3GPP TSG-RAN WG2 Meeting #123 R2-23xxxxx

Toulouse, France, 21-25 August 2023

Source: Session Chair (MediaTek)

Title: Report from session on positioning and sidelink relay

# 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: 8 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)

(NR\_pos-Core; leading WG: RAN1; REL-16; started: Mar 19; target; Jun 20; WID: RP-200218).

(NR TEI16 Positioning)

### 5.3.1 General and Stage 2 corrections

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.

Incoming LS

[R2-2308268](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308268.docx) LS on SSR orbit and clock correction reference for BDS in 3GPP LPP (contact: Ericsson) RTCM SC 104 LS in Rel-16 NR\_pos-Core To:RAN2

* Noted

CRs

[R2-2308476](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308476%20BDSSSR.docx) GNSS SSR BDS orbit emphemeris reference clarification to align with RTCM Ericsson CR Rel-16 37.355 16.11.0 0460 - F NR\_pos-Core

Discussion:

CATT indicate that B3I is not enabled in Rel-16, so there is a problem with this version of the CR: It should only refer to B1I.

Qualcomm note that there is an editorial issue with the quote marks (should be straight, not “curly”). Can be fixed in update.

* Agreed with these changes as R2-2309102

[R2-2308477](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308477%20BDSSSR.docx) GNSS SSR BDS orbit emphemeris reference clarification to align with RTCM Ericsson CR Rel-17 37.355 17.5.0 0461 - A NR\_pos-Core

* Agreed as R2-2309103 (changed to cat F)

Withdrawn/Not available

R2-2307357 Correction to 38.305 on E-CID Huawei, HiSilicon CR Rel-16 38.305 16.9.0 0137 - F NR\_pos-Core Withdrawn

R2-2307358 Correction to 38.305 on E-CID Huawei, HiSilicon CR Rel-17 38.305 17.5.0 0138 - A NR\_pos-Core Withdrawn

### 5.3.2 RRC corrections

Including impact to 36.331, 38.331, and 38.306.

### 5.3.3 LPP corrections

[R2-2308474](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308474%20GNSSTropo.docx) Correcting GNSS Ionospheric and Troposperic Delay Correction quality representation Ericsson CR Rel-16 37.355 16.11.0 0458 - F NR\_pos-Core

* Not pursued

[R2-2308475](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308475%20GNSSTropo.docx) Correcting GNSS Ionospheric and Troposperic Delay Correction quality representation Ericsson CR Rel-17 37.355 17.5.0 0459 - A NR\_pos-Core

* Not pursued

Discussion:

CATT understand that the definition of the correction was copied from the RTCM message, and this would introduce a conflict. Ericsson indicate it was copied from CLAS; Qualcomm understand that this is the same as the RTCM CSSR.

Qualcomm do not see this as a correction; they agree the grids can be large, but this is also the case in CLAS. Nokia have the same view and think it is an enhancement rather than a correction.

Swift are generally supportive but have a few questions for clarification. They understand the interpretation is that you must receive the precorrection as well as the residual, and they think the model being used for extrapolation also needs to be included.

Ericsson think it is a practical issue from Rel-16.

Qualcomm think nothing is broken in the existing specs.

Apple agree that this is an enhancement, not a correction.

Swift think some clarification is needed to the existing interpretation of the tiles. Qualcomm think this would be a separate issue and a separate CR.

Ericsson indicate that a large grid will create quality differences across the grid if we do not have corrections per grid point. Qualcomm think we do not provide assistance data for grids of a size that would make it critical (e.g. notification area, not the whole of Europe). Ericsson think this depends on implementation, and the specification allows very large grid areas.

Nokia think it is clearly an enhancement and could be considered as a TEI18 proposal.

[R2-2308688](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308688_Addition%20of%20field%20descriptions%20for%20nr-DL-PRS-ResourceSetID_nr-DL-PRS-ResourceID-R16.docx) Addition of missing field description for nr-DL-PRS-ResourceID/nr-DL-PRS-ResourceSetID Samsung CR Rel-16 37.355 16.11.0 0462 - F NR\_pos-Core

* Not pursued

[R2-2308689](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308689_Addition%20of%20field%20descriptions%20for%20nr-DL-PRS-ResourceSetID_nr-DL-PRS-ResourceID-R17.docx) Addition of missing field description for nr-DL-PRS-ResourceID/nr-DL-PRS-ResourceSetID Samsung CR Rel-17 37.355 17.5.0 0463 - A NR\_pos-Core

* Not pursued

Discussion:

Nokia do not see it as an essential correction; they think the description of the corresponding IE is sufficient. CATT also do not think it is an essential correction, and for DL-TDOA the wording is not correct.

Ericsson have the same view as Nokia.

vivo agree with Ericsson and Nokia and think the spec is currently clear enough. Samsung are OK to follow the majority view, but they indicate that in the Provide Location Information message, the resource is used for each measurement element, and the intention was to capture this in the field description.

### 5.3.4 MAC corrections

# 6 NR Rel-17

## 6.2 NR Sidelink relay

(NR\_SL\_Relay-Core; leading WG: RAN2; REL-17; WID: RP-212601)

Tdoc Limitation: 2 tdocs

### 6.2.1 Control plane and Stage-2 corrections

A single CR with miscellaneous corrections is encouraged. Small editorial corrections should be sent directly to the CR rapporteur. Larger open issues can be discussed with contributions (limited time).

Rapporteur summary

R2-2308953 [Pre123][401][Relay] Summary of AI 6.2.1 on Rel-17 relay control plane (Huawei) Huawei, HiSilicon discussion Rel-17

Other contributions

[R2-2307194](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307194_38.331_CR_Corrections%20to%20processing%20of%20paging%20information%20received%20via%20Relay%20UE.docx) 38.331\_CR\_Corrections to processing of paging information received via Relay UE Samsung Electronics Co., Ltd CR Rel-17 38.331 17.5.0 4177 - F NR\_SL\_relay-Core

[R2-2307239](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\38331_CR4180_(REL-17)_R2-2307239%20-%20Correction%20of%20RemoteUEInformationSidelink%20transmission%20condition.docx) Correction of RemoteUEInformationSidelink transmission condition OPPO CR Rel-17 38.331 17.5.0 4180 - F NR\_SL\_relay-Core

[R2-2307727](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\38331_CR4209_R2-2307727_Correction%20on%20NR%20SL%20discovery%20transmission.docx) Conditions for RRC connection establishment and resume for NR sidelink discovery Samsung, Huawei, HiSilicon CR Rel-17 38.331 17.5.0 4209 - F NR\_SL\_relay-Core, NR\_SL\_enh-Core

[R2-2307755](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Docs\R2-2307755.zip) Correction on NR Sidelink Relay RRC Philips International B.V. CR Rel-17 38.331 17.5.0 4212 - F NR\_SL\_relay-Core

[R2-2307852](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307852%2038331_Correction_SRAP_configuration.docx) Corrections on SRAP related configurations for SL relay Apple CR Rel-17 38.331 17.5.0 4215 - F NR\_SL\_relay-Core

[R2-2307853](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307853%2038331_Correction_L2_Src_ID.docx) Corrections on the reporting of L2 ID for L2 U2N relay operation Apple CR Rel-17 38.331 17.5.0 4216 - F NR\_SL\_relay-Core

[R2-2307955](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307955_Correction%20on%20CHO%20and%20Path%20Switching%20of%20Remote%20UE.docx) Correction on CHO and Path Switching of Remote UE NEC Corporation CR Rel-17 38.300 17.5.0 0695 - F NR\_SL\_relay-Core

[R2-2308210](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\38331_CR4235_(Rel-17)_R2-2308210%20Miscellaneous%20corrections%20for%20SL%20relay.docx) Miscellaneous corrections for SL relay Huawei, HiSilicon CR Rel-17 38.331 17.5.0 4235 - F NR\_SL\_relay-Core

[R2-2308271](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308271_Corrections%20to%20TS%2038.331%20on%20SL%20relay%20(re)selection.docx) Corrections to TS 38.331 on SL relay (re)selection ZTE, CAICT, Sanechips CR Rel-17 38.331 17.5.0 4241 - F NR\_SL\_relay-Core

[R2-2308272](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308272_Corrections%20to%20TS%2038.300%20on%20SL%20relay%20(re)selection.docx) Corrections to TS38.300 on SL relay (re)selection ZTE, CAICT, Sanechips CR Rel-17 38.300 17.5.0 0698 - F NR\_SL\_relay-Core

[R2-2308275](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308275_Correction%20to%2038.331%20on%20U2N%20relay%20(re)selection.docx) Correction to 38.331 on U2N relay (re)selection vivo CR Rel-17 38.331 17.5.0 4240 - F NR\_SL\_relay-Core

[R2-2308550](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308550%20-%2038.331_CR4261_Rel17_Miscellaneous%20Corrections%20SL%20Relays.docx) Miscellaneous Corrections for SL Relays Ericsson España S.A. CR Rel-17 38.331 17.5.0 4261 - D NR\_SL\_relay-Core

[R2-2308553](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308553%20-%2038.300_CR0703_Rel17_Miscellaneous%20Corrections%20SL%20Relays.docx) Miscellaneous Correction for SL Relays Ericsson CR Rel-17 38.300 17.5.0 0703 - D NR\_SL\_relay-Core

[R2-2308714](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308714%20Corrections%20on%20U2N%20Relay.docx) Corrections on U2N Relay ASUSTeK CR Rel-17 38.331 17.5.0 4281 - F NR\_SL\_relay-Core

### 6.2.2 User plane corrections

A single CR with miscellaneous corrections is encouraged. Small editorial corrections should be sent directly to the CR rapporteur for the corresponding spec. Larger open issues can be discussed with contributions (limited time).

[R2-2307238](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\38351_CR0023_(REL-17)_R2-2307238%20-%20Correction%20of%20IE%20name%20sl-SRAP-ConfigRemote.docx) Correction of IE name sl-SRAP-ConfigRemote OPPO CR Rel-17 38.351 17.5.0 0023 - F NR\_SL\_relay-Core

[R2-2307756](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Docs\R2-2307756.zip) Correction on SRAP for sidelink relay Philips International B.V. CR Rel-17 38.351 17.5.0 0024 - F NR\_SL\_relay-Core

[R2-2308211](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\38351_CR0025_(Rel-17)_R2-2308211%20Clarification%20on%20the%20BEARER%20ID%20in%20SRAP%20data%20PDU.docx) Clarification on the BEARER ID in SRAP data PDU Huawei, HiSilicon CR Rel-17 38.351 17.5.0 0025 - F NR\_SL\_relay-Core

## 6.4 NR positioning enhancements

(NR\_pos\_enh-Core; leading WG: RAN1; REL-17; WID: RP-210903)

Tdoc Limitation: 2 tdocs

### 6.4.1 Stage 3 corrections

A single CR per TS (RRC, LPP, MAC, UEcap 306) with miscellaneous corrections is encouraged. Small editorial corrections should be sent directly to the CR rapporteur. Larger open issues can be discussed with contributions (limited time).

