3GPP TSG-RAN WG2 Meeting #117-e R2-22xxxxx

Online, 21 February-3 March 2022

Source: Session Chair (MediaTek)

Title: Report from session on positioning and sidelink relay

# Status of At-Meeting Email Discussions

This subclause is not an Agenda Item. It contains a running summary of the email discussions assigned to take place during the meeting weeks. This section will be moved to an appendix in the final version of the report.

* [AT117-e][600][POS][Relay] Organisational Nathan – Positioning/Relay (MediaTek)

Scope: Organisational discussions and announcements, as needed throughout the meeting weeks.

Intended outcome: Well-informed participants

Deadline: Thursday 2022-03-03 1000 UTC

Positioning running CRs:

* [AT117-e][601][POS] BDS running CRs (CATT)

Scope: Review the following CRs, collect comments, and update if necessary:

* R2-2202402 (BDS introduction to 37.355)
* R2-2202403 (BDS introduction to 36.305)
* R2-2202404 (BDS introduction to 38.305)

Intended outcome: Endorsable CRs

Deadline: Friday 2022-02-25 1000 UTC

* [AT117-e][602][POS] NavIC running CRs (Ericsson/Huawei)

Scope: Review the following CRs, collect comments, and update if necessary:

* R2-2202607 (NavIC introduction to 38.305)
* R2-2203710 (NavIC introduction to 38.331)

Intended outcome: Endorsable CRs

Deadline: Friday 2022-02-25 1000 UTC

* [AT117-e][603][POS] Integrity stage 2 CRs (InterDigital)

Scope: Review and update the following CRs:

* R2-2202861 (integrity introduction to 36.305)
* R2-2202862 (integrity introduction to 38.305)

Intended outcome: Endorsable CRs

Deadline: Friday 2022-02-25 1000 UTC

* [AT117-e][604][POS] RAT-dependent positioning running CR to 38.305 (Intel)

Scope: Review and update the CR in R2-2202490.

Intended outcome: Endorsable CR

Deadline: Friday 2022-02-25 1000 UTC

* [AT117-e][605][POS] Capability running CRs (Intel)

Scope: Review and update the following CRs:

* R2-2202495 (capability running CR to 38.331)
* R2-2202496 (capability running CR to 38.306)

Intended outcome: Endorsable CRs

Deadline: Friday 2022-02-25 1000 UTC

* [AT117-e][606][POS] LPP running CR (Qualcomm)

Scope: Review and update the CR in R2-2203310.

Intended outcome: Endorsable CR

Deadline: Friday 2022-02-25 1000 UTC

* [AT117-e][607][POS] Positioning running CR to 38.331 (Ericsson)

Scope: Review and update the CR in R2-2203364, including merge of the draft CRs in R2-2203362 and R2-2203445.

Intended outcome: Endorsable CR

Deadline: Friday 2022-02-25 1000 UTC

* [AT117-e][608][POS] Positioning running CR to 38.321 (Huawei)

Scope: Review and update the CR in R2-2202605.

Intended outcome: Endorsable CR

Deadline: Friday 2022-02-25 1000 UTC

* [AT117-e][609][POS] Positioning running CR to 36.331 (Huawei)

Scope: Review and update the CR in R2-2202606.

Intended outcome: Endorsable CR

Deadline: Friday 2022-02-25 1000 UTC

Relay running CRs:

* [AT117-e][610][Relay] Relay running CR to 38.300 (MediaTek)

Scope: Review and update the CR in R2-2202343.

Intended outcome: Agreeable CR

Deadline: Tuesday 2022-03-01 1200 UTC

* [AT117-e][611][Relay] Relay running CR to 38.304 (Ericsson)

Scope: Review and update the CR in R2-2203324.

Intended outcome: Agreeable CR

Deadline: Tuesday 2022-03-01 1200 UTC

* [AT117-e][612][Relay] Relay running CR to 38.306 (Qualcomm)

Scope: Review and update the CR in R2-2203519.

Intended outcome: Agreeable CR

Deadline: Tuesday 2022-03-01 1200 UTC

* [AT117-e][613][Relay] Relay running CR to 38.321 (Apple)

Scope: Review and update the CR in R2-2202543.

