3GPP TSG-RAN WG2 Meeting #125 R2-24xxxxx

Athens, Greece, Feb. 26th – Mar. 1st, 2024

Source: Session Chair (MediaTek)

Title: Report from session on positioning and sidelink relay

# At-meeting email/offline discussions

This subclause is not an agenda item. It documents the email and offline discussions scheduled during the meeting week. It will be moved to an Annex in the final version of the report.

* [AT125][401][POS] Rel-18 positioning MAC open issues (Huawei)

 Scope: F2F offline to discuss the MAC open issues list and proposed solutions, and converge to the extent possible ahead of online discussion.

 Intended outcome: Report to Tuesday positioning session in R2-2401612

 Deadline: Tuesday 2024-02-27 0900 EET

 Schedule: Monday 2024-02-26 1430-1530 EET, in Brk3

* [AT125][402][Relay] WA on L2ID and user info association (Qualcomm)

 Scope: F2F offline to discuss the impact of the SA2 LS in R2-2400072 and determine if an AS solution (using as a baseline the Apple proposal on association in upper layers and only one e2e connection operation at a time) can be agreed as a compromise, or failing that, if there is consensus on handling of our existing WA.

 Intended outcome: Report to Thursday CB session in R2-2401615

 Deadline: Wednesday 2024-02-28 2000 EET

 Schedule: Tuesday 2024-02-27 1700-1730 EET [tentative, rapporteur to check with secretary]

* [AT125][403][Relay] LS to SA2 on U2U relay selection for moving from direct PC5 connection to U2U relay (Nokia)

 Scope: Draft an LS to SA2 using the text from R2-2400768 as baseline, indicating the RAN2 status on U2U relay selection and inviting them to consider if there is spec impact to enable moving from a direct connection to U2U relay.

 Intended outcome: Approved LS (without CB if possible) in R2-2401616

 Deadline: Thursday 2024-02-29 2000 EET

* [AT125][404][Relay] Remaining prioritized issues on relay RRC (Huawei)

 Scope: F2F offline to discuss the remaining RIL/open issues on relay RRC and converge to the extent possible. Initial email phase before F2F discussion to collect comments.

 Intended outcome: Report to CB session in R2-2401617

 Deadline: Wednesday 2024-02-28 2000 EET

 Schedule: Wednesday 1500-1600 EET in Brk3 [tentative, rapporteur to check with the secretary]

* [AT125][405][Relay] SL frequency not included in SIB12 (Huawei)

 Scope: Check the CR in R2-2400733, confirm the agreeability, and check the wording.

 Intended outcome: Agreed CRs (without CB if possible) in R2-2401625 and R2-2401626

 Deadline: Wednesday 2024-02-28 2000 EET

* [AT125][406][Relay] SIB12 received via relay connection (Nokia)

 Scope: Discuss the proposal of R2-2400764, determine if the principle is agreeable, and if so draft the related CR.

 Intended outcome: Agreeable CRs (with CB) in R2-2401627 and R2-2401628

 Deadline: Wednesday 2024-02-28 2000 EET

* [AT125][407][POS] Reply LS to RAN3 on LMF involvement in SL-PRS resource allocation (Xiaomi)

 Scope: Reply to the LS in R2-2400038 based on the outcome of the MAC discussion, covering also the RAN1 LS in R2-2400027.

 Intended outcome: Approved LS (without CB if possible) in R2-2401643

 Deadline: Thursday 2024-02-29 2000 EET

* [AT125][408][POS] Questions on RAN1 parameter list (CATT)

 Scope: Draft an LS to RAN1 with R2-2400206 as baseline, asking the two questions in R2-2400206 and capturing additional questions that arise during this meeting’s discussion.

 Intended outcome: Approved LS (without CB if possible) in R2-2401644

 Deadline: Thursday 2024-02-29 2000 EET

* [AT125][409][POS] Remaining SLPP issues (Intel)

 Scope: F2F offline to discuss the unresolved proposals on SLPP and converge where possible.

 Intended outcome: Report to CB session in R2-2401633

 Deadline: Wednesday 2024-02-28 2000 EET

 Schedule: Wednesday 2024-02-28 0830-0930, in Brk3

* [AT125][410][Relay] Emergency cause value for relay UE (OPPO)

 Scope: Draft the agreed NOTE on emergency service cause value for Rel-18 relay UE.

 Intended outcome: Agreeable CR (with CB) in R2-2401645

 Deadline: Thursday 2024-02-28 2000 EET

* [AT125][411][POS] RIL corrections for BT AoA/AoD (Ericsson)

 Scope: Revise and check the CR in R2-2401637 in line with decisions of this meeting.

 Intended outcome: Agreed CR (without CB if possible) in R2-2401642

 Deadline: Thursday 2024-02-29 2000 EET

# 4 EUTRA Rel-17 and earlier

Only essential corrections. No documents should be submitted to 4. Please submit to 4.x

## 4.4 Positioning corrections Rel-16 and earlier

(LTE\_NavIC-Core, LTE TEI16 Positioning), REL-15 and Earlier WIs related to positioning are in scope but not listed explicitly (long list).

This Agenda Item will be handled by email.

# 5 NR Rel-15 and Rel-16

Essential corrections only.

Tdoc Limitation: 3 tdocs in total for all sub agenda items.

In case a correction need to be reflected in both NR TS and LTE TS, the corrections should be submitted under one single AI (so the NR and LTE correction can be treatee together), the sub-Ais below this

## 5.3 NR Positioning Support

(NR\_newRAT-Core; leading WG: RAN1; REL-15; started: Mar. 17; closed: Jun. 19: WID: [RP-191971](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_85/Docs/RP-191971.zip))

(NR\_pos-Core; leading WG: RAN1; REL-16; started: Mar 19; target; Jun 20; WID: [RP-200218](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_87e/Docs/RP-200218.zip)).

(NR TEI16 Positioning)

Stage 2 corrections shall be discussed with the specification rapporteur (Sven Fischer sfischer@qti.qualcomm.com) before submission. Stage 2 CRs not discussed with the specification rapporteur will not be treated.

[R2-2401198](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401198%20CR%2037355%20Rel-16%20NR_DL_PRS_Info.docx) Corrections to NR-DL-PRS-Info Nokia, Nokia Shanghai Bell CR Rel-16 37.355 16.12.0 0493 - F NR\_pos-Core

* Agreed with coversheet fix (CN ticked instead of RAN) as R2-2401618
* Mirror CRs agreed unseen as R2-2401619 (Rel-17) and R2-2401620 (Rel-18)
* Ericsson are also added as a cosigner (after online session)

Discussion:

vivo are OK with the intention, but they think the structure is clear in the existing spec and the text can be left as it is.

Huawei also do not think it is essential (and they note that the mirror CRs are missing).

Nokia think it is not purely editorial and there is an inaccuracy in the spec today wrt the “indexing” description.

CATT think the indexing can be polished, e.g., “indicating” the entry with the matching PCI, but for the other issues they think it is not essential and the per-resource structure is already clear.

Ericsson support the CR and think the per-resource description is accurate.

Qualcomm agree that the existing description is confusing.

Intel agree with Qualcomm and Ericsson and see the value of the clarification.

Samsung also support the CR, but they think the CN box should be ticked instead of RAN.

[R2-2401323](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401323.docx) RIL E138 SBAS-ID Field Description Ericsson discussion Rel-16

* Postponed

Discussion:

Samsung support the CR and think the presence condition should be clear in the field description.

Huawei do not think the CR is needed; the previous description is clear.

vivo support the CR and think the current description is misleading in that it suggests the SBAS-ID can be optional when SBAS is requested.

Lenovo agree with Huawei and think the dependency is clear, and from UE perspective it makes sense that the UE checks SBAS-ID first. They also note that the bar is high for Rel-16.

CATT think the first change in the gnss-ID description is not needed, but they are OK with the sbas-ID change.

Ericsson consider that the field description should be only about the individual field itself.

Intel agree with Lenovo that we should be careful to only agree essential CRs; they see the value of the second change but think it could be taken in the Rel-18 RRC CR.

Lenovo think it does not make sense to change something in Rel-18 if it is not wrong in Rel-16/17.

Ericsson think the current spec can be misunderstood.

Lenovo are not completely opposed, but they think the coversheet should be clear about what the issue is.

Huawei think the second change is just rephrasing the existing dependency. Ericsson think the field description should not impose a requirement on a different field.

ZTE think there was a similar discussion in RAN2#124, and they wonder if we could go offline to check in the CB session. Ericsson think the wording was added recently and finalised a bit at the last minute. ZTE think also the intention itself is unclear.

Proposal 1 Agree to update the field description of gnss-id and sbas-id.

[R2-2401342](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401342%20Discussion%20on%20contents%20of%20ProvideLocationInformation.docx) Discussion on contents of ProvideLocationInformation NTT DOCOMO, INC., SK telecom discussion Rel-16

* Noted

Proposal. Location information in ProvideLocationInformation shall match or be a subset of the location information requested in RequestLocationInformation if onlyReturnInformationRequested is indicated by the network. Adopt changes in R2-2401343, R2-2401344, and R2-2401345 for TS 37.355.

Discussion:

Qualcomm think this is not needed because we already have a “shall” requirement on this, which is tested in GCF. They see that we could have excessive CRs if we start copying every stage 3 requirement from field descriptions into the procedural text.

Intel have the same view as Qualcomm that the intention is for the procedural part to be simple and the requirements to be concentrated in the field descriptions.

vivo think we already have the “should” restriction in the procedure.

Huawei think the CR does not solve the underlying problem of a mismatch between the CN transport and the AS transport, because the UE still does not know the limit of the CN transport.

CATT note that the additional information is optional, and they wonder what the UE is expected to do if the IE is absent; they think it is not completely clear.

Nokia think the field description is clear, but they agree that the “should” statement in the procedural section seems not aligned with the field description. They think we could change the terminology to “additional information” in the flow, and refer to the field description.

China Unicom think the intention is to change the “should” to a “shall”, and they agree with Huawei’s point that this CR may not solve the whole problem.

DOCOMO agree that the root issue is the difference between the NAS message size and the CN transfer size. They also think if the field description is “shall”, maybe we could confirm in the chair notes.

OPPO understand that in the RequestLocationInformation, the field description uses “shall”, and this should be enough.

Ericsson agree with Qualcomm, and they understand that copying the field description to the procedure text does not make it “more shall”. They also see the root cause as being the incompatibility between NAS message size and CN size.

Intel also see the root cause as being the CN implementation.

Agreement:

RAN2 understand that the UE shall comply with the requirements in the field description for the interpretation of onlyReturnInformationRequested.

[R2-2401343](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401343%20Change%20on%20contents%20of%20ProvideLocationInformation%20%28Rel-16%29.docx) Change on contents of ProvideLocationInformation (Rel-16) NTT DOCOMO, INC., SK telecom draftCR Rel-16 37.355 16.12.0 F NR\_pos-Core

* Not pursued

[R2-2401344](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401344%20Change%20on%20contents%20of%20ProvideLocationInformation%20%28Rel-17%29.docx) Change on contents of ProvideLocationInformation (Rel-17) NTT DOCOMO, INC., SK telecom draftCR Rel-17 37.355 17.7.0 A NR\_pos-Core

* Not pursued

[R2-2401345](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401345%20Change%20on%20contents%20of%20ProvideLocationInformation%20%28Rel-18%29.docx) Change on contents of ProvideLocationInformation (Rel-18) NTT DOCOMO, INC., SK telecom draftCR Rel-18 37.355 18.0.0 A NR\_pos-Core

* Not pursued

# 6 NR Rel-17

Essential corrections only. Editorial/clarifications should be sent to be reviewed and approved by spec rapporteurs prior to submission. Editiorials should only be submitted by spec rapporteurs.

## 6.2 NR Sidelink relay

(NR\_SL\_Relay-Core; leading WG: RAN2; REL-17; WID: [RP-212601](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_93e/Docs/RP-212601.zip))

Tdoc Limitation: 1 tdoc

Stage 2 (lower priority)

[R2-2400557](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400557_SRAP-related%20corrections%20to%2038300.docx) SRAP-related corrections to 38.300 Samsung CR Rel-17 38.300 17.7.0 0787 - F NR\_SL\_relay-Core

[R2-2400558](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400558_SRAP-related%20corrections%20to%2038300.docx) SRAP-related corrections to 38.300 Samsung CR Rel-18 38.300 18.0.0 0788 - A NR\_SL\_relay-Core

RRC – including CR rapporteur summary of proposals

[R2-2401611](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401611%20Summary%20of%20RRC%20correction%20in%20AI%206.2.docx) [Relay] Summary of Rel-17 RRC corrections in AI 6.2 Huawei, HiSilicon discussion NR\_SL\_relay-Core

Proposal 1: The changes in Rapp Misc CR R2-2400731/ R2-2400732 are agreeable.

Proposal 2: The changes in 4.2.1 and SRB0/1/2 related changes in 4.2.2 in R2-2400690/R2-2401109 are agreeable.

Proposal 3: Base on R2-2400945, Change “SL-RLC-ChannelConfig” to “SL-RLC-ChannelConfigPC5” in the description of LogicalChannelIdentity.

Proposal 4: Not to pursue the changes in R2-2400648 and R2-2401153.

[R2-2400648](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400648%20-%20Discussion%20on%20AS%20condition%20checking%20for%20SUI%20transmission.docx) Discussion on AS condition checking for SUI transmission OPPO discussion Rel-17 NR\_SL\_relay-Core

* Noted

Discussion:

OPPO think there is a gap today.

Huawei understand that the UE behaviour is clear in the current specification: For communication transmission the UE does not need to check the threshold. They agree that this is a bit of a misalignment between different cases, but nothing is broken.

OPPO wonder if the threshold condition is not satisfied, if the UE is still allowed to perform relay communication transmission. Huawei understand that there is no need to check the AS condition for communication, but it does need to check before sending SUI.

Huawei understand that the failure mode is just a double check of the threshold for the SUI when discovery is performed.

Apple think we should avoid the double check.

Nokia tend to agree with Huawei that this is not a broken situation.

Huawei think the change is procedurally NBC.

OPPO wonder what happens if the UE is allowed to perform communication but cannot report a change with the SUI. Huawei do not think this is a real issue, because if the AS threshold is not met, the UE will anyway need to stop relay communication.

Xiaomi agree that an update will cause an SUI, and they think the condition does not prohibit an update. Chair understands that the existing requirement checks the threshold when there is an update.

Huawei think this is a new discussion. They think if the failure mode occurs, the UE can re-establish the PC5 link, and there can be other failure modes where it is impractical to fix everything. OPPO agree that the discussion is new, but they also think the spec is partly incorrect.

[R2-2400690](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400690%20Correction%20on%20the%20SRBs%20of%20L2%20U2N%20Remote%20UE.docx) Correction on the SRBs of L2 U2N Remote UE ZTE, Sanechips CR Rel-17 38.331 17.7.0 4541 - F NR\_SL\_relay-Core

* Merged into R2-2401621

[R2-2401109](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401109%20Correction%20on%20the%20SRBs%20of%20L2%20U2N%20Remote%20UE_r18.docx) Correction on the SRBs of L2 U2N Remote UE ZTE, Sanechips CR Rel-18 38.331 18.0.0 4584 - A NR\_SL\_relay\_enh-Core

* Merged into R2-2401622

Discussion:

Huawei think these are somewhat editorial and could be merged into the rapporteur CR. ZTE think it is not just editorial.

[R2-2400731](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5C38.331_CR4547_%28Rel-17%29_R2-2400731%20Miscellaneous%20RRC%20corrections%20for%20Rel-17%20SL%20relay.docx) Miscellaneous RRC corrections for Rel-17 SL relay Huawei, HiSilicon, OPPO CR Rel-17 38.331 17.7.0 4547 - F NR\_SL\_relay-Core

* Revised in R2-2401621

[R2-2400732](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5C38.331_CR4548_%28Rel-18%29_R2-2400732%20Misc%20RRC%20corrections%20for%20SL%20relay.docx) Miscellaneous RRC corrections for SL relay Huawei, HiSilicon, OPPO CR Rel-18 38.331 18.0.0 4548 - A NR\_SL\_relay-Core

* Revised in R2-2401622

[R2-2400945](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400945_correction_logical%20channel%20identity.docx) Correction on logical channel identity Apple CR Rel-17 38.331 17.7.0 4573 - F NR\_SL\_relay-Core

* Merged into R2-2401621
* Shadow changes to be merged into R2-2401622

[R2-2401153](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401153-Clarification%20on%20preconfiguration%20in%20U2N%20relay.docx) Clarification on preconfiguration usage in U2N relay Qualcomm Incorporated discussion NR\_SL\_relay-Core

* Noted

Discussion:

Qualcomm think there is some relation to the contributions on preconfiguration under idle mode. Xiaomi understand they are different issues, and they think this issue has been previously discussed with an understanding that the network supporting U2N will always provide U2N resources in SIB12. Qualcomm point out that there is only one frequency in SIB12, and they see a mismatch between SA2 and RAN2 when the UE should be able to use other frequencies for discovery, e.g., for public safety cases.

Huawei understand from the proposal that the UE would use the resources from preconfiguration, but it would still need to connect with the network since this is for L2.

NEC agree with Huawei and think it is not a normal UE behaviour to use preconfiguration when in RRC\_IDLE or RRC\_CONNECTED. In this circumstance the UE should be using dedicated configuration. Qualcomm note that the frequencies are configured by upper layer, and there may be configurations where the preconfiguration does not allow the UE to send discovery.

Apple think this is a new feature rather than a correction.

NEC think the solution may conflict with traditional SL UE behaviour, where the UE moves into RRC\_CONNECTED to get a dedicated configuration. OPPO agree with others that the paper assumes abnormal UE behaviour.

Qualcomm understand this is already supported in SA2, and they would like to check with SA2.

Xiaomi think it can be brought up in SA2 directly. They think it is late to introduce new behaviour in Rel-17.

OPPO wonder if there is an actual problem, since preconfiguration also has only one carrier. Qualcomm understand the frequencies could be different.

Qualcomm wonder if we could do this from Rel-18; they understand that it important for public safety cases.

NEC wonder if there would be impact to the sidelink enhancements WI as well. Qualcomm think the impact could be the SUI transmission condition.

SRAP

[R2-2400649](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5C38351_CR0031_%28REL-17%29_R2-2400649%20-%20Miscellaneous%20orrections%20for%20NR%20sidelink%20relay%20enhancements.docx) Miscellaneous corrections for NR sidelink relay enhancements OPPO (Rapporteur) CR Rel-17 38.351 17.6.0 0031 - F NR\_SL\_relay-Core

* Change to category D and add interoperability
* Agreed with these changes as R2-2401623
* Coversheet problem with the revision was detected after upload

Discussion:

Nokia think the changes are correct but maybe it should be category D.

[R2-2401623](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5C38351_CR0031r1_%28REL-17%29_R2-2401623%20-%20Miscellaneous%20orrections%20for%20NR%20sidelink%20relay%20enhancements.docx) Miscellaneous corrections for NR sidelink relay enhancements OPPO (Rapporteur) CR Rel-17 38.351 17.6.0 0031 1 D NR\_SL\_relay-Core

* Other affected specs need to be populated
* Agreed as R2-2401914

[R2-2401914](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5C38351_CR0031r2_%28REL-17%29_R2-2401914%20-%20Miscellaneous%20orrections%20for%20NR%20sidelink%20relay%20enhancements.docx) Miscellaneous corrections for NR sidelink relay enhancements OPPO (Rapporteur) CR Rel-17 38.351 17.6.0 0031 2 D NR\_SL\_relay-Core

* Agreed

[R2-2400650](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5C38351_CR0032_%28REL-18%29_R2-2400650%20-%20Miscellaneous%20orrections%20for%20NR%20sidelink%20relay%20enhancements.docx) Miscellaneous corrections for NR sidelink relay enhancements OPPO (Rapporteur) CR Rel-18 38.351 18.0.0 0032 - A NR\_SL\_relay-Core

* Add interoperability
* Agreed with these changes as R2-2401624
* Coversheet problem with the revision was detected after upload

[R2-2401624](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5C38351_CR0032r1_%28REL-18%29_R2-2401624-%20Miscellaneous%20orrections%20for%20NR%20sidelink%20relay%20enhancements.docx) Miscellaneous corrections for NR sidelink relay enhancements OPPO (Rapporteur) CR Rel-18 38.351 18.0.0 0032 1 A NR\_SL\_relay-Core

* Other affected specs need to be populated
* Agreed as R2-2401915

[R2-2401915](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5C38351_CR0032r2_%28REL-18%29_R2-2401915-%20Miscellaneous%20orrections%20for%20NR%20sidelink%20relay%20enhancements.docx) Miscellaneous corrections for NR sidelink relay enhancements OPPO (Rapporteur) CR Rel-18 38.351 18.0.0 0032 2 A NR\_SL\_relay-Core

* Agreed

Idle mode

[R2-2400396](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400396.docx) Correction on pre-configuration usage Xiaomi Technology CR Rel-17 38.304 17.7.0 0373 - F NR\_SL\_relay\_enh-Core

* Agreed

[R2-2401484](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401484.docx) Correction on pre-configuration usage Xiaomi CR Rel-18 38.304 18.0.0 0385 - A NR\_SL\_relay\_enh-Core Late

* Agreed

[R2-2400733](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5C38304_CR0368r1_%28Rel-17%29_R2-2400733%20Clarification%20on%20the%20case%20SL%20frequency%20is%20not%20included%20in%20SIB12.docx) Clarification on the case SL frequency is not included in SIB12 Huawei, HiSilicon CR Rel-17 38.304 17.7.0 0368 1 F NR\_SL\_relay-Core R2-2313513

[R2-2400734](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5C38304_CR0378_%28Rel-18%29_R2-2400734%20Clarification%20on%20the%20case%20SL%20frequency%20is%20not%20included%20in%20SIB12.docx) Clarification on the case SL frequency is not included in SIB12 Huawei, HiSilicon CR Rel-18 38.304 18.0.0 0378 - A NR\_SL\_relay-Core

Discussion:

Nokia understand that the relay UE must always have SIB12, so the CR seems to cover a nonexistent case in that respect. Huawei clarify that the “coverage” language here refers to being in coverage of the SL frequency.

Xiaomi think the second change needs further discussion, because we previously agreed that the L2 relay UE cannot use preconfiguration.

Qualcomm are not sure about the wording of the second change.

Huawei indicate that the wording is supposed to exclude the relay UE. The point is that there should be no case in which SIB12 includes this frequency and L2 U2N relay UE is out of coverage on this frequency.

Qualcomm wonder if the remote UE is also excluded by the wording.

* [AT125][405][Relay] SL frequency not included in SIB12 (Huawei)

 Scope: Check the CR in R2-2400733, confirm the agreeability, and check the wording.

 Intended outcome: Agreed CRs (without CB if possible) in R2-2401625 and R2-2401626

 Deadline: Wednesday 2024-02-28 2000 EET

[R2-2401625](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5C38304_CR0368r2_%28Rel-17%29_R2-2401625.docx) Clarification on the case SL frequency is not included in SIB12 Huawei, HiSilicon CR Rel-17 38.304 17.7.0 0368 2 F NR\_SL\_relay-Core R2-2313513

* Agreed

[R2-2401626](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5C38304_CR0378r1_%28Rel-18%29_R2-2401626.docx) Clarification on the case SL frequency is not included in SIB12 Huawei, HiSilicon CR Rel-18 38.304 18.0.0 0378 1 A NR\_SL\_relay-Core

* Agreed

[R2-2400764](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400764-2312614%20Applicability%20of%20SIB12%20for%20remoteUE.docx) Considerations on applicability of SIB12 received via relay connection Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_SL\_relay-Core R2-2312614

Proposal 1: An out-of-coverage L2 U2N Remote UE may use its SL-PreconfigurationNR for non-relay SL communication/discovery without considering SIB12 received via a relay connection.

Discussion:

Xiaomi recall that SA2 sent an LS indicating that the relay UE cannot perform non-relay communication under the same L2ID. Nokia note that communication always uses a different L2ID anyway.

Huawei think there is impact to legacy V2X from this proposal; they think the principle should be agreeable but it needs to be clarified how to capture it without legacy impact.

Qualcomm understand that if a remote UE is on the concerned frequency, then it should use preconfiguration, but here it cannot use preconfiguration if the frequency is included in SIB12.

* [AT125][406][Relay] SIB12 received via relay connection (Nokia)

 Scope: Discuss the proposal of R2-2400764, determine if the principle is agreeable, and if so draft the related CR.

 Intended outcome: Agreeable CRs (with CB) in R2-2401627 and R2-2401628

 Deadline: Wednesday 2024-02-28 2000 EET

[R2-2401627](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401627%20R17CR%20Applicability%20of%20SIB12%20configuration-v4-clean.docx) Applicability of SIB12 configuration for a L2 Remote UE Nokia, Nokia Shanghai Bell CR Rel-17 38.304 17.7.0 0388 - F NR\_SL\_relay-Core R2-2313513

* Not pursued

[R2-2401628](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401628%20R18CR%20Applicability%20of%20SIB12%20configuration-v4-clean.docx) Applicability of SIB12 configuration for a L2 Remote UE Nokia, Nokia Shanghai Bell CR Rel-18 38.304 18.0.0 0389 - A NR\_SL\_relay-Core

* Not pursued

Discussion:

Apple have some doubt about the principle and the involvement of non-relay communication. They are not sure the change is technically wrong but doubt if it is necessary.

Ericsson think we discussed this last meeting and decided that we do not consider such coexistence. Nokia understand we did not conclude on this point at that time; the intention is to exclude the coexistence scenario.

Xiaomi also think we have discussed this several times and we should capture something in the notes.

Agreement:

RAN2 does not consider spec enhancements in Rel-17 to facilitate a UE simultaneously acting as a L2 U2N remote UE and performing non-relay SL communication.

## 6.4 NR positioning enhancements

(NR\_pos\_enh-Core; leading WG: RAN1; REL-17; WID: [RP-210903](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_91e/Docs/RP-210903.zip))

Tdoc Limitation: 1 tdoc

### 6.4.1 General and stage 2

Including incoming LSs if any; including impact to 36.305 and 38.305. Stage 2 corrections shall be discussed with the specification rapporteur (Sven Fischer sfischer@qti.qualcomm.com) before submission. Stage 2 CRs not discussed with the specification rapporteur will not be treated.