[R2-2307359](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307359%20Correction%20to%20Multi-RTT.docx) Correction to Multi-RTT Huawei, HiSilicon CR Rel-17 37.355 17.5.0 0455 - F NR\_pos\_enh-Core

* Agreed as R2-2309104, with ASN.1 alignment fixed

Discussion:

Ericsson think we wanted to avoid having conditions in the uplink. They think we could add something in the field description, but not a condition indicator.

Qualcomm think the CR is fine because we already use the same description for DL-TDOA and DL-AoD, and they disagree with Ericsson’s comment because this is different from a need code as such; they see it as an oversight.

CATT do not think it is essential, because the request already indicates whether this field should be reported.

vivo agree with Qualcomm and think we have the condition for DL-TDOA and DL-AoD.

Intel agree with Qualcomm.

Nokia wonder why the CR does not apply to other methods, and they ask if we cannot report one instance with the existing field.

Samsung share the view of Qualcomm and vivo.

Huawei clarify that the intention is not to have both fields present at the same time, and if the request uses the legacy format, the response will use the legacy field.

Intel agree that this is alignment with the downlink methods.

OPPO agree with the CR.

Qualcomm think there are editorial details with the ASN.1 alignment that should be fixed to save effort in CR implementation.

CATT indicate that the reason for the difference from the DL methods is that there is no UE-based multi-RTT. Qualcomm think it is still valid for UE-assisted and this was just a copying oversight.

[R2-2307360](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307360%20Correcton%20to%20UE%20capability%20for%20batch%20reporting.docx) Correction to UE capability for batch reporitng Huawei, HiSilicon CR Rel-17 37.355 17.5.0 0456 - F NR\_pos\_enh-Core

* Postponed

Discussion:

Lenovo wonder what the reason was for the addition in the Provide Location Information. Huawei indicate that this is the question they want to address: The LMF can request differently for different methods, but the UE only has a single capability.

vivo think the issue is valid but would prefer to fix the field description (Huawei’s approach 1), because RAN1 indicated only a single capability for this feature.

Intel agree that the capability came from RAN1, and they understand the guidance was that the UE supports it as one capability. They do not think it should be changed in RAN2.

Nokia wonder whether UE-based was also intended by RAN1.

Ericsson agree with Intel and think that RAN1 intended to capture a single functionality for multiple measurements or multiple locations.

Apple think it would be good to have separate capabilities. Qualcomm also think it makes sense, and they suggest that we could ask RAN1. Intel agree.

ZTE agree with sending an LS, and they wonder if we should include the additional option of changing the field description. Intel think how we implement it would be a RAN2 decision, but we can ask RAN1 if it is needed to have a separate capability.

* [AT123][420][POS] LS to RAN1 on batch reporting capability (ZTE)

Scope: Draft an LS to RAN1 inquiring about the need for multiple capabilities for batch reporting, as proposed in R2-2307360.

Intended outcome: Approved LS (without CB if possible) in R2-2309105

Deadline: Wednesday 2023-08-23 2000 UTC

[R2-2307504](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307504_LPP%20CR%20Missing%20error%20cause%20code%20for%20DL%20PRS%20Measurements.docx) Missing error cause code for DL PRS Measurements Fraunhofer IIS, Ericsson CR Rel-17 37.355 17.5.0 0457 - F NR\_pos\_enh-Core

* Not pursued

Discussion:

Qualcomm wonder what the new cause code really means, and if we need to start having cause codes at such fine granularity. There could be many reasons for an “unable to measure” condition.

Lenovo agree with Qualcomm and think the priority setting is quite dynamic, so they are not sure if the new code helps the LMF.

vivo agree with Qualcomm and think it is too detailed; the network is already aware of the PPW configuration, and if this situation occurs, they think the UE should request a measurement gap.

Ericsson agree that it is granular, but they think the inability to measure in certain PPWs is an error case that should be reflected in the error report. They see that the LMF would benefit from gathering statistics on this sort of event.

[R2-2308478](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308478%20PeriodicCR.docx) Missing finer periodicities than 1s Ericsson CR Rel-17 37.355 17.5.0 0450 1 F NR\_pos\_enh-Core R2-2306026

* Not pursued

[R2-2308479](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308479%20PeriodicD.docx) Missing LPP support for sub 1s location information reporting periodicity Ericsson discussion Rel-17

* Noted

Discussion:

Huawei are generally fine with the proposal, and consider that the AS layer granularity should generally be finer than the service layer granularity. They do wonder in which release we should introduce it.

Qualcomm think this is not a correction; they understand that we implemented the RAN1 feature list correctly, and this should be considered as an enhancement.

CATT also think it is not a correction, and they think we need to determine which use case needs it to infer which release it should be introduced in.

vivo note that the minimum value in NRPPa is 640 ms, which is not drastically off from 1 s, so they do not see a big gain from alignment.

Apple think it is an enhancement, not a correction. They think such an enhancement should normally come from lower layers.

Ericsson indicate that the proposal did come from lower layers, and we considered finer periodicities during Rel-17 discussions. They see that the network specs have sub-second periodicities in Rel-17 and LPP is the missing piece, so they consider this an alignment correction rather than an enhancement. They think that the Rel-17 latency requirements force us to have the ability to schedule the reporting with short intervals, so the device can report measurements/position estimates close in time.

Qualcomm think periodic reporting is not really a low-latency feature. They think if we change periodic reporting it should apply to all positioning methods, which again suggests that this is more of an enhancement.

Huawei understand that the LPP periodic reporting is intended to align with the periodicity requests from the service layer, and this just brings LPP into line with CT4 specs.

Ericsson indicate that the CT4 agreements apply to all positioning methods.

vivo think if CT4 want a change, there should be an LS to guide us.

Qualcomm see no connection between LPP periodic reporting and the CT4 specs, which are for deferred MT-LR, whereas periodic reporting in LPP is between UE and LMF, They do not see that the specs are broken.

CATT wonder what the CT4 spec defines for periodic reporting between LMF and AMF. Ericsson indicate that the CT4 specs for reporting between LMF/AMF/GMLC/MAP have all been updated with sub-second periodicities.

CATT think CT4 should send an LS.

OPPO agree there should be an LS.

Qualcomm would like to see how it works end-to-end.

[R2-2308690](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308690_Addition%20of%20missing%20values%20for%20dl-prs-ResourceSetPeriodicityReq-r17.docx) Addition of missing values for dl-prs-ResourceSetPeriodicityReq-r17 Samsung CR Rel-17 37.355 17.5.0 0464 - F NR\_pos\_enh-Core

Discussion:

Lenovo support the CR.

vivo think it is not needed, because the periodicities are indicated in the SCS of the PCell.

Qualcomm think these are periodicities supported for the PRS, but not supported in the on-demand request. They think this is a real correction.

CATT ask if the proponent checked the RAN1 parameter list; if RAN1 did not provide these periodicities, they think maybe we should check with RAN1. Samsung indicate that they did not find the periodicities in the RAN1 list, but we have a misalignment between the ASN.1 and the field description; they would be OK to send an LS to check.

Lenovo agree that there is a mismatch.

Nokia think it is an essential correction, but they are OK to confirm with RAN1.

CATT would like time to check the RRC parameters.

* [AT123][421][POS] dl-prs-ResourceSetPeriodicityReq-r17 range check (Samsung)

Scope: Evaluate the change proposed in R2-2308690 in light of the RAN1 parameter list.

Intended outcome: Agreeable CR if necessary and report in R2-2309106

Deadline: Wednesday 2023-08-23 2000 UTC

### 6.4.2 Stage 2 corrections

A single CR with miscellaneous corrections is encouraged. Small editorial corrections should be sent directly to the CR rapporteur. This agenda item will be handled at lower priority.

[R2-2308759](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308759%20CR_38305_PRU.docx) Correction of PRU overview description Nokia, Nokia Shanghai Bell CR Rel-17 38.305 17.5.0 0139 - F NR\_pos\_enh-Core

* Not pursued

Discussion:

Qualcomm think the existing text is correct and the change would be wrong. Their understanding is that you know the PRU location and what it is supposed to measure, and the point is to compare the measurements taken by the PRU at a known location to the reported measurements from a UE.

vivo agree with Qualcomm and think the comparison is about the measurements.

CATT have the same view, and they checked the LS from RAN1 and found that it did not mention how to use the measurements. They think an alternative change to replace “compared” with “used” could be valid.

Intel wonder if we need to do anything for PRUs in Rel-17.

Nokia can accept majority view and keep the existing text.

# 7 Rel-18

## 7.2 Expanded and improved NR positioning

(NR\_pos\_enh2; leading WG: RAN1; REL-18; WID: RP-231460)

Time budget: 2 TU

Tdoc Limitation: 4 tdocs

### 7.2.1 Organizational

Including incoming LSs and rapporteur inputs.

Incoming LSs with RAN2 in Cc:

[R2-2307007](C:\\Users\\mtk16923\\Documents\\3GPP Meetings\\202308 - RAN2_123, Toulouse\\Extracts\\R2-2307007_R1-2306208.docx" \o "C:\Users\mtk16923\Documents\3GPP Meetings\202308 - RAN2_123, Toulouse\Extracts\R2-2307007_R1-2306208.docx) Reply LS on Sidelink positioning procedure (R1-2306208; contact: Xiaomi) RAN1 LS in Rel-18 Ranging\_SL To:SA2 Cc:RAN2

[R2-2307031](C:\\Users\\mtk16923\\Documents\\3GPP Meetings\\202308 - RAN2_123, Toulouse\\Extracts\\R2-2307031_R3-233424.docx" \o "C:\Users\mtk16923\Documents\3GPP Meetings\202308 - RAN2_123, Toulouse\Extracts\R2-2307031_R3-233424.docx) Reply LS on Authorization and Provisioning for Ranging/SL positioning service (R3-233424; contact: Xiaomi) RAN3 LS in Rel-18 Ranging\_SL, NR\_pos\_enh2 To:SA2 Cc:RAN1, RAN2

[R2-2307052](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307052_S1-231370.docx) Reply LS on the requirement on low power or high accuracy positioning (S1-231370; contact: Huawei) SA1 LS in Rel-18 5G\_eLCS\_Ph3 To:SA2 Cc:RAN1, RAN2

Incoming LS with “take into account” action

[R2-2307004](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307004_R1-2306157.docx) LS reply on the RAT-dependent positioning integrity (R1-2306157; contact: InterDigital) RAN1 LS in Rel-18 NR\_pos\_enh2 To:RAN2 Cc:RAN3

Other incoming LSs and draft replies

[R2-2307010](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307010_R1-2306214.docx) LS to RAN2 on SRS bandwidth aggregation for positioning (R1-2306214; contact: ZTE) RAN1 LS in Rel-18 NR\_pos\_enh2 To:RAN2

[R2-2308139](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308139%20%5bdraft%5dReply%20LS%20to%20RAN1%20on%20SRS%20bandwidth%20aggregation%20for%20positioning.docx) [draft]Reply LS to RAN1 on SRS bandwidth aggregation for positioning ZTE Corporation LS out Rel-18 NR\_pos\_enh2 To:RAN1

* [AT123][402][POS] LS to RAN1 on SRS bandwidth aggregation (ZTE)

Scope: Draft a reply to R2-2307010, taking online discussion into account.