Intended outcome: Agreeable CR

Deadline: Tuesday 2022-03-01 1200 UTC

* [AT117-e][614][Relay] Relay running CRs to 38.322/38.323 (Samsung)

Scope: Review and update the CRs in R2-2202950 and R2-2202951.

Intended outcome: Agreeable CR

Deadline: Tuesday 2022-03-01 1200 UTC

* [AT117-e][615][Relay] Relay running CR to 38.331 (Huawei)

Scope: Review and update the CR in R2-2202819.

Intended outcome: Agreeable CR

Deadline: Tuesday 2022-03-01 1200 UTC

* [AT117-e][616][Relay] Relay running CR to 38.351 (OPPO)

Scope: Review and update the CR in R2-2202276.

Intended outcome: Agreeable CR

Deadline: Tuesday 2022-03-01 1200 UTC

Other discussions:

* [AT117-e][617][POS] LS to RAN1 on positioning issues needing further input (Intel)

Scope: Draft an LS to RAN1 based on the outcome of [Pre117-e][614], taking into account other issues identified in the pre-meeting discussions where guidance from RAN1 is needed.

Intended outcome: Approvable LS

Deadline: Wednesday 2022-02-23 0200 UTC

* [AT117-e][618][POS] Beam and antenna information for DL-AoD accuracy enhancements (CATT)

Scope: Treat P10/P11/P12/P13/P15 of R2-2202410 and attempt to converge.

Intended outcome: Report to Monday online session

Deadline: Friday 2022-02-25 1000 UTC

* [AT117-e][619][Relay] Flow control and pre-emptive BSR mechanisms (Samsung)

Scope: Discuss P1-P3 of R2-2202955 and determine if agreeable mechanisms can be developed. The features can be considered independently of each other.

Intended outcome: Endorsable TPs to affected specifications

Deadline: Thursday 2022-02-24 1200 UTC

* [AT117-e][620][Relay] Reply LS to RAN3 on mapping configuration (Samsung)

Scope: Draft a reply to the LS in R2-2202136.

Intended outcome: Approved LS (preferably without CB)

Deadline: Thursday 2022-02-24 1200 UTC

* [AT117-e][621][Relay] Additional issues on service continuity (OPPO)

Scope: Filter the issues raised in company tdocs under agenda item 8.7.2.2, determine if any critical issues need resolution, and attempt to converge on any critical issues.

Intended outcome: Report to Friday online session

Deadline: Thursday 2022-02-24 1200 UTC

* [AT117-e][622][Relay] Remaining issues on discovery and (re)selection (ZTE)

Scope:

* Discuss the “for discussion” proposals from R2-2202378 and attempt to converge.
* Filter the issues raised in company tdocs under agenda item 8.7.2.5, determine if any critical issues need resolution, and attempt to converge on any critical issues.

Intended outcome: Report to Friday online session

Deadline: Thursday 2022-02-24 1200 UTC

* [AT117-e][623][POS] Early discussion of integrity issues (ESA)

Scope: Discuss the need for signalling cross-covariance terms in the integrity assistance data, and identify if there are other critical issues that need treatment outside the running CR discussions.

Intended outcome: Report to Wednesday online session

Deadline: Wednesday 2022-02-23 0200 UTC

* [AT117-e][624][POS] Agenda item 5.5 (Huawei)

Scope: Treat documents R2-2202597, R2-2202598, and R2-2202599 and conclude on the CRs.

Intended outcome: Agreed CRs (without CB)

Deadline: Wednesday 2022-03-02 1000 UTC

* [AT117-e][625][POS] Agenda item 6.3.2 (CATT)

Scope: Treat documents R2-2202407 and R2-2202596 and conclude on the CRs.

Intended outcome: Agreed CRs (without CB)

Deadline: Wednesday 2022-03-02 1000 UTC

* [AT117-e][626][POS] Agenda item 6.3.3 (Ericsson)

Scope: Treat documents R2-2202224, R2-2203275, R2-2203277, R2-2203531, and R2-2203368 and conclude on the CRs.

