelink communication  Proposal1: RAN2 is suggested to discuss how to handle the case that OOC remote UE select the cell as reference source. | In Rel-16 SL communication, if the network provide synchronization priority as cell or GNSS, the UE should select synchronization source correspondingly, otherwise the UE is allow to search SLSS. For relay case, the reasonable NW implementation can set the priority as GNSS, or not configure priority if it wants to support coverage enhancement. In this case, there seems no big issue. Furthermore, the synchronization procedure was studied and decided by RAN1 in Rel-16, therefor it should also be discussed/decided by RAN1 if any new solution can be specified for relay case. In RAN2, we can check majority view on whether there is a need to trigger such RAN1 discussion. |

**Proposal 9: To discuss if the Remote UE can use pre-config for sidelink communication before acquisition of dedicated configuration of resource pool from network.**

**Proposal 14: To discuss if relay UE cannot send NotificationMessageSidelink message for intra-cell HO.**

**Proposal 15: To discuss if to reduce the delay of receiving remote UE’s paging message by connected Relay UE without CSS configured in active BWP, and the potential two options:**

**a. Option 1: leave up to relay UE implementation to determine whether relay UE in RRC CONNECTED needs to be active at remote UE’s POs**

**b. Option 2: remote UE’s POs are defined as DRX active time for relay UE in RRC CONNECTED**

**Proposal 16: To discuss whether to trigger RAN1 to discuss a new solution in Rel-17 for relay scenario in order to allow OoC Remote UE select synchronization source other than cell if the network configures cell as reference source in SIB12.**

# 3. Conclusion

According to the discussion in reflector, companies may have concerns/diverse views on some of the proposals. These proposals are marked as [To be discussed]. The others proposal not received any comments are marked as [Easy].

For online discussion in Monday W1 session, the rapporteur divides the proposals into 3 groups, and suggest to use this order to treat the proposals.

1. [Easy] proposals in 2.1 and 2.2;

2. [To be discussed] proposals in 2.2 which may have inter-operability issues;

3. The left proposals in 2.2 with no inter-operability issue.

## Easy corrections:

**Proposal 0: For the changes/proposals suggested to agree in Table 1, merge the changes in RRC Rapp CR and further check the wording in CR update. [No inter-operability issue]**

## For further discussion

### RLC handling

**[Easy]Proposal 1: RAN2 confirms that the Tx-UE ensures alignment between sl-RLC-ChannelID-PC5-r17 (Generated by Tx-UE to configure Rx-UE via PC5-RRC) and sl-EgressRLC-ChannelPC5-r17 (Received by Tx-UE via Uu-RRC), and network ensures alignment on sl-EgressRLC-ChannelPC5-r17 configured to remote UE and relay UE for the same E2E bearer. [NW and UEs need to align the understanding]**

**[Easy]Proposal 2.1: RAN2 confirms the specified SL\_RLC0- configuration is used to establish Tx and Rx RLC channels for SRB0 messages without peer UE’s indication. [UEs need to align the understanding]**

**[To be discussed] Proposal 2.2: RAN2 to discuss if the default SL\_RLC1 configuration is used to establish Rx RLC channels for SRB1 messages without Tx UE’s indication, or to adopt PC5-RRC from Tx to Rx for the default SL\_RLC1 configuration. [UEs need to align the understanding]**

**[To be discussed] Proposal 3.1: RAN2 confirms that overriding the SL-RLC1 by dedicated configuration means “changing SRAP mapping of SRB1 from ‘without PC5 RLC channel configured for SRB1’ to ‘with PC5 RLC channel configured to SRB1’”. [NW and UEs need to align the understanding]**

**[To be discussed] Proposal 3.2: RAN2 confirms the remote UE establishes SL\_RLC1 using default configuration for SRB1 upon full configuration, and network can explicitly provide PC5 Relay RLC channel configurations to override SL\_RLC1. [NW and UEs need to align the understanding]**

**[To be discussed] Proposal 13: RAN2 confirms that each PC5** **Relay RLC channel configuration provided by network to Relay UE is uniquely associated with one Remote UE. [NW and UEs need to align the understanding]**

### MAC handling

**[Easy]Proposal 4: RAN2 confirms the MAC is reset by L2 U2N Remote UE upon reception of D2I path switch command. [No inter-operability issue]**

### Entering RRC\_IDLE/RRC\_INACTIVE

**[To be discussed] Proposal 5: RAN2 confirms upon entering RRC\_IDLE/INACTIVE, the Remote UE releases the PC5 unicast link. After that, it is up to UE implementation whether to perform cell selection, relay selection or both. [No inter-operability issue]**

### Exceptional resource pool during D2I path switch

**[Easy]Proposal 6: RAN2 to revise the previous agreement as “RAN2 confirms during path switch (T420 is running), UE can use exceptional pool for sidelink communication ~~in mode 1 (same as Rel-16 V2X)~~.”, and confirm that this agreement can already be realized via existing NR SL communication procedure with no extra Spec impact. [No inter-operability issue]**

### 38.304 corrections

**[Easy]Proposal 7: The intention of change in 9500 and the change #1 and #3 in 0625 can be agreed, and how to capture them is up to TS 38.304 rapporteur in CR update. [No inter-operability issue]**

### Others

**[To be discussed] Proposal 8: RAN2 confirms for sidelink discovery reception the remote UE also needs to check remote UE AS-layer condition. [No inter-operability issue]**

**[To be discussed] Proposal 10: RAN2 to discuss whether to clarify in AS specifications that emergency services/limited service level is not supported by remote UE in Rel-17. [No inter-operability issue]**

**[Easy]Proposal 11: RAN2 confirms SRB4 and application layer measurement are not supported for L2 U2N Remote UE, which means sl-L2RemoteUE-Config cannot be configured to a UE if appLayerMeasConfig and SRB4 are configured/not released. [NW and remote UE need to align the understanding]**

**[To be discussed] Proposal 12: RAN2 to discuss the change in R2-2210170, i.e. “if T301 and T304 ~~is~~ are not running, initiate the RRC connection re-establishment procedure as specified in 5.3.7”. [No inter-operability issue]**

## Optimizations/low priority issues (can discuss if time left)

**Todiscuss if [No inter-operability issue]**

**Proposal 14: To discuss if relay UE cannot send NotificationMessageSidelink message for intra-cell HO. [No inter-operability issue]**

**Proposal 15: To discuss if to reduce the delay of receiving remote UE’s paging message by connected Relay UE without CSS configured in active BWP, and the potential two options: [NW and UEs need to align the understanding]**

**a. Option 1: leave up to relay UE implementation to determine whether relay UE in RRC CONNECTED needs to be active at remote UE’s POs**

**b. Option 2: remote UE’s POs are defined as DRX active time for relay UE in RRC CONNECTED**

**Proposal 16: To discuss whether to trigger RAN1 to discuss a new solution in Rel-17 for relay scenario in order to allow OoC Remote UE select synchronization source other than cell if the network configures cell as reference source in SIB12.**