Intended outcome: Approved LS (without CB if possible)

Deadline: Wednesday 2023-08-23 2000 UTC

[R2-2307032](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307032_R3-233474.docx) Reply LS on SRS Configuration Request (R2-2302278; contact: Huawei) RAN3 LS in Rel-18 NR\_pos\_enh2 To:RAN2 Cc:RAN1

[R2-2307042](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307042_R4-2310166.docx) LS on reporting granularity for timing related positioning measurements (R4-2310166; contact: Huawei) RAN4 LS in Rel-18 NR\_pos\_enh2 To:RAN2, RAN3 Cc:RAN1

[R2-2307126](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307126%20Draft%20reply%20LS%20on%20timing%20measurement%20reporting%20granularity_v01.doc) Draft reply LS on timing measurement reporting granularity Huawei, HiSilicon LS out Rel-18 NR\_pos\_enh2 To:RAN4 Cc:RAN1, RAN3

[R2-2307127](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307127%20Discussion%20on%20measurement%20reporting%20granularity_v01.docx) Discussion on measurement reporting granularity Huawei, HiSilicon discussion Rel-18 NR\_pos\_enh2

* [AT123][403][POS] LS to RAN4 on timing measurement reporting granularity (Huawei)

Scope: Draft a reply to R2-2307042, taking online discussion into account.

Intended outcome: Approved LS (without CB if possible)

Deadline: Wednesday 2023-08-23 2000 UTC

[R2-2307054](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Docs\R2-2307054.zip) Reply LS to LS to SA2 on Sidelink positioning procedure (S2-2305735; contact: Xiaomi) SA2 LS in Rel-18 Ranging\_SL To:RAN2, RAN1 Cc:SA3

[R2-2307056](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307056_S2-2307553.docx) LS on assistance information provided to UE (S2-2307553; contact: Xiaomi) SA2 LS in Rel-18 Ranging\_SL To:RAN2

* [AT123][404][POS] LS(s) to SA2 on sidelink positioning (Xiaomi)

Scope: Draft a reply (or separate replies) to R2-2307054 and R2-2307056, taking online discussion into account.

Intended outcome: Approvable LS(s)

Deadline: Wednesday 2023-08-23 2000 UTC

LS-related documents from non-contact companies

[R2-2308053](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308053%20Discussion%20on%20the%20draft%20reply%20LSs%20to%20SA2%20on%20SL%20Pos.docx) Discussion on the reply LSs to SA2 on SL Positioning OPPO discussion Rel-18 NR\_pos\_enh2

Draft TS

[R2-2307663](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Docs\R2-2307663.zip) TS 38.355 v0.0.4 Intel Corporation draft TS Rel-18 38.355 0.0.4 NR\_pos\_enh2

* [AT123][409][POS] TS 38.355 (Intel)

Scope: Collect comments on the draft TS in R2-2307663 and produce an endorsable version.

Intended outcome: Endorsable draft TS

Deadline: Thursday 2023-08-24 2000 UTC

Running CRs

[R2-2307124](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307124%20Draft%20running%20MAC%20CR%20for%20LPHAP_v02.docx) Running MAC CR for LPHAP Huawei, HiSilicon discussion Rel-18 NR\_pos\_enh2

[R2-2307125](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307125%20Draft%20running%20MAC%20CR%20for%20sidelink%20positioning_v03.docx) Running MAC CR for Sidelink Positioning Huawei, HiSilicon discussion Rel-18 NR\_pos\_enh2

* [AT123][405][POS] Rel-18 positioning MAC CRs (Huawei)

Scope: Collect comments on the CRs in R2-2307124 and R2-2307125 and produce endorsable versions.

Intended outcome: Endorsable CRs

Deadline: Thursday 2023-08-24 2000 UTC

[R2-2307391](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307391%20LPP%20running%20CR%20for%20RAT-dependent%20integrity.docx) LPP running CR for RAT-dependent integrity CATT draftCR Rel-18 37.355 17.5.0 NR\_pos\_enh2

* [AT123][406][POS] Rel-18 LPP CR on RAT-dependent integrity (CATT)

Scope: Collect comments on the CR in R2-2307391 and produce an endorsable version.

Intended outcome: Endorsable CR

Deadline: Thursday 2023-08-24 2000 UTC

[R2-2308385](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308385_(Running%20Stage%202%20CR).docx) Running Stage 2 CR for 'Expanded and improved NR positioning' Qualcomm Incorporated draftCR Rel-18 38.305 17.5.0 B NR\_pos\_enh2

[R2-2308386](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308386_(Stage%202%20TP%20MT-LR%20MO-LR).docx) Stage 2 TP for SL-MO-LR/SL-MT-LR Qualcomm Incorporated discussion

[R2-2308387](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308387_(Stage%202%20TP%20SLPP%20Transport%20Between%20UE%20and%20LMF).docx) Stage 2 TP for SLPP Transport between UE and LMF Qualcomm Incorporated discussion

[R2-2308395](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308395_(Stage%202%20TP%20SLPP%20Transport%20Between%20UEs).docx) Stage 2 TP for SLPP Transport between UEs Qualcomm Incorporated discussion

* [AT123][407][POS] Rel-18 positioning stage 2 CR and TPs (Qualcomm)

Scope: Collect comments on the CR in R2-2308385 and related TPs in R2-2308386 / R2-2308387 / R2-2308395, and produce an endorsable version of the CR.

Intended outcome: Endorsable CR

Deadline: Thursday 2023-08-24 2000 UTC

[R2-2308484](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308484%20RRCRappCR.docx) Rapporteur CR for Positioning RRC Changes Ericsson draftCR Rel-18 38.331 17.5.0 B NR\_pos\_enh2

* [AT123][408][POS] Rel-18 positioning RRC CR (Ericsson)

Scope: Collect comments on the CR in R2-2308484 and produce an endorsable version.

Intended outcome: Endorsable CR

Deadline: Thursday 2023-08-24 2000 UTC

Rapporteur inputs on spec handling

[R2-2307662](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307662%20SLPP%20considerations.docx) Further considerations on SLPP specification Intel Corporation discussion Rel-18 NR\_pos\_enh2

[R2-2308259](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308259%20Discussion%20on%20R18%20positioning%20UE%20capabilities.doc) Discussion on R18 positioning UE capabilities Xiaomi discussion

* [AT123][410][POS] Rel-18 positioning capabilities (Xiaomi)

Scope: Discuss the proposals in R2-2308259 and conclude on handling of the Rel-18 capabilities.

Intended outcome: Report to CB session

Deadline: Wednesday 2023-08-23 2000 UTC

Other

### 7.2.2 Sidelink positioning

Positioning architecture and signalling procedures (e.g. configuration, measurement reporting, etc) to enable sidelink positioning. Including measurements to enable RTT-based positioning, SL-AoA, and SL-TDOA; signalling and associated UE behaviour for support of unicast, groupcast (not including many-to-one) and broadcast of SL-PRS transmissions; reporting signalling and procedures to facilitate support of SL positioning in all coverage scenarios and for PC5-only and joint PC5-Uu scenarios; and signalling to NG-RAN for SL positioning and service authorization as needed.

Including report of [Post122][402][POS] SLPP session handling (Intel)

Email discussion summary

[R2-2307660](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307660%20%5bPost122%5d%5b402%5d%5bPOS%5d%20SLPP%20session%20handling.docx) Report of [ 402] SLPP session handling Intel Corporation discussion Rel-18 NR\_pos\_enh2 Late

Agenda item summary (excluding items related to the email discussion)

R2-23xxxxx Summary of AI 7.2.2 Sidelink positioning CATT discussion Rel-18 NR\_pos\_enh2

The following documents will not be individually treated

[R2-2307122](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307122%20Discussion%20on%20higher%20layer%20aspects%20for%20Sidelink%20Positioning_final.docx) Discussion on higher layer aspects for Sidelink Positioning Huawei, HiSilicon discussion Rel-18 NR\_pos\_enh2

[R2-2307123](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307123%20Discussion%20on%20lower%20layer%20aspects%20for%20SL%20positoining_v06.docx) Discussion on lower layer aspects for Sidelink Positioning Huawei, HiSilicon discussion Rel-18 NR\_pos\_enh2

[R2-2307185](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307185_Sidelink_Fraunhofer.docx) UE Positioning using Sidelink in OoC Fraunhofer IIS, Fraunhofer HHI discussion

[R2-2307187](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307187_Preconfigured_AD_Sidelink_Fraunhofer_Ericsson.docx) Preconfigured Assistance Data for UE Positioning in Hybrid Uu and PC5 scenarios Fraunhofer IIS, Fraunhofer HHI, Ericsson discussion

[R2-2307232](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307232.docx) Discussion of SLPP / LPP signalling procedures Nokia Netherlands discussion Rel-18

[R2-2307241](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307241.docx) Discussion of session-less and session-based positioning Nokia Netherlands discussion Rel-18

[R2-2307340](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307340.docx) SLPP signalling in UE-only sidelink positioning/ranging procedure MediaTek Inc. discussion Rel-18 NR\_pos\_enh2

[R2-2307341](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307341.docx) Pathological cases of network-based operation for sidelink positioning MediaTek Inc. discussion Rel-18 NR\_pos\_enh2 Revised

[R2-2307392](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307392%20Discussion%20on%20sidelink%20positioning.docx) Discussion on sidelink positioning CATT discussion Rel-18 NR\_pos\_enh2