[R2-2400008](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400008_C4-234472.docx) LS Out Sub One Second Report Period for Deferred Location over SBI (C4-234472; contact: Ericsson) CT1 LS in Rel-17 5G\_eLCS\_ph2 To:RAN2, RAN3

* Noted

[R2-2401319](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401319.docx) Missing LPP support for sub 1s location information reporting periodicity Ericsson discussion Rel-17

* Noted

Proposal 1 Agree to introduce support for sub 1s periodicity aligned with other working groups

Proposal 2 Agree to the text proposal in Appendix A

Proposal 3 Send an LS to CT4, SA2 and RAN3 and inform about the enhancement

Discussion:

vivo are OK with the intention but think the use of the periodical LPP procedure is not aligned with SA2 flows in which the report is always triggered after the event trigger.

Qualcomm think this is not essential and the proposal is not related to the CT4 LS; CT4 have updated the event reports to sub-1s periodicity, but that does not imply LPP periodicities under 1s. They have some sympathy for the proposal in general but see it as an enhancement rather than a correction.

Ericsson think companies previously indicated that they wanted to see the LS from CT4. They agree that there is no end-to-end support yet and some SA2 work is still needed, but they do not see that this blocks work in RAN2.

Nokia agree that it is an enhancement, but they think we should look at whether there are impacts to our specs from the CT4 LS. They do not see that the impacts are clear, and they think it is late for a Rel-17 enhancement and there should be a stage 2 update first.

Ericsson note that NRPPa has sub-1s periodicities already, and there are other motivations identified in the discussion document. So they see an inconsistency between LPP and NRPPa as a problem.

Ericsson note that this will not be a backward compatibility issue for devices not supporting periodic reporting. They also think that the 1s granularity limits our ability to provide responsive measurements when the PRS are very frequent.

Qualcomm think we have to have a high bar for Rel-17, and they do not see anything as broken without this change.

Ericsson think the relation to the CT4 LS is clear. They think the location should be available in granularities similar to the event granularity, otherwise we will have unhandled events queuing up. vivo indicate that the sub-1s response time already addresses this aspect, and they do not see guidance that we need to enhance periodical reporting. Qualcomm agree with vivo.

### 6.4.2 Stage 3 (RRC/LPP/MAC/UE capabilities)

R2-2401154 Correction to LPP spec in R17 Huawei, HiSilicon CR Rel-17 37.355 17.7.0 0492 - F NR\_pos\_enh-Core

### 6.4.3 Other

# 7 Rel-18

## 7.2 Expanded and improved NR positioning

(NR\_pos\_enh2; leading WG: RAN1; REL-18; WID: [RP-232670](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_101/Docs/RP-232670.zip))

Time budget: 0 TU

Tdoc Limitation: 4

### 7.2.1 Organizational

Including incoming LSs and rapporteur inputs. CR rapporteurs are asked to continue maintaining an open issues list reflecting known issues to be handled during the maintenance phase.

Incoming LSs with RAN2 in Cc:

[R2-2400007](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400007_C1-240431.docx) LS on UE selection for Ranging\_SL (C1-240431; contact: Xiaomi) CT1 LS in Rel-18 Ranging\_SL To:SA2 Cc:RAN2

* Noted

[R2-2400086](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400086_S2-2401651.docx) Reply LS on security aspects for Ranging/Sidelink Positioning (S2-2401651; contact: Sony) SA2 LS in Rel-18 Ranging\_SL To:SA3 Cc:CT1, RAN2

* Noted

Incoming LSs with “take into account” action and no draft reply

[R2-2400052](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400052_R4-2321464.docx) Reply LS on TA validation for LPHAP (R4-2321464; contact: Huawei) RAN4 LS in Rel-18 NR\_pos\_enh2 To:RAN2 Cc:RAN1

* Noted

Discussion:

Huawei indicate this is already taken into account in the MAC CR.

[R2-2400053](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400053_R4-2321545.docx) Response to reply LS on SRS and PRS bandwidth aggregation for positioning (R4-2321545; contact: Ericsson) RAN4 LS in Rel-18 NR\_pos\_enh2-Core To:RAN2, RAN3 Cc:RAN1

* Noted

Discussion:

CATT indicate this is already taken into account in the LPP CR.

[R2-2400074](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CDocs%5CR2-2400074.zip) LS to RAN2/CT WGs on RAN&CT alignment issues (S2-2313889; contact: Xiaomi) SA2 LS in Rel-18 Ranging\_SL To:RAN2, CT1, CT4 Cc:RAN3, SA3

* Noted

Discussion:

vivo wonder if there will be stage 2 impact related to the LPP session. Intel understand that RAN2 will not capture forwarding, and so there should be nothing to do in stage 2. Qualcomm think it is not just forwarding; for UE-only operation, the LS is already taken into account, but there is some stage 2 impact for SL-MO-LR and SL-MT-LR, and they indicate the stage 2 CR submitted to this meeting takes it into account.

Huawei think the SLPP spec is already aligned and there is only stage 2 descriptive impact, which can be left to the rapporteur.

[R2-2400084](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CDocs%5CR2-2400084.zip) LS reply on introduction of RAT-Dependent integrity (S2-2401589; contact: CATT) SA2 LS in Rel-18 5G\_eLCS\_Ph3 To:RAN2 Cc:CT4, RAN1

* Noted

Discussion:

CATT indicate this is just informative from SA2 and there is no impact to us.

Other incoming LSs, related documents, and draft replies (from the contact company)

[R2-2400027](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400027_R1-2312630.docx) LS on the request for specific SL PRS resource characteristic(s)/SL-PRS resource configuration (R1-2312630; contact: Qualcomm) RAN1 LS in Rel-18 NR\_pos\_enh2-Core To:RAN2, RAN3

* Noted

Discussion:

Huawei indicate that this issue was covered in the MAC offline and we could come back to the issue later.

ZTE think there should be a reply to indicate whether we support the requested functionality or not. Huawei agree.

Qualcomm think no reply is needed for this LS, but if we reply to the related RAN3 LS, RAN1 will get the information (they are in Cc:). OPPO agree that no reply is needed.

[R2-2401236](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401236_%28SL-PRS%20Resource%20Request%29.docx) Request for specific SL-PRS resource characteristic(s)/SL-PRS resource configuration [LS in R2-2400027 (R1-2312630)] Qualcomm Incorporated discussion

[R2-2400038](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400038_R3-237860.docx) LS on LMF involvement in SL-PRS resource allocation (R3-237860; contact: Xiaomi) RAN3 LS in Rel-18 NR\_pos\_enh2 To:RAN2 Cc:RAN1, SA2

* Noted

Discussion:

Xiaomi indicate this was discussed in the MAC offline.

Ericsson think the MAC discussion only focussed on the bandwidth, and some discussion is still needed on the other parameters.

Intel think it should be discussed from contributions, and we can conclude about bandwidth based on the discussion, but we may need future contributions on the other parameters.

Xiaomi agree with Intel that we have only discussed bandwidth, PDB, and priorities, and they think we should focus on those three, which were already covered by the MAC discussion.

* [AT125][407][POS] Reply LS to RAN3 on LMF involvement in SL-PRS resource allocation (Xiaomi)

 Scope: Reply to the LS in R2-2400038 based on the outcome of the MAC discussion, covering also the RAN1 LS in R2-2400027.

 Intended outcome: Approved LS (without CB if possible) in R2-2401643

 Deadline: Thursday 2024-02-29 2000 EET

[R2-2401643](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401643%20Reply%20LS%20%20on%20SL-PRS%20resource%20allocation.docx) Reply LS on SL-PRS resource allocation Xiaomi LS out Rel-18 NR\_pos\_enh2-Core To:RAN1, RAN3 Cc:SA2

* Approved (email discussion [AT125][407])

[R2-2400282](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400282%20Discussion%20on%20RAN3%20and%20SA2%20LSs%20for%20SL%20positioning.doc) Discussion on RAN3 and SA2 LSs for SL positioning Xiaomi discussion Rel-18 NR\_pos\_enh2

[R2-2400281](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400281%20Draft%20Reply%20LS%20%20on%20%20LMF%20involvement%20in%20SL-PRS%20resource%20allocation.docx) Draft Reply LS on LMF involvement in SL-PRS resource allocation Xiaomi LS out Rel-18 NR\_pos\_enh2 To:RAN3 Cc:RAN1, SA2

[R2-2400067](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CDocs%5CR2-2400067.zip) Reply LS on security aspects for Ranging/Sidelink Positioning (S3-235078; contact: Xiaomi) SA3 LS in Rel-18 Ranging\_SL To:SA2, RAN2

* Noted

Discussion:

Xiaomi understand that a reply is no longer needed (covered by the SA2 reply in R2-2400086).

[R2-2400076](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400076_S2-2401383.doc) LS on coverage condition for Ranging/Sidelink Positioning (S2-2401383; contact: ZTE) SA2 LS in Rel-18 Ranging\_SL To:RAN2 Cc:RAN3

* Noted

Discussion:

Chair understands that we can support these cases. ZTE indicate that there is no stage 3 impact but there will be something for stage 2 to remove the NOTE saying partial coverage is not supported.

Intel think it would require a WID update.

Qualcomm think we could update the WID if necessary, but it seems not critical since there is no stage 3 RAN2 impact.

Huawei agree there is no stage 3 impact. Xiaomi agree and think the WID could be updated.

vivo do not think we need to update the WID; the language may say only that we have no additional procedures for partial coverage.

Agreements:

RAN2 intend to delete the NOTE in stage 2 excluding partial coverage for SL positioning. No stage 3 impact is anticipated.

Companies are asked to investigate if the WID needs to be updated.

[R2-2400679](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400679%20Discussion%20on%20SA2%20LS%20on%20partial%20coverage.docx) Discussion on SA2 LS on partial coverage ZTE Corporation discussion Rel-18 NR\_pos\_enh2

[R2-2400682](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400682%20draft%20reply%20LS%20on%20coverage%20condition%20for%20Ranging%20Sidelink%20Positioning.docx) Draft reply LS on coverage condition for Ranging Sidelink Positioning ZTE Corporation LS out Rel-18 NR\_pos\_enh2 To:SA2 Cc:RAN3

* Add “RAN2 have determined to remove the NOTE excluding partial coverage in stage 2.”
* Approved with this change as R2-2401629

Discussion:

ZTE think we should notify SA2 that we have decided to remove the stage 2 NOTE.

New draft LS out (questions on parameter list)

[R2-2400206](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400206%20LS%20on%20confirmation%20of%20DL%20measurements%20for%20RedCap%20and%20BW.docx) LS on confirmation of DL measurements for RedCap and BW CATT LS out Rel-18 NR\_pos\_enh2 To:RAN1 Cc:RAN3

Discussion:

Qualcomm do not understand the LPP impact of Q2. CATT indicate that the resource ID would need to be included in the additional measurement report.

Ericsson understand there is no restriction preventing DL-AoD in principle.

Huawei are OK with sending the LS, but on the second question, they think the UE needs to send the aggregated list of resources to the LMF for the additional measurements; they see that it should be similar to the existing additional measurements.

Qualcomm understand that RAN1 agreed the applicability of RSRP measurements at the last meeting, so the first question makes sense, but for the second question they think it is already clear and there was no agreement in RAN1 for the UE to report resource IDs.

ZTE agree with Qualcomm: There is no report of resource ID in the RAN1 parameter list. They understand that there is no need to report it.

Ericsson see no harm in asking Q2.

CATT think on the second question, it is not necessary if there is an agreement already that the resource ID is not needed.

Intel think we can also take into account the discussion in LPP for any additional questions.

* [AT125][408][POS] Questions on RAN1 parameter list (CATT)

 Scope: Draft an LS to RAN1 with R2-2400206 as baseline, asking the two questions in R2-2400206 and capturing additional questions that arise during this meeting’s discussion.

 Intended outcome: Approved LS (without CB if possible) in R2-2401644

 Deadline: Thursday 2024-02-29 2000 EET

[R2-2401644](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401644%20Questions%20on%20RAN1%20parameter%20list.docx) Questions on RAN1 parameter list CATT LS out Rel-18 NR\_pos\_enh2-Core To:RAN1 Cc:RAN3, RAN4

* Approved (email discussion [AT125][408])

New draft LS out (SRS preconfiguration)

[R2-2400967](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400967_Support%20of%20SRS%20pre-configuration%20in%20RAN3.docx) Support of SRS pre-configuration in RAN3 Samsung discussion Rel-18 NR\_pos\_enh2

* Noted

Discussion:

Samsung understand RAN3 have not discussed it. CATT indicate RAN3 have started discussion this meeting cycle, and if we reach specific agreements we can indicate them, but we do not need to trigger the general discussion with an LS. Huawei have the same understanding and think the discussion can happen in RAN3 directly.

Nokia indicate that the stage 2 requirements should guide RAN3.

Ericsson would be OK to send an LS if it will help.

Draft replies/LS discussions not from contact company

[R2-2400677](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400677%20Discussion%20on%20LSs%20of%20LMF%20involvement%20in%20SL%20positioning.docx) Discussion on LSs of LMF involvement in SL positioning ZTE Corporation discussion Rel-18 NR\_pos\_enh2

[R2-2401465](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401465%20Discussion%20on%20reply%20to%20SA3%20LS%20on%20security%20aspects%20for%20Ranging%20Sidelink%20Positioning.docx) Discussion on reply to SA3 LS on security aspects for Ranging Sidelink Positioning OPPO discussion Rel-18 NR\_pos\_enh2 Late

Class 0 issues/editorial CRs

[R2-2400338](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400338%20Rapporteur%20CR%20for%20MAC%20spec%20for%20R18%20positioning_v02.docx) Editorial corrrections to MAC CR for R18 positioning Huawei, HiSilicon CR Rel-18 38.321 18.0.0 1739 - F NR\_pos\_enh2-Core.

* Title to be fixed to reflect a general rapporteur update
* Styles to be updated
* Revised in R2-2401630 (to be agreed in post-meeting email discussion)

Discussion:

Huawei indicate that this CR also includes implementing the RAN4 agreements.

Intel indicate the 3GPP styles are missing.

* [Post125][410][POS] 38.321 Rel-18 positioning CR (Huawei)

 Scope: Update and check the CR in R2-2400338.

 Intended outcome: Agreed CR in R2-2401630

 Deadline: Short (for RP)

[R2-2401241](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401241_%2837355-i00%20Class0%20Corrections%29.docx) LPP Class 0 Issues Qualcomm Incorporated draftCR Rel-18 37.355 18.0.0 F NR\_pos\_enh2

* Merged into rapporteur CR in R2-2401631 (post-meeting discussion)

Discussion:

Qualcomm warn that there is some overlap with the existing rapporteur CR, so the merge process should include checking for duplication.

Consolidated RIL list

[R2-2401239](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CDocs%5CR2-2401239.zip) LPP ASN.1 Review File and Consolidated RIL List Qualcomm Incorporated other

Agreement:

PropAgree and PropReject RILs from R2-2401239 are confirmed.

Rapporteur CRs

[R2-2401082](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401082%20Corrections%20to%20TS%2037.355%20%28rapporteur%27s%20CR%29.docx) Corrections to TS 37.355 (rapporteur's CR) CATT CR Rel-18 37.355 18.0.0 0490 - F NR\_pos\_enh2-Core

* Merged into rapporteur CR in R2-2401631 (post-meeting discussion)
* [Post125][408][POS] 37.355 Rel-18 positioning CR (CATT)

 Scope: Update and check the CR in R2-2401082.

 Intended outcome: Agreed CR in R2-2401631

 Deadline: Short (for RP)

[R2-2401318](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401318%20RRC.docx) RRC Positioning Corrections based upon RILs Ericsson CR Rel-18 38.331 18.0.0 4599 - F NR\_pos\_enh2

* Revised in R2-2401632 (post-meeting discussion)
* [Post125][409][POS] 38.331 Rel-18 positioning CR (Ericsson)

 Scope: Update and check the CR in R2-2401318.

 Intended outcome: Agreed CR in R2-2401632

 Deadline: Short (for RP)

### 7.2.2 Stage 2

Impact to 38.300, 37.340, and 38.305. For each specification, a single CR with miscellaneous corrections is requested from the CR rapporteur; minor and editorial issues should be coordinated with the rapporteur and merged into the miscellaneous CR. Larger issues can be discussed based on contributions.

This agenda item may be handled at lower priority.

[R2-2400683](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400683%20Discussion%20on%20stage-2%20procedure%20corrections.docx) Discussion on stage-2 procedure corrections ZTE Corporation discussion Rel-18 NR\_pos\_enh2

[R2-2400987](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400987%20Pos%20Stage-2%20Issues.docx) Solution for some key RIL issues impacting stage-2 Nokia, Nokia Shanghai Bell discussion Rel-18 NR\_pos\_enh2-Core

[R2-2401009](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401009_POS_AI722_Stage2.docx) Discussion on correction for TS 38.305 InterDigital, Inc. discussion Rel-18 NR\_pos\_enh2

[R2-2401243](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401243_%28CR%2038305-i00%29.docx) Miscellaneous Stage 2 Corrections and Alignments Qualcomm Incorporated CR Rel-18 38.305 18.0.0 0158 - F NR\_pos\_enh2

Discussion:

Qualcomm clarify that the CR aligns with the SA2 LS on SL-MO-LR and SL-MT-LR.

* [Post125][419][POS] 38.305 Rel-18 positioning CR (Qualcomm)

 Scope: Check the CR in R2-2401243.

 Intended outcome: Agreed CR

 Deadline: Short (for RP)

### 7.2.3 SLPP corrections

Impact to 38.355. A single CR with miscellaneous corrections is requested from the spec rapporteur; minor and editorial issues should be coordinated with the rapporteur and merged into the miscellaneous CR. Larger issues can be discussed based on contributions.

Open issue list

[R2-2400359](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400359_%5BPOST124%5D%5BPOS%5D%20%5BTS%2038.355%5D%20Open%20Issue%20list_P2-v06_Summary.docx) [POST124][POS] [TS 38.355] Open Issue list and ASN.1 review Intel Corporation discussion Rel-18 NR\_pos\_enh2

Discussion:

Lenovo found a mismatch between some RILs and their CR implementation, e.g., H001 and E009. Intel clarify that some RILs are marked as “PropAgree with change”.

Lenovo think on Rapp010, we support SLPP over CP. Intel indicate there is only one mode; Lenovo point out that SLPP can be carried over NAS to the LMF. Huawei think it should be OK to remove the text as proposed by the rapporteur.

Qualcomm think the difference is between SUPL and PC5-U, where SUPL does not support reliable transport and PC5-U. So they also think it is right to remove the NOTE.

OPPO think OPPO003 is valid; there is a description missing. Intel understand that RAN1 asked us to refer to the RAN3 parameter, so they think this is sufficient and no change is needed.

Agreements on SLPP RILs:

Confirmed as PropAgree, and have been captured in Rapporteur CR “R2-2400360 Miscellaneous corrections to SLPP specification”:

- A001, A002, A005,

- E001, E002,E003, E005, E007, E008, E009, E010, E011, E012

- H001, H005, H006, H007, H009, H010, H014, H017, H018

- OPPO001, OPPO002, OPPO005,

- Q001, Q007, Q008, Q009, Q011

- Rapp006, Rapp007, Rapp008, Rapp009, Rapp011, Rapp012, Rapp013, Rapp014, Rapp015, Rapp016, Rapp017, Rapp018, Rapp019, Rapp020, Rapp021

- V002

- ZTE001, ZTE002

Confirmed as PropReject:

- A004

- E003 (1), E004

- H002, H003, H004, H008, H012, H019

- OPPO007, OPPO003, OPPO004

- V001

- ZTE003

Moved to ToDo:

- Rapp010

RILs proposed in R2-2400361 as PropAgree: A006, H006, OPPO006, Q002, Q003, Q006, Q012, Z005

RILs proposed in R2-2400361 as PropReject: A003, E006, E013, H011, H015, Q010, V003

RILs proposed in R2-2400361 as ToDo: Q004, Q005, Rapp002

Rapporteur RILs proposed in R2-2400361 for closure: Rapp001, Rapp003, Rapp004, Rapp005

[R2-2400361](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400361%20SLPP%20related%20open%20issues.docx) Further considerations on SLPP open issues Intel Corporation discussion Rel-18 NR\_pos\_enh2

Discussion:

vivo have a concern about setting V003 as PropReject.

Intel received offline comments about A006, and they now understand that we do not need to include the ALID. They think what should be agreed is the Huawei/ZTE proposal instead. Huawei have the same understanding that ALID is already captured in RSPP messaging in CT1. They think it could be captured but made OPTIONAL in SLPP. Qualcomm think it is needed in the uplink direction, and they suggest including it as an OPTIONAL field in the header.

Intel propose having the ALID OPTIONAL in the header.

ZTE think that since there is no forwarding in the SLPP spec, if we put ALID in our message, it would involve RAN2 in the forwarding behaviour.

Xiaomi think H011 should be ToDo as well.

Ericsson think E013 should be ToDo. Intel think this is not an SLPP issue and proposed to reject it on that basis. Huawei agree with Intel and note that the MM capability in NAS signalling indicates SLPP capability. Lenovo also agree with Intel and Huawei.

Xiaomi think on Q003, there is only a need for one LCS-to-GCS translation parameter. Qualcomm understand the proposal is aligned with this and with NRPPa; this also relates to P10-1 below.

Agreements on SLPP RILs based on R2-2400361, for baseline drafting of the rapporteur CR:

PropAgree: H006, OPPO006, Q002, Q003, Q006, Q012, Z005

PropReject: A003, E006, E013, H015, Q010,

ToDo: Q004, Q005, Rapp002, V003, H011, A006

Proposal 16: Close Rapp001, add relativeLocation as.

- In LocationInformationType , add relativeLocationEstimateRequired, relativeLocationMeasurementsRequired, relativeLocationEstimatePreferred, relativeLocationMeasurementsPreferred

- In CommonIEsProvideLocationInformation, add RelativeLocation as [ASN.1 provided in R2-2400361]

Discussion:

Xiaomi understand that this design comes from the TRP location when there is a reference point, but here we do not have a reference point with a known longitude and latitude relative to it. So they suggest that we not reuse the structure.

Qualcomm think what is missing is the definition of relative location: relative to what? They understand if a UE provides relative location to someone else, the UE’s location is the reference point. They think the proposal works as a representation in SLPP.

Xiaomi’s concern is that for SL relative positioning, we do not have a global position for the reference point.

Huawei think this might be done in SA2. Xiaomi understand it was discussed there and they did not define it.

Agreement:

Add relativeLocation as.

- In LocationInformationType , add relativeLocationEstimateRequired, relativeLocationMeasurementsRequired, relativeLocationEstimatePreferred, relativeLocationMeasurementsPreferred

- In CommonIEsProvideLocationInformation, add RelativeLocation, format to be discussed in the rapporteur CR.

Close Rapp001 provided this discussion converges.

Proposal 17: Keep Rapp002 as ToDo, check in May meeting. If we cannot identify any contents for following clause and IEs, then the clause can be set as VOID, and IEs can be removed i.e. [list provided in R2-2400361]

Discussion:

Qualcomm think we can leave ToDo, but we should keep the empty IEs in the spec for comprehensibility.

Proposal 18: Close Rapp003, move FreqBandIndicatorNR and GNSS-ID into 6.6 SLPP PDU Common SL-PRS Methods Contents.

Proposal 19: Close Rapp004, for ranging, the UE who triggers the measurement can be treated as the server.

Discussion:

Qualcomm think we can avoid talking about UE roles in the SLPP protocol. If we capture the server role, it confuses the server role in discovery.

Huawei agree with Qualcomm and think we should not overspecify.

Intel think if we go this way, we need to talk about “endpoint” in the field description instead of “server”.

Proposal 20: Close Rapp005, update the SL-RTD-Info as [ASN.1 provided in R2-2400361]

Discussion:

ZTE think there should be two additional changes: to add the sync source type into each instance (to accommodate UEs with different sync source types) and to add a field description saying that the IE can only be provided from server to UE, not from UE to server.

Intel agree with ZTE about the first point and have no strong view on the second; they think all we need to do in RAN2 is capture the sync parameters from RAN1, and we will not need to worry about how the server exchanges sync parameters with the UE. So they think we may not need the restriction.

Lenovo think there should be additional information: RAN1 defined a sync source for GNSS and one for eNBgNB, and we do not have the information here for the eNB. They also understand that a target UE will select appropriate anchor UEs based on the location information, but how to do this may need to be specified. Intel indicate that the eNB was not captured since we do not support LTE sidelink, and they understand that location information is not used by the target UE to select the anchor UEs but only to do the calculation, although this is not something we would normally specify. Huawei agree with Intel.

Lenovo wonder if a position computed based on different sync source types will make sense. They also think eNB may be needed so that incompatible sync sources are not used. Xiaomi think this will not happen because the UEs will not be able to communicate. Huawei disagree with Xiaomi and think multiple sync sources can be available; there is no guarantee that the Tx UE and Rx UE select the same sync source. Qualcomm understand these issues were excluded by the WID; they think the comments are technically valid, but we are not tasked to fix them in this release. Intel agree with Qualcomm.

Agreements:

Close Rapp003, move FreqBandIndicatorNR and GNSS-ID into 6.6 SLPP PDU Common SL-PRS Methods Contents.

Close Rapp004 and make SLPP field descriptions transparent to the UE role where possible (to be checked case by case).

Close Rapp005, update the SL-RTD-Info as [ASN.1 provided in R2-2400361], with sync type added.

Additional proposals beyond the above RIL lists:

Proposal 10-1: “sl-AzimuthAoA”, “sl-ZenithAoA” and “sl-AngleQuality” are core feature of SL-AoA, i.e. not separate request in SL-AoA-RequestLocationInformation message; No separate request for sl-PRS-ResourceId and sl-TimeStamp. Introduce separate request for

 - sl-AzimuthAoA-LCS-GCS-Translation

- sl-ZenithAoA-LCS-GCS-Translation

Proposal 10-2: “sl-PRS-RxTxTimeDiffFirstPathResult” is core feature of SL-RTT, i.e. not separate request in SL-RTT-RequestLocationInformation message; No separate request for sl-PRS-ResourceId. Introduce separate request for

- tx-TimeInfo

Proposal 10-3: “sl-RSTD-FirstPathResult” is core feature of SL-TDOA, i.e. not separate request in SL-TDOA-RequestLocationInformation message; No separate request for sl-PRS-ResourceId , sl-TimeStamp and sl-TimingQuality.

Proposal 10-4: “sl-RTOA-FirstPathResult” is core feature of SL-TOA, i.e. not separate request in SL-TOA-RequestLocationInformation message; No separate request for sl-PRS-ResourceId , sl-TimeStamp and sl-TimingQuality.

* [AT125][409][POS] Remaining SLPP issues (Intel)

 Scope: F2F offline to discuss the unresolved proposals on SLPP and converge where possible.