Intended outcome: Agreed CRs (without CB)

Deadline: Wednesday 2022-03-02 1000 UTC

# 4 EUTRA corrections Rel-15 and earlier

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

## 4.4 Positioning corrections Rel-15 and earlier

Documents in this agenda item will be handled by email. No web conference is planned for this agenda item.

# 5 Rel-15 WI: New Radio (NR) Access Technology

(NR\_newRAT-Core; leading WG: RAN1; REL-15; started: Mar. 17; closed: Jun. 19: WID: RP-191971)

Only essential corrections. Please submit CRs marked “NR\_newRAT-Core, TEI16” under one of the below clauses.

Tdoc limitation: AI5 + AI6: 14

## 5.5 Positioning corrections

Corrections to both the stage 2 and stage 3 aspects related to positioning. Stage 2 CRs 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.

Documents in this agenda item will be handled by email. No web conference is planned for this agenda item.

[R2-2202597](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202597%20Corection%20on%20the%20object%20indentifier%20of%20LPP%20ASN.1%20for%20R15.doc) Corretion on the object identifier of LPP ASN.1 for R15 Huawei, HiSilicon CR Rel-15 37.355 15.2.0 0328 - F NR\_newRAT-Core

[R2-2202598](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202598%20Corection%20on%20the%20object%20indentifier%20of%20LPP%20ASN.1%20for%20R16.doc) Corretion on the object identifier of LPP ASN.1 for R16 Huawei, HiSilicon CR Rel-16 37.355 16.7.0 0329 - A NR\_newRAT-Core

[R2-2202599](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202599%20Discussion%20on%20the%20object%20identifier%20for%20LPP%20ASN1.docx) Discussion on the object identifier of LPP ASN.1 Huawei, HiSilicon discussion Rel-15 NR\_newRAT-Core

# 6 Rel-16 NR Work Items

Essential corrections only.

Tdoc Limitation: See common tdoc limitation with AI 5

## 6.3 NR Positioning Support

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

(NR TEI16 Positioning)

Documents in this agenda item will be handled by email. No web conference is planned for this agenda item, and non-urgent documents may be postponed to next meeting.

Tdoc Limitation: See tdoc limitation for Agenda Item 6

### 6.3.1 General and Stage 2 corrections

Including incoming LSs, 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.

This agenda item may use a summary document (decision to be made based on submitted tdocs).

[R2-2202119](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Docs\R2-2202119.zip) Reply LS to RAN2 on the misalignment in SRS configuration (R3-216009; contact: Samsung) RAN3 LS in Rel-16 To:RAN2 Cc:SA2

[R2-2202406](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\38305_CR0085_(Rel-16)_R2-2202406.docx) Miscellaneous corrections in TS 38.305 CATT CR Rel-16 38.305 16.7.0 0085 - F NR\_pos-Core

### 6.3.2 RRC corrections

Including impact to 36.331, 38.331, and 38.306.

This agenda item may use a summary document (decision to be made based on submitted tdocs).

[R2-2202407](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\38331_CR2890_(Rel-16)_R2-2202407.docx) Corrections on the description of maxNrofSRS-PosResources-1-r16 CATT CR Rel-16 38.331 16.7.0 2890 - F NR\_pos-Core

[R2-2202596](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202596%20Correction%20on%20srs-PosResourceIdList%20in%20RRC.doc) Correction on srs-PosResourceIdList in RRC Huawei, HiSilicon CR Rel-16 38.331 16.7.0 2897 - F NR\_pos-Core

### 6.3.3 LPP corrections

This agenda item may use a summary document (decision to be made based on submitted tdocs).