[R2-2307426](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307426%20Discussion%20on%20sidelink%20positioning.docx) Discussion on sidelink positioning vivo discussion Rel-18 FS\_NR\_pos\_enh2

[R2-2307507](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307507%20Discussion%20on%20SL%20positioning.doc) Discussion on SL positioning Xiaomi discussion Rel-18

[R2-2307661](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307661.docx) Further considerations on sidelink positioning Intel Corporation discussion Rel-18 NR\_pos\_enh2

[R2-2307778](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307778%20(7.2.2)%20SLPP%20design%20in%20session%20aspects.docx) SLPP design for session aspects Samsung Electronics Romania discussion

[R2-2307823](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307823-SL-POS-procedures-v0.docx) SL positioning procedures Apple discussion NR\_pos\_enh2

[R2-2308052](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308052%20Further%20discussion%20on%20sidelink%20positioning.docx) Further discussion on sidelink positioning OPPO discussion Rel-18 NR\_pos\_enh2

[R2-2308125](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308125%20Discussion%20on%20sidelink%20positioning.docx) Discussion on sidelink positioning Spreadtrum Communications discussion Rel-18

[R2-2308138](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308138%20Discussion%20on%20sidelink%20positioning.docx) Discussion on sidelink positioning ZTE Corporation discussion Rel-18 NR\_pos\_enh2

[R2-2308152](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308152_SL_Pos_Res.docx) Considerations on sidelink positioning resources Sony discussion Rel-18 FS\_NR\_pos\_enh2

[R2-2308276](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308276_SLPosDiscussion.docx) Discussion on SL Positioning Lenovo discussion Rel-18

[R2-2308284](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308284%20Bosch_Discussion_on_sidelink_positioning.docx) Discussion on sidelink positioning ROBERT BOSCH GmbH discussion Rel-18

[R2-2308316](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308316%20Considerations%20on%20Sidelink%20positioning.doc) Considerations on Sidelink positioning CMCC discussion Rel-18 NR\_pos\_enh2

[R2-2308384](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308384%20(R18%20NR%20POS%20A722%20SL%20POS).docx) Discussion on sidelink positioning InterDigital, Inc. discussion Rel-18 NR\_pos\_enh2

[R2-2308396](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308396_(Sidelink%20Positioning).docx) Sidelink Positioning Protocol (SLPP) Signaling and Procedures Qualcomm Incorporated discussion

[R2-2308416](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308416.docx) Pathological cases of network-based operation for sidelink positioning MediaTek Inc., CATT discussion Rel-18 NR\_pos\_enh2 R2-2307341

[R2-2308480](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308480%20Sidelink%20positioning.docx) Sidelink positioning Ericsson discussion Rel-18

[R2-2308557](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308557.docx) Discussion of resource allocation aspects Nokia Netherlands discussion

[R2-2308595](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308595%20Discussion%20on%20higher%20layer%20aspects%20for%20sidelink%20positioning.docx) Discussion on higher layer aspects for sidelink positioning LG Electronics Inc. discussion Rel-18

[R2-2308600](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308600%20Discussion%20on%20lower%20layer%20aspects%20for%20sidelink%20positioning.docx) Discussion on lower layer aspects for sidelink positioning LG Electronics Inc. discussion Rel-18

[R2-2308657](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308657%20Discussion%20on%20priority%20value%20for%20SL-PRS.doc) Discussion on priority value for SL-PRS Samsung Electronics Co., Ltd discussion Rel-18 NR\_pos\_enh2

[R2-2308800](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308800-Further%20Discussions%20on%20Sidelink%20Positioning%20and%20Ranging.docx)  Further Discussions on Sidelink Positioning & Ranging CEWiT discussion

[R2-2308884](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308884%20Discussion%20on%20Anchor%20UE%20discovery%20and%20selection%20in%20sidelink%20positioning.docx) Discussion on Anchor UE discovery and selection in sidelink positioning KT Corp. discussion Rel-18 NR\_pos\_enh2

[R2-2308908](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308908_On%20the%20selection%20of%20Anchor%20UEs%20for%20Sidelink%20Positioning.doc) On the selection of Anchor UEs for Sidelink Positioning Philips International B.V. discussion Rel-18 NR\_pos\_enh2

[R2-2308935](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308935%20SL%20pos%20server.docx) On the support of UE-only SL positioning in in-coverage and partial coverage scenarios Philips International B.V. discussion Rel-18 NR\_pos\_enh2

### 7.2.3 RAT-dependent integrity

Error modelling parameters, signalling, and procedures to support UE-based and LMF-based integrity of RAT-dependent positioning methods.

[R2-2308397](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308397_(integrity).docx) Integrity of NR Positioning Technologies Qualcomm Incorporated discussion

[R2-2307393](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307393%20Discussion%20on%20RAT-Dependent%20integrity.docx) Discussion on RAT-Dependent integrity CATT discussion Rel-18 NR\_pos\_enh2

[R2-2307427](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307427%20Discussion%20on%20remaining%20issues%20for%20positioning%20integrity.docx) Remaining issues of RAT-dependent integrity vivo discussion Rel-18 FS\_NR\_pos\_enh2

[R2-2307664](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307664%20Integrity.docx) Further considerations on RAT dependent integrity Intel Corporation discussion Rel-18 NR\_pos\_enh2

[R2-2307999](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307999%20Discussion%20on%20RAT-dependent%20integrity.doc) Discussion on RAT-dependent integrity Lenovo discussion Rel-18

[R2-2308050](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308050%20Consideration%20on%20RAT-dependent%20positioning%20integrity.docx) Consideration on RAT-dependent positioning integrity OPPO discussion Rel-18 NR\_pos\_enh2

[R2-2308136](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308136%20Discussion%20on%20RAT-dependent%20methods%20positioning%20integrity.docx) Discussion on RAT-dependent methods positioning integrity ZTE Corporation discussion Rel-18 NR\_pos\_enh2

[R2-2308260](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308260%20Discussion%20on%20RAT-dependent%20positioning%20integrity.doc) Discussion on RAT-dependent positioning integrity Xiaomi discussion

[R2-2308482](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308482%20RAT%20dependent%20Integrity.docx) On RAT-dependent positioning Integrity Ericsson discussion Rel-18

[R2-2308616](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308616%20(R18%20NR%20POS%20A723%20RAT%20dependent%20integrity).doc) Discussion on RAT dependent integrity InterDigital, Inc. discussion Rel-18

### 7.2.4 LPHAP

Enhancements for enabling LPHAP use case 6 (TS 22.104), including extending eDRX cycle (coordinated with RedCap WI); SRS configuration enhancements based on validity area for UEs in RRC\_INACTIVE; DL-PRS measurements in RRC\_IDLE and reporting in RRC\_CONNECTED; and alignment between eDRX and PRS configurations.

Including report of [Post122][401][POS] SRS configuration and activation in LPHAP (CATT)

Email discussion summary

[R2-2308812](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308812%20Report%20of%20%5bPost122%5d%5b401%5d%5bPOS%5d%20SRS%20configuration%20and%20activation%20in%20LPHAP.docx) Report of [Post122][401][POS] SRS configuration and activation in LPHAP (CATT) CATT discussion Rel-18 NR\_pos\_enh2

Agenda item summary (excluding items related to the email discussion)

R2-2308959 Summary for 7.2.4 LPHAP excluding SRS configuration & activation part OPPO discussion Rel-18 NR\_pos\_enh2

The following documents will not be individually treated

[R2-2307121](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307121%20Discussion%20on%20LPHAP_final.docx) Discussion on LPHAP Huawei, HiSilicon discussion Rel-18 NR\_pos\_enh2

[R2-2307186](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307186_LPHAP_Fraunhofer.docx) Enhancements for supporting LPHAP Fraunhofer IIS, Fraunhofer HHI discussion

[R2-2307394](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307394%20Discussion%20on%20SRS%20configuration%20with%20validity%20area%20and%20alignment%20between%20PRS%20and%20(e)DRX.docx) Discussion on SRS configuration with validity area and alignment between PRS and (e)DRX CATT discussion Rel-18 NR\_pos\_enh2

[R2-2307428](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307428_Discussion%20on%20solution%20of%20LPHAP.doc) Discussion on solution of LPHAP vivo discussion Rel-18 FS\_NR\_pos\_enh2

[R2-2307665](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307665%20LPHAP.docx) Further considerations on LPHAP Intel Corporation discussion Rel-18 NR\_pos\_enh2

[R2-2307824](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307824-PRS-DRX-alignment-v1.docx) Alignment between DRX and PRS Apple discussion NR\_pos\_enh2

[R2-2308000](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308000%20Discussion%20on%20low%20power%20high%20accuracy%20positioning.doc) Discussion on low power high accuracy positioning Lenovo discussion Rel-18

[R2-2308051](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308051%20Discussion%20on%20LPHAP%20enhancement.docx) Discussion on LPHAP enhancement OPPO discussion Rel-18 NR\_pos\_enh2

[R2-2308126](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308126%20Discussion%20on%20LPHAP.docx) Discussion on LPHAP Spreadtrum Communications discussion Rel-18

[R2-2308135](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308135%20Discussion%20on%20LPHAP.docx) Discussion on LPHAP ZTE Corporation discussion Rel-18 NR\_pos\_enh2

[R2-2308153](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308153LPHAP.docx) Considerations on Low Power High Accuracy Positioning Sony discussion Rel-18 FS\_NR\_pos\_enh2

[R2-2308261](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308261%20Discussion%20on%20LPHA%20positioning.doc) Discussion on LPHA positioning Xiaomi discussion

[R2-2308317](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308317%20Further%20considerations on LPHAP.doc) Further considerations on LPHAP CMCC discussion Rel-18 NR\_pos\_enh2

[R2-2308398](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308398_(LPHAP).docx) Enhancements for LPHAP Qualcomm Incorporated discussion

[R2-2308481](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308481%20LPHAP.docx) Discussion on Low Power High Accuracy Positioning Ericsson discussion Rel-18

[R2-2308618](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308618%20(R18%20NR%20POS%20A724%20LPHAP).doc) Discussion on LPHAP InterDigital, Inc. discussion Rel-18

[R2-2308693](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308693_Discussion%20on%20alignment%20between%20(e)DRX%20and%20PRS.docx) Discussion on alignment between (e)DRX and PRS Samsung discussion Rel-18 NR\_pos\_enh2

[R2-2308694](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308694_Discussion%20on%20SRS%20configuration%20in%20RRC_INACTIVE.docx) Discussion on SRS configuration in RRC\_INACTIVE Samsung discussion Rel-18 NR\_pos\_enh2

### 7.2.5 RedCap positioning, carrier phase positioning, and bandwidth aggregation for positioning

RAN1 led objectives that may require progress in RAN1 before RAN2 can take decisions.