 Intended outcome: Report to CB session in R2-2401633

 Deadline: Wednesday 2024-02-28 2000 EET

 Schedule: Wednesday 2024-02-28 0830-0930, in Brk3

[R2-2401633](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401633_%5BAT125%5D%5B409%5D%5BPOS%5D%20Remaining%20SLPP%20issues%20%28Intel%29-Minutes%20v04.docx) [AT125][409][POS] Remaining SLPP issues (Intel) Intel Corporation discussion Rel-18 NR\_pos\_enh2

 Agree the Rapp010, i.e. remove CP from the field description of sequenceNumber and acknowlegement;

 Update the reason of Rapp010 in the RIL issue list

 Keep A006 “the need of applicationLayerID for capability/request assistanceData, request Location messages” as open issue.

 LCS-GCS-Translation parameter shall be common for sl-AzimuthAoA and sl-ZenithAoA, i.e. no separate parameters for sl-AzimuthAoA and sl-ZenithAoA

Discussion:

Xiaomi want to confirm that this parameter is provided in the SL-AoA RequestLocationInformation. Intel think “parameter” could be changed to “measurement”.

Xiaomi’s point is that it could be similar to how the parameter is provided from the LMF to the gNB in Uu positioning.

 For SL-AoA, introduce separate request for “LCS-GCS-Translation”, “sl-AzimuthAoA”, and “sl-ZenithAoA”

 For SL-AoA, introduce separate request for “measurementReportingTypes ENUMERATED { gcs, lcsWithTranslation, lcsWithoutTranslation}

Discussion:

Intel clarify the request for LCS-GCS translation parameter was not in the RAN1 parameter list.

 For SL-AoA, do not introduce additional request for “sl-AngleQuality” , sl-PRS-ResourceId and sl-TimeStamp

 For SL-RTT, introduce separate request for tx-TimeInfo. And do not introduce additional request for sl-PRS-ResourceId

 For SL-TDOA, do not introduce additional request for sl-RSTD-FirstPathResult, sl-PRS-ResourceId , sl-TimeStamp and sl-TimingQuality

 For SL-TOA, do not introduce additional request for sl-RTOA-FirstPathResult , sl-RTOA-FirstPathResult sl-PRS-ResourceId , sl-TimeStamp and sl-TimingQuality

 Remove “firstPath” from all measurement results.

 Regarding the format of RelativeLocation, work on the details of option 2 and take into account of the comments, e.g reference point. (Xiaomi)

 Mark V003 as PropReject.

 Mark Q004 as PropAgree, agree the suggested changes (P1) and the corresponding TP from R2-2401245, mark Q004 as PropAgree.

 Regarding Q004, FFS on whether some clarifications are needed in stage 2.

 P2/P3 from R2-2401245 can be discussed under A006.

 Mark Q005 as propReject

 Capture the editorial changes from P6 in R2-24006257 in Rapporteur’s CR.

 Capture the editorial changes from R2-2400944 in Rapporteur’s CR.

 Regarding Association of ARP-ID and transmitted SL-PRS, agree P2 and corresponding TP from R2-2401244

 The association information between ARP-ID and the already transmitted SL PRS resource(s) is placed inside the CommonSL-PRS-MethodsIEsRequestLocationInformation/CommonSL-PRS-MethodsIEsProvideLocationInformation,agree corresponding TP of P3 from R2-2401244, may be revised if RAN1 has different view.

Discussion:

ZTE understand some companies want to embed the association in the ProvideLocationInformation, which will not work when it needs to come from a SL-PRS Tx UE. So they think it would be better to put it in ProvideAssistanceData, which is bidirectional.

Intel understand the UE can only provide this information after it gets location information; they suggest we put it in both messages. ZTE think for SL-TDOA, the Tx UE will never send ProvideLocationInformation.

Huawei understand ZTE’s concern but think we are not setting a new precedent here.

Qualcomm do not see the difference from moving it into ProvideAssistanceData; in any case the Tx UE has to send a message unsolicited. They see a problem that the ProvideAssistanceData can be for a group of UEs and the association is only for one UE.

ZTE think it is unreasonable to use the ProvideLocationInformation since this is not a position measurement. Qualcomm agree it is not a measurement but see it as helpful data for computing the location.

 Regarding the Anchor UE location and ARP location, only a 2D or 3D ellipsoid point (with or without uncertainty) are allowed for the Anchor/ARP locations. Agree the corresponding TP of P4 from R2-2401244

 Regarding the Anchor UE location and ARP location, do not introduce two groups of the assistance data (e.g., to avoid duplicated applicationLayerID's). agree corresponding TP of P5 from R2-2401244

Discussion:

ZTE think introducing one UE ID with different uses of the data (e.g., SL-PRS-ID) in different roles is confusing.

Intel understand that the only thing the Tx UE needs to provide to the server is the sequence ID, and for the Rx UE, there will be a list of parameters including ALID, sequence ID, and other things, but those will be for Tx UE information. So they do not see the confusion.

Qualcomm agree with Intel and think we defined the messages with everything OPTIONAL. They recall an open issue on where to put the ALID. Intel think that was not for the ProvideLocationInformation case.

Huawei looked at where the ALID is used and found it can indeed appear multiple times in ProvideLocationInformation in different places. They think the issue is some lack of clarity about what is in the DCR and the discovery message, and a comprehensive review of these fields is needed.

Intel think companies can still review, but the point here is about ProvideAssistanceData: The server provides a list of ALIDs and their assistance data to the Rx UE.

ZTE wonder if we need to explain the ALID in our field descriptions or just reach an understanding here. They think we could describe the interaction in terms of the Rx and Tx UEs.

Qualcomm think the field description is clear.

Ericsson think SA2 are capturing in which scenarios the ALID will be carried between which nodes, and we do not have to duplicate it, but we should check if something is missing and revisit when CT1 have finished.

 Regarding the issue on MetaData “the specific Role(s) to be discovered”, agree to describe two use cases (“the specific Role(s) to be discovered”, and “supported UE role”) separately.

 Send LS to RAN1, ask them:

o Question 1: does RAN1 have concern on RAN2 agreements:

 From RAN2 perspective, sl-AzimuthAoA, sl-ZenithAoA are separate features.

 ARP-ID is contained in Common-SL-PRS-MethodsIEsProvideLocationInformation instead of assistance data

o Question 2: can UE report multiple measurements for multiple ARP-ID in the same measurement report?

Agreements:

The association information between ARP-ID and the already transmitted SL PRS resource(s) is placed inside the CommonSL-PRS-MethodsIEsRequestLocationInformation/CommonSL-PRS-MethodsIEsProvideLocationInformation, based on the corresponding TP of P3 from R2-2401244. To do this, the SL-PRS Tx UE can send the CommonSL-PRS-MethodsIEsProvideLocationInformation without providing any measurements. Notify RAN1 by LS.

Regarding the Anchor UE location and ARP location, do not introduce two groups of the assistance data (e.g., to avoid duplicated applicationLayerID's). agree corresponding TP of P5 from R2-2401244

LCS-GCS-Translation information in measurement report shall be common for sl-AzimuthAoA and sl-ZenithAoA, i.e. no separate parameters for sl-AzimuthAoA and sl-ZenithAoA

For SL-AoA, introduce separate request for “sl-AzimuthAoA” and “sl-ZenithAoA”

For SL-AoA, introduce separate request for “measurementReportingTypes ENUMERATED { gcs, lcsWithTranslation, lcsWithoutTranslation}

Agree the Rapp010, i.e. remove CP from the field description of sequenceNumber and acknowlegement;

Update the reason of Rapp010 in the RIL issue list to clarify that CP is supported but reliable delivery is available with all transport options.

Keep A006 “the need of applicationLayerID for capability/request assistanceData, request Location messages” as open issue.

For SL-AoA, do not introduce additional request for “sl-AngleQuality” , sl-PRS-ResourceId and sl-TimeStamp

For SL-RTT, introduce separate request for tx-TimeInfo. And do not introduce additional request for sl-PRS-ResourceId

For SL-TDOA, do not introduce additional request for sl-RSTD-FirstPathResult, sl-PRS-ResourceId , sl-TimeStamp and sl-TimingQuality

For SL-TOA, do not introduce additional request for sl-RTOA-FirstPathResult , sl-RTOA-FirstPathResult sl-PRS-ResourceId , sl-TimeStamp and sl-TimingQuality

Remove “firstPath” from all measurement results.

Regarding the format of RelativeLocation, work on the details of option 2 and take into account of the comments, e.g reference point. (Xiaomi)

Mark V003 as PropReject.

Mark Q004 as PropAgree, agree the suggested changes (P1) and the corresponding TP from R2-2401245, mark Q004 as PropAgree.

Regarding Q004, FFS on whether some clarifications are needed in stage 2.

P2/P3 from R2-2401245 can be discussed under A006.

Mark Q005 as propReject

Capture the editorial changes from P6 in R2-24006257 in Rapporteur’s CR.

Capture the editorial changes from R2-2400944 in Rapporteur’s CR.

Regarding Association of ARP-ID and transmitted SL-PRS, agree P2 and corresponding TP from R2-2401244

Regarding the Anchor UE location and ARP location, only a 2D or 3D ellipsoid point (with or without uncertainty) are allowed for the Anchor/ARP locations. Agree the corresponding TP of P4 from R2-2401244

Regarding the issue on MetaData “the specific Role(s) to be discovered”, agree to describe two use cases (“the specific Role(s) to be discovered”, and “supported UE role”) separately.

RAN2 do not have consensus on the scenario where the SL-PRS Rx UE reports measurements for multiple Rx ARP-IDs in a single measurement report. Current signalling structure cannot support this scenario, and it will be changed to accommodate it if RAN1 want to support the scenario.

For the LS to RAN1, indicate our agreements and give them the opportunity to feed back.

* [Post125][418][POS] LS to RAN1 on decisions on SLPP (Intel)

 Scope: Draft an LS to RAN1 informing them of decisions from the discussion of SLPP at RAN2#125.

 Intended outcome: Approved LS

 Deadline: Short (not for RP)

Q004

[R2-2401245](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401245_%28%5BRILs%20Q004%20Q006%5D%20SLPP%20RTT%20LI%29.docx) [RILs Q004, Q006] SL-RTT Request/Provide Location Information Qualcomm Incorporated discussion

Q005

[R2-2401246](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401246_%28SLPP%20Q003%20Q005%20Q012%29.docx) [RILs Q003, Q005, Q012] Various SLPP Corrections Qualcomm Incorporated discussion

Rapporteur CRs

[R2-2400360](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400360%20Miscellaneous%20corrections%20to%20SLPP%20specification%20-%20v03.docx) Miscellaneous corrections to SLPP specification Intel Corporation CR Rel-18 38.355 18.0.0 0001 - F NR\_pos\_enh2-Core

* Revised in R2-2401650 (post-meeting discussion)
* [Post125][407][POS] 38.355 Rel-18 positioning CR (Intel)

 Scope: Update and check the CR in R2-2400360.

 Intended outcome: Agreed CR in R2-2401650

 Deadline: Short (for RP)

[R2-2400285](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400285%20Draft%20CR%2038.355%20for%20SLPP%20capability.docx) Draft CR 38.355 for SLPP capability Xiaomi draftCR Rel-18 38.355 18.0.0 B NR\_pos\_enh2

* Revised in R2-2401526

[R2-2401526](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401526%20Draft%20CR%2038.355%20for%20SLPP%20capability.docx) Draft CR 38.355 for SLPP capability Xiaomi draftCR Rel-18 38.355 18.0.0 B NR\_pos\_enh2

* Revised in R2-2401641 (post-meeting discussion, for separate SLPP CR)
* [Post125][415][POS] 38.355 Rel-18 positioning capability CR (Xiaomi)

 Scope: Check and update the draft CR in R2-2401526.

 Intended outcome: Agreed CR in R2-2401641

 Deadline: Short (for RP)

Open issue documents

[R2-2400154](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400154%20%5BV003%5D%5BV001%5D%20Discussion%20on%20SLPP%20issues.docx) Discussion on SLPP open issues vivo discussion Rel-18 FS\_NR\_pos\_enh2

[R2-2400284](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400284%20Discussion%20on%20SLPP%20open%20issues.doc) Discussion on SLPP open issues Xiaomi discussion Rel-18 NR\_pos\_enh2

[R2-2400336](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400336%20Discussion%20on%20the%20remaining%20issues%20for%20SLPP_v03.docx) Discussion on the remaining issues for SLPP Huawei, HiSilicon discussion Rel-18 NR\_pos\_enh2

[R2-2400583](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400583.docx) Open issues in SLPP Nokia, Nokia Shanghai Bell discussion Rel-18

[R2-2400625](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400625%20SLPP%20open%20issues.doc) Discussion on open issues in SLPP Lenovo discussion Rel-18 NR\_pos\_enh2

[R2-2400681](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400681%20Discussion%20on%20SLPP%20corrections.docx) Discussion on SLPP corrections ZTE Corporation discussion Rel-18 NR\_pos\_enh2

[R2-2400961](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400961%20Remaining%20issues%20on%20SLPP.doc) Remaining issues on SLPP Samsung discussion Rel-18 NR\_pos\_enh2

[R2-2401107](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401107%20Open%20issues%20on%20SLPP%20specification.docx) Open issues on SLPP specification LG Electronics Inc. discussion Rel-18 38.355

RIL documents

[R2-2400943](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400943-SLPP-v0.docx) [A006], [Rapp004] SLPP Issues Apple discussion Rel-18 NR\_pos\_enh2

[R2-2401244](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401244_%28%5BRILs%20Q001%20Q002%5D%20SLPP%20AD%29.docx) [RILs Q001, Q002] Common SL-PRS Request/Provide Assistance Data Qualcomm Incorporated discussion

New issues

[R2-2400944](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400944-38355-misc.docx) Miscellaneous SLPP corrections Apple discussion Rel-18 NR\_pos\_enh2

[R2-2401464](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401464%20Discussion%20on%20including%20the%20server%20UE%20positioning%20method%20in%20the%20discovery%20message.docx) Discussion on including the server UE positioning method in the discovery message OPPO discussion Rel-18 NR\_pos\_enh2 Late

[R2-2401466](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401466%20Discussion%20on%20reporting%20multiple%20Rx-Tx%20measurement%20and%20elevation%20result%20definition%20for%20the%20sidelink%20positioning.docx) Discussion on reporting multiple Rx-Tx measurement for the sidelink positioning OPPO discussion Rel-18 NR\_pos\_enh2 Late

### 7.2.4 LPP corrections

Impact to 37.355. A single CR with miscellaneous corrections is requested from the CR rapporteur; minor and editorial issues should be coordinated with the rapporteur and merged into the miscellaneous CR. Larger issues can be discussed based on contributions.

RIL list

Prioritised ToDo items:

1. CA resource set indication [H003]
2. Bound in NR-DL-PRS-BeamInfo [V300]
3. Capability issue for RedCap [E103, to be handled with related proposal in AI 7.2.7]
4. Field format for reducedNumOfSamples capabilities [M002; no document, addressed in capability rapporteur draft CR under AI 7.2.7]
5. Integrity bounds in NR-TRP-LocationInfo [E004]
6. Integrity assistance data request/support [Q018, Q027]
7. CA report in NR-DL-TDOA-SignalMeasurementInformation [H024]
8. Clarification of PRS hopping [Z011]
9. Condition for nr-DL-PRS-MeasurementTimeWindowsConfig in CPP [E101]
10. Hop indication in DL-AoD measurement report [N013]
11. PRU condition in NR-PeriodicAssistDataReq [C001]

[R2-2401496](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CDocs%5CR2-2401496.zip) LPP RIL list for Rel-18 Positioning CATT discussion Rel-18 NR\_pos\_enh2-Core Late

* Noted

H003

[R2-2401163](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401163%20%5BH003%5D%5BZ001%5D%20Discussion%20on%20the%20CA%20positioning%20resource%20set%20indication.docx) [H003] Discusson on the CA positioning resource set indication Huawei, HiSilicon discussion Rel-18 NR\_pos\_enh2-Core

Discussion:

Huawei think we can decide on this after hearing back from RAN1. CATT think it is an obvious issue and we do not need to check with RAN1.

Proposal1: Add DL-PRS resource set ID to the NR-AggregatedDL-PRS-ResourceSetID-Element.

Agreement:

Add DL-PRS resource set ID to the NR-AggregatedDL-PRS-ResourceSetID-Element (and set H003 to PropAgree).

H024 – need clarification of the relationship between the RIL and the document. Can discuss the need of the dl-PRS-ID and resource set ID in NR-AggregatedDL-PRS-ResourceSetID-Element.

[R2-2400345](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400345%20%5BH022-H024%5D%20Discussion%20on%20measurement%20report%20for%20CA%20positioning.docx) [H023][H024][H025] Correction to measurement report for CA positioning Huawei, HiSilicon discussion Rel-18 NR\_pos\_enh2

Discussion:

CATT indicate some companies felt that the DL-PRS-ID is not required in the aggregated measurement report.

Qualcomm think the Rel-16 DL-PRS-ID is always needed to disambiguate the resource set ID; when it is redundant because the Rel-18 extension is present, they suggest that the LMF could ignore it. CATT indicate this is why they want to delete DL-PRS-ID in the Rel-18 extension. Huawei think there can be different PRS-IDs in the same PFL.

Samsung think after checking that different DL-PRS-IDs are possible, so they think it should be kept, and they agree with P2. For the detailed wording, they would like guidance to the LMF to ignore it. They think P4 should be included in the LS to RAN1.

Proposal2: When the field nr-AggregatedDL-PRS-ResourceSetID-List is present, how to set the DL-PRS ID within NR-DL-TDOA-MeasElement and NR-Multi-RTT-MeasElement is undefined.

Proposal3: Clarify in the field description in NR-AggregatedDL-PRS-ResourceSetID-Element that the DL-PRS ID should correspond to the same TRP.

Proposal4: Clarify in the field description for DL-PRS ID that when the IE is used in additional measurement, the DL-PRS ID should not exceed the scope of DL-PRS IDs from the main measurement.

Agreements:

When the field nr-AggregatedDL-PRS-ResourceSetID-List is present, how to set the DL-PRS ID within NR-DL-TDOA-MeasElement and NR-Multi-RTT-MeasElement is undefined. The spec should make clear that in this case the Rel-16 DL-PRS-ID is not meaningful; exact wording to be determined in rapporteur CR review.

LS to RAN1 should ask about the handling of the DL-PRS-ID when the IE is used in additional measurements, and whether the DL-PRS ID should not exceed the scope of DL-PRS IDs from the main measurement.

V300

[R2-2401083](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401083%20%5BV300%5D%20Corrections%20on%20integrityBeamInfoBounds.docx) [V300] Correction on integrityBeamInfoBounds CATT, vivo CR Rel-18 37.355 18.0.0 0491 - F NR\_pos\_enh2-Core

* Merged into R2-2401631

E004

[R2-2401314](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401314%20Integrity.docx) Discussions related to LPP RIL E004 on Integrity Bounds Ericsson discussion Rel-18

Observation 1 The horizontalUncertainty is said to indicate the horizontal uncertainty of the ARP latitude/longitude, which is unclear (does it mean one dimensional uncertainty in longitude and latitude separately or two dimensional uncertainty combined?), indicates that it is an absolute uncertainty with respect to an ARP location, not relative to a reference location

Observation 2 The verfticalUncertainty is said to indicate the vertical uncertainty of the ARP altitude, which indicates that it is an absolute uncertainty with respect to an ARP altitude, not relative to a reference altitude

Discussion:

Qualcomm note that the first change is to a Rel-16 function and it should be handled separately. For the second change, they think we do not need the bounds for the reference point, only for the TRP location. Ericsson agree this is not needed.

Ericsson understand that the field description changes are needed.

Huawei think the reason we have the different bounds are for cases where the absolute location is not present. Ericsson think the bounds can be decomposed per error source, as they are in GNSS. Huawei agree but think the signalling can support this already; Ericsson think the field descriptions are not clear.

CATT think there is no reference point bound, and so the ARP or TRP bound is absolute. Qualcomm think the UE considers only the sum of all the bounds, and they see this as a question of definitions but think the current spec is not wrong. If we have the change, they think we could just have a NOTE after the table. Huawei understand that the bound should only be present at the level of lowest granularity, e.g., ARP.

Agreement:

Do not introduce the reference point integrity bound.

Q018/Q027

[R2-2401249](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401249_%28Q018%20Q026%20Q027%20Integrity%20AD%29.docx) [RILs Q018, Q026, Q027] Integrity Assistance Data Request/Support Qualcomm Incorporated, CATT discussion

Discussion:

Huawei agree with the proposal and think the granularity of the request should match the assistance data.

Proposal 1: Add a request/support indication for each integrity assistance data element.

Agreement:

Add a request/support indication for each integrity assistance data element. TP to be captured in the rapporteur CR.

Z011

[R2-2400678](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400678%20Discussion%20on%20Rel-18%20corrections%20in%20LPP.docx) Discussion on Rel-18 corrections in LPP ZTE Corporation discussion Rel-18 NR\_pos\_enh2

Proposal 6: Stick to RAN1’s parameter list, and delete aggregated DL PRS resource ID in UE’s measurement report.

Proposal 7: Delete dl-PRS-ID-r18 in NR-AggregatedDL-PRS-ResourceSetID-Element, since each Method-MeasElement is already associated with a dl-PRS-ID-r16.

Proposal 8: For a RedCap UE receiving nr-DL-PRS-RxHoppingTotalBandwidth in location information request, clarify with one of the following interpretations:

 Interpretation 1: For each DL-PRS resource, the RedCap UE hops to a bandwidth of min {the requested bandwidth in request location information, the configured DL-PRS resource bandwidth in provide assistance data}.

 Interpretation 2: A RedCap UE is requested to provide measurement result/location information for DL PRS Rx hopping with the requested total hop bandwidth, wherein the requested total bandwidth is measured by the UE within a DL PRS resource.

  Note: if the configured bandwidth of a DL-PRS resource is smaller than the requested bandwidth, the UE is not requested to report measurements for the DL PRS resource.

Send LS to RAN1 to confirm these two interpretations if RAN2 has no consensus

Discussion:

Huawei think this is a useful field description, and if the UE receives a configuration that is not legitimate it should not act on it, i.e., interpretation 2.

Nokia are not sure where our guidance is coming from; they think we need to make sure we do what RAN1 intended.

CATT think interpretation 1 is similar to the Rel-16 measurement behaviour. Nokia would like to see RAN1 confirmation.

Ericsson think how to hop is up to UE implementation, so even if the requested bandwidth is larger, the UE can decide what to do.

Agreements:

Stick to RAN1’s parameter list, and delete aggregated DL PRS resource ID in UE’s measurement report.

Include in the LS to RAN1 a request to clarify the behaviour for a RedCap UE receiving nr-DL-PRS-RxHoppingTotalBandwidth in location information request, when the requested bandwidth is different from the configured bandwidth.

E101

[R2-2401311](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401311%20CPP.docx) RIL E101 Discussion on Optional or conditional for field nr-DL-PRS-MeasurementTimeWindowsConfig Ericsson discussion Rel-18

Proposal 1 Agree that the field nr-DL-PRS-MeasurementTimeWindowsConfig-r18 is conditional on PRU measurements.

Discussion:

Chair wonders what the real procedural impact would be since the behaviour is on the network side.

Qualcomm think this would conflict with the attempt to avoid network requirements.

CATT understand the intention but think it could be in the field description instead. Qualcomm think even this would be wrong, since the target UE does not know about the PRUs, only that it has to measure the request in this window. Qualcomm think nothing is broken.

Ericsson think a target UE could be asked to perform both RSCP and RSTD measurements within the window, which is not the intention. They do not intend that the target UE can be configured to perform two different measurements simultaneously; the simultaneity is between the target and a PRU.

ZTE think the condition is not necessary, but clarifying the intention of the measurement time window is needed. Qualcomm think this would be more suited to stage 2.

Proposal 2 Change Or to and “The IE NR-DL-PRS-MeasurementTimeWindowsConfig provides a set of indicated time window(s) which is configured from server to target UE and PRU to perform measurements on indicated DL PRS resource set(s) occurring within indicated time window(s) for DL CPP, DL-TDOA, Multi-RTT and DL-AoD.”

Discussion:

MediaTek thought “or” was more suitable. Ericsson indicate the RAN1 agreement said “and”.

Nokia somewhat agree with ZTE that for the UE-based case, when the IE is sent as assistance to the target UE, “target and PRU” makes sense.

Qualcomm think the IE description can be deleted entirely, because the recipient does not need to care about the system-level operation; it should be clear that the receiving entity measures in the window, and in their view this is all that should be needed.

Huawei think it would be OK to remove the sentence, but the “and” or “or” decision is not critical. They also think the invocation of CPP in the text is wrong since there is no such method.

CATT think Nokia are mistaken about the applicability to the UE-based case; to Huawei’s comment, they have already deleted the mention of CPP in the rapporteur CR.

Nokia would be fine to delete the description, but they think we should consider stage 2 text for an overview.

CATT think we should keep some general description.

ZTE also think we need something in stage 2.

Agreement:

Replace the IE description for NR-DL-PRS-MeasurementTimeWindowsConfig with “The IE NR-DL-PRS-MeasurementTimeWindowsConfig provides a set of indicated time window(s) which is configured for the target device to perform measurements on indicated DL PRS resource set(s) occurring within indicated time window(s).”

C001

[R2-2400203](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400203%20%5BC001%5D%20Correction%20to%20need%20code%20of%20the%20IE%20NR-PeriodicControlParam.docx) [C001] Correction to need code of the IE NR-PeriodicControlParam CATT CR Rel-18 37.355 18.0.0 0487 - F NR\_pos\_enh2-Core

* Not pursued

Discussion:

InterDigital want to clarify that for the periodic case, the field would be included, but otherwise it would not be included in the uplink message. Qualcomm understand that for the aperiodic case, the legacy format is used.

Qualcomm would prefer to keep the condition for clarity.

Huawei think the LPP conventions are different from RRC; we have a lot of cases where conditions have been used in the uplink. They think we should not take on the task of fixing them all.

CATT recall agreeing that uplink messages should not have need codes/conditions. Qualcomm indicate that we clarified it does not put requirements on the server, but we allow them in the uplink in LPP (different from RRC). Lenovo recall that we discussed the issue in Rel-16 or -17 and agreed to remove need codes but allow conditions, so they think it is OK to keep the condition here.

N013 – no document, related to question in R2-2400206

Open issue list

[R2-2401444](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CDocs%5CR2-2401444.zip) [POST124][POS][37355] Open Issue list and RIL CATT discussion Rel-18 NR\_pos\_enh2-Core Late

Open issue documents

[R2-2401247](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401247_%28PRS-DRX%20Alignment%29.docx) LPP Open Issue: DL-PRS–DRX Alignment Qualcomm Incorporated discussion

Proposal 1: To align DL-PRS with (e)DRX, add a requested DL-PRS Resource Set Slot Offset parameter to the IE NR-On-Demand-DL-PRS-PerFreqLayer-r17.