[R2-2308001](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308001%20Discussion%20on%20RedCap,%20carrier%20phase%20positioning%20and%20PRS,SRS%20bandwidth%20aggregation.doc) Discussion on RedCap positioning, carrier phase positioning and PRS/SRS bandwidth aggregation Lenovo discussion Rel-18

[R2-2307395](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307395%20Discussion%20on%20carrier%20phase%20positioning,%20bandwidth%20aggregation%20for%20positioning%20and%20Redcap%20positioning.docx) Discussion on carrier phase positioning, bandwidth aggregation for positioning and Redcap positioning CATT discussion Rel-18 NR\_pos\_enh2

[R2-2307429](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307429%20RAN2-related%20issues%20about%20bandwidth%20aggregation.docx) RAN2-related issues about bandwidth aggregation vivo discussion Rel-18 FS\_NR\_pos\_enh2

[R2-2307455](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307455%20Discussion%20on%20RAN1%20led%20positioning%20topics.docx) Discussion on RAN1 led positioning topics Huawei, HiSilicon discussion

[R2-2307666](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307666%20RAN1%20led%20items.docx) Considerations on other RAN1 led items Intel Corporation discussion Rel-18 NR\_pos\_enh2

[R2-2307827](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307827-on-demand-prs-aggregation-v0.docx) On-demand PRS with bandwidth aggregation Apple discussion NR\_pos\_enh2

[R2-2308137](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308137%20Discussion%20on%20BW%20aggregation%20and%20RedCap%20positioning.docx) Discussion on BW aggregation and RedCap positioning ZTE Corporation discussion Rel-18 NR\_pos\_enh2

[R2-2308174](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308174%20RedCap%20Positioning.docx) Discussion on Frequency hopping for Positioning for RedCap Ues Sony discussion Rel-18 FS\_NR\_pos\_enh2

[R2-2308262](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308262%20Discussion%20on%20RedCap%20positioning,%20carrier%20phase%20positioning%20and%20bandwidth%20aggregation%20for%20positioning.doc) Discussion on RedCap positioning, carrier phase positioning and bandwidth aggregation for positioning Xiaomi discussion

[R2-2308399](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308399_(PRS%20Aggregation).docx) Configuration Enhancements for DL-PRS Aggregation Qualcomm Incorporated discussion

[R2-2308483](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308483%20RedCap.docx) Discussion based upon RAN1 agreements on CPP, RedCap, Bandwidth aggregation Ericsson discussion Rel-18

[R2-2308619](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308619%20(R18%20NR%20POS%20A725%20Others).doc) Discussion on positioning for RedCap positioning, carrier phase positioning, and bandwidth aggregation for positioning InterDigital, Inc. discussion Rel-18

[R2-2308761](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308761%20Carrier%20Phase%20Positioning.docx) Assessment of impact of carrier phase positioning on higher layer protocols Nokia, Nokia Shanghai Bell discussion Rel-18 NR\_pos\_enh2-Core]

## 7.9 Enhanced NR Sidelink Relay

(NR\_SL\_relay\_enh-Core; leading WG: RAN2; REL-18; WID: RP-223501)

Time budget: 1.5 TU

Tdoc Limitation: 4 tdocs

### 7.9.1 Organizational

Including incoming LSs and rapporteur inputs.

Incoming LSs with “take into account” action

[R2-2307057](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307057_S2-2307707.docx) Reply LS to SA2 on authorization for multi-path Scenario 2 (S2-2307707; contact: LGE) SA2 LS in Rel-18 NR\_SL\_relay\_enh, 5G\_ProSe\_Ph2 To:RAN2 Cc:RAN3

[R2-2307072](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307072_S3-233323.docx) Reply LS on security for L2 UE-to-UE relay (S3-233323; contact: Lenovo) SA3 LS in Rel-18 NR\_SL\_relay\_enh, FS\_5G\_ProSe\_Ph2 To:RAN2

Other incoming LS

[R2-2307055](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307055_S2-2305915.doc) Reply LS on 5G ProSe Layer-2 UE-to-UE Relay QoS enforcement (S2-2305915; contact: Qualcomm) SA2 LS in Rel-18 5G\_ProSe\_Ph2 To:RAN2

Running CRs and related documents

[R2-2307235](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\38351_CRyyyy_(REL-18)_R2-2307235_Running%20CR%20of%20TS%2038.351%20for%20SL%20Relay%20enhancement.docx) Running CR of TS 38.351 for SL Relay enhancement OPPO draftCR Rel-18 38.351 17.5.0 B NR\_SL\_relay\_enh-Core

* [AT123][411][Relay] Rel-18 SRAP CR (OPPO)

Scope: Collect comments on the CR in R2-2307235 and produce an endorsable version.

Intended outcome: Endorsable CR

Deadline: Thursday 2023-08-24 2000 UTC

[R2-2307546](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307546_Introduction%20of%20NR%20sidelink%20U2U%20relay.docx) Introduction of NR sidelink U2U relay vivo draftCR Rel-18 38.331 17.5.0 B NR\_SL\_relay\_enh-Core

* [AT123][412][Relay] Rel-18 RRC CR on U2U relay (vivo)

Scope: Collect comments on the CR in R2-2307546 and produce an endorsable version.

Intended outcome: Endorsable CR

Deadline: Thursday 2023-08-24 2000 UTC

[R2-2307720](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307720.docx) 38.322 running CR for enhanced NR sidelink relay Xiaomi draftCR Rel-18 38.322 17.3.0 B NR\_SL\_relay\_enh-Core

* [AT123][413][Relay] Rel-18 relay RLC CR (Xiaomi)

Scope: Collect comments on the CR in R2-2307720 and produce an endorsable version.

Intended outcome: Endorsable CR

Deadline: Thursday 2023-08-24 2000 UTC

[R2-2307854](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307854%20Draft%20running%20CR%2038.321.docx) Draft Running CR 38.321 Apple draftCR Rel-18 38.321 17.5.0 B NR\_SL\_relay\_enh-Core

* [AT123][414][Relay] Rel-18 relay MAC CR (Apple)

Scope: Collect comments on the CR in R2-2307854 and produce an endorsable version.

Intended outcome: Endorsable CR

Deadline: Thursday 2023-08-24 2000 UTC

[R2-2307920](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307920_38.300_DraftCR.docx) Draft running CR 38.300 LG Electronics Inc. draftCR Rel-18 38.300 17.5.0 B NR\_SL\_relay\_enh-Core

* [AT123][415][Relay] Rel-18 relay stage 2 CR (LG)

Scope: Collect comments on the CR in R2-2307920 and produce an endorsable version.

Intended outcome: Endorsable CR

Deadline: Thursday 2023-08-24 2000 UTC

[R2-2308203](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308203%20RRC%20running%20CR%20for%20Rel-18%20multi-path%20support.docx) RRC running CR for Rel-18 multi-path support Huawei, HiSilicon draftCR Rel-18 38.331 17.5.0 B NR\_SL\_relay\_enh-Core

[R2-2308204](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308204%20Considerations%20on%20Multi-path%20RRC%20running%20CR.docx) Considerations on Multi-path RRC running CR Huawei, HiSilicon discussion Rel-18 NR\_SL\_relay\_enh-Core

* [AT123][416][Relay] Rel-18 RRC CR on multi-path relay (Huawei)

Scope: Collect comments on the CR in R2-2308203 and produce an endorsable version.

Intended outcome: Endorsable CR

Deadline: Thursday 2023-08-24 2000 UTC

[R2-2308559](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308559%20-%2038.304_draftCR(Rel-18)_Introduction%20of%20Rel-18%20support%20for%20SL%20Relay%20Enhancements.docx) Introduction of Rel-18 support for SL Relay Enhancements Ericsson España S.A. draftCR Rel-18 38.304 17.5.0 B NR\_SL\_relay\_enh

* [AT123][417][Relay] Rel-18 relay idle mode CR (Ericsson)

Scope: Collect comments on the CR in R2-2308559 and produce an endorsable version.

Intended outcome: Endorsable CR

Deadline: Thursday 2023-08-24 2000 UTC

[R2-2308687](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308687_38331_CR%234277_Rel-18_SL_relay_service_continuity.docx) Introduction of Rel-18 SL relay service continuity MediaTek, Inc CR Rel-18 38.331 17.5.0 4277 - B NR\_SL\_relay\_enh-Core

* [AT123][418][Relay] Rel-18 RRC CR on relay service continuity (MediaTek)

Scope: Collect comments on the CR in R2-2308687 and produce an endorsable version.

Intended outcome: Endorsable CR

Deadline: Thursday 2023-08-24 2000 UTC

### 7.9.2 UE-to-UE relay

Single-hop Layer-2 and Layer-3 UE-to-UE relay for unicast. Including common L2/L3 functionality comprising relay discovery and (re)selection and L2-specific functionality including adaptation layer design, control plane procedures, and QoS handling if needed.

Agenda item summary

R2-2308956 Summary of UE-to-UE relay Qualcomm Incorporated discussion NR\_SL\_relay\_enh-Core

* [AT123][401][Relay] Summary proposals on UE-to-UE relay (Qualcomm)

Scope: Discuss the proposals in R2-2308956 and progress towards agreements.