Discussion:

Huawei wonder what granularity is needed for the alignment: slot level, symbol level? They think this proposal is not needed and ms granularity is good enough.

Qualcomm understand that DRX is always configured on slot level, and we need to indicate the offset relative to SFN#0; the issue is not the granularity of the offset but the need for an offset in the first place.

Ericsson would like to avoid stage 3 impact, and they think the existing start time solves the problem.

Intel understand that it is best-effort alignment and there is no strong need to optimise.

Qualcomm think it is not an optimisation but necessary to make the feature work so that the UE wakes up at the right time.

vivo also think it is not needed; the UE can request a smaller periodicity, and there will be multiple target UEs with different UEs having different offsets.

Samsung think we already agreed to adopt a method for controlling the DL-PRS periodicity to be aligned with DRX periodicity, and the latter is in units of slot, so they see that this is necessary rather than an optimisation.

ZTE think it is basic functionality to support alignment, and the network needs to know the UE’s requirement for alignment.

Apple agree with Samsung and support the proposal.

Ericsson think we cannot fix everything in one release, and there is no guarantee that the cycles will be exactly aligned.

Qualcomm understand that the start time does not work because the units are wrong; the network needs to know when the UE needs PRS, not when the PRS configuration starts in seconds/minutes/hours.

Intel think we cannot guarantee that the gNB configures the same DRX for all UEs, so this is a best-effort alignment process between the gNB(s) and the LMF.

CATT think P1 affects NRPPa, which today has no offset.

[R2-2400362](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400362_Further%20considerations%20on%20LPP%20open%20issues.docx) Further considerations on LPP open issues Intel Corporation discussion Rel-18 NR\_pos\_enh2

Proposal 1: For PRS alignment with fixed (e)DRX configurations, existing on-demand PRS request is reused without stage 3 impact.

Proposal 2: Keep the IE structure of the request for location+measurements, and delete corresponding EN.

Discussion:

Qualcomm disagree and think it does not make sense to indicate location+measurements as a location information type. They note that it does not work for hybrid positioning to have different types for different methods, and they think this can be handled with a flag in the existing request.

Huawei do not understand why the existing text does not work; the point is just to clarify that the location is not derived from the measurements.

Qualcomm wonder what happens if the PRU receives a message for location+measurements and cannot make the measurements. Should it send back just the location or an error? They would prefer a flag for “provide the location” in the existing request. They understand that the location+measurements report is only needed for a moving PRU; otherwise the LMF knows the location already.

Intel agree that the location is not based on the measurements, and the UE should provide the measurements based on what the LMF requests. However, they do not see the functional difference in introducing this from the two different discussed perspectives; we just need to clarify the field description.

Ericsson think we should not revisit the unsolicited-report question; we need a request for the location and measurements together, but they see what we have as working and think nothing is critically broken.

Huawei suggest we could say that the request in RequestLocationInformation is for the measurements, and how the UE determines the location is up to the UE implementation. Qualcomm agree this can work, but they think it mixes positioning with PRU operations and results in ugly descriptions.

Apple think what we have is a compromise, and maybe we should keep it.

Intel understand that the new flag suggested by Qualcomm would require updating the error handling as well, and if we keep the current structure we have the error handling already.

[R2-2400155](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400155%20Discussion%20on%20LMF%20involvement%20in%20SL-PRS%20resource%20allocation.docx) Discussion on LPP open issues vivo discussion Rel-18 FS\_NR\_pos\_enh2

[R2-2400303](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400303.docx) Open issues for LPP spec Spreadtrum Communications discussion Rel-18

[R2-2400713](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400713_LPP_Maintenance.docx) LPP Maintenance issues Lenovo discussion Rel-18

[R2-2401248](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401248_%28LPP%20PRU%29.docx) LPP Open Issue: PRU Operation Qualcomm Incorporated discussion

[R2-2401321](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401321%20SL.docx) Addressing sidelink open issues and various LS Ericsson discussion Rel-18

RIL documents

[R2-2400346](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400346%20%5BH015%5D%20Discussion%20on%20per%20error%20source%20Integrity%20service%20paremeters.docx) [H015] Per error source Integrity service paremeters Huawei, HiSilicon discussion Rel-18 NR\_pos\_enh2

[R2-2400425](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400425.docx) [M001] Definition of PRU in 37.355 MediaTek Inc. discussion Rel-18 NR\_pos\_enh2-Core

[R2-2400942](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400942-LPP-v0.docx) [A001], [A002], [A003], [A006] LPP Issues Apple discussion Rel-18 NR\_pos\_enh2

[R2-2400988](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400988%20LPP%20Issues.docx) Solution for some key RIL issues impacting LPP Nokia, Nokia Shanghai Bell discussion Rel-18 NR\_pos\_enh2-Core

R2-2401182 [H018] Discussion on the integrity parameters Huawei, HiSilicon discussion Rel-18 NR\_pos\_enh2-Core

[R2-2401184](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401184%20%5BH006%5D%20Discussion%20on%20the%20TRP%20ID%20for%20CA%20POS.docx) [H006] Disucssion on the TRP ID for CA POS Huawei HiSilicon discussion Rel-18 NR\_pos\_enh2-Core

[R2-2401186](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401186%20%5BH001%5D%20Discussion%20on%20PRU%20modeling.docx) [H001] Disucssion on PRU modeling Huawei, HiSilicon discussion Rel-18 NR\_pos\_enh2-Core

[R2-2401250](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401250_%28RILs%20Q019%20Q024%20Q028%29.docx) [RILs Q019, Q024, Q028] Clarification of field description for aggregated and hopping measurement results Qualcomm Incorporated discussion

[R2-2401310](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401310%20Capability.docx) RIL E100 LPP and E013 SLPP capability for hybrid positioning Ericsson discussion Rel-18

New issues

[R2-2401010](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401010_POS_AI724_LPP.docx) Discussion on correction for LPP InterDigital, Inc. discussion Rel-18 NR\_pos\_enh2

[R2-2401325](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401325%20Int.docx) Addressing Remaining Integrity Issues Ericsson discussion Rel-18

### 7.2.5 RRC corrections

Impact to 38.331, except for UE capabilities. A single CR with miscellaneous corrections is requested from the CR rapporteur; minor and editorial issues should be coordinated with the rapporteur and merged into the miscellaneous CR. Larger issues can be discussed based on contributions.

RIL list

ToDo items:

1. Inclusion of Rx pools in handover/other messages [O800]
2. SBAS-ID condition [E138] – related to Rel-16 proposal
3. SetupRelease in lists [I110] – may be resolved in common session

[R2-2401365](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CDocs%5CR2-2401365.zip) RRC Positioning RIL List Ericsson discussion Rel-18

Agreement:

The PropAgree and PropReject RILs in R2-2401365 are confirmed.

SIB12/SIB23 (topic referred to us from main session)

[R2-2400340](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400340%20%5BH571%5D%5BH901%5D%5BH902%5D%20Discussion%20on%20SIB23.docx) [H571][H901][H902] Discussion on SIB23 Huawei, HiSilicon discussion Rel-18 NR\_pos\_enh2

Proposal4: Configure the SL-PRS shared resource pool under SIB12 and the SL-PRS dedicated resource pool under SIB23

Discussion:

vivo think the SL-positioning-only UE should be able to avoid receiving SIB12. Huawei think power saving is not a good reason to put everything in SIB23, and it is more important to avoid overlap.

Ericsson agree with vivo that the intention was originally to save the UE from reading SIB12, but if the shared resource pool is in SIB12, it has to receive them both.

Chair suggests that SL positioning UEs will need SL communication for SLPP signalling. vivo think this might not be the case for an anchor UE that only transmits/receives SL-PRS.

ZTE wonder how SIB23 can contain the shared and dedicated pools without becoming exactly the same as SIB12.

Huawei understand ZTE’s comment to mean that if we introduce everything in SIB23, we might as well put everything in SIB12. Lenovo think if we put everything in SIB12, we have to re-evaluate the segmentation (maybe there are not enough segments any more).

Proposal6: Remove sl-BWP-PoolConfigCommon under SIB23 and replace it by a new IE containing sl-BWP-PRS-PoolConfigCommon and sl-BWP-Generic.

Discussion:

OPPO think one of the IEs will become redundant.

Proposal7: Adopt segmentation for SIB23

Discussion:

Ericsson understand it would be safest to do the segmentation, and the current CR includes it.

Agreements:

Configure the SL-PRS shared resource pool under SIB12 and the SL-PRS dedicated resource pool under SIB23.

TP from R2-2400340 is the implementation baseline, details to be worked on in the rapporteur CR discussion.

Support segmentation of SIB23.

Open issue list

[R2-2401317](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401317%20OpenIssueRRC.docx) Open issues list For RRC Positioning Ericsson discussion Rel-18

Proposal 1 RAN2 to agree to capture the agreement “For preconfigured SRS, the configuration is released only when the network releases it explicitly” in RRC Release in order to indicate to remove all stored configuration related to preconfiguration.

Discussion:

Huawei have the same understanding as Ericsson and think the UE might be able to reuse the configuration in the figure.

Proposal 2 RAN2 to agree to that preconfigured SRS config can be informed to upper layers so upper layers may make decision when to trigger the SRS based upon any events.

Discussion:

Huawei understand that the upper layer here means the application layer, but it is not clear how the application layer will understand AS information. They think the related UE behaviour should be captured in the RRC spec.

CATT also think RRC can make the decision according to requirements from the upper layer.

vivo think the intention comes from stage 2, but they understand that the upper layers are unaware of the positioning method; without such an indication, the upper layer cannot request the RRC to activate the preconfigured SRS.

CATT think the upper layer only knows about event triggers, not when the SRS should be sent, which is RRC’s business. OPPO agree with CATT.

Nokia wonder what the upper layer triggers: SRS transmission, activation request?

Ericsson understand that the LPP layer, based on an event, will inform the RRC layer that positioning is expected, and the RRC layer may then request activation, request a new configuration, etc., depending on what is needed.

Huawei think this is internal UE behaviour and there is no specification impact.

CATT think the RRC procedure should be specified. They understand that upper layers trigger the event, and the rest should be handled by RRC. Ericsson and Qualcomm indicate that this is already there in the CR.

Nokia think it resembles the LocationMeasurementIndication. They agree with Huawei that it is internal UE behaviour.

Proposal 4 UE starts inactivePosSRS-ValidityAreaTAT when UE sends RRCResumeRequest.

Discussion:

vivo think this issue is based on whether we need acknowledgement of the activation; they see the proposal as acceptable if no acknowledgement is needed.

Huawei think the proposal is not correct; the MAC already specifies when the TAT starts.

Ericsson clarify that this is intended for preconfigured SRS.

Samsung agree with Huawei: This is in the MAC spec.

Proposal 5 RRC layer informs to lower layers to continue transmitting SRS after cell reselection to same validity area.

Proposal 6 UE applies configuration related to new validity area after cell change if selected cell belongs to different validity area and RRC layer instructs lower layers to start SRS transmission corresponding to new area.

Discussion:

Ericsson indicate comments were received in the ASN.1 review indicating that this was good to have in the RRC.

Huawei think P5 is business as usual and does not need to be discussed, but P6 needs to be agreed. Samsung also think we need to agree P6; so far we have not agreed when and how the UE can apply the preconfiguration.

Samsung think the RRCRelease message could be used as an acknowledgement.

OPPO wonder if it is for preconfigured SRS; they think an activation might be needed. Huawei indicate that activation is only needed when SRS transmission is first started, but if the UE moves it does not need to request it again. OPPO understand that then the gNB in a new validity area will always need to monitor SRS.

ZTE think for the preconfigured case, when the UE moves around different validity areas, it should send the activation request in a new validity area. They think no acknowledgement is needed because there is no network choice of different configurations.

CATT understand when the UE moves to a new validity area, it should send an RRCResumeRequest. Ericsson agree with ZTE and CATT and that no acknowledgement is needed.

Huawei can agree with the current discussion, but it is different from the proposal.

Proposal 7 RRC and MAC sepcifaction clauses which specifies about autonomous TA adjustments and update TA and stored RSRP refers to RAN4 specification TS 38.133 “5.6.6.3 TA validation requirements when configured with validity area”.

Proposal 9 RAN2 to agree on the field values of SL-PRS bandwidth in UAI.

Discussion:

Qualcomm think the proposed values do not fit in one octet in the MAC. They suggest 5 PRBs for this reason.

Proposal 12 RAN2 to agree that dedicated SR is needed for SL-PRS

Discussion:

Huawei think this is needed because there is no SR for the corresponding MAC CE.

Agreements:

Capture the agreement “For preconfigured SRS, the configuration is released only when the network releases it explicitly” in RRC Release in order to indicate to remove all stored configuration related to preconfiguration.

For preconfigured SRS, when the UE moves to a new validity area, it does not continue transmitting SRS until it has gone through RRCResumeRequest/RRCRelease procedure. No additional acknowledgement message is needed for the activation request, i.e., the UE can apply the preconfiguration after it receives the RRCRelease.

Dedicated SR is needed for SL-PRS request MAC CE.

Open issue documents

[R2-2400202](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400202%20Discussion%20on%20release%20of%20SRS%20configuration.docx) Discussion on the release of SRS configuration CATT, Samsung, LG Electronics Inc discussion Rel-18 NR\_pos\_enh2

Proposal 1: Further discuss the following candidate solutions.

－ Option 1: UE does not release the SRS when srs-ValidityAreaTimeAlignmentTimer expires. Introduce a separate validity timer for the SRS resource to indicate how long the resource is valid for the UE.

－ Option 2: UE releases the SRS when srs-ValidityAreaTimeAlignmentTimer expires. When the UE receives Timing Advance Command, the anchor gNB is indicated that the timer at the UE side is restarted.

Proposal 2: When UE resumes to a cell out of the validity area of non-preconfigured SRS, it releases the non-preconfigured SRS configuration. Adopt the TP in Annex.

Discussion:

CATT think this is important to handle and might be easy to agree. Ericsson think it can be taken into the rapporteur CR.

Intel think we agreed that there is no UE autonomous release. Ericsson think there is no functional impact.

Proposal 3: Send an LS to RAN3 on RAN2’s agreement for their discussion on possible protocol impacts.

[R2-2400156](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400156%20Discussion%20on%20RRC%20open%20issues%20for%20POS.docx) Discussion on RRC open issues for POS vivo discussion Rel-18 FS\_NR\_pos\_enh2

Proposal 1: TX exceptional pool can be included in the SL-PRS dedicated pool configuration.

Discussion:

Intel are not sure if there would be RAN1 impact. vivo indicate it follows the SL communication design.

Huawei think there should not be RAN1 impact.

Ericsson note that we agreed to reuse the SL communication framework, and this seems to follow. They think we could send an LS to notify RAN1.

Lenovo are OK with the proposal, but want to clarify if it is for data and PRS. Chair and Huawei understand that in the dedicated resource pool configuration it would be only for SL-PRS. Lenovo wonder if we should clarify this.

Intel wonder if it would be a separate IE.

OPPO wonder if we need to define the UE behaviour regarding when to use the exceptional pool for SL-PRS.

Agreements:

Exceptional pool for SL-PRS transmission can be included in the SL-PRS dedicated pool configuration. Procedural impact can be further investigated towards next meeting and in CR drafting.

RAN1 to be notified in the general LS to RAN1.

Proposal 3: Ask RAN1 about the necessity of other parameters in the UAI, e.g., periodicity, delay budget, symbol number, comb size and repetition number.

[R2-2401252](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401252_%28LPHAP%29.docx) Remaining issues for pre-configured SRS Qualcomm Incorporated discussion

Proposal 1: RRC Reconfiguration can be used to provide SRS (pre-)configuration with validity area for use in RRC\_INACTIVE.

RIL documents

[R2-2400205](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400205%20%5BC414%5D%20Activation%20of%20SP%20SRS%20when%20configured%20with%20validity%20area.docx) [C414] Activation of SP SRS when configured with validity CATT discussion Rel-18 NR\_pos\_enh2

[R2-2400341](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400341%20%5BH573%5D%5BH574%5D%5BH575%5D%20Discussion%20on%20SRS%20with%20validity%20area.docx) [H573] [H574] [H575] Discussion on SRS configuration/activation request Huawei, HiSilicon discussion Rel-18 NR\_pos\_enh2

[R2-2400342](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400342%20%5BH592%5D%20Discussion%20on%20UAI%20for%20SL%20positioning.docx) [H577] Discussion on UAI for SL positoning Huawei, HiSilicon discussion Rel-18 NR\_pos\_enh2

[R2-2400344](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400344%20%5BH903%5D%20Disucssion%20on%20collision%20handlig%20for%20SL-PRS.docx) [H903] Disucssion on collision handlig for SL-PRS Huawei, HiSilicon discussion Rel-18 NR\_pos\_enh2

[R2-2400347](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400347%20%5BH581%5D%5BH590%5D%20Discussion%20on%20SUI%20for%20SL%20positioning.docx) [H581][H590] Discusison on SUI for SL positioning Huawei, HiSilicon discussion Rel-18 NR\_pos\_enh2

[R2-2400676](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400676%20Discussion%20on%20LPHAP%2C%20SL%20pos%20and%20BW%20aggregation%20in%20RRC.docx) Discussion on LPHAP, SL pos and BW aggregation in RRC ZTE Corporation discussion Rel-18 NR\_pos\_enh2

[R2-2400968](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400968_%5BS207%5D%5BS205%5D%5BZ156%5DRemaining%20issues%20on%20RRC.docx) [S207][Z156] Remaining issues on RRC Samsung discussion Rel-18 NR\_pos\_enh2

[R2-2400989](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400989%20RRC%20Issues.docx) Solution for some key RIL issues impacting RRC Nokia, Nokia Shanghai Bell discussion Rel-18 NR\_pos\_enh2-Core

New issues

[R2-2400970](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400970%20Discussion%20on%20the%20validity%20timer%20for%20the%20SRS%20with%20validity%20area.doc) Discussion on the validity timer for the SRS with validity area Beijing Xiaomi Electronics discussion NR\_pos\_enh2

Not available/withdrawn

R2-2400343 [H604] Discussion on the exceptional pool for SL positoning Huawei, HiSilicon discussion Rel-18 NR\_pos\_enh2

### 7.2.6 MAC corrections

Impact to 38.321. A single CR with miscellaneous corrections is requested from the CR rapporteur; minor and editorial issues should be coordinated with the rapporteur and merged into the miscellaneous CR. Larger issues can be discussed based on contributions.

* [AT125][401][POS] Rel-18 positioning MAC open issues (Huawei)

 Scope: F2F offline to discuss the MAC open issues list and proposed solutions, and converge to the extent possible ahead of online discussion.

 Intended outcome: Report to Tuesday positioning session in R2-2401612

 Deadline: Tuesday 2024-02-27 0900 EET

 Schedule: Monday 2024-02-26 1430-1530 EET, in Brk3

Report of offline

[R2-2401612](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401612%20Summary%20for%20%5Boffline%20401%5D%20MAC%20spec%20issues%20for%20R18%20positioning.docx) Summary for [offline 401] MAC spec issues for R18 positioning Huawei, HiSilicon discussion Rel-18 NR\_pos\_enh2-Core

[For confirmation]

Proposal1: Confirm that multiple/single SL-PRS transmission can be triggered by the UE’s own higher layer.

Proposal2: Confirm that we can capture in the NOTE of the MAC spec that SL-PRS delay budget is provided by higher layer of the UE.

Proposal3: Confirm to send an LS to RAN1 whether a new RRC parameter is needed to configure the minimum time gap between last symbol of SL PRS and the start of the first symbol of the PSFCH reception that is associated with the PSSCH transmission on SL-PRS shared resource pool

Proposal4: Confirm for resource allocation scheme 2, SL-PRS resource is determined by the UE’s implementation, applicable for initial transmission and retransmission.

Discussion:

Xiaomi think we already agreed the PDB can be considered for random resource selection, and they wonder if we intend to leave this open also to other parameters; the UE should do something logical.

Huawei clarify it is intended to say SL-PRS resource ID selection.

Proposal5: Confirm that R17 RSRP-based TA validation for positioning SRS transmission in RRC\_INACTIVE can be reused for positioning SRS bandwidth aggregation in RRC\_INACTIVE. Send an LS to RAN1/4 for confirmation

Proposa6l: Confirm that different carriers belong to the same TAG. No spec change is needed. Send an LS to RAN1/4 for confirmation.

Proposal7: Confirm SL-PRS resource request MAC CE’s priority in LCP is lower than SL-BSR MAC CE but higher than MAC CE for IAB-MT Recommended Beam Indication.

Proposal8: For activation/deactivation of SP positioning SRS with multiple carrier indications, confirm to design a new MAC CE for activation/deactivation of SP positioning SRS across multiple carriers

Proposal9: Confirm to send an LS to RAN1 to indicate misalignment between UE feature list and parameter list. Indicate that there is only one combination defined in the RRC spec and ask whether it is OK to design MAC CE based on this.

Proposal10: Confirm that SL MAC entity cancels the triggered SL-PRS resource request upon upper layer indication of SL MAC reset.

Proposal11: Confirm with RAN1 LS to include the SL-PRS bandwidth in the SL-PRS resource request MAC CE for aperiodic SL-PRS transmission and RRC UAI message for periodic SL-PRS transmission. FFS how can the anchor UE can know about this BW (to be covered in the SLPP discussion)

Discussion:

Intel think we can agree to the proposal, but there is not an opportunity to pursue the SLPP discussion fully at this meeting. Huawei think if we agree BW should be known, then delay budget and priority should be known as well.

Xiaomi this we can just say we will provide QoS to anchor UE.

Samsung agree with Huawei and prefer to directly provide the BW, priority, and delay budget; if it is just sent as QoS, in can lead to inefficiency.

vivo agree with Huawei and Samsung: no need to provide the QoS to the anchor UE.

Samsung would like to consider whether periodicity is included in ProvideAssistanceData as well; they think periodic SRS transmission can be triggered by SLPP. Lenovo wonder how the CG periodicity would align with the upper layer periodicity. ZTE think in this case the UE’s RRC layer should send the UAI to request an appropriate periodicity, so they do not see that we need it in the SLPP message. Intel think we can leave the periodicity as an open issue.

Proposal12: Confirm not to support request from LMF for SL-PRS bandwidth in R18.

Discussion:

Ericsson think it was clear in discussion that this is mainly because the LMF will not know which cell the UE is in. They think we could take the agreement for anchor UEs and leave it open for the target UE. Qualcomm note that the target UE has to perform the measurements, so what we design should work for any SL-PRS Tx UE. They cannot see what the LMF should do here.

Lenovo think we would like to avoid signalling redundant information to the gNB.

Xiaomi think there is no complete solution to do this, and RAN3 are waiting for us to conclude on it; we should not postpone it further. Intel agree with Xiaomi.

Ericsson think there is some value. They understand that it is the LMF that knows what resources are needed, and how the gNB uses the information would be up to implementation.

ZTE think this has been discussed for a long time, and RAN1 indicated that LMF involvement is feasible, so they think we should not shut the door. They understand there are TPs provided in RAN3 and all that is needed is confirmation from RAN2.

OPPO think the opposition to doing this is because the anchors’ gNBs may not be known by the LMF, and the LMF cannot send the parameters to the correct gNBs.

Intel understand that RAN1 were unaware of what the LMF knows and does not know in this respect, so they did not discuss feasibility in this respect.

Huawei understand there were initially two options: UE-based and LMF-based, and we agreed that UE-based worked in all cases and we excluded LMF-based. They understand that the proposal was resurrected in other groups.

Lenovo think this would be opening the door to other functionality. They understand the LS indicates either gNB or UE and does not require us to support LMF-based.

Nokia see value in the LMF being able to control the bandwidth, because it ultimately controls the positioning method. They think the question is how to implement it.

Qualcomm note that the target UE knows the QoS. They agree with Intel and Huawei that this LS came from a place of uncertainty in RAN1; we agreed to use resource allocation procedures like SL communication, and for Rel-18 they understand that we do not need LMF involvement.

Ericsson note that the anchor UEs’ positions may be known, and in other cases you would need to rely on the UE instead of the LMF. They see limited RAN2 impact.

CATT understand that the gNB can get the needed information from the UE, and having the bandwidth sent from the LMF to the gNB seems like an enhancement.

Xiaomi think if RAN3 design something, we do not need to object to it, but we will not ask the LMF to support something from RAN2 perspective.

Samsung agree with Qualcomm and Huawei, and they note that historically there was no consensus for this request from LMF; they think we should tell RAN3 that from RAN2 perspective the request from LMF is not needed.

Ericsson think we have not given enough attention to the question of LMF involvement so far. They think we could indicate that it is something for RAN3 to do and we would not object if they did.

Qualcomm note that sidelink resource allocation is not RAN3 business, and we can clearly tell them that the LMF is not involved in it. Nokia think this is not quite on point as we are talking about bandwidth, not the whole resource allocation process. They agree that we should not interfere with RAN3 if they design something.

Intel understand that there is no complete solution on offer, because the LMF cannot know the serving cells of the anchor UEs in general, so it can only work for UL positioning.

Qualcomm think the only thing we need to answer is RAN3’s question about resource allocation. Xiaomi agree with Qualcomm, and they think we should further explain the issue with the LMF not knowing the anchors’ serving cells.

Intel think we can say we do not see a use case for the LMF to configure the resources.

ZTE think the LS should indicate the reason for saying no, for the benefit of RAN1. Lenovo are worried that there may be multiple reasons.

CATT think there is no RAN1 impact and we do not need to give them an explanation; they are just in Cc: for information.

Huawei agree with Lenovo that there may be multiple reasons.

Nokia think it might be helpful to RAN3 to clarify the reasoning in case there are other situations where the LMF may be involved.

OPPO think we could rely on internal coordination for the reasoning.

Agreements:

Multiple/single SL-PRS transmission can be triggered by the UE’s own higher layer.

Capture in the NOTE of the MAC spec that SL-PRS delay budget is provided by higher layer of the UE.

LS to RAN1/RAN4 for questions related to the MAC.

Ask RAN1 whether a new RRC parameter is needed to configure the minimum time gap between last symbol of SL PRS and the start of the first symbol of the PSFCH reception that is associated with the PSSCH transmission on SL-PRS shared resource pool.

For resource allocation scheme 2, SL-PRS resource ID selection is determined by the UE’s implementation, applicable for initial transmission and retransmission.