Intended outcome: Report to Wednesday online session in R2-2309101

Deadline: Tuesday 2023-08-22 2000 UTC

R2-2309101 (Report of [AT123][4101]) Qualcomm Incorporated discussion NR\_SL\_relay\_enh-Core

The following documents will not be individually treated

[R2-2307233](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307233%20-%20Discussion%20on%20U2U%20Relay.docx) Discussion on U2U relay OPPO discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2307386](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307386_Discussion%20on%20remaining%20issue%20of%20U2U%20relay.docx) Discussion on remaining issue of U2U relay NEC discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2307402](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307402%20Discussion%20on%20the%20adaptation%20layer.doc) Discussion on the adaptation layer Fujitsu discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2307446](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307446.doc) Discussion on U2U relay Sharp discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2307547](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307547_Remaining%20issues%20on%20U2U%20discovery%20and%20relay%20(re)selection.docx) Remaining issues on U2U discovery and relay (re)selection vivo discussion

[R2-2307548](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307548_%20Discussion%20on%20the%20remaining%20issues%20of%20L2%20U2U%20relaying.docx) Discussion on the remaining issues of L2 U2U relaying vivo discussion

[R2-2307551](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307551%20Disussion%20on%20U2U%20Relay.docx) Discussion on U2U Relay CATT discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2307641](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307641.docx) U2U Relay selection reselection, SRAP design Beijing Xiaomi Mobile Software discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2307655](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307655_FhG_SL-Relay_ShortID.docx) Discussion on using short ID in U2U relaying Fraunhofer IIS, Fraunhofer HHI discussion Rel-18 NR\_SL\_relay\_enh

[R2-2307716](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307716%20Discussion%20on%20U2U%20relay.docx) Discussion on U2U relay TCL discussion

[R2-2307732](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307732%20QoS%20and%20bearer%20configuration%20for%20L2%20U2U%20relaying.doc) QoS and bearer configuration for L2 U2U relaying Samsung discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2307742](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307742-common%20part%20and%20Layer-2%20specific%20part%20on%20U2U%20Relay.docx) Common part and Layer-2 specific part on U2U Relay Qualcomm Incorporated discussion NR\_SL\_relay\_enh-Core

[R2-2307743](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307743-gNB%20involvement%20on%20U2U%20relay.docx) gNB involvement and capability on U2U relay Qualcomm Incorporated discussion NR\_SL\_relay\_enh-Core

[R2-2307750](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307750_U2U_relay.docx) Considerations for U2U L2 relay operations Kyocera discussion Rel-18

[R2-2307855](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307855%20Discussion%20on%20U2U%20relay%20issues.doc) Discussion on remaining issues on UE-to-UE Relay Apple discussion Rel-18

[R2-2307932](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307932-Control%20plane%20procedure%20for%20U2U%20relay.docx) Control plane procedure for U2U relay LG Electronics Inc. discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2307944](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307944+Further%20discussion%20on%20L2%20U2U%20relay.doc) Further discussion on L2 U2U relay China Telecom discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2307989](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307989%20Discussion%20on%20L2%20U2U%20relay%20v1.0.docx) Discussion on L2 U2U relay Lenovo discussion Rel-18

[R2-2308100](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308100_Discussion%20on%20U2U%20Relay%20discovery%20and%20(re)selection.doc) Discussion on U2U Relay discovery and (re)selection ZTE, Sanechips discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2308101](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308101_Discussion%20on%20U2U%20relay%20L2%20specific%20functionality.doc) Discussion on U2U relay L2-specific functionality ZTE, Sanechips discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2308104](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308104%20SRAP%20design%20for%20U2U%20sidelink%20relay_final.doc) SRAP design for U2U Sidelink Relay Samsung discussion

[R2-2308119](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308119%20Discussion%20on%20UE-to-UE%20relay.doc) Discussion on UE-to-UE Relay Spreadtrum Communications discussion Rel-18

[R2-2308160](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308160.doc) UE-to-UE relay (re)selection Sony discussion Rel-18 NR\_SL\_relay\_enh

[R2-2308161](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308161.docx) Discussion on DRX for Sidelink UE to UE Relay Sony discussion Rel-18 NR\_SL\_relay\_enh

[R2-2308205](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308205%20Discussion%20on%20UE-to-UE%20relay.doc) Discussion on UE-to-UE relay Huawei, HiSilicon discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2308220](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308220-Remaining_issues_of_UE-to-UE_relay.doc) Remaining issues for UE-to-UE relay Sharp discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2308321](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308321%20Discussion%20on%20U2U%20relay.docx) Discussion on U2U relay CMCC discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2308368](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308368%20Considerations%20on%20U2U%20relay%20(re)selection%20and%20Local%20ID%20assignment.docx) Considerations on U2U relay (re)selection and Local ID assignment Nokia, Nokia Shanghai Bell discussion Rel-18 NR\_SL\_relay\_enh-Core R2-2305590

[R2-2308380](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308380%20(R18%20SL%20Relay%20WI_AI792%20U2U%20Relays_Open).doc) Open Issues on Discovery, Relay Selection, and SRAP for UE to UE Relays InterDigital discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2308381](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308381%20(R18%20SL%20Relay%20WI_AI792%20U2U%20Relay_QoS).doc) QoS and Configuration for L2 UE-to-UE Relays InterDigital discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2308469](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308469_Discussion_on_Relay_reselection_Discovery.docx) Discussion on Relay (re)selection and Discovery Ericsson España S.A. discussion Rel-18

[R2-2308470](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308470_Control_Plane_Procedures_for_L2_U2U_relays.docx) Control Plane Procedures for Layer 2 UE-to-UE Relays Ericsson España S.A. discussion Rel-18

[R2-2308611](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308611-Discussion%20on%20Adaptation%20Layer%20for%20L2%20U2U%20Relay.doc) Discussion on Adaptation Layer for L2 U2U Relay ETRI discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2308721](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308721%20Discussion%20on%20E2E%20PC5-RRC%20procedures.docx) Discussion on E2E PC5-RRC procedures ASUSTeK discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2308722](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308722%20Discussion%20on%20AS%20layer%20configuration%20for%20L2%20U2U%20Relay.docx) Discussion on AS layer configuration for L2 U2U Relay ASUSTeK discussion Rel-18 NR\_SL\_relay\_enh-Core

### 7.9.3 Service continuity enhancements for L2 UE-to-network relay

Inter-gNB direct/indirect path switching; intra-gNB indirect/indirect path switching; and inter-gNB indirect/indirect path switching, to be supported by reuse of solutions for the other scenarios.

[R2-2307945](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307945_Discussion%20on%20the%20procedure%20for%20intra-gNB%20indirect%20to%20indirect%20path%20switch.docx) Discussion on the procedure for intra-gNB indirect to indirect path switch China Telecom discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2307226](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307226.docx) Discussion on service continuity enhancement Xiaomi discussion

[R2-2307281](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307281%20SL%20Relay%20Service%20Continuity.docx) SL Relay service continuity considerations Nokia, Nokia Shanghai Bell discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2307549](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307549_Remaining%20issues%20on%20service%20continuity%20enhancement%20for%20L2%20U2N%20relay.docx) Remaining issues on service continuity enhancement for L2 U2N relay vivo discussion

[R2-2307552](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307552%20Further%20Consideration%20on%20Service%20Continuity%20Enhancements.docx) Further Consideration on Service Continuity Enhancements CATT discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2307733](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307733%20Discussion%20on%20measurement%20quantity%20configuration.doc) Discussion on measurement quantity configuration Samsung discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2307744](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307744-Service%20continuity.docx) Proposal on additional enhancements for service continuity Qualcomm Incorporated discussion NR\_SL\_relay\_enh-Core

[R2-2307856](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307856%20path%20switching%20to%20IDLE%20or%20INACTIVE%20relay%20UE.doc) Discussion on path switching to IDLE/INACTIVE relay Apple discussion Rel-18

[R2-2307940](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307940_Discussion%20on%20Remaining%20Issues%20of%20Service%20Continuity.docx) Discussion on Remaining Issues of Service Continuity NEC Corporation discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2307990](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307990%20Discussion%20on%20enhanced%20path%20switching%20v2.0.docx) Discussion on enhanced path switching Lenovo discussion Rel-18

[R2-2308102](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308102_Further%20discussion%20on%20service%20continuity%20for%20SL%20relay.doc) Further discussion on service continuity for SL relay ZTE, Sanechips discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2308162](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308162.doc) Service continuity enhancements for UE sidelink relay Sony discussion Rel-18 NR\_SL\_relay\_enh

[R2-2308221](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308221-Remaining_issues_for_U2N_path_switching.doc) Remaining issues for U2N path switching Sharp discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2308322](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308322%20Discussion%20on%20service%20continuity.docx) Discussion on service continuity CMCC discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2308471](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308471_Discussion_on_Inter_gNB_Service_Continuity.docx) Discussion on Inter-gNB Service Continuity Ericsson España S.A. discussion Rel-18

[R2-2308584](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308584%20Discussion%20on%20service%20continuity.docx) Discussion on Service Continuity Huawei, HiSilicon discussion Rel-18 NR\_SL\_relay\_enh-Core

### 7.9.4 Multi-path relaying

Mechanisms to support multi-path scenarios where a UE is connected to the same gNB using one direct path and one indirect path via 1) Layer-2 UE-to-Network relay, or 2) via another UE (where the UE-UE inter-connection is assumed to be ideal). This agenda item will include a rapporteur contribution summarising open issues from RAN2#121 (invited contribution not counted against the tdoc limit).

Including report of [Post122][403][Relay] Procedures for multi-path relay (LG)

Email discussion summary

[R2-2307973](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307973%20Report%20of%20%5bPost122%5d%5b403%5d%5bRelay%5d.doc) Report of [AT121bis-e][419][Relay] Remaining high-priority proposals on multi-path (LG) LG Electronics France report Rel-18 NR\_SL\_relay\_enh

* Revised in R2-2308950 (title correction)

R2-2308950 Report of [Post122][403][Relay] Procedures for multi-path relay (LG) LG Electronics France report Rel-18 NR\_SL\_relay\_enh

Agenda item summary (excluding items related to the email discussion)

[R2-2308949](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308949%20%5bPre123%5d%5b405%5d%5bRelay%5d%20Summary%20of%20AI%207.9.4%20on%20Multi-path%20relay.docx) Offline 402 on A.I 7.9.4 Multi-path relaying Nokia discussion NR\_SL\_relay\_enh-Core

The following documents will not be individually treated

[R2-2307093](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307093%20-%20Discussion%20on%20multi-path%20Relay_V02.docx) Discussion on multi-path SL relay OPPO discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2307182](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307182%20Discussion%20on%20Multi-path%20relaying.docx) Discussion on Multi-path relaying Lenovo discussion NR\_SL\_relay\_enh-Core

[R2-2307227](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307227.docx) Discussion on multi-path Xiaomi discussion

[R2-2307363](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307363%20-%20Discussion%20on%20non-split%20SRB.docx) Discussion on non-split SRB OPPO, Samsung, China Telecom, Huawei, HiSilicon, Ericsson, vivo, CMCC discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2307387](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307387%20Discussion%20on%20remaining%20CP%20issue%20of%20U2N%20multi-path%20relay.docx) Discussion on remaining issue of multi-path relay NEC discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2307403](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307403%20Discussions%20on%20Multi-path.docx) Discussions on multi-path Fujitsu discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2307550](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307550_Remaining%20Issues%20for%20Multi-path%20Scenario%201%202.docx) Remaining Issues for Multi-path Scenario 1 2 vivo discussion

[R2-2307553](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307553%20Discussion%20on%20Multi-path.docx) Discussion on Multi-path CATT discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2307656](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307656_FhG_SL-Relay_Throughput_Enhancements.docx) Throughput Enhancement in U2N Relaying Fraunhofer IIS, Fraunhofer HHI discussion Rel-18 NR\_SL\_relay\_enh

[R2-2307719](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307719_Discussion%20on%20multi-path%20scenario%201_III.docx) Discussion on multi-path scenario 1 III discussion NR\_SL\_relay\_enh-Core

[R2-2307745](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307745-open%20issues%20for%20MP%20relay.docx) Open issues on multi-path relay for scenario 1 and scenario 2 Qualcomm Incorporated discussion NR\_SL\_relay\_enh-Core

[R2-2307751](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307751_multipath_relay.docx) Considerations for multipath relay operations for Scenario 1 Kyocera discussion Rel-18

[R2-2307857](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307857%20Discussion%20on%20Multi-path.doc) Discussion on Multi-path Relay Apple discussion Rel-18

[R2-2307941](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307941_Discussion%20on%20UP%20Issues%20of%20Multi-path%20Relaying.docx) Discussion on UP Issues of Multi-path relay NEC Corporation discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2307946](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307946%20Discussion%20on%20remaining%20issues%20of%20multi-path%20relaying%20in%20scenario%201.docx) Discussion on remaining issues of multi-path relaying in Scenario 1 China Telecom discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2307947](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307947%20Discussion%20on%20remaining%20issues%20of%20multi-path%20relaying%20in%20scenario%202.docx) Discussion on remaining issues of multi-path relaying in Scenario 2 China Telecom discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2307991](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307991%20Procedure%20for%20second%20path%20addition%20v1.0.docx) Procedure for second path addition Lenovo discussion Rel-18

[R2-2308103](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308103%20Further%20discussion%20on%20the%20support%20of%20multi-path%20relaying.docx) Further discussion on the support of multi-path relaying ZTE, Sanechips discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2308120](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308120%20Discussion%20on%20multi-path%20relaying.doc) Discussion on multi-path relaying Spreadtrum Communications discussion Rel-18

[R2-2308163](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308163.doc) Multi-path relaying discussion Sony discussion Rel-18 NR\_SL\_relay\_enh

[R2-2308206](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308206%20Remaining%20issues%20on%20multi-path%20operation.docx) Remaining issues on multi-path operation Huawei, HiSilicon discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2308222](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308222-Remaining_issues_for_multi-path_relay.doc) Remaining issues for multi-path relay Sharp discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2308224](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308224_SLRelay_v1.2.docx) Discussion on remaining issues on multiple path for sidelink relay Samsung discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2308323](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308323%20Discussion%20on%20multi-path%20scenario%201.docx) Discussion on multi-path scenario 1 CMCC discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2308324](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308324%20Considerations%20on%20multi-path%20scenario%202.docx) Considerations on multi-path scenario 2 CMCC discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2308382](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308382%20(R18%20SL%20Relay%20WI_AI794%20MultipathAspects_UP).doc) User Plane Aspects for Multipath InterDigital discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2308383](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308383%20(R18%20SL%20Relay%20WI_AI794%20MultipathAspects_CP).doc) Control Plane Aspects for Multipath InterDigital discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2308472](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308472_Discussion_on_multipath%20relays.docx) Discussion on Multipath Relays Ericsson España S.A. discussion Rel-18

[R2-2308723](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308723%20BSR%20reporting%20for%20Multi-path%20Scenario%202.docx) BSR reporting for Multi-path Scenario 2 ASUSTeK discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2308724](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308724%20Discussion%20on%20duplicate%20PDCP%20PDU%20discarding%20for%20Multi-path%20transmission%20Scenario%201.docx) Discussion on duplicate PDCP PDU discarding for Multi-path transmission Scenario 1 ASUSTeK discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2308749](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308749%20Multipath%20SL%20relay.docx) On Remaining issues on multipath SL relay Nokia, Nokia Shanghai Bell discussion NR\_SL\_relay\_enh-Core

### 7.9.5 DRX

Study the gains and, if needed, specify signalling between gNB and relay UE in sidelink mode 2 to assist the determination of the sidelink DRX configuration used for remote UE. This agenda item will be handled at lower priority.

[R2-2307228](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307228.docx) Discussion on SL DRX in U2N relay Xiaomi discussion

[R2-2307234](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307234%20-%20Discussion%20on%20DRX%20for%20L2%20U2N%20relay.docx) Discussion on DRX for L2 U2N relay OPPO discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2307554](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307554%20Discussion%20on%20DRX%20for%20L2%20U2N%20Relay.docx) Discussion on DRX for L2 U2N Relay CATT discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2307858](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307858%20Discussion%20on%20SL-DRX.doc) Discussion on SL DRX for L2 UE-to-NW relay Apple discussion Rel-18 R2-2305065

[R2-2308207](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308207%20Discussion%20on%20sidelink%20DRX%20for%20L2%20U2N%20relay.doc) Discussion on sidelink DRX for L2 U2N relay Huawei, HiSilicon discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2308369](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308369%20Considerations%20on%20paging%20and%20DRX%20for%20sidelink%20relay.docx) Considerations on DRX and paging for sidelink relay Nokia, Nokia Shanghai Bell discussion Rel-18 NR\_SL\_relay\_enh-Core R2-2305592

## 7.24 NR 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).

[R2-2307009](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307009_R1-2306212.doc) LS on 1-symbol PRS (R1-2306212; contact: ZTE) RAN1 LS in Rel-18 TEI18 To:RAN2 Cc:RAN3, RAN4

[R2-2308140](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308140%20Introduction%20of%201-symbol%20PRS%20in%2038.331%5b1symbol_PRS%5d.docx) Introduction of 1-symbol PRS in 38.331[1symbol\_PRS] ZTE Corporation CR Rel-18 38.331 17.5.0 4014 3 B TEI18 R2-2306793

* Agreed in principle with alignment of the terminology to the ASN.1 names

[R2-2308141](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308141%20Introduction%20of%201-symbol%20PRS%20in%2037.355%5b1symbol_PRS%5d.docx) Introduction of 1-symbol PRS in 37.355[1symbol\_PRS] ZTE Corporation CR Rel-18 37.355 17.5.0 0437 3 B TEI18 R2-2306794

* Agreed in principle (to be merged into a single LPP CR)

[R2-2308142](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308142%20Introduction%20of%20UE%20capability%20of%201-symbol%20PRS%20in%2037.355%5b1symbol_PRS%5d.docx) Introduction of UE capability of 1-symbol PRS in 37.355[1symbol\_PRS] ZTE Corporation CR Rel-18 37.355 17.5.0 0453 2 B TEI18 R2-2306795

* Agreed in principle (to be merged into a single LPP CR)

[R2-2308143](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308143%20Introduction%20of%20UE%20capability%20of%201-symbol%20PRS%20in%2038.331%5b1symbol_PRS%5d.docx) Introduction of UE capability of 1-symbol PRS in 38.331[1symbol\_PRS] ZTE Corporation CR Rel-18 38.331 17.5.0 4128 2 B TEI18 R2-2306796

* Endorsed to be merged into mega CR

[R2-2308144](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308144%20Introduction%20of%20UE%20capability%20of%201-symbol%20PRS%20in%2038.306%5b1symbol_PRS%5d.docx) Introduction of UE capability of 1-symbol PRS in 38.306[1symbol\_PRS] ZTE Corporation CR Rel-18 38.306 17.5.0 0923 2 B TEI18 R2-2306797

* Endorsed to be merged into mega CR

Discussion:

Huawei are fine with the proposals, but they wonder if the LPP CR needs to be split.

ZTE think separate CRs for functionality and capabilities are cleaner.

Ericsson think we should have one LPP CR. Qualcomm agree and think the CR can be self-contained.

Lenovo think a merged CR is OK. On the RRC CR, they suggest replacing “Type C” and “Type C+D” with the ASN.1 names.

CATT think there is a coversheet issue: The CR numbers for the other specs should be included in the coversheets. Qualcomm think there is no functional interaction between them and we do not need the cross-reference.

### 7.24.2 TEI proposals by RAN2

Items initiated in RAN2.

Tdoc limitation: 1 tdoc, limitation only applicable for non-previously-agreed-to-be-considered TEI proposals.

Relay: paging cause forwarding [previously seen]

[R2-2307176](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307176_Paging%20Cause%20forwarding.doc) Paging Cause forwarding Samsung Electronics Co., Ltd discussion Rel-18 TEI18

[R2-2307694](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307694_Discussion%20on%20MUSIM%20paging%20cause%20forwarding.docx) Discussion on MUSIM paging cause forwarding vivo discussion Rel-18

Relay: emergency cause value [previously seen]

[R2-2307237](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307237%20-%20Discussion%20on%20emergency%20cause%20value%20for%20SL%20Relay.docx) Discussion on emergency cause value for SL Relay OPPO discussion Rel-18 NR\_SL\_relay\_enh-Core, TEI18

Relay: voice/video support [previously seen]

[R2-2308932](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308932_Considerations%20on%20voice%20and%20video%20support%20for%20Relays.docx) Considerations on voice and video support for Relays Philips International B.V., FirstNet, InterDigital, KPN, TNO, discussion Rel-18 R2-2306516

Positioning: multiple QoS [previously seen]

[R2-2307342](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307342.docx) Multiple QoS for positioning MediaTek Inc. discussion Rel-18 TEI18

* Noted

[R2-2308830](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308830%20(7.24.2)%20multiple%20QoS%20handling%20in%20POS%20TEI%2018.docx) Introduction of ‘multiple QoS’ class in positioning Samsung Electronics Romania discussion

* Noted

Proposal 1. When LMF receives the service request with multipleQoS class from LCS client, multiple set of (H-/V-) accuracy values per QoS level same as LMF received from LCS client can be indicated to LPP location information request procedure.

Proposal 2. If UE receives LPP Request Location Information including multiple QoS, UE should evaluate whether the obtained location estimate fulfils the accompanied accuracy requirements for all the given QoS.

Proposal 3. Once the measured result/ location estimate fulfils any accuracy requirements among indicated ones, UE should report the measurement result/location estimate with the indication of the highest preferred accuracy values among fulfilled ones.

Proposal 4. This proposed operation is only applicable to the UE-based positioning.