R17 RSRP-based TA validation for positioning SRS transmission in RRC\_INACTIVE can be reused for positioning SRS bandwidth aggregation in RRC\_INACTIVE. Check with RAN1 and RAN4 in the LS.

RAN2 understand that different carriers in SRS bandwidth aggregation belong to the same TAG, for both RRC\_CONNECTED and RRC\_INACTIVE. No spec change is needed. Check with RAN1 and RAN4 in the LS.

SL-PRS resource request MAC CE’s priority in LCP is lower than SL-BSR MAC CE but higher than MAC CE for IAB-MT Recommended Beam Indication.

For activation/deactivation of SP positioning SRS with multiple carrier indications, design a new MAC CE for activation/deactivation of SP positioning SRS across multiple carriers.

SL MAC entity cancels the triggered SL-PRS resource request upon upper layer indication of SL MAC reset.

Include the SL-PRS bandwidth in the SL-PRS resource request MAC CE for aperiodic SL-PRS transmission and RRC UAI message for periodic SL-PRS transmission.

Bandwidth, delay budget, and priority are provided to the SL-PRS Tx UE in SLPP signalling. FFS periodicity.

RAN2 will not specify anything in this release for SL-PRS bandwidth indication from LMF to gNB.

Indicate in the LS to RAN3 that the LMF is not involved in SL-PRS resource allocation.

[For discussion]

Reservation period

Proposal13: RAN2 to select from the following options for the purpose of resource reservation,

 Option1: But confirm with RAN1 with an LS

 Multiple SL-PRS transmission can be triggered by peer UE’s SCI when the SCI indicates non-zero reservation period

 Single SL-PRS transmission can be triggered by the peer UE’s SCI when the SCI does not indicate reservation period or zero reservation period

 Option2, Confirm on the previous RAN1 agreement that the reservation period is determined by the UE’s own higher layer by implementation

 Option3, Send an LS to ask RAN1 about this

Discussion:

Huawei wonder what the criterion for multiple transmission should be. Lenovo understand it is to increase reliability.

Huawei think the RAN1 agreement is not crystal clear as to whether it includes all parameters.

ZTE understand RAN1 agreed that UE B decides whether and how to transmit SL-PRS based on the 1-bit indication in SCI, by implementation. OPPO think this is not completely relevant to our current discussion, which is about multiple vs. single transmission.

Huawei think it would be OK to leave this to implementation.

Samsung think we assume that some Tx parameters are provided from the server UE to the Tx UE by SLPP; why do we not just introduce a bit to indicate multiple or single transmissions?

Intel would be OK to leave it to implementation; on Samsung’s comments, they understand that RAN1 did not indicate this in the parameter list, which is why we did not implement them.

Agreement:

The SL-PRS transmission multiplicity (single/multiple transmission) is determined by the UE’s own higher layer by implementation.

Proposal14: Down-select from the following options for the reservation period for multiple SL-PRS transmission when triggered by the peer UE’s SCI

 The reservation period equals to the reservation period in the SCI

 The reservation period is determined by the UE’s own higher layer by implementation

SL-PRS priority

Proposal15: When SL-PRS transmission is triggered by SCI, down-select from the following two options:

 Option1: SL-PRS priority is equal to the priority in the peer UE’s SCI

 Option2: SL-PRS priority is determined by the UE’s own higher layer by implementation

Discussion of P14/P15:

Intel think we agreed that UEs can get the priority from the server, so they can get it based on implementation from the upper layers.

Lenovo agree with the principle of leaving it to the UE upper layers, but we should make sure the implementation does not abuse the system (e.g., setting the priority always high).

Ericsson understood Intel’s point is that the priority is available from the SLPP layer.

Huawei would be fine with alternative 2.

Xiaomi wonder how the UE knows which positioning session the triggers belong to in alternative 1. Huawei think this is a RAN1 issue, because RAN1 have not agreed to include, e.g., the session ID in the SCI; if something like this is needed, it should be discussed in RAN1. Xiaomi think it is unlikely that RAN1 would add more information now.

Huawei think the session information is not there in the SL-PRS either, and they think there is no problem with the current RAN1 design in this respect.

Intel think the issue will only exist if the same pair of UEs have multiple sessions. They assume this is not a normal case.

Huawei think we considered the multiple-session scenario and it is why we introduced the session ID in the first place, but the question here is just whether we consider it in lower-layer signalling, which would be a RAN1 issue.

Agreements:

The reservation period for multiple SL-PRS transmission when triggered by the peer UE’s SCI is determined by the UE’s own higher layer and delivered to the MAC layer by implementation.

When SL-PRS transmission is triggered by SCI, SL-PRS priority is determined by the UE’s own higher layer and delivered to the MAC layer by implementation.

Proposal16: Down-select from the following options for SL-PRS priority when SL-PRS transmission is triggered by its own higher layer

 Option1, SL-PRS priority is provided by the UE’s own higher layer’s implementation

 Option2, The UE should select the highest priority among multiple priorities

Discussion:

Sony ask how we would capture this in the specs. Intel understand that SLPP would have the signalling and the MAC would have a NOTE clarifying where the priority comes from.

Agreement:

SL-PRS priority is provided to the MAC by the UE’s own higher layer, according to the priority sent in the SLPP parameter exchange in the sidelink positioning session, when SL-PRS transmission is triggered by its own higher layer.

* [Post125][414][POS] LS to RAN1/RAN4 on positioning MAC questions (Huawei)

 Scope: Draft an LS to RAN1/RAN4 asking the questions on MAC that were identified in the meeting agreements of RAN2#125.

 Intended outcome: Approved LS in R2-2401912

 Deadline: Short (not for RP)

Open issue list

[R2-2401189](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401189%20MAC%20spec%20open%20issue%20list%20for%20R18%20POS.docx) MAC spec open issue list for R18 POS Huawei, HiSilicon discussion Rel-18 NR\_pos\_enh2-Core

Open issue documents

[R2-2400157](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400157%20Discussion%20on%20remaining%20MAC%20open%20issues%20of%20SL%20positioning.docx) Discussion on MAC open issues for POS vivo discussion Rel-18 FS\_NR\_pos\_enh2

[R2-2400204](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400204%20Discussion%20on%20the%20remaining%20issues%20on%20bandwidth%20aggregation%20for%20SRS.docx) Discussion on the remaining issues on bandwidth aggregation for SRS CATT discussion Rel-18 NR\_pos\_enh2

[R2-2400229](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400229%20Discussion%20on%20MAC%20open%20issue%20CA%2302%20for%20NR%20Pos.doc) Discussion on MAC open issue [CA#02] for NR Pos Lenovo discussion Rel-18

[R2-2400261](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400261%20%28R18%20NR%20POS%20A726%20SL%20POS%29.docx) Discussion on MAC issues for SL positioning InterDigital, Inc. discussion Rel-18 NR\_pos\_enh2

[R2-2400283](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400283%20Discussion%20on%20positioning%20MAC%20open%20issues.doc) Discussion on positioning MAC open issues Xiaomi discussion Rel-18 NR\_pos\_enh2

[R2-2400337](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400337%20Discussion%20on%20the%20remaining%20issues%20for%20R18%20positioning%20MAC%20spec_v03.docx) Discussion on the remaining issues for R18 positioning MAC spec Huawei, HiSilicon discussion Rel-18 NR\_pos\_enh2

[R2-2400363](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400363.docx) Further considerations on MAC open issues Intel Corporation discussion Rel-18 NR\_pos\_enh2

[R2-2400680](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400680%20Discussion%20on%20SL%20pos%20and%20BW%20in%20MAC.docx) Discussion on SL pos and BW in MAC ZTE Corporation discussion Rel-18 NR\_pos\_enh2

[R2-2400716](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400716_SL_Pos_MAC_Maintenance.docx) SL Positioning MAC Maintenance issues Lenovo discussion Rel-18

[R2-2400884](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400884%20Remaining%20issues%20on%20SL-PRS%20transmission.docx) Remaining issues on SL-PRS transmission ASUSTeK discussion Rel-18 38.321 NR\_pos\_enh2

[R2-2400885](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400885%20Discussion%20and%20correction%20regarding%20SL%20PRS%20resource%20request.docx) Discussion and correction regarding SL PRS resource request ASUSTeK discussion Rel-18 38.321 NR\_pos\_enh2

[R2-2400969](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400969_Remaining%20issues%20on%20MAC.docx) Remaining issues on MAC Samsung discussion Rel-18 NR\_pos\_enh2

[R2-2401056](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401056.docx) MAC related remaining issues of SL positioning Sharp discussion

[R2-2401108](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401108%20Open%20issues%20on%20MAC%20specification.docx) Open issues on MAC specification LG Electronics Inc. discussion Rel-18 38.321

[R2-2401253](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401253_%28SRS%20Aggregation%29.docx) MAC Open Issue CA#02: MAC CE for activation/deactivation of aggregated SP SRS for positioning Qualcomm Incorporated discussion

[R2-2401322](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401322%20Addressing%20MAC%20Open%20Issues.docx) Addressing MAC open issues Ericsson discussion Rel-18

[R2-2401467](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401467%20Discussion%20on%20Sidelink%20positioning%20MAC%20open%20issues.docx) Discussion on Sidelink positioning MAC open issues OPPO discussion Rel-18 NR\_pos\_enh2 Late

### 7.2.7 UE capabilities

Impact to 38.306 and capability-related impact to 38.331. A single CR with miscellaneous corrections is requested from the CR rapporteur; minor and editorial issues should be coordinated with the rapporteur and merged into the miscellaneous CR. Larger issues can be discussed based on contributions.

Open issue list

[R2-2400958](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400958%20Open%20issue%20list%20for%20Rel-18%20positioning%20capability.doc) Open issue list for Rel-18 positioning capability Xiaomi discussion Rel-18 NR\_pos\_enh2

Proposal 1: The UE capability on scheduled location time in SLPP is introduced per positioning mode per positioning method.

Proposal 2: The UE capabilities for LMF based positioning integrity are not needed.

Discussion:

Lenovo wonder about multi-RTT, since the UE performs the Rx-Tx time difference measurement. Qualcomm think this is not different from other UE measurements; it is up to the LMF what to do with the measurements, and they do not see what capabilities would be needed.

Proposal 3: Introduce the UE capability for the on-demand PRS for bandwidth aggregation in the LPP.

Proposal 4: Replace the ‘BOOLEAN’ with ‘ENUMERATED { supported }’ for the following UE capabilities.

[Chair’s note: This refers to the ReducedNumOfSamples fields raised in RIL M002]

Discussion:

Xiaomi followed the RAN4 feature list, but are OK with the change.

Proposal 5: The UE capability on FG 41-2-3 is for the CPP measurement and it is defined for DL-TDOA and Multi-RTT respectively.

Proposal 6: The UE capability on FG 41-2-4 is introduced for DL-TDOA.

Discussion:

Xiaomi clarify that the RAN1 feature list was not explicit and the attempt here is to reach common understanding.

Agreements:

The UE capability on scheduled location time in SLPP is introduced per positioning mode per positioning method.

The UE capabilities for LMF based positioning integrity are not needed.

Introduce the UE capability for the on-demand PRS for bandwidth aggregation in the LPP.

Replace the ‘BOOLEAN’ with ‘ENUMERATED { supported }’ for the ReducedNumOfSamples fields in the UE capabilities. Change M002 to PropAgree.

The UE capability on FG 41-2-3 is for the CPP measurement and it is defined for DL-TDOA and Multi-RTT respectively.

The UE capability on FG 41-2-4 is introduced for DL-TDOA.

Rapporteur CRs

[R2-2400915](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400915%20Draft%2038.306%20CR%20for%20positioning%20capability.docx) draft 38.306 CR for Positioning Capability Xiaomi draftCR Rel-18 38.306 18.0.0 B NR\_pos\_enh2

* Revised in R2-2401527

[R2-2401527](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401527%20Draft%2038.306%20CR%20for%20positioning%20capability.docx) draft 38.306 CR for Positioning Capability Xiaomi draftCR Rel-18 38.306 18.0.0 B NR\_pos\_enh2

* Revised in R2-2401638 (very short post-meeting discussion, for merge)

[R2-2400953](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400953%20Draft%2038.331%20CR%20for%20positioning%20capability.docx) Draft 38.331 CR for positioning capability Xiaomi draftCR Rel-18 38.331 18.0.0 B NR\_pos\_enh2

* Revised in R2-2401528

[R2-2401528](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401528%20Draft%2038.331%20CR%20for%20positioning%20capability.docx) Draft 38.331 CR for positioning capability Xiaomi draftCR Rel-18 38.331 18.0.0 B NR\_pos\_enh2

* Revised in R2-2401639 (very short post-meeting discussion, for merge)
* [Post125][412][POS] 38.306 and 38.331 Rel-18 positioning capability CRs (Xiaomi)

 Scope: Update and check the draft CRs in R2-2401527 and R2-2401528.

 Intended outcome: Endorsed draft CRs for merge into mega CRs, in R2-2401638 (38.306) and R2-2401639 (38.331)

 Deadline: Very short (for merge)

[R2-2400954](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400954%20Draft%20LPP%20CR%20for%20positioning%20capability.docx) draft LPP CR for Positioning Capability Xiaomi draftCR Rel-18 37.355 18.0.0 B NR\_pos\_enh2

* Revised in R2-2401529

[R2-2401529](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401529%20Draft%20LPP%20CR%20for%20positioning%20capability.docx) draft LPP CR for Positioning Capability Xiaomi draftCR Rel-18 37.355 18.0.0 B NR\_pos\_enh2

* Revised in R2-2401640 (post-meeting discussion, for separate LPP CR),
* [Post125][413][POS] 37.355 Rel-18 positioning capability CR (Xiaomi)

 Scope: Update and check the draft CR in R2-2401529.

 Intended outcome: Agreed CR in R2-2401640

 Deadline: Short (for RP)

Open issue documents

[R2-2401312](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401312%20RedCap.docx) RIL E103 Missing RedCap capability for RRC Connected mode Ericsson discussion Rel-18

Proposal 1 Add the capability 41-5-1.

[R2-2400364](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400364_Further%20considerations%20on%20UE%20capability%20open%20issues.docx) Further considerations on UE capability open issues Intel Corporation discussion Rel-18 NR\_pos\_enh2

### 7.2.8 Corrections to other specifications

Impact to any specifications not identified above.

[R2-2400339](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400339%20Discussion%20on%20the%20remaining%20issues%20for%20idle%20mode%20procedure.docx) Discussion on the remaining issues for idle mode procedure Huawei, HiSilicon discussion Rel-18 NR\_pos\_enh2

Proposal1: Follow legacy SL communication/discovery for SL positioning: the cell selection/reselection parameters in the concerned cell selected for sidelink operations should be used for evaluation. Adopt the TP in Annex A.

Proposal2: Do not support SL positioning for UE in limited service state.

Discussion:

Intel wonder why we would support SL communication but not positioning. Huawei checked with SA2 and understand there is no discussion about supporting it in limited service, so by default it is not supported.

Lenovo wonder if there is any behaviour that would be needed to switch to UE-only operation when camping in limited service. Huawei think this is not an issue because the UE has no connection with the network.

Agreements:

Follow legacy SL communication/discovery for SL positioning: the cell selection/reselection parameters in the concerned cell selected for sidelink operations should be used for evaluation. TP in R2-2400339 is the baseline; CR to be developed in post-meeting discussion.

RAN2 will not implement anything to enable SL positioning for a UE in limited service in this release.

* [Post125][411][POS] 38.304 Rel-18 positioning CR (Huawei)

 Scope: Draft and check a CR to 38.304 capturing decisions of RAN2#125.

 Intended outcome: Agreed CR in R2-2401911

 Deadline: Short (for RP)

[R2-2400365](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400365_Further%20considerations%20on%20TS%2038.304%20%20open%20issues.docx) Further considerations on TS 38.304 open issues Intel Corporation discussion Rel-18 NR\_pos\_enh2

[R2-2401324](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401324%20cellres.docx) Addressing SL cell reselection open issues Ericsson discussion Rel-18

## 7.9 Enhanced NR Sidelink Relay

(NR\_SL\_relay\_enh-Core; leading WG: RAN2; REL-18; WID: [RP-223501](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_98e/Docs/RP-223501.zip))

Time budget: 0TU

Tdoc Limitation: 4

### 7.9.1 Organizational

Including incoming LSs and rapporteur inputs. CR rapporteurs are asked to continue maintaining an open issues list reflecting known issues to be handled during the maintenance phase.

Incoming LS with RAN2 in Cc:

[R2-2400073](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400073_S2-2313800.docx) Reply LS on handling of location information in multi-path operation (S2-2313800; contact: LGE) SA2 LS in Rel-18 NR\_SL\_relay\_enh-Core, 5G\_ProSe\_Ph2 To:RAN3 Cc:RAN2

* Noted

Incoming LS and draft reply (from the contact company)

[R2-2400072](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400072_S2-2313796.docx) Reply LS on L2ID and User Info for L2 based U2U (S2-2313796; contact: LGE) SA2 LS in Rel-18 NR\_SL\_relay\_enh To:RAN2 Cc:CT1, SA3

Discussion:

Ericsson understand that SA2 are saying the L2ID of the peer UE is not known at the source UE and we should revert the WA and go with our option 1.

Huawei wonder if that would mean the AS layer does not need to maintain the association between user info and local ID.

Qualcomm understand the AS layer needs to maintain the association, and the cross-layer interaction is similar to what we have for other upper layer information like QoS type.

Apple think the LS shows some concerns about both options and does not say our WA is infeasible, so they understand that we still have two options to discuss.

ZTE think if we go with option 1, the source UE already needs to know the peer UE’s L2ID for other procedures.

OPPO agree with Apple’s understanding of the LS and think we do not need to revert the WA.

Ericsson think SA2 also flagged the issue of L2ID change, which could be frequent. They think the LS identifies issues that would justify reverting the WA.

Qualcomm agree with Ericsson and think the LS is clear. For the L2ID update, they understand that it could happen every five minutes; to ZTE’s comment, they think the L2ID can be replaced by the user info ID.

OPPO think the L2ID update is not a special issue for Rel-18; we use the L2ID mapping in the AS configuration for SUI reporting from Rel-16, so if this is a problem it is already a problem.

Samsung have a similar view to Apple and OPPO; they think SA2 did not reject any option and we can discuss here. They see a lot of spec impact if we change the association.

Apple think an easy solution is to let the upper layer associate the IDs and rely on the fact that there is only one e2e connection between the UEs. CATT think this is reasonable. ZTE think it would need to be confirmed with SA2, and an alternative would be to have both IDs included and exchange the L2ID in AS signalling, without SA2 spec impact; they think the restriction from Apple’s suggestion is not there.

Qualcomm think ZTE’s suggestion is reasonable; the L2ID could be sent to the source remote UE by AS.

OPPO understand that signalling the ID in AS layer does not fully clarify how to do the mapping. They think we may not be able to enforce having only one e2e connection operation at a time unless the UE suspends operations on other connections.

Qualcomm understand that when different e2e connections will use different PC5 links, there is no issue, but we would need to constrain the case of the same PC5 link.

Apple think the limitation to one operation at a time is reasonable.

Nokia do not see any of the solutions as totally infeasible. We have specified according to the WA, so if we go for option 1, we need changes. They are concerned about concluding if we take a new solution.

Show of hands:

Revert WA and change to original option 1: 5

Keep WA: 10

Qualcomm see a lot of impact on SA2 and CT1, where Rel-18 has been closed for a long time. They could accept Apple’s solution and think we could take some time to discuss it.

Kyocera think if SA2 do not think our WA is viable, they should have said so, and since they did not, it is still on the table.

Xiaomi have some reluctance to make a decision on the spot and think an offline would be useful.

ZTE prefer that both the user info ID and the L2ID would be signalled, allowing the issue to be resolved within RAN2.

LG have some sympathy with reverting the WA because of the impact to other groups, and they would like to give some more time to this possibility.

* [AT125][402][Relay] WA on L2ID and user info association (Qualcomm)

 Scope: F2F offline to discuss the impact of the SA2 LS in R2-2400072 and determine if an AS solution (using as a baseline the Apple proposal on association in upper layers and only one e2e connection operation at a time) can be agreed as a compromise, or failing that, if there is consensus on handling of our existing WA.

 Intended outcome: Report to Thursday CB session in R2-2401615

 Deadline: Wednesday 2024-02-28 2000 EET

 Schedule: Tuesday 2024-02-27 1700-1730 EET [tentative, rapporteur to check with secretary]

[R2-2401615](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CInbox%5CR2-2401615.zip) WA on L2ID and user info association(Qualcomm) Qualcomm Incorporated discussion Rel-18 NR\_SL\_relay\_enh-Core

[Proposals]

1. There is no overlapped PC5 connection setup procedure towards different target Remote UEs via the same relay UE

2. Before receiving Layer-2 ID from AS layer, source Remote UE does not trigger PC5 connection setup procedure towards another target Remote UE via the same relay UE

3. During Local ID assignment, Relay UE indicates to the source Remote UE layer-2 ID of the target Remote UE ID.

4. Source Remote UE indicates layer-2 ID of the target Remote UE to ProSe layer

5. Source Remote UE AS layer maintains Layer-2 ID and local ID mapping per relay UE

Discussion:

Huawei think the word “overlapped” may be unclear in P1.

Nokia wonder if there is specification impact, especially for the point on no concurrent procedures. Qualcomm think the relay implementation can handle it, or if the remote UE avoids triggering the procedure, it avoids some delay. They think there is no spec impact from RAN2 perspective.

Xiaomi understand the setup procedure is handled in upper layer.

LG think stage 2 documentation would be enough.

OPPO suggest we could reword P1. Apple think OPPO’s concern relates to a race condition, and changing the wording may obscure the connection to SA2’s original LS.

OPPO are concerned that it could be a problem for SA2/CT1. Qualcomm think they have no spec impact; Xiaomi think it can be left to them to evaluate. NEC think we can indicate our intention for no spec impact, and SA2/CT1 can check. vivo agree but think we should ask in the LS if they have a concern.

Agreements:

There are no concurrent PC5 connection setup procedures between a single source remote UE and different target remote UEs via the same relay UE. RAN2 will not capture this in a spec and it is left to SA2 to decide if there is something to capture.

Before receiving Layer-2 ID from AS layer, source Remote UE does not trigger PC5 connection setup procedure towards another target Remote UE via the same relay UE.

During Local ID assignment, Relay UE indicates to the source Remote UE layer-2 ID of the target Remote UE ID in RRCReconfigurationSidelink.

Source Remote UE indicates layer-2 ID of the target Remote UE to ProSe layer.

Source Remote UE AS layer maintains Layer-2 ID and local ID mapping per relay UE.

LS to SA2 and CT1 to indicate our agreements.

* [Post125][416][Relay] LS to SA2 on L2ID and user info (Qualcomm)

 Scope: Reply to the LS in R2-2400072 indicating our agreements under R2-2401615 and inviting SA2/CT1 to determine any spec impact and if they have a concern.

 Intended outcome: Approved LS

 Deadline: Short (not for RP)

[R2-2400505](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400505-Discussion%20on%20L2ID%20and%20User%20Info%20for%20L2%20based%20U2U%20%28related%20to%20LSin%20R2-2400072%29.docx) Discussion on L2ID and User Info for L2 based U2U LG Electronics Inc. discussion Rel-18 NR\_SL\_relay\_enh-Core

R2-2400507 Reply LS on L2ID and User Info for L2 based U2U relay (reply to R2-2400072; contact: LGE) LG Electronics Inc. LS out Rel-18 NR\_SL\_relay\_enh-Core To:SA2 Cc:CT1, SA3

Draft replies not from contact company

[R2-2400949](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400949%20Discussion%20on%20Reply%20LS%20about%20L2%20ID%20and%20User%20Info.docx) Discussion on Reply LS on L2ID and User Info for L2 U2U Apple discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2401156](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401156-Remote%20UE%20ID%20when%20assigning%20local%20ID.docx) Remote UE ID discussion for U2U relay Local ID assignment Qualcomm Incorporated, Ericsson, MediaTek Inc, InterDigital discussion NR\_SL\_relay\_enh-Core

[R2-2401157](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401157-Draft%20reply%20LS%20to%20SA2%20on%20Remote%20UE%20ID%20when%20assigning%20Local%20ID.docx) Reply LS on L2ID and User Info for L2 based U2U relay (reply to R2-2400072; contact: Qualcomm) Qualcomm Incorporated LS out Rel-18 NR\_SL\_relay\_enh-Core To: SA2

New draft LS out

[R2-2400768](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400768%20U2U%20relay%20reselection.docx) U2U relay selection and reselection Nokia, Nokia Shanghai Bell discussion Rel-18 NR\_SL\_relay\_enh-Core

Proposal 1: RAN2 sends a LS to SA2 asking to specify U2U relay selection to enable D2I path switch in a similar way as U2U relay reselection and I2I path switch are supported considering that RAN2 specification supports to trigger both U2U relay selection and reselection enabling both D2I and I2I path switch.

Discussion:

CATT agree that the gap is there, but they wonder if an LS is needed or SA2 can trigger the work internally. Nokia understand that SA2 tried to discuss this and need some explicit input.

OPPO understand that SA2 merged relay selection into e2e link establishment, so they are not sure what the expected SA2 change would be. Huawei have a similar understanding and think “path switch” is the wrong terminology.

Qualcomm think we can keep the LS open and indicate what RAN2 have agreed so they can consider if there is impact.

* [AT125][403][Relay] LS to SA2 on U2U relay selection for moving from direct PC5 connection to U2U relay (Nokia)

 Scope: Draft an LS to SA2 using the text from R2-2400768 as baseline, indicating the RAN2 status on U2U relay selection and inviting them to consider if there is spec impact to enable moving from a direct connection to U2U relay.