Discussion:

Qualcomm indicate they checked the SA2 specs and confirmed that the multiple QoS is supported only for deferred MT-LR, which does not affect LPP, so they do not see interaction of the feature with LPP. They understand that the network will try multiple times, typically with different positioning methods.

vivo agree with Qualcomm; the proposal indicates that it derives from SA2, but SA2 specified that the multiple QoS feature is realised through multiple location requests.

MediaTek are concerned that there could be a “lazy UE” problem where the UE only meets the loosest QoS, and agree that SA2 did not put a UE requirement.

Samsung agree that there is no explicit requirement from SA2, but they see that the proposal can reduce LPP signalling overhead. On the “lazy UE” problem, they understand that the UE should make a best effort in any positioning operation.

Apple agree with MediaTek that the feature is not testable; they think the value is not clear.

OPPO agree with Qualcomm that multiple QoS normally means the LMF will try different positioning methods. On the “lazy UE” problem, they agree that the problem exists, but they think the MediaTek proposal does not solve the problem.

Nokia do not see the value, and they understand that multiple QoS in SA2 has no RAN impact.

Intel also do not see RAN2 impact.

Positioning: SSR PCV residuals [previously seen]

[R2-2307757](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2307757.docx) Support for SSR Satellite PCV Residuals Swift Navigation discussion

Proposal 1: RAN2 agrees to introduce the SSR IOD Update IE.

Proposal 2: RAN2 agrees to add the posSIBs for the SSR Satellite PCV Residuals.

Proposal 3: RAN2 agrees to adopt the proposed CRs for the SSR Satellite PCV Residuals.

Discussion:

Qualcomm understand that the proposals introduce a new IE covering the IOD (option 4 in the discussion paper), and they wonder if option 3 would be simpler without requiring a new posSIB. They agree that the proposed approach works, but it forces the new posSIB. Swift indicate that the reason for preferring option 4 was consistency with other bodies working on SSR messages (e.g., RTCM), as well as extensibility in the future. They also indicate that option 3 would require resetting corrections when a new set of PCVs is issued, whereas this option allows a softer update without forcing a reset.

Qualcomm can accept the proposal, but they think RTCM have a different message structure, and we may be better positioned to extend our message formats.

Ericsson think we could go offline for the details.

* [AT123][422][POS] SSR PCV residuals (Swift)

Scope: Discuss the TPs from R2-2307757 and develop a set of CRs.

Intended outcome: Agreeable (in principle) CRs

Deadline: Wednesday 2023-08-23 2000 UTC

Positioning: NavIC enhancements [new]

[R2-2308193](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308193.docx) NavIC L5 A-GNSS support updates to RRC protocol specification Reliance Jio CR Rel-18 38.331 17.5.0 4234 - F TEI18

Discussion:

CEWiT present in the absence of Reliance Jio.

Lenovo agree with the change but wonder if we should make the correction from Rel-17, since there are already NavIC posSIBs in Rel-17. MediaTek agree.

CATT agree that Rel-17 enabled NavIC and introduced the assistance data in LPP, but they understand that broadcast assistance data for NavIC is not fully enabled. They are fine to take the CR in Rel-18.

Qualcomm agree that this is more of a correction.

CEWiT can convert it to a Rel-17 correction. They would like to understand the details of CATT’s comment.

Lenovo think the coversheet can be clearer as well.

* [AT123][423][POS] NavIC broadcast correction (CEWiT)

Scope: Check the CR in R2-2308193 and adapt it to a Rel-17 correction.

Intended outcome: Agreeable CR

Deadline: Wednesday 2023-08-23 2000 UTC

Positioning/relay: positioning for remote UEs [previously seen]

[R2-2308485](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308485%20RelPos.docx) Relay based Positioning posSIB forwarding Ericsson, Deutsche Telekom, AT&T discussion Rel-18

[R2-2308486](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308486%20RRC%20CR.docx) Information on posSIBs relaying to remote UE [PosL2RemoteUE] Ericsson, Deutsche Telekom, AT&T CR Rel-18 38.331 17.5.0 4254 - B TEI18

[R2-2308487](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308487%20NRPPaForInfo.docx) Information on posSIBs relaying to remote UE Ericsson, Deutsche Telekom, AT&T draftCR Rel-18 38.455 17.5.0 B TEI18

Proposal 1 The information on which posSIBs can be relayed is optionally provided by the NW to the UEs.

Proposal 2 RAN2 to agree to the RRC CR as provided in R2-2308486.

Discussion:

Apple understood we agreed last meeting that the forwarding should be transparent to the relay UE, and they wonder if the proposal contravenes this agreement.

Qualcomm do not understand the relation of the described issue to posSIB forwarding; the LMF selects what positioning method to use, based on information that can include coverage/remote status, but they do not see what the difference is if the gNB forwards additional assistance data.

Ericsson think we have dimensioned the assistance data support and expected performance based on assumptions about coverage. They think there could be a latency cost if the first positioning operation uses a method that does not work well out of coverage.

MediaTek have the same understanding as Qualcomm.

Ericsson are concerned about an idle/inactive UE receiving broadcast assistance data.

Qualcomm do not see a connection to the RRC state; the LMF selects the positioning method and tells the UE what to measure, and the UE may or may not have assistance data via posSIBs, irrespective of the RRC state.

Ericsson understand that the posSIBs are a value-added service with encryption, which is the difference from other SIBs. They intend to enable selection of appropriate positioning methods based on coverage/remote status.

Intel understand that the LMF would select an appropriate positioning method, and they do not see that the network can enforce anything because the method selection is transparent to the gNB.

Samsung think this can be helpful to reduce unnecessary overhead from posSIB signalling that would not be useful (e.g., the UE requests a posSIB that doesn’t make sense out of coverage). However, they have the same understanding as other companies regarding network control.

OPPO wonder about the motivation to save signalling overhead for an out-of-coverage remote UE. They do not think the relay UE can differentiate whether the remote UE is in coverage, so they are wondering how it works. Qualcomm agree and think the proposal may make the signalling more excessive; they do not see how the gNB takes the decision on what can be forwarded, considering that the LMF selects the method.

MediaTek also see extra signalling if the LMF picks a positioning method, the UE tries to receive assistance data, and the network says “no”; the UE will just request the same assistance data from the LMF.

Ericsson understand that, e.g., DL-TDOA will not work well out of coverage. MediaTek do not understand the use case, since the LMF selects the positioning method and the UE presumably requests what it needs.

Qualcomm think there is nothing broken with broadcast: The system can provide the assistance data either way, and if it wants to save broadcast overhead, it will use unicast LPP.

Apple also think the remote UE can be out of coverage or in coverage, and it is not clear why the network would block the relay UE from forwarding the posSIBs.

Ericsson think we could go offline for discussion.

* [AT123][424][POS] Network control of posSIBs for remote UEs (Ericsson)

Scope: Discuss the proposal in R2-2308485 and determine if there is support for moving forward with it.

Intended outcome: Report to CB session in R2-2309107

Deadline: Wednesday 2023-08-23 2000 UTC

[R2-2308695](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308695_Discussion%20on%20positioning%20for%20L2%20U2N%20remote%20UE.docx) Discussion on positioning support for L2 U2N remote UE Samsung discussion Rel-18 TEI18

Proposal 1: Allow L2 U2N remote UE in RRC\_CONNECTED to request an SFN-DFN from the connected L2 U2N relay UE via RemoteUEInformationSidelink message as in the TP to 38.331 in Annex.

Proposal 2: Clarify that L2 U2N remote UE can include remoteUE-Indication-r18 in ProvideCapabilities message only when it has been requested by the LMF before as in the TP to 37.355 in Annex.

Proposal 3: Introduce a coverage indication to indicate whether the target device operating as a L2 U2N remote UE is located within the coverage of the serving cell (i.e., the serving cell of the relay UE) as in the TP to 37.355 in Annex.

Proposal 4: Update the field description for primaryCellID-r15 to allow the target device operating as a L2 U2N remote UE to report the identity of the current primary cell/camping cell for the L2 U2N Relay UE as in the TP to 37.355 in Annex.

Discussion:

Apple wonder why P1 is needed, because the UE in RRC\_CONNECTED sees signalling from the gNB. They think the gNB may be able to provide the offset.

Samsung think companies may need some time to review.

* [AT123][4225][POS] Proposals on positioning for remote UE (Samsung)

Scope: Discuss the proposals in R2-2308695 and progress towards agreements where possible.

Intended outcome: Report to CB session

Deadline: Wednesday 2023-08-23 2000 UTC

Positioning: BT AoA/AoD [new]

[R2-2308489](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308489%20Bluetooth.docx) Adding support for Bluetooth AoA/AoD Ericsson, AT&T, Polaris Wireless, u-blox discussion Rel-18

* Revised in R2-2308955

[R2-2308955](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308955%20Bluetooth.docx) Adding support for Bluetooth AoA/AoD Ericsson, AT&T, Polaris Wireless, u-blox, T-Mobile discussion Rel-18

Proposal 1 Discuss and agree to introduce support for Bluetooth AoA/AoD positioning in the LPP Bluetooth positioning method

Proposal 2 Endorse the draft CR in the Appendix

Discussion:

Qualcomm are unsure of the objectives of the additional parameters in the CR. They wonder if we can do everything in Rel-18, and they think some discussion is needed on the details.

* [AT123][426][POS] BT AoA/AoD (Ericsson)

Scope: Discuss the proposal in R2-2308955; determine if the general change is agreeable, and if so, start discussion on the approach in the CR.

Intended outcome: Report to CB session in R2-2309108

Deadline: Wednesday 2023-08-23 2000 UTC

## 7.25 R18 Other

Specific items may be allocated to a breakout session for treatment.

Impacts from Other RAN WGs and TSGs that has no separate TU budget in RAN2. LS ins for Rel-18 specific WIs/SIs that has no RAN WI.

Time budget: 2 TU

Tdoc Limitation: -

### 7.25.3 Other

RAN3, SA2, SA3, CT1 led items and others, e.g. eNPN, Slicing.

[R2-2308400](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308400_(PRU%20in%20LPP).docx) On Positioning Reference Unit support in LPP Qualcomm Incorporated discussion

[R2-2308488](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202308%20-%20RAN2_123,%20Toulouse\Extracts\R2-2308488%20PRU.docx) On the Positioning Reference Units aspects Ericsson, vivo discussion Rel-18

* [AT123][419][POS] Location information type for PRUs (Ericsson)

Scope: Discuss the proposals in R2-2308400 and R2-2308488, gather company views, and work towards a conclusion.

Intended outcome: Report to CB session

Deadline: Wednesday 2023-08-23 2000 UTC