 Intended outcome: Approved LS (without CB if possible) in R2-2401616

 Deadline: Thursday 2024-02-29 2000 EET

[R2-2401616](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401616%20LS%20on%20U2U%20relay%20selection-v7-clean.docx) [DRAFT] LS on U2U relay selection Nokia LS out Rel-18 NR\_SL\_relay\_enh-Core To:SA2 Cc:CT1

* Approved as R2-2401916

Rapporteur CRs

[R2-2400566](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400566%20Correction%20on%2038.306%20For%20UE%20capability.docx) Correction on 38.306 for SL Relay UE capability Samsung draftCR Rel-18 38.306 18.0.0 F NR\_SL\_relay\_enh-Core

* Revised in R2-2401648

[R2-2400567](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400567%20Correction%20on%2038331%20for%20UE%20capability.docx) Correction on 38.331 for SL Relay UE capability Samsung draftCR Rel-18 38.331 18.0.0 F NR\_SL\_relay\_enh-Core

* Revised in R2-2401649 (post-meeting discussion)
* [Post125][406][Relay] 38.306 and 38.331 Rel-18 relay capability CRs (Samsung)

 Scope: Update and check the draft CRs in R2-2400566 and R2-2400567

 Intended outcome: Endorsed draft CRs for merge into mega CRs, in R2-2401648 (38.306) and R2-2401649 (38.331)

 Deadline: Very short (for merge)

[R2-2400633](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5C38351_CR0030_%28REL-18%29_R2-2400633%20-%20Corrections%20for%20NR%20sidelink%20relay%20enhancements.docx) Corrections for NR sidelink relay enhancements OPPO CR Rel-18 38.351 18.0.0 0030 - F NR\_SL\_relay\_enh-Core

* Revised in R2-2401647 (post-meeting discussion)
* [Post125][403][Relay] Rel-18 SRAP relay CR (OPPO)

 Scope: Update and check the CR in R2-2400633.

 Intended outcome: Agreed CR in R2-2401647

 Deadline: Short (for RP)

[R2-2400804](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400804%20-%2038.304_CR0379_Corrections%20on%2038304%20for%20SL%20Relays.docx) Correction on 38.304 for SL Relays Ericsson CR Rel-18 38.304 18.0.0 0379 - D NR\_SL\_relay\_enh-Core

=> Agreed

### 7.9.2 Stage 2 corrections

Impact to 38.300. A single CR with miscellaneous corrections is requested from the CR rapporteur. Minor and editorial issues should be coordinated with the rapporteur and merged into the miscellaneous CR. Larger issues can be discussed based on contributions.

Rapporteur CR

[R2-2400504](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400504-Corrections%20to%2038.300%20for%20Rel-18%20SL%20Relay%20%28rapporteur%C3%AD) Corrections to 38.300 for Rel-18 SL Relay (rapporteur’s CR) LG Electronics Inc. CR Rel-18 38.300 18.0.0 0785 - D NR\_SL\_relay\_enh-Core

* Revised in R2-2401636 (to take into account discussion of the MCG terminology)
* [Post125][401][Relay] 38.300 Rel-18 relay CR (LG)

 Scope: Update and check the CR in R2-2400504, taking into account discussion of the MCG terminology.

 Intended outcome: Agreed CR in R2-2401636

 Deadline: Short (for RP)

Other proposals

[R2-2400101](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400101%20Correction%20on%20R18%20SL%20Relay.docx) Correction on R18 SL Relay CATT discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400400](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400400.docx) Correction to 38.300 on Relay enhancement Xiaomi discussion

[R2-2400579](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400579_SLRelay_Stage2.doc) Stage-2 correction on SL relay Samsung discussion

[R2-2400636](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400636%20-%20Discussion%20on%20stage-2%20corrections.docx) Discussion on stage-2 corrections OPPO discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2401142](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401142%20TP%20to%20TS%2038.300%20on%20SL%20relay%20enhancement.docx) TP to TS 38.300 on SL relay enhancement CMCC discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2401450](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401450%20Stage-2%20Corrections%20on%20SL%20relay%20enhancements.doc) Stage-2 Corrections for SL relay enhancements Huawei, HiSilicon discussion Rel-18 38.300 NR\_SL\_relay\_enh-Core Late

[R2-2401476](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401476%20Discussion%20on%20stage%202%20corrections%20for%20SL%20relay.doc) Discussion on stage 2 correction for SL relay ZTE Corporation, Sanechips discussion NR\_SL\_relay\_enh-Core Late

Withdrawn/Not available

R2-2400403 Stage-2 Corrections for SL relay enhancements Huawei, HiSilicon CR Rel-18 38.300 18.0.0 0779 - F NR\_SL\_relay\_enh-Core Withdrawn

R2-2400689 Corrections to 38.300 for SL relay ZTE, Sanechips CR Rel-18 38.300 18.0.0 0790 - F NR\_SL\_relay\_enh-Core

=> Withdrawn

### 7.9.3 RRC corrections

Impact to 38.331, except for capability-related issues (see agenda item 7.9.7). A single CR with miscellaneous corrections is requested from the CR rapporteur. Minor and editorial issues should be coordinated with the rapporteur and merged into the miscellaneous CR. Larger issues can be discussed based on contributions.

RIL list

Prioritized ToDo items:

1. U2U
	1. gNB indication in SIB12 for U2U [O421, etc.]
	2. Split QoS update [O415, etc.]
	3. Procedural text, potentially easy to take into rapporteur CR (quick checks)
		1. Release/failure of e2e link [H670, etc.]
		2. Per-hop RLC channel handling [O408, etc.]
		3. e2e DRB/SRB release [O410, etc.]
		4. Remote UE AS condition without direct SL-RSRP/SD-RSRP [H683, etc.]
2. Multi-path
	1. PC5 link maintenance [H065, etc.]
	2. PC5-RRC trigger in SL-IndirectPathAddChange [H692, etc.]
	3. Relay UE indication for PC5-RRC trigger [H066]
	4. N3C bearer association [H690, etc.]
	5. Failure type in IndirectPathFailureInformation [B107]
	6. T421 [H656, etc.]
	7. N3C path addition/change failure [C234, etc.]
3. Service continuity
	1. SL-RSRP and SD-RSRP in events X1/X2/Y2 [O423, etc.]

[R2-2400736](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CDocs%5CR2-2400736.zip) RRC RIL issue list for Rel-18 SL relay Huawei, HiSilicon report Rel-18 NR\_SL\_relay\_enh-Core

Discussion:

Lenovo think B108 can be changed to ToDo, related to unsolicited SIB1 transfer from relay to remote UE. Huawei confirm that this is their understanding.

Xiaomi think X028 can be considered as an alternative solution to the same issue.

Agreements:

B108 and X028 are moved to ToDo status.

Other PropAgree and PropReject RILs in R2-2400736 are confirmed.

[U2U]

O421

[R2-2400638](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400638%20-%20Discussion%20on%20%5BO400-407%2C%20O421%5D.docx) Discussion on [O400-407, O421] OPPO, Huawei, vivo discussion Rel-18 NR\_SL\_relay\_enh-Core

Proposal 1 Introduce separate network capability indication in SIB12 for L2 and L3 U2U Relay as the above TP.

Discussion:

Qualcomm think it is needed for L2 but not motivated for L3. OPPO understand that for L3 the UE needs to know if there is support for the discovery and (re)selection procedures. Qualcomm think the UE does not need to know the gNB capability, only the configuration that is provided.

Apple agree with Qualcomm: If the gNB does not support L3 U2U, it will not include the configuration in SIB12.

OPPO understand the discovery configuration is not always included in SIB12, and they see that this is similar to the U2N case where we do have an indication for L3. If the gNB does not provide the discovery configuration in SIB12, the UE should know if it can provide it in dedicated signalling.

Ericsson agree with Qualcomm and Apple and wonder why the indication would be necessary, since we agreed that the gNB is not involved in the U2U relay procedures. They see that the authorization procedure can be used to control U2U operation as well.

InterDigital indicate that the UE needs to know if the network can provide the configuration in dedicated signalling, so they agree with OPPO. Huawei agree and think if there is no indication in SIB12, the U2U-capable UE may initiate a connection when the network does not support the configuration.

Nokia agree with Ericsson and Qualcomm and think L3 can work without the indication. ZTE also agree.

Qualcomm understand that the UE will only attempt to do discovery if the threshold in SIB12 is provided.

OPPO wonder if Qualcomm’s intention is to make it mandatory for the network to provide the discovery configuration in SIB12 if it supports U2U. Qualcomm clarify this is not the intention, but they think from UE perspective, the UE can consider that the discovery condition is met if the threshold is not provided.

Huawei think there would then be no meaning to the threshold condition. Qualcomm indicate that if the network does not provide anything either in SIB12 or dedicated signalling, it means the network does not care. OPPO understand this would leave the UE unable to distinguish “the network doesn’t care” from “the network is not capable”.

Apple think the network should always provide the threshold in SIB12 if it supports U2U discovery.

ZTE think the discovery threshold could be used for L2 support indication as well.

Qualcomm think the gNB does not need to prevent the UE from performing discovery by withholding the threshold; we already have behaviour for the case that the threshold is not there.

InterDigital understand that Qualcomm’s proposal is that the network would always provide the discovery resources in SIB12. Qualcomm do not intend any change to the handling of discovery resources, only the discovery threshold.

NEC think this resembles the Rel-17 U2N discussion and we can reuse the principle.

Ericsson understand the concern is that the UE may go to connected mode only to discover that there is no support for U2U; they think we have the same issue in multi-path and the threshold should be optional for the network to set, not a capability indicator.

OPPO think it is similar to U2N; we have the indication although the burden on the network is minimal. Qualcomm think there is a difference since the U2N traffic goes through the network, and nothing is broken if we do not have the capability.

Nokia see differences between U2N and U2U, because for U2N the gNB needs to be aware that the remote UEs are present; for U2U they see no impact to the gNB except setting the capability.

OPPO think if we do not have the indication for L3 U2U, the UE wanting to perform L3 U2U relaying has to go to RRC\_CONNECTED. Qualcomm have a different understanding based on the threshold being in SIB12.

Samsung think we should follow U2N for simplicity.

Ericsson think we really cannot have the L2 indicator either.

O415/N025

[R2-2400767](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400767%20N025-U2U%20QoS.docx) RIL N025 - QoS split for L2 U2U Relay Nokia, Nokia Shanghai Bell discussion Rel-18 NR\_SL\_relay\_enh-Core

Proposal 1.1: Enhance the QoS split procedure by allowing the relay UE to initiate an update of the split PDB for the first hop for the existing E2E SL-DRB(s).

Proposal 1.2: Modify the Sidelink UE information procedure by enabling the Relay UE to send unsolicited UEInformationResponseSidelink message including all QoS flow(s) where PDB has been changed. The text proposal for 38.331 can found in the Annex.

Discussion:

LG think it is not clear how the relay UE can do the QoS split without knowing the QoS information from the source UE, so P1.2 is not needed.

Apple think P1.1 is an optimization and do not see why the relay UE needs to change the split without any input from the remote UE. OPPO agree with Apple and note that the equivalent is not supported in L3 U2U. OPPO also feel that the response without request in P1.2 is a problem.

Qualcomm think the proposals make sense for L2.

Nokia think the radio conditions on the second hop could motivate the relay UE to update the QoS. InterDigital agree with Nokia and also think the relay could take on additional unicast links that would require the relay to update the split.

LG think if the channel conditions change on the second hop, the relay UE can modify the configuration on the second hop, and it may not be a perfect solution but it should allow preserving the PDB split.

ZTE think the motivation makes sense, and P1.2 does not require ASN.1 changes.

OPPO think there will also be channel condition changes in direct SL communication, and we have not needed this for that case.

Apple understand the motivation but think the relay could trigger change of mapping at the remote UE and create a cascade of changes. Ericsson agree with Apple, but they are not sure this is really a maintenance/review topic, although they have some sympathy for the proposal.

Agreement:

N025 changes to PropReject and the corresponding EN is removed.

O415 changes to PropAgree.

Rapporteur will check for related RILs.

H670/O408/O410/H683: quick check for agreeability

Agreement:

H670, O408, O410, and H683 are agreeable in principle.

Rapporteur to check for related RILs and implementation to be checked in the rapporteur CR.

* [AT125][404][Relay] Remaining prioritized issues on relay RRC (Huawei)

 Scope: F2F offline to discuss the remaining RIL/open issues on relay RRC and converge to the extent possible. Initial email phase before F2F discussion to collect comments.

 Intended outcome: Report to CB session in R2-2401617

 Deadline: Wednesday 2024-02-28 2000 EET

 Schedule: Wednesday 1500-1600 EET in Brk3 [tentative, rapporteur to check with the secretary]

[R2-2401617](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401617%20Report%20of%20%5BAT125%5D%5B404%5D%5BRelay%5D_v18_Rapp.docx) [AT125][404][Relay] Remaining prioritized issues on relay RRC (Huawei) Huawei, HiSilicon discussion Rel-18 NR\_SL\_relay\_enh-Core

Proposal 1: An explicit network indication (e.g. retainRelayPath) should be introduced for direct addition/change/release to indicate remote UE to maintain the PC5 unicast link with the source relay UE during Rel-17 I2D/D2I path switch procedures.

Discussion:

Samsung suggest retainIndirectPath.

Proposal 2: Not to pursue that NW indicates the RRC state (Connected/NotConnected) of the selected target relay UE to the Remote UE when configuring indirect path addition and SRB1 is not configured on the indirect path considering the fact that the configuring split SRB1 may not be turned on in the network deployment.

Discussion:

Xiaomi think the “considering” part is not needed.

[Updated WF after further offline] Proposed 3: introduce 1-bit indication in AS container in discovery message and in measurement result to enable Relay UE differentiation by network. It is optional for relay UE to set this indication. It is optional for remote UE to support this indication reporting. (This indication is to help network to decide whether to configure split SRB1 with duplication or not.)

Discussion:

InterDigital think we should capture the parenthetical for clarity. Nokia think we should be clearer about what the indication is, and they think the optionality is strange since the relay UE may indicate and then the remote UE does not report to the network; they understand that it is optional for the relay UE but think it should not be for the remote UE.

Ericsson have a similar concern to Nokia.

vivo understand that this issue was discussed in the offline and the result is a compromise; they think the indication is not very useful, but they can accept it as optional. OPPO have the same view as vivo and think some UEs will want to support it and others will not.

Nokia think optionality at the remote UE side was discussed after the offline, and they do not see the use of the optionality. They understand this information should be delivered via SUI.

Ericsson think it does not make sense for the remote UE not to forward information that would help the network. If the remote UE receives it, it should forward it.

OPPO do not think the feature is useful, and they can only accept it if it is optional for the UE. LG think everything in the SUI is optional, but they have some sympathy with Nokia and think it is not so good if the UE behaviour is optional.

Samsung think the proposal does not solve the original problem and causes new problems because of the optionality. They think a UE capability may be needed.

Huawei think it will be helpful if all UEs support this functionality, but they see the current proposal as a compromise between the network and UE perspectives. They understand that if the network does not receive the indication, it will not know if the remote UE did not receive the indication or does not support forwarding it, but it will be no worse than having the network not know anything. So from network perspective they can accept the compromise.

Nokia think if the information originated from the remote UE, it would make sense to have it be optional, but since it originates from the relay UE, the remote UE should not be allowed to drop it. They do not see the problem with sending it.

OPPO understand that the issue is that the remote UE does not need to support the capability, which means it can ignore the bit in the discovery message.

Ericsson wonder what the spec would say at stage 3 level. Huawei indicate that the spec would say “if the remote UE receives the indication and it supports reporting it, it shall report it”, i.e., not a “UE may”.

Nokia think if the UE vendor does not want to support it, the relay UE should not support.

InterDigital think nothing was broken with the current spec, and the question is whether to have this indication to help the network, which UE vendors do not want to be forced to support in all cases.

Qualcomm wonder if we have a UE capability for support of the PC5-RRC trigger. They think if support for the trigger is optional, we do not need another layer of optionality on the remote UE.

LG observe that in 38.331, the SUI procedure always says “if the UE initiates the procedure to” do something, and it is up to the UE when to initiate it. So they see it as already open to UE implementation. Nokia have a different understanding and think the UE behaviour is mandatory when it supports the corresponding feature.

Huawei thought the compromise would be possible to give the network some information to support its decision.

CMCC think the indication is useful to the network, and from the UE perspective it is not a big impact; they see the optionality compromise as an acceptable way forward.

Huawei think the remote UE can be asked only to forward it, irrespective of whether it seems useful, and the network can take the decision.

Ericsson think if we do not have the indication, we cannot use the PC5-RRC trigger and we would need to revert that agreement. They think the optionality is not in line with system principles.

OPPO understand that in RRC\_INACTIVE the network can know some information without the indication from the remote UE, and the UE cannot take all the burden of the system feature.

Qualcomm think the gNB cannot retrieve the inactive context based on L2ID.

Huawei think if we do not have the indication, idle state may not work; we have a solution, and the only issue is whether it is optional on the remote UE.

Qualcomm wonder if both the remote and relay UEs could treat the PC5-RRC trigger as optional, and if the remote/relay UE supports the PC5-RRC trigger it must support the indication. InterDigital think we should not revert early agreements like this.

InterDigital understand that the question is whether we want an enhancement in the form of the indication, and we should not change our agreements for an enhancement at this stage.

Huawei think this is an essential issue from network side, and they are OK with Qualcomm’s suggestion; companies not interested in the PC5-RRC trigger can then not implement it. InterDigital wonder how relay UEs not implementing it would move to connected mode. Huawei think if the UE does not support it, and the network cannot find another connected relay UE to use, MP may not be configured.

OPPO think the trigger is the only Rel-17/Rel-18 differentiator and the proposed compromise may not make a difference.

Nokia want to avoid the case where the remote UE supports the trigger but decides not to forward the indication; so they can accept Qualcomm’s compromise.

InterDigital wonder how we take into account a relay that does not support the trigger and a remote that does. Qualcomm understand this is the intention of the indication in discovery: This relay UE will not send the indication and the remote UE will report that.

Qualcomm think the capability gives the network more information on which to select the relay and if it can configure split SRB1.

Proposal 4: Add configuration to associate N3C with DRB.

Proposal 5: Not to pursue that the remote UE initiates the transmission of IndirectPathFailureInformation message upon PC5 unicast link release indicated by upper layer at Remote UE, considering the remote UE will update SUI to indicate a PC5 connection is gone.

Discussion:

Lenovo understand that after checking the spec, the SUI is not enough; the IndirectPathFailureInformation has the failure type and candidate measurement results.

Xiaomi think the measurements are optional and depend on whether the UE has other measurement results available, so there may not be much difference. Lenovo point out that everything is optional in the SUI.

Apple think the SUI cannot be interpreted directly as a failure by the network, so the failure message may be useful. Samsung have a similar understanding to Apple and Lenovo, and think it is beneficial to allow the UE to trigger the failure reporting procedure.

OPPO think the remote UE can still trigger a measurement report to the network, and they are not sure that the “failure” is really a failure from the network point of view, since there can be many reasons for the release. They think we can keep the current mechanism.

vivo do not see what the issue is and why the release should be considered always as a failure.

LG agree that everything in the SUI is optional, but normally the UE sends the SUI to get better help from the gNB, so the UE is motivated to report this in the SUI.

Samsung think loss of the indirect path constitutes a “failure” of the multi-path configuration. InterDigital agree.

Proposal 6: Add a T421 stop condition in table 7.1.1 for reception of notification message.

Discussion:

Huawei clarify that this is an update of the table for something already supported in the spec.

Agreements:

An explicit network indication is introduced for direct addition/change/release to indicate remote UE to maintain the PC5 unicast link with the source relay UE during Rel-17 I2D/D2I path switch procedures.

RAN2 will not pursue that NW indicates the RRC state (Connected/NotConnected) of the selected target relay UE to the Remote UE when configuring indirect path addition and SRB1 is not configured on the indirect path.

Introduce 1-bit indication in AS container in discovery message and in measurement result to enable Relay UE differentiation by network regarding support of PC5-RRC trigger. (This indication is to help network to decide whether to configure split SRB1 with duplication or not and to help the network select the target relay UE.)

Support of PC5-RRC trigger is optional for the relay and remote UEs; if the UE supports the PC5-RRC trigger, it supports the 1-bit indication above.

Add configuration to associate N3C with DRB.

Add a T421 stop condition in table 7.1.1 for reception of notification message.

[12:5] Proposal 7: Remote UE stops T421 upon reception of RRCReconfigurationCompleteSidelink when split SRB1 with duplication is not configured.

Discussion:

Fujitsu think many companies consider that there could be a case where the timer is triggered and PC5 link already exists; they think the rule still works in this case and can prevent overlapping functionality between T421 and T400.

Xiaomi think this shows that we need a number of stop conditions, and the current proposal is good enough; they understand that it improves the reliability, and the alternative requires inter-layer information exchange.

Samsung think for the double-timer case, we would need to deal with the interaction between them, so they think it would be better to differentiate between them and not have the current proposal.

Nokia were thinking there might be some difficult handling of the two timers, but now they wonder if this is a real case; T421 is for the indirect path and T400 for the direct path. OPPO understand they can run simultaneously, since T400 is for general sidelink procedures. Nokia understand that if T400 is running, the network should not send an indirect path configuration.

Huawei think this discussion drifts a bit from the proposal, and T400 should be a common timer for all services, not only the relay case; in option 2 they see no issue for any timer, but for option 1, companies pointed out that it is not feasible in case the sidelink connection is already established before the indirect path modification command. So if we go with option 1, the remote UE may never stop the timer. OPPO think when there is an existing PC5-RRC connection, the relay and non-relay services will not share the same PC5 link. Huawei do not mean to reuse the non-relay PC5 connection for relay services, just that when to start the PC5 connection is up to UE implementation.

Nokia think either way is feasible and we could follow majority view.

[7:5] Proposal 8: Support N3C indirect path addition/change failure procedure.

[11:4] Proposal 9: T421 is not applicable to scenario 2.

Discussion:

CMCC understand that P9 is connected to P8, and we should further discuss.

Xiaomi support both proposals.

Samsung understand the N3C connection is up to UE implementation, but they think if we have no timer condition, the relay UE can do connection operations without any stop condition.

Nokia think P8 is out of 3GPP scope, which means there is no way to know the value for T421. vivo have a similar understanding.

Apple support P9, and they think since the path is ideal, there should be no need to wait for it.

CATT think for scenario 2, it is not clear if the failure can happen or not.

[7:3] Proposal 10: Introduce separate threshold configurations for R17 event X1, X2, [Y2?]. Need to consider UE capability to avoid NBC change to legacy UE.

Discussion:

Xiaomi think the concern is the NBC change, and a UE capability could avoid this.

LG think the NBC change should be avoided and want to keep the Rel-17 thresholds. They are OK with a UE capability.

Samsung agree with Xiaomi that a capability bit resolves the problem.

[all support] Proposal 11: add an indication in SIB12 for L2 U2U operation.

[11:1] Proposal 12: add an indication in SIB12 for L3 U2U discovery.

Discussion:

Qualcomm cannot accept P12 because they see no motivation. Nokia can accept it but think it is not really necessary.

OPPO think without this indication, the L3 U2U relay is broken because UEs will go to RRC\_CONNECTED with no point, and companies who do not want it should show a solution without it.

Qualcomm think the only thing in the configuration is the discovery threshold, and if it is provided to the UE, the UE shall use it; if not, it uses no threshold.

vivo think we have discussed this several times and the argument is mainly about necessity; they see it as safer to have a separate indication.

Huawei think the consequence is that the UE moves to RRC\_CONNECTED pointlessly, which has power costs.

Ericsson suggest that we use the presence of the threshold as an indication of support. Qualcomm have a concern with this and wonder what is broken if the threshold is not configured to the UE. Huawei wonder if the threshold is always present, does it mean L2 U2U relay also follows the configuration and never goes into RRC\_CONNECTED?

Huawei think Ericsson’s proposal would disable having different thresholds for L2 and L3. Apple think this is not possible anyway.

Agreements:

Remote UE stops T421 upon reception of RRCReconfigurationCompleteSidelink when split SRB1 with duplication is not configured.

T421 is not applicable to scenario 2.

Introduce separate threshold configurations for R17 events X1 and X2, with a UE capability bit.

Add an indication in SIB12 for L2 U2U operation.

* [Post125][417][Relay] Rel-18 relay RRC open issues (Huawei)

 Scope: Discuss the remaining open issues for Rel-18 relay in 38.331 and converge where possible.

 Intended outcome: Report to next meeting

 Deadline: Long

[MP]

H065

[R2-2400414](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400414%20H065%20PC5%20link%20maintainence%20and%20release%20for%20direct%20path.doc) [H065] PC5 link maintainence or release for direct path addition/modification/release procedures Huawei, HiSilicon discussion Rel-18 NR\_SL\_relay\_enh-Core

Proposal: An explicit network indication should be introduced to indicate remote UE to maintain or release the PC5 unicast link with the source relay UE during the procedures of direct path addition/direct path release/direct path change without indirect path change.

H692/O414

[R2-2400419](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400419_%20H811H692%20Conditions%20for%20the%20PC5-RRC%20trigger.doc) [H811][H692] Conditions for the PC5-RRC trigger Huawei, HiSilicon discussion Rel-18 NR\_SL\_relay\_enh-Core

Proposal 1a: NW indicates the RRC state (Connected/NotConnected) of the selected target relay UE to the Remote UE when configuring indirect path addition and SRB1 is not configured on the indirect path

Proposal 1b: Based on the indication from the NW, Remote UE accordingly sets the connectionForMP IE in the RemoteUEInformationSidelink message.

H066

[R2-2400742](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400742%20%5BH066%5D%20Relay%20UE%20indication%20of%20supporting%20PC5-RRC%20trigger%20for%20MP.docx) [H066] Relay UE indication of supporting PC5-RRC trigger for MP Huawei, HiSilicon, Qualcomm, Ericsson discussion Rel-18 NR\_SL\_relay\_enh-Core

Proposal 1: To introduce 1-bit indication in AS container in discovery message and in measurement result to enable Relay UE differentiation by network, which does not involve SA2/CT1.

Proposal 2: To minimize UE impact, it can be up to Relay UE implementation to decide whether to include this indication when it is in idle/inactive state.

H690

[R2-2400411](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400411%20H658_H690%20Configuring%20radio%20bearer%20associated%20with%20N3C.doc) [H658][H690] Configuring radio bearer associated with N3C indirect path Huawei, HiSilicon discussion Rel-18 NR\_SL\_relay\_enh-Core

Proposal 1: Add an indication in the DRB-ToAddMod IE to configure the non-split DRB on the N3C indirect path for a remote UE.

B107 and H656/B110

[R2-2400223](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400223%20%5BB107%5D%20%5BB110%5D%20TP%20on%20IndirectPathFailureInformation%20message%20v1.1.doc) [B107] [B110] TP on IndirectPathFailureInformation message Lenovo discussion Rel-18

Proposal 1: The remote UE initiates the transmission of IndirectPathFailureInformation message upon PC5 unicast link release indicated by upper layer at Remote UE.

Proposal 3: When the remote UE receives notification message or PC5 unicast link release (PC5-S layer message) from the target relay during indirect path addition/change procedure due to Uu RLF, handover of relay UE or establishment/resume connection failure, remote UE is triggered to report failure information via direct path and stop timer T421.

C234/C235/H661

[R2-2400102](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400102%20Leftover%20Issues%20on%20Multi-path%20and%20U2U%20Relay.docx) Leftover Issues on Multi-path and U2U Relay CATT discussion Rel-18 NR\_SL\_relay\_enh-Core

Proposal 14: To support N3C indirect path addition/change failure, RAN2 needs to fix it in procedure (no ASN.1 impact).

[Service continuity]

O423/H691

[R2-2401285](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401285%20-%20Discussion%20on%20%5BO423%5D.docx) Discussion on [O423] OPPO, Huawei discussion Rel-18 NR\_SL\_relay\_enh-Core

Proposal 1 Not pursue separate threshold configurations for R17 event X1, X2, Y2, and remove the Editor’s Note “Editor's Note: FFS how to include two thresholds for SL -RSRP and SD-RSRP in event X1, X2, Y2.”.

Open issue list

[R2-2400735](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400735%20RRC%20open%20issue%20list%20for%20Rel-18%20SL%20relay.docx) Open issue list for Rel-18 SL relay Huawei, HiSilicon report Rel-18 NR\_SL\_relay\_enh-Core

Rapporteur CR

[R2-2400737](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5C38.331_CR4549_%28Rel-18%29_R2-2400737%20RRC%20corrections%20for%20Rel-18%20SL%20relay.docx) Rapp RRC CR for Rel-18 SL relay enhancement Huawei, HiSilicon CR Rel-18 38.331 18.0.0 4549 - F NR\_SL\_relay\_enh-Core

* Revised in R2-2401646 (post-meeting discussion)
* [Post125][402][Relay] 38.331 Rel-18 relay CR (Huawei)

 Scope: Update and check the CR in R2-2400737.

 Intended outcome: Agreed CR in R2-2401646

 Deadline: Short (for RP)

Open issue documents

[R2-2400134](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400134%20Discussion%20on%20the%20remaining%20CP%20issues%20for%20U2U%20relay.docx) Discussion on remaining CP issues for U2U relay NEC Corporation discussion Rel-18 38.331 NR\_SL\_relay\_enh-Core

[R2-2400135](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400135%20Discussion%20on%20the%20remaining%20CP%20issues%20for%20MP%20relaying.docx) Discussion on remaining CP issues for MP relaying NEC discussion Rel-18 38.331 NR\_SL\_relay\_enh-Core

[R2-2400178](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400178_Discussion%20on%20RRC%20open%20issue%20of%20service%20continuity.docx) Discussion on RRC open issue of service continuity China Telecom discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400179](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400179%2BDiscussion%20on%20RRC%20open%20issue%20of%20U2U%20relay.doc) Discussion on RRC open issue of U2U relay China Telecom discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400180](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400180%20Discussion%20on%20RRC%20open%20issue%20of%20multi-path.docx) Discussion on RRC open issue of multi-path China Telecom discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400302](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400302.docx) Open issues for multi-path relaying Spreadtrum Communications discussion Rel-18

[R2-2400379](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400379_SLRelay_MP_RRC_v0.3.doc) RRC issues on MP of SL relay Samsung discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400404](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400404%20Remaining%20stage-3%20issues%20for%20multi-path%20and%20U2U.doc) Remaining stage-3 issues for multi-path operation and U2U relay Huawei, HiSilicon discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400469](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400469.doc) Left issues for Multi-path relaying SHARP Corporation discussion NR\_SL\_relay\_enh-Core

[R2-2400493](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400493_Discussion%20on%20MP%20remaining%20open%20issues.docx) Discussion on MP remaining open issues vivo discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400503](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400503-Discussion%20on%20the%20remaining%20issues%20for%20U2U%20relay.docx) Discussion on the remaining issues for U2U relay LG Electronics Inc. discussion Rel-18

[R2-2400551](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400551%20Discussions%20on%20RRC-FJ.doc) Discussions on RRC Fujitsu discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400686](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400686%20Discussion%20on%20remaining%20issues%20on%20U2U%20relay.doc) Discussion on remaining issues on U2U relay ZTE, Sanechips discussion NR\_SL\_relay\_enh-Core

[R2-2400687](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400687%20Discussion%20on%20remaining%20issues%20on%20multi-path%20relay.docx) Discussion on remaining issues on multi-path relay ZTE, Sanechips discussion NR\_SL\_relay\_enh-Core

[R2-2400766](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400766%20RSRP%20for%20U2N%20relay%20%28re-%29selection%20TDoc.docx) RSRP thresholds for U2N relay selection and re-selection Nokia, Nokia Shanghai Bell discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400799](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400799_Discussion_of_Open_Issues_in_38331.docx) Discussion on Open Issues in 38.331 Ericsson discussion Rel-18

[R2-2400951](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400951%20Discussion%20on%20open%20issues%20for%20L2%20U2U%20relay.docx) Discussion on open issues for L2 U2U support ([A606],[A608] etc.) Apple discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2401072](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401072%20%28R18%20SL%20Relay%20WI_AI793%20Issue_1_3%29.doc) Use of Direct Path Release for Multipath InterDigital, Apple, Ericsson, Xiaomi discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2401074](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401074%20%28R18%20SL%20Relay%20WI_AI793%20MultiPathServiceContIssues%29.doc) Addressing RRC Open Issues for Multipath and Service Continuity InterDigital discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2401075](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401075%20%28R18%20SL%20Relay%20WI_AI793%20U2URelay_Open_Issues.doc) Addressing RRC Open Issues for U2U Relay InterDigital discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2401117](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401117-U2U.docx) RRC remaining issues for U2U relay Sharp discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2401143](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401143%20TP%20to%20TS%2038.331%20on%20SL%20Relay%20enhancement.docx) TP to TS 38.331 on SL relay enhancement CMCC discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2401155](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401155-Open%20issues%20on%20U2U%20relay%20RRC%20specification.docx) Remaining issues on RRC for U2U relay Qualcomm Incorporated discussion NR\_SL\_relay\_enh-Core

[R2-2401446](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401446.docx) Direct path release in multi-path Sony discussion Rel-18 NR\_SL\_relay\_enh-Core Late

[R2-2401447](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401447.docx) Multipath activation/deactivation Sony discussion Rel-18 NR\_SL\_relay\_enh-Core Late

RIL documents

[R2-2400224](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400224%20%5BB109%5D%20TP%20on%20NotificationMessageSidelink%20message%20for%20U2U%20v1.2.doc) [B109] TP on NotificationMessageSidelink message for U2U Lenovo discussion Rel-18

[R2-2400228](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400228%20%5BB113%5D%20TP%20on%20T390%20in%20MP%20scenario%20v4.doc) [B113] TP on T390 in MP scenario Lenovo discussion Rel-18

[R2-2400399](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400399.docx) [H696, O424, H656] Correction on T421 stop condition Xiaomi discussion

[R2-2400410](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400410%20H656_H695_H696%20T421%20stop%20condition%20for%20MP%20remote%20UE.doc) [H656][H695][H696]  T421 stop condition for MP remote UE Huawei, HiSilicon discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400412](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400412%20H660_H669_H672_H673_H693%20Clarification%20of%20SRAP%20configuration.doc) [H660][H669][H673][H693] Clarification of SRAP configuration and local ID/ bearer ID addition/modificaiton/release for U2U relay Huawei, HiSilicon discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400413](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400413%20H662%20PC5%20unicast%20link%20handling%20for%20MP%20operation.doc) [H662] PC5 unicast link handling for MP operation during RRC re-establishment procedure Huawei, HiSilicon discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400415](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400415%20H064%20QoS%20information%20and%20bearer%20mapping%20for%20L2%20U2U%20relay.docx) [H064] QoS infomation and bearer mapping for U2U relay Huawei, HiSilicon discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400416](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400416%20H668_H679_O408%20PC5%20RLC%20channel%20handling%20including%20E2E%20failure%20case%20in%20L2%20U2U%20relay.doc) [H668][H679][O408] PC5 RLC channel handling including E2E failure case in U2U relay Huawei, HiSilicon, OPPO, vivo discussion Rel-18 NR\_SL\_relay\_enh-Core

R2-2400417 [H066] Relay UE indication for supporting of PC5-RRC trigger in MP Huawei, HiSilicon discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400418](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400418%20H670%20E2E%20SL-DRB%20handling%20for%20U2U%20relay.doc) [H670] E2E SL DRB and SL SRB handling for U2U relay Huawei, HiSilicon discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400420](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400420%20H683%20Clarification%20for%20U2U%20remote%20UE%20threshold%20condition.doc) [H683] Clarification for U2U remote UE threshold condition Huawei, HiSilicon,vivo discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400421](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400421%20H686%20RLC%20mode%20indication%20in%20L2%20U2U%20relay.doc) [H686] RLC mode indication in L2 U2U relay Huawei, HiSilicon discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400426](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400426.docx) [H659] Network support for non-3GPP multi-path relay MediaTek Inc. discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400569](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400569%20%5BS426%5D%20Correction%20on%20SL%20DRB%20release.doc) [S426] E2E and per-hop configuration handling in case of DRB release Samsung discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400570](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400570%20%5BS427%5D%20Correction%20on%20SL%20SRB%20release.doc) [S427] E2E and per-hop configuration handling in case of SRB release Samsung discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400571](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400571%20%5BS429%5D%20Correction%20on%20SL%20RLF.doc) [S429] Correction for SL RLF handling for L2 U2U relay Samsung discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400572](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400572%20%5BS432%5D%20RSRP%20thresholds%20for%20events%20X1%20and%20X2.doc) [S432] RSRP thresholds for events X1 and X2 Samsung discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400639](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400639%20-%20Discussion%20on%20%5BO419%5D.docx) Discussion on [O419] OPPO, vivo discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400640](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400640%20-%20Discussion%20on%20%5BO425%5D.docx) Discussion on [O425] OPPO discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400641](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400641%20-%20Discussion%20on%20%5BO414%5D.docx) Discussion on [O414] OPPO discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400642](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400642%20-%20Discussion%20on%20%5BO415%5D.docx) Discussion on [O415] OPPO discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400643](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400643%20-%20Discussion%20on%20%5BO424%5D.docx) Discussion on [O424] OPPO discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400644](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400644%20-%20Discussion%20on%20%5BO418%2C%20427%2C%20428%5D.docx) Discussion on [O418,427,428] OPPO discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400743](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400743%20%5BH674%5D%20%5BH677%5D%20Per-hop%20or%20E2E%20PC5%20link%20release%20and%20failure%20handling%20for%20U2U%20relay.docx) [H674] [H677] Per hop PC5 link release/failure and E2E PC5 link release/failure handling for U2U relay Huawei, HiSilicon discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400765](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400765%20N024-RSRP%20for%20X1X2Y2events.docx) RIL N024 - RSRP thresholds for X1, X2, and Y2 events Nokia, Nokia Shanghai Bell discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400893](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400893%20%5BK001%5D%20Corrections%20to%20sidelink%20radio%20link%20failure%20on%20L2%20U2U%20Relay.docx) [K001] Corrections to sidelink radio link failure on L2 U2U Relay ASUSTeK discussion Rel-18 38.331 NR\_SL\_relay\_enh-Core

[R2-2400894](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400894%20%5BK002%5D%20Sidelink%20UE%20Capability%20reporting%20for%20L2%20U2U%20Relay.docx) [K002] Sidelink UE Capability reporting for L2 U2U Relay ASUSTeK discussion Rel-18 38.331 NR\_SL\_relay\_enh-Core

[R2-2400950](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400950%20Discussion%20on%20local%20ID%20release.doc) Discussion on local ID release for L2 U2U ([A619]) Apple discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400952](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400952%20Discussion%20on%20RRC%20Configuration%20of%20Multi-path-v2%20.docx) Discussion on direct path add/change/release in MP ([A623] and [A624]) Apple discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2401110](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401110_%5BZ755%5DProviding%20QoS%20flolw%20to%20SLRB%20mapping%20to%20relay%20UE%20and%20traffic%20pattern%20reporting%20at%20relay%20UE.doc) [Z755] Providing QoS flow to E2E SLRB mapping to relay UE and traffic pattern reporting at relay UE ZTE, Sanechips discussion NR\_SL\_relay\_enh-Core

[R2-2401111](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401111_%5BZ756%5DAssociation%20of%20E2E%20SLRB%20and%20PC5%20Relay%20RLC%20channel%20at%20relay%20UE.doc) [Z756] Association of E2E SLRB with PC5 RLC channel at relay UE ZTE, Sanechips discussion NR\_SL\_relay\_enh-Core

[R2-2401211](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401211%20%5BJ062%5D%20Discussion%20on%20s-measureConfig%20for%20i2i%20path%20switching.DOC) [J062] Discussion on s-measureConfig for i2i path switching Sharp discussion

[R2-2401283](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401283%20-%20Discussion%20on%20%5BO417%5D.docx) Discussion on [O417] OPPO discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2401394](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401394%20%5BX033%5D%20%5BX251%5D%20PC5%20trigger%20for%20U2U%20Relay%20UE%20selection.docx) [X033] [X251] peer-to-peer direct PC5 trigger for U2U Relay UE selection Beijing Xiaomi Mobile Software discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2401396](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401396%20%5BH675%5D%5BH676%5D%20reception%20of%20NotificationMesssageSidelink.docx) [H675] [H676] reception of NotificationMessageSidelink indicating PC5-RLF Beijing Xiaomi Mobile Software discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2401486](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401486.docx) [X029/030/031] correction on the relay reselection Xiaomi discussion Rel-18 NR\_SL\_relay\_enh-Core Late

Other issues

[R2-2401487](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401487%20Discussion%20on%20U2U%20ID%20reporting.docx) Discussion on U2U ID reporting NEC discussion Rel-18 NR\_SL\_relay\_enh Late

### 7.9.4 SRAP corrections

Impact to 38.351. A single CR with miscellaneous corrections is requested from the specification rapporteur. Minor and editorial issues should be coordinated with the rapporteur and merged into the miscellaneous CR. Larger issues can be discussed based on contributions.

Open issue list

[R2-2400632](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400632%20-%20SRAP%20open%20issues%20for%20R18%20sidelink%20relay.docx) SRAP open issues for R18 sidelink relay OPPO other Rel-18 NR\_SL\_relay\_enh-Core

[Rapporteur comment from document:]

The error handling can be implemented following the U2N manner, e.g., UE discards the SRAP PDU when a SRAP Data PDU with SRAP header that contains UE ID fields or BEARER ID field which does not match sl-PeerRemoteUE-LocalIdentity and sl-RemoteUE-LocalIdentity included in SL-SRAP-ConfigPC5 or slrb-PC5-ConfigIndex included in SLRB-Config for the concerned link is received.

Agreement:

The error handling can be implemented following the U2N manner, e.g., UE discards the SRAP PDU when a SRAP Data PDU with SRAP header that contains UE ID fields or BEARER ID field which does not match sl-PeerRemoteUE-LocalIdentity and sl-RemoteUE-LocalIdentity included in SL-SRAP-ConfigPC5 or slrb-PC5-ConfigIndex included in SLRB-Config for the concerned link is received. Wording to be checked in the review of the rapporteur CR.

Non-rapporteur proposals (cf. rapporteur CR in AI 7.9.1)

[R2-2401475](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401475%20Discussion%20on%20SRAP%20corrections%20on%20L2%20U2U%20relay.docx) Discussion on SRAP corrections on L2 U2U relay ZTE Corporation, Sanechips discussion NR\_SL\_relay\_enh-Core Late

Proposal 1: In 5.3a.1.1 and 5.3a.1.3, add the operation on egress link determination at (source) U2U Remote UE.

Proposal 3: In 5.3a.1.3 and 5.3a.3.3, capture the egress PC5 RLC channel determination for RRC connected/idle/inactive/OoC U2U UEs separately.

Discussion:

OPPO agree with P1 and indicate the rapporteur CR is in line with it. For P3, they understand the RLC channel determination is RRC behaviour that does not need to be captured in SRAP (no awareness needed of RRC state).

Samsung agree with OPPO that P3 is not needed. On P1, they prefer to remove the egress link determination for the remote UE and have it only for the relay UE.

Xiaomi support P1; for P3, they think the intention is agreeable and some general description would be good.

Samsung clarify that they understand the SRAP entity at the remote UE is for a specific relay UE.

ZTE understand that there is only one SRAP entity at the remote UE, not scoped to a specific relay.

Samsung can accept majority view on P1 and discuss the details in CR checking.

OPPO understand P3 would require the SRAP layer to double-check the RRC state that is already maintained at the RRC layer.

Huawei indicate that in RRC, there is an attempt to make all RRC states have the same configuration wrt SRAP, so they think SRAP should not have state dependency.

Agreements:

In 5.3a.1.1 and 5.3a.1.3, add the operation on egress link determination at (source) U2U Remote UE (as already reflected in rapporteur CR). Details can be confirmed in CR checking.

Do not introduce RRC state dependency in the SRAP specification for egress PC5 RLC channel determination.

Proposal 2: Clarify the UE ID fields corresponding to the Local ID pair of the concerned L2 ID pair in 5.3a.1.2.

Proposal 4: Clarify the egress link determination at U2U Relay UE in 5.3a.3.2.

Proposal 5: Agree the TP to TS 38.351 on L2 U2U relay.

Agreements:

Clarify the UE ID fields corresponding to the Local ID pair of the concerned L2 ID pair in 5.3a.1.2.

Clarify the egress link determination at U2U Relay UE in 5.3a.3.2.

TP from R2-2401475 is used as baseline, details to be checked in CR review.

[R2-2400298](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400298%20Correction%20on%20SRAP%20for%20U2U%20relay.docx) Correction on SRAP for U2U relay Xiaomi discussion

[R2-2400559](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400559%20SRAP%20-%20proposals%20for%20corrections%20and%20related%20TP.doc) SRAP – proposals for corrections and related TP Samsung discussion

[R2-2400634](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400634%20-%20Discussion%20on%20left%20issues%20for%20SRAP.docx) Discussion on left issues for SRAP OPPO discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2401451](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401451%20SRAP%20corrections%20on%20L2%20U2U%20relay%20operation.docx) SRAP corrections on L2 U2U relay operation Huawei, HiSilicon discussion Rel-18 38.351 NR\_SL\_relay\_enh-Core Late

Withdrawn/Not available

R2-2400405 SRAP corrections on L2 U2U relay operation Huawei, HiSilicon CR Rel-18 38.351 18.0.0 0029 - F NR\_SL\_relay\_enh-Core Withdrawn

R2-2400688 Corrections to 38.351 on L2 U2U relay ZTE, Sanechips CR Rel-18 38.351 18.0.0 0033 - F NR\_SL\_relay\_enh-Core

=> Withdrawn

### 7.9.5 MAC corrections

Impact to 38.321. A single CR with miscellaneous corrections is requested from the CR rapporteur. Minor and editorial issues should be coordinated with the rapporteur and merged into the miscellaneous CR. Larger issues can be discussed based on contributions.

Rapporteur CR

[R2-2400948](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400948%20correction_MAC_CR_R18_Relay.docx) Miscellaneous MAC Corrections on SL Relay enhancements Apple (rapporteur) CR Rel-18 38.321 18.0.0 1756 - F NR\_SL\_relay\_enh-Core

* Revised in R2-2401634 (for post-meeting check)
* [Post125][404][Relay] 38.321 Rel-18 relay CR (Apple)

 Scope: Update and check the CR in R2-2400948.

 Intended outcome: Agreed CR in R2-2401634

 Deadline: Short (for RP)

Other proposals

[R2-2400401](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400401.docx) Correction to 38.321 on Relay enhancement Xiaomi discussion

Proposal 1: Remove the NOTE about RLC entity in N3C interface in section 5.10.

Discussion:

Apple think we mention the RLC entity, and the N3C case needs some clarification. They see no harm in keeping the NOTE since it is just informative.

Huawei also think the NOTE should be kept for clarity.

OPPO agree with Xiaomi; even with the NOTE, they think it is not clear how to use the MAC CE in N3C case. Their understanding is that the MAC CE cannot be used in scenario 2.

Apple think we agreed that scenario 2 can use PDCP duplication, and there is no way to exclude it.

LG think it is helpful to keep the note.

Nokia think it is already clear from the duplication MAC CE description, but they can accept keeping the NOTE.

Samsung think we do not need the language “associated RLC entity”.

Ericsson think it is OK to keep the note.

[R2-2400103](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400103%20Clarification%20on%20the%20Duplication%20RLC%20Activation%20and%20Deactivation%20%20MAC%20CE.docx) Clarification on the Duplication RLC Activation and Deactivation MAC CE CATT discussion Rel-18 NR\_SL\_relay\_enh-Core

Proposal 1: Clarify that for multi-path Duplication RLC Activation/Deactivation MAC CE, when counting the RLC entity i, indirect path is only counted when it is secondary path.

Discussion:

Apple think it can be taken in the rapporteur CR.

Huawei are OK with the proposal.

Nokia understand that the gNB knows if the indirect path is the primary path, so they think the change is not essential. They are not clear on what problem there is with the current text.

CATT consider that the brackets in the current text are not scoped right and appear to apply only to the direct path.

Agreement:

Clarify that for multi-path Duplication RLC Activation/Deactivation MAC CE, when counting the RLC entity i, indirect path is only counted when it is secondary path. Wording to be refined in the rapporteur CR review.

[R2-2400635](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400635%20-%20Discussion%20on%20MAC%20corrections.docx) Discussion on MAC corrections OPPO discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400800](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400800_Discussion_of_Open_Issues_in_38321.docx) Discussion on Open Issues in 38.321 Ericsson discussion Rel-18

R2-2401452 MAC corrections on multi-path operation and L2 U2U relay Huawei, HiSilicon discussion Rel-18 38.321 NR\_SL\_relay\_enh-Core Late

Withdrawn/Not available

R2-2400406 MAC corrections on multi-path operation and L2 U2U relay Huawei, HiSilicon CR Rel-18 38.321 18.0.0 1741 - F NR\_SL\_relay\_enh-Core Withdrawn

### 7.9.6 RLC and PDCP corrections

Impact to 38.322 and 38.323. For each specification, a single CR with miscellaneous corrections is requested from the CR rapporteur. Minor and editorial issues should be coordinated with the rapporteur and merged into the miscellaneous CR. Larger issues can be discussed based on contributions.

Rapporteur CR (PDCP)

[R2-2401073](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5C38323_CR0132_Rel-18_R2-2401073_MiscRelayCorrections.docx) Rapporteur Corrections to 38.323 for SL Relay InterDigital CR Rel-18 38.323 18.0.0 0132 - F NR\_SL\_relay\_enh-Core

* Revised in R2-2401635 (post-meeting discussion)
* [Post125][405][Relay] 38.323 Rel-18 relay CR (InterDigital)

 Scope: Update and check the CR in R2-2401073.

 Intended outcome: Agreed CR in R2-2401635

 Deadline: Short (for RP)

Other proposals (PDCP)

[R2-2400380](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400380_SLRelay%28PDCP%29_v0.2.docx) Remaining issue on PDCP for MP of SL relay Samsung discussion Rel-18 NR\_SL\_relay\_enh-Core

Proposal 1: the section of Activation/deactivation of PDCP duplication is updated by considering MP.

Proposal 2: the duplicate PDU discard is also supported for the associated SRAP or N3C.

Discussion:

Nokia think the proposed change for P1 is not correct; they agree with the intention but think we can rely on the existing NOTE. They understand that the duplication is not indicated to the SRAP entity.

Samsung wonder if the PDCP entity can send the indication to the RLC entity directly; it seems necessary to pass through SRAP. Nokia think this is internal UE implementation.

Huawei are not OK with P2 because there is no buffering in SRAP. InterDigital agree with Huawei; they understand that in the last round of review we agreed not to consider retransmission by N3C and removed the NOTE related to duplicate discard. Samsung think the SRAP case could be kept for P2.

LG agree with Nokia regarding P1; on P2, they have the same understanding as Huawei.

Samsung think the note in the MAC is not clear enough by itself and there should be a pointer from PDCP; in the deactivation case, they think the text is not clear on how to deal with N3C. Nokia’s interpretation is that the note in the MAC means the MAC has a concept of RLC entity for N3C that can be used by the other layers.

Samsung wonder if the NOTE could be reproduced in the PDCP spec for clarity. OPPO think the NOTE could be moved to stage 2 instead of duplicating in multiple stage 3 specs. InterDigital are OK with having the NOTE; they understand that Samsung’s concern is that there is no longer a direct connection between PDCP and RLC.

Agreement:

Add to PDCP section 5.11.1 a similar NOTE to the one in MAC, on the definition of “associated RLC entity” for N3C. Wording to be finalised in CR review.

[R2-2401453](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401453%20PDCP%20corrections%20on%20L2%20U2U%20relay%20security.docx) PDCP corrections on L2 U2U relay security Huawei, HiSilicon discussion Rel-18 38.323 NR\_SL\_relay\_enh-Core Late

Proposal 1 : It is proposed to clarify that E2E bearer IDs of SL-DRB and SL-SRB are used as input for ciphering and deciphering function in clause 5.8 and for integrity protection and verification in clause 5.9 in the PDCP specification as shown in the text proposal in the Annex

Discussion:

LG think the terminology is not quite right, in that sidelink communication includes U2U. They are OK to fix the wording in CR review.

Agreement:

Clarify that E2E bearer IDs of SL-DRB and SL-SRB are used as input for ciphering and deciphering function in clause 5.8 and for integrity protection and verification in clause 5.9 in the PDCP specification. Wording to be finalized in CR review.

[R2-2401089](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401089%20Clarification%20on%20PDCP%3ARLC%20with%20multi-path.docx) Clarification for PDCP/RLC with multi-path Nokia, Nokia Shanghai Bell discussion

[R2-2400104](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400104%20Clarification%20on%20More%20than%20One%20Leg%20on%20Direct%20Uu%20Path%20in%20Multi-path.docx) Clarification on More than One Leg on Direct Uu Path in Multi-path CATT discussion Rel-18 NR\_SL\_relay\_enh-Core

Withdrawn/Not available

R2-2400407 PDCP corrections on L2 U2U relay security Huawei, HiSilicon CR Rel-18 38.323 18.0.0 0131 - F NR\_SL\_relay\_enh-Core Withdrawn

### 7.9.7 UE capabilities

Impact to 38.306 and capability-related impact to 38.331. A single CR with miscellaneous corrections is requested from the CR rapporteur. Minor and editorial issues should be coordinated with the rapporteur and merged into the miscellaneous CR. Larger issues can be discussed based on contributions.

Open issue list

[R2-2400568](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400568%20Open%20issue%20for%20UE%20capabilities.doc) Open issue for UE capabilities Samsung discussion Rel-18 NR\_SL\_relay\_enh-Core

Proposal 1. RAN2 to agree to keep supportedBandCombListPerBC-SL-U2U-RelayDiscovery-r18, supportedBandCombinationListSL-U2U-RelayDiscovery-r18 as specified.

Discussion:

Ericsson understand that this points back to the Rel-16 band combination list, and they are not sure why we need separate lists for U2U instead of having something like a bitmap indicating which bands differentiate between U2N and U2U discovery.

OPPO agree with the rapporteur’s proposal and think it aligns with the separate capability for relay and non-relay as introduced in Rel-17. They understand that the intention is to allow the UE not to implement the U2N features while still supporting U2U.

Qualcomm think the issue is overhead, and they are not sure U2U and U2N should be deployed on the same band in most cases. So from UE perspective, they think if both U2N and U2U are supported, the band could disambiguate it, but they agree that there could be overlapping cases; they think the bitmap solution could work for these cases.

Samsung understand the UE will only report one of U2N and U2U. Qualcomm think the UE should report everything it supports even if they are not deployed together.

Ericsson understand that the bitmap can be used against the Rel-16 band combinations without signalling U2N support.

Nokia are also interested in the bitmap solution.

NEC think the bitmap solution is not forward compatible towards Rel-19 multihop; they think the rapporteur’s solution is good enough. Ericsson are not sure what the compatibility problem would be.

NEC think it is more clear if each feature has a corresponding BC list.

OPPO understand the consequence of Ericsson’s proposal would be that the UE cannot indicate different BC lists for U2N and U2U. Ericsson intend that this could be done with the bitmap referring to the Rel-16 BCs.

Qualcomm think we could have three BC lists: U2N-specific, U2U-specific, and common.

Samsung think nothing is broken with the current construction.

Huawei would also like to keep the rapporteur’s proposal.

Proposal 2. RAN2 to agree to keep pdcp-DuplicationMoreThanOneUuRLC-r18 as specified.

Discussion:

Ericsson think the intention in unclear: Is it duplication on the Uu interface or over Uu+indirect path? Samsung think this can be clarified in the field description.

Nokia understand it is for the Uu interface; the difference is that when the UE supports duplication over Uu interface, it may not support duplication over the UE-to-UE link when MP is configured.

Ericsson understand we do not support DC with MP; it is not a capability but a restriction. They are OK with the capability but think the field description should be clear that it is not related to the Uu duplication capability.

Proposal 3. RAN2 to agree that there needs no additional separate UE capability for PDCP duplication with MP relay.

Discussion:

Huawei think a separate capability is needed.

Qualcomm think there are multiple capabilities that need to be discussed one by one.

Proposal 4. RAN2 to define UE capability parameter signalled to gNB to indicate the support of L2 U2N multi-path Relay UE operation using PC5 connection.

Discussion:

Huawei think we do not need the capability because we already agreed that a Rel-17 relay UE can be used for MP.

Qualcomm are unsure of the meaning of the capability; does it refer only to scenario 1?.

Ericsson think the only ramification is related to the PC5-RRC trigger, so we should resolve the RRC issue first. Xiaomi understand this only applies to non-RRC\_CONNECTED UEs.

OPPO think we need a functional difference between Rel-17 and Rel-18 relays in terms of PC5-RRC, and the issue is whether we need to introduce a capability bit.

Agreement:

Keep pdcp-DuplicationMoreThanOneUuRLC-r18 as specified; field description to be finalized in CR review.

Non-rapporteur proposals (cf. rapporteur CR in AI 7.9.1)

[R2-2400637](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400637%20-%20Discussion%20on%20UE%20capability.docx) Discussion on UE capability OPPO discussion Rel-18 NR\_SL\_relay\_enh-Core

Proposal 1 RAN2 confirm using separate BC list (supportedBandCombListPerBC-SL-U2U-RelayDiscovery-r18, supportedBandCombinationListSL-U2U-RelayDiscovery-r18) for U2U relay discovery.

Proposal 2 RAN2 confirm using additional separate UE capability (pdcp-DuplicationMoreThanOneUuRLC-r18) for PDCP duplication operation with MP relay.

Proposal 3 RAN2 to agree the support of capability parameter to indicate L2 multi-path Relay UE operation using PC5 connection.

[R2-2401158](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401158-UE%20capabilities%20on%20MP%20relay.docx) UE capabilities on MP relay Qualcomm Incorporated discussion NR\_SL\_relay\_enh-Core

Proposal 1: Introduce a new UE capability to indicate whether UE supports recovery from direct path RLF via SRB1 (if supported).

Proposal 2: Reuse existing capability pdcp-DuplicationSplitDRB and pdcp-DuplicationSplitSRB to indicate whether the UE supports PDCP duplication over split DRB and split SRB in MP operation.

Discussion:

OPPO think we may need separate capabilities. Ericsson also think it needs to be separate. Huawei would also prefer separate capabilities.

Proposal 3: IMS voice over split bearer is not supported for MP operation.

Discussion:

OPPO think we originally were considering whether IMS voice can be supported in DC, and for the relay case, we determined it is needed on the indirect path. So they think it is counterintuitive to disable it in MP. Qualcomm clarify the proposal is only for split bearers.

Proposal 4: Introduce new UE capability to indicate whether UE supports UL transmission via direct path and DL reception via either direct path or indirect path for split SRB.

Proposal 5: Introduce new UE capability to indicate whether UE supports UL transmission via both direct path and indirect path for the split DRB.

Agreements:

Introduce a new UE capability to indicate whether UE supports recovery from direct path RLF via SRB1 (if supported).

Introduce new capabilities to indicate whether the UE supports PDCP duplication over split DRB and split SRB in MP operation.

[R2-2400402](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400402.docx) Discussion on UE capability of Relay enhancement Xiaomi discussion

[R2-2400573](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400573%20Discussion%20on%20open%20issues%20of%20UE%20capability%20for%20multi-path%20relay.docx) Discussion on open issues of UE capability for multi-path relay China Telecom discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2400801](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400801_Discussion_of_Open_Issues_in_38306.docx) Discussion on Open Issues in 38.306 Ericsson discussion Rel-18

Withdrawn/Not available

R2-2400408 UE capability corrections for multi-path operation and U2U relay Huawei, HiSilicon CR Rel-18 38.306 18.0.0 1023 - F NR\_SL\_relay\_enh-Core Withdrawn

### 7.9.8 Idle mode corrections

Impact to 38.304. A single CR with miscellaneous corrections is requested from the CR rapporteur. Minor and editorial issues should be coordinated with the rapporteur and merged into the miscellaneous CR. Larger issues can be discussed based on contributions.

Withdrawn/Not available

R2-2400409 Idle mode corrections for SL relay Huawei, HiSilicon CR Rel-18 38.304 18.0.0 0375 - F NR\_SL\_relay\_enh-Core Withdrawn

## 7.24 TEI18

Specific items may be allocated to a breakout session for treatment.

Time budget: 1 TU

### 7.24.1 TEI proposals by Other Groups

Items initiated by other groups that is/has been communicated by LS, where the other group indicate this is TEI18. (Specific other-group-WIs should use the R18 Other Agenda Item below).

[R2-2401320](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401320.docx) Introduction of LCS User Plane Ericsson CR Rel-18 38.305 18.0.0 0159 - B TEI18

* Not pursued

Discussion:

Nokia are not sure that there should be impact to the architecture diagram coming from RAN2 rather than from CT/SA groups. They suggest that new text should be introduced under section 6.2.1 instead.

Huawei are generally fine with the CR, but they think it should be in the section for event reports, which are the only LCS messages visible to RAN2. They also think some description of the protocol stack might be useful.

Ericsson think it makes sense to introduce the LCS user plane in parallel with SUPL in the architecture. On Huawei’s comment, they think the LPP messages will also be carried on UP, so they do not see the point of confining the description to the event reports.

Huawei agree LPP can also be carried by UP, but the routing of the LCS messages changes.

Nokia understand the SLP is in the architecture diagram because it is out of 3GPP scope, as a black box. This is a 3GPP-defined protocol, so they think it should be based on architecture from 23.273.

### 7.24.2 TEI proposals by RAN2

Items initiated in RAN2 for NR and LTE.

Tdoc limitation: 1 tdoc, limitation applicable to new proposals.

#### 7.24.2.2 Other RAN2 TEI18

Contributions should focus only critical issues/corrections for already agreed TEI-18 topics. New TEI proposals should address critical issues that should be resolved by RAN2#125. Co-sourcing of such proposals is encouraged. Contributions on items that were explicitly downprioritized from Rel-18 WIs should not be brought as TEI18

Emergency cause value for relay (LS from CT1 and related documents)

[R2-2400004](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CDocs%5CR2-2400004.zip) Reply LS on emergency cause value for relay (C1-239362; contact: OPPO) CT1 LS in Rel-18 5G\_ProSe\_Ph2 To:RAN2 Cc:SA2

* Noted

[R2-2400645](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400645%20-%20Discussion%20on%20emergency%20cause%20value%20for%20SL%20Relay.docx) Discussion on emergency cause value for SL Relay OPPO discussion Rel-18 TEI18

[R2-2400646](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5C38306_CR1026_%28REL-18%29_R2-2400646%20-%20Introduction%20%20on%20capability%20of%20emergency%20cause%20value%20for%20SL%20relay%20%5BNR_SL_relay_emergency%5D.docx) Introduction of emergency cause value for SL relay [NR\_SL\_relay\_emergency] OPPO CR Rel-18 38.306 18.0.0 1026 - B TEI18

[R2-2400647](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5C38331_CR4540_%28REL-18%29_R2-2400647%20-%20Introduction%20of%20emergency%20cause%20value%20for%20SL%20relay%5BNR_SL_relay_emergency%5D.docx) Introduction of emergency cause value for SL relay [NR\_SL\_relay\_emergency] OPPO CR Rel-18 38.331 18.0.0 4540 - B TEI18

* Revised in R2-2401645

Discussion:

OPPO clarify that the wording needs to be changed to be generic to the emergency/priority access causes.

Huawei agree that we need to update the specification for SL-RLC1, but they prefer a different approach, based on the L2ID rather than the upper layer indication.

Apple think the wording needs some polishing.

Ericsson think the LS indicates that CT1 want the same behaviour for SL-RLC0 and SL-RLC1, so they think the NOTE can just indicate that we follow upper layer indication.

Nokia think we do not need to depend on the Rel-17 solution, and Rel-18 UEs can just use this indication. Qualcomm agree with Nokia.

Huawei do not have a strong view but want to clarify that if we replace the Rel-17 behaviour, it implies that all remote and relay UEs supporting emergency functionality will support the new behaviour. A capability might be needed. OPPO think it could be a mandatory capability without signalling.

Xiaomi think we need to consider backward compatibility when a Rel-18 relay serves a Rel-17 remote UE. OPPO understand there will be no emergency RSC in Rel-17. Xiaomi think we need to keep the Rel-17 note for this reason.

OPPO think the NOTE is informative and can use simplified wording on how the UE implements the mechanism.

Agreements:

Introduce a NOTE indicating that when the Rel-18 relay UE establishes a Uu RRC connection for emergency service, it uses the corresponding emergency cause value. Wording to be determined offline.

Similar language to be considered for priority services if SA2 agree the corresponding RSC(s)

* [AT125][410][Relay] Emergency cause value for relay UE (OPPO)

 Scope: Draft the agreed NOTE on emergency service cause value for Rel-18 relay UE.

 Intended outcome: Agreeable CR (with CB) in R2-2401645

 Deadline: Thursday 2024-02-28 2000 EET

[R2-2401645](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5C38331_CR4540r1_%28REL-18%29_R2-2401645%20-%20Introduction%20of%20emergency%20cause%20value%20for%20SL%20relay%5BNR_SL_relay_emergency%5D.docx) Introduction of emergency cause value for SL relay [NR\_SL\_relay\_emergency] OPPO CR Rel-18 38.331 18.0.0 4540 1 B TEI18

Discussion:

OPPO clarify there is an additional comment outstanding, suggesting some rewording.

Apple suggest a rewording to put the SL-RLC0 and SL-RLC1 cases in parallel for clarity.

Nokia think this is becoming not a NOTE, because we are describing normative behaviour. Apple understand that this was discussed in Rel-17 and having a NOTE is a compromise, but they have a similar view that it is normative behaviour.

CATT prefer to leave it as a NOTE and agree with Apple’s wording.

Ericsson thought we previously agreed to have the same handling for SL-RLC0 and SL-RLC1, and in Rel-18 we could use the upper layer indication also for SL-RLC0. Xiaomi think we should consider backward compatibility, e.g., for a Rel-18 relay with a Rel-17 remote UE. Ericsson think a Rel-17 remote UE cannot indicate the RSC for emergency. Nokia understand the concern is a Rel-18 relay UE, Rel-17 remote UE, and the PC5 connection is not considered established for emergency.

OPPO understand we previously discussed SL-RLC0 and agreed to follow Rel-17 behaviour, so we do not need to re-discuss it now.

Apple think we could change the note to add SL-RLC0 in the second case.

Qualcomm understand that the relay UE can differentiate the RLC0 and RLC1 cases, and in Rel-17 we do not have the emergency-specific PC5 link, so if either the remote or relay UE is Rel-17, the relay UE must use the Rel-17 behaviour for SL-RLC0.

Huawei think the Rel-17 remote UE will put the emergency cause value in Msg3, and the Rel-18 relay needs to support two behaviours, one to check the cause value in Msg3 and the other to depend on the emergency service link. They understand the note should capture both behaviours, but for SL-RLC1 there is only one behaviour.

Nokia think the existing normative text “set the establishmentCause in accordance with the information received from upper layers” covers the second part of the note already.

Xiaomi think the functional effect is the same both ways for SL-RLC0 and they are OK with the NOTE divided into two bullets.

OPPO understand the normative text only applies to RRC establishment based on the relay UE’s own service.

Apple think we should have a single implementation behaviour in the relay for Rel-18, i.e., always depend on the link rather than Msg3.

Qualcomm think the Rel-18 relay UE has to implement the Rel-17 behaviour when facing a Rel-17 remote UE anyway.

Agreements:

For SL-RLC0, we keep the agreement to capture the already described Rel-17 behaviour for the relay UE, i.e., look in Msg3 to determine the emergency cause.

For SL-RLC1, describe a behaviour in which the relay UE relies on whether the link is established for emergency service.

Capture the above two behaviours in a NOTE.

Use the language “it sets” rather than “it can set” for the new description.

Wording:

NOTE 2: In case the L2 U2N Relay UE initiates RRC connection establishment triggered by reception of message from a L2 U2N Remote UE via SL-RLC0 or SL-RLC1 as specified in 5.3.3.1a, the L2 U2N Relay UE sets the establishmentCause by implementation, but: (1) for SL-RLC0, it can only set the emergency, mps-PriorityAccess, or mcs-PriorityAccess as establishmentCause if the same cause value is in the message received from the L2 U2N Remote UE via SL-RLC0; and (2) for SL-RLC1, it sets the establishmentCause to emergency if the message received from the L2 U2N Remote UE via SL-RLC1 is over PC5 link established for emergency service as indicated by upper layer [72].

[R2-2400740](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400740%20Setting%20emergency%20cause%20value%20in%20L2%20U2N%20relay%20operation%20%28C1-239362%29.doc) Setting emergency cause value in L2 U2N relay operation (C1-239362) Huawei, HiSilicon discussion Rel-18 TEI18, NR\_SL\_relay\_enh-Core

* Agreed with the wording described above as R2-2401917

PosL2RemoteUE

[R2-2400427](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400427.docx) ASN.1 corrections for TEI18 [PosL2RemoteUE] MediaTek Inc. CR Rel-18 37.355 18.0.0 0488 - F TEI18

=> Revised in R2-2401458

[R2-2401458](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401458.docx) ASN.1 corrections for TEI18 [PosL2RemoteUE] MediaTek Inc. CR Rel-18 37.355 18.0.0 0488 1 F TEI18

* Agreed

Discussion:

Lenovo wonder about other RIL issues affecting RRC on this topic, e.g., posSIB requests.

BT-AoA-AoD

[R2-2400626](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400626%20Discussion%20BT%20AoA%20AoD%20issues.doc) Discussion on open issues for BT-AoA-AoD (B007 and other) Lenovo discussion Rel-18 TEI18

Proposal 1: Introduce Bluetooth AoD assistance data in LPP, Table 7.2-1 as new posSibType8-1.

Discussion:

Lenovo indicate that LTE and NR RRC CRs would be needed.

Proposal 2: Agree to introduce new Bluetooth error cause values for target device and location server for providing error information related to assistance data delivery operation for Bluetooth AoD.

Discussion:

Samsung agree with P2, but for P1, they think BT positioning is a bit like WLAN positioning, where we do not have assistance data broadcast. So they wonder why we would need it for BT but not for WLAN.

Qualcomm note that the assistance data would be broadcasted for a whole cell, and since BT is very short-range, it may not be relevant to many users. They do not see a use case for broadcast of AD that are only valid very locally. Ericsson think this is a deployment issue, and a deployment would only include BT AD in cells where it made sense.

Huawei think if we broadcast the BT posSIB, we could open the discussion for WLAN also, so maybe we should just follow the WLAN decision.

Agreement:

Do not introduce Bluetooth AoD assistance data broadcast to LPP in this release.

Introduce new Bluetooth error cause values for target device and location server for providing error information related to assistance data delivery operation for Bluetooth AoD.

[R2-2400627](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2400627%20Correction%20BT%20positioning%20mode%20support%20TS38305.docx) Correction on support of Bluetooth positioning mode [BT-AoA-AoD] Lenovo CR Rel-18 38.305 18.0.0 0157 - F TEI18

* Agreed as R2-2401913 (additional cosigners)

[R2-2401913](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401913%20Correction%20BT%20positioning%20mode%20support%20TS38305.docx) Correction on support of Bluetooth positioning mode [BT-AoA-AoD] Lenovo, Ericsson CR Rel-18 38.305 18.0.0 0157 1 F TEI18

* Agreed

[R2-2401316](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401316%20BLE.docx) Miscellaneous RIL corrections for Bluetooth AoA/AoD [BT-AoA-AoD] Ericsson CR Rel-18 37.355 18.0.0 0496 - F TEI18

* Revised in R2-2401614

[R2-2401614](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401614%20Miscellaneous%20RIL%20corrections%20for%20Bluetooth%20AoAAoD.docx) Miscellaneous RIL corrections for Bluetooth AoA/AoD [BT-AoA-AoD] Ericsson CR Rel-18 37.355 18.0.0 0496 1 F TEI18

* Revised in R2-2401637

[R2-2401637](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401637%20Miscellaneous%20RIL%20corrections%20for%20Bluetooth%20AoAAoD.docx) Miscellaneous RIL corrections for Bluetooth AoA/AoD [BT-AoA-AoD] Ericsson CR Rel-18 37.355 18.0.0 0496 2 F TEI18

* Remove BT assistance data broadcast
* Include error cause values
* Revised in R2-2401642

Discussion:

Lenovo think this may depend on the open issues discussion.

* [AT125][411][POS] RIL corrections for BT AoA/AoD (Ericsson)

 Scope: Revise and check the CR in R2-2401637 in line with decisions of this meeting.

 Intended outcome: Agreed CR (without CB if possible) in R2-2401642

 Deadline: Thursday 2024-02-29 2000 EET

[R2-2401642](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401642%20Miscellaneous%20RIL%20corrections%20for%20Bluetooth%20AoAAoD.docx) Miscellaneous RIL corrections for Bluetooth AoA/AoD [BT-AoA-AoD] Ericsson CR Rel-18 37.355 18.0.0 0496 3 F TEI18

* Agreed (email discussion [AT125][411])

PosLocalCoords

[R2-2401255](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401255_%28CR%2037355%20localOrigin%29.docx) Corrections to Local Cartesian Coordinates [PosLocalCoords] Qualcomm Incorporated CR Rel-18 37.355 18.0.0 0494 - F TEI18

* Agreed

[R2-2401257](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401257_%28Q033%20localOrigin%29.docx) [RIL Q033] localOrigin-r18 definition is not in agreement with TS 23.032/29.572 Qualcomm Incorporated discussion

[R2-2401313](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401313%20localCo.docx) Discussion related to LPP RILs E001-E003 and Q033 [LocalCoords] Ericsson discussion Rel-18

Proposal 1 Discuss suitable representations for local 2D/3D in consideration of the above observations.

Proposal 2 Send an LS to CT4 CC SA2 about conclusions from the discussion

Discussion:

Qualcomm agree with the technical analysis but do not see it as in scope for the ASN.1 review; CT4 may not have done it correctly but we are just reusing the existing shapes. They would prefer to have this raised directly in CT4/SA2.

GNSS-LOS-NLOS

[R2-2401315](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401315%20GNSS.docx) Miscelleneous RIL corrections for GNSS LOS/NLOS [GNSS LOS/NLOS] Ericsson, Vodafone, Spirent CR Rel-18 37.355 18.0.0 0495 - F TEI18

* Revised in R2-2401613

[R2-2401613](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401613%20Miscellaneous%20RIL%20corrections%20for%20GNSS%20LOSNLOS.docx) Miscelleneous RIL corrections for GNSS LOS/NLOS [GNSS LOS/NLOS] Ericsson, Vodafone, Spirent CR Rel-18 37.355 18.0.0 0495 1 F TEI18

* Agreed

GNSS-PCV

[R2-2401338](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202402%20-%20RAN2_125%2C%20Athens%5CExtracts%5CR2-2401338%20RTCM.docx) LS to RTCM regarding recent SSR updates [Related to RIL WI GNSS-PCV] Ericsson discussion Rel-18

Discussion:

Qualcomm wonder how this is related to the Rel-18 review. They have no objection in principle to sending an LS but do not see the connection to the TEI18 item.

Ericsson think it would be useful to inform RTCM of what we have been doing.

Nokia think an informative LS is fine if the other group has some impacts, but they do not see that in this case.

Swift agree that it would be informational; they understand that RTCM are developing similar messages now and may want to look at alignment, but they see a need for alignment in a broader scope than just the PCV item.

Ericsson think it could be used for a short WI on discrepancies.

Huawei think this is not related to the ASN.1 freeze, and if we are targeting a Rel-19 WI, it will not be discussed until September.

# Annex: Post-meeting email discussions

* [Post125][401][Relay] 38.300 Rel-18 relay CR (LG)

 Scope: Update and check the CR in R2-2400504, taking into account discussion of the MCG terminology.

 Intended outcome: Agreed CR in R2-2401636

 Deadline: Short (for RP)

* [Post125][402][Relay] 38.331 Rel-18 relay CR (Huawei)

 Scope: Update and check the CR in R2-2400737.

 Intended outcome: Agreed CR in R2-2401646

 Deadline: Short (for RP)

* [Post125][403][Relay] Rel-18 SRAP relay CR (OPPO)

 Scope: Update and check the CR in R2-2400633.

 Intended outcome: Agreed CR in R2-2401647

 Deadline: Short (for RP)

* [Post125][404][Relay] 38.321 Rel-18 relay CR (Apple)

 Scope: Update and check the CR in R2-2400948.

 Intended outcome: Agreed CR in R2-2401634

 Deadline: Short (for RP)

* [Post125][405][Relay] 38.323 Rel-18 relay CR (InterDigital)

 Scope: Update and check the CR in R2-2401073.

 Intended outcome: Agreed CR in R2-2401635

 Deadline: Short (for RP)

* [Post125][406][Relay] 38.306 and 38.331 Rel-18 relay capability CRs (Samsung)

 Scope: Update and check the draft CRs in R2-2400566 and R2-2400567

 Intended outcome: Endorsed draft CRs for merge into mega CRs, in R2-2401648 (38.306) and R2-2401649 (38.331)

 Deadline: Very short (for merge)

* [Post125][407][POS] 38.355 Rel-18 positioning CR (Intel)

 Scope: Update and check the CR in R2-2400360.

 Intended outcome: Agreed CR in R2-2401650

 Deadline: Short (for RP)

* [Post125][408][POS] 37.355 Rel-18 positioning CR (CATT)

 Scope: Update and check the CR in R2-2401082.

 Intended outcome: Agreed CR in R2-2401631

 Deadline: Short (for RP)

* [Post125][409][POS] 38.331 Rel-18 positioning CR (Ericsson)

 Scope: Update and check the CR in R2-2401318.

 Intended outcome: Agreed CR in R2-2401632

 Deadline: Short (for RP)

* [Post125][410][POS] 38.321 Rel-18 positioning CR (Huawei)

 Scope: Update and check the CR in R2-2400338.

 Intended outcome: Agreed CR in R2-2401630

 Deadline: Short (for RP)

* [Post125][411][POS] 38.304 Rel-18 positioning CR (Huawei)

 Scope: Draft and check a CR to 38.304 capturing decisions of RAN2#125.

 Intended outcome: Agreed CR in R2-2401911

 Deadline: Short (for RP)

* [Post125][412][POS] 38.306 and 38.331 Rel-18 positioning capability CRs (Xiaomi)

 Scope: Update and check the draft CRs in R2-2401527 and R2-2401528.

 Intended outcome: Endorsed draft CRs for merge into mega CRs, in R2-2401638 (38.306) and R2-2401639 (38.331)

 Deadline: Very short (for merge)

* [Post125][413][POS] 37.355 Rel-18 positioning capability CR (Xiaomi)

 Scope: Update and check the draft CR in R2-2401529.

 Intended outcome: Agreed CR in R2-2401640

 Deadline: Short (for RP)

* [Post125][414][POS] LS to RAN1/RAN4 on positioning MAC questions (Huawei)

 Scope: Draft an LS to RAN1/RAN4 asking the questions on MAC that were identified in the meeting agreements of RAN2#125.

 Intended outcome: Approved LS in R2-2401912

 Deadline: Short (not for RP)

* [Post125][415][POS] 38.355 Rel-18 positioning capability CR (Xiaomi)

 Scope: Check and update the draft CR in R2-2401526.

 Intended outcome: Agreed CR in R2-2401641

 Deadline: Short (for RP)

* [Post125][416][Relay] LS to SA2 on L2ID and user info (Qualcomm)

 Scope: Reply to the LS in R2-2400072 indicating our agreements under R2-2401615 and inviting SA2/CT1 to determine any spec impact and if they have a concern.

 Intended outcome: Approved LS

 Deadline: Short (not for RP)

* [Post125][417][Relay] Rel-18 relay RRC open issues (Huawei)

 Scope: Discuss the remaining open issues for Rel-18 relay in 38.331 and converge where possible.

 Intended outcome: Report to next meeting

 Deadline: Long

* [Post125][419][POS] 38.305 Rel-18 positioning CR (Qualcomm)

 Scope: Check the CR in R2-2401243.

 Intended outcome: Agreed CR

 Deadline: Short (for RP)