[R2-2202224](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\37355_CR0326_(Rel-16)_R2-2202224%20Missing%20need%20code.docx) Addition of missing need code for the BDS TGD2 parameter Lenovo, Motorola Mobility CR Rel-16 37.355 16.7.0 0326 - F TEI16

[R2-2203275](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203275_(CR%2037355%20Reference%20TRP).docx) Correction of reference TRP for DL-AoD and Multi-RTT measurement report Qualcomm Incorporated CR Rel-16 37.355 16.7.0 0330 - F NR\_pos-Core

[R2-2203277](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203277_(CR%2037355%20DL%20PRS%20Resources%20per%20PFL).docx) Correction to NR-DL-PRS-ResourcesCapability field description Qualcomm Incorporated CR Rel-16 37.355 16.7.0 0331 - F NR\_pos-Core

[R2-2203367](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203367%20LPP%20CR%20GAD.docx) Introducing new high accuracy GAD shape with scalable uncertainty Ericsson, T-Mobile USA CR Rel-16 37.355 16.7.0 0333 - B TEI16

* Revised in R2-2203531

[R2-2203531](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203531%20LPP%20CR.docx) Introducing new high accuracy GAD shape with scalable uncertainty Ericsson, T-Mobile USA, Qualcomm Incorporated CR Rel-16 37.355 16.7.0 0333 1 F TEI16

[R2-2203368](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203368%20LPP%20CR%20Segmentation.docx) Clarification on LPP segmentation Ericsson CR Rel-16 37.355 16.7.0 0334 - F NR\_pos-Core

### 6.3.4 MAC corrections

# 7 Rel-16 EUTRA Work Items

Only essential corrections. No documents should be submitted to 7. Please submit to 7.x

## 7.5 LTE Positioning

(NavIC, LTE TEI16 Positioning)

Documents in this agenda item will be handled by email. No web conference is planned for this agenda item.

# 8 Rel-17 NR Work Items

## 8.7 NR Sidelink relay

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

Time budget: 2 TU

Tdoc Limitation: 3 tdocs

### 8.7.1 Organizational

Incoming LSs, TS updates, rapporteur inputs. This AI is reserved for rapporteur and organizational inputs. Documents in this AI do not count towards the tdoc limitation. For LSes that need action or have impact beyond taking into account by CR rapporteurs: One tdoc by contact company (one company) to address the LS and potential reply is considered Rapporteur Input and may be provided. Related documents and proposed responses from companies other than the contact company should be submitted to the corresponding technical agenda item (and do count towards the tdoc limitation).

Incoming LSs and related documents

[R2-2202127](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202127_R3-221202.docx) Reply LS for authorization information for 5G ProSe Layer-3 Remote UE (R3-221202; contact: CATT) RAN3 LS in Rel-17 To:SA2, RAN2

[R2-2202136](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202136_R3-221411.doc) LS on mapping configuration of sidelink relay (R3-221411; contact: Samsung) RAN3 LS in Rel-17 To:RAN2

[R2-2202952](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202952%20Discussion%20on%20R3%20LS%20on%20mapping%20configuration.doc) Discussion on RAN3 LS on mapping configuration of sidelink relay Samsung discussion Rel-17 NR\_SL\_relay-Core

Work plan and open issues

[R2-2202201](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202201%20-%20Work%20planning%20for%20R17%20SL%20relay.docx) Work planning for R17 SL relay OPPO, CMCC Work Plan Rel-17 NR\_SL\_relay-Core

[R2-2202202](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202202%20-%20Remaining%20open%20issues%20for%20R17%20SL%20relay.docx) Remaining open issues for R17 SL relay OPPO discussion Rel-17 NR\_SL\_relay-Core

Running CRs and related documents

[R2-2202343](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202343%20Stage%202%20CR%20on%20Introduction%20of%20SL%20Relay.docx) Stage 2 CR on Introduction of R17 SL Relay MediaTek Inc. CR Rel-17 38.300 16.8.0 0403 - B NR\_SL\_relay-Core

[R2-2203324](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\38.304_CR0232(Rel-17)_R2-2203324-%2038.304%20CR%20for%20SL%20relay.docx) 38.304 CR for SL relay Ericsson CR Rel-17 38.304 16.7.0 0232 - B NR\_SL\_relay-Core

[R2-2203325](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203325-%20Way%20forward%20on%20open%20issues%20in%2038.304%20for%20SL%20relay.docx) Way forward on open issues in 38.304 for SL relay Ericsson discussion Rel-17 NR\_SL\_relay-Core

[R2-2202543](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202543_MAC%20CR%20for%2038.321%20SL%20Relay_clean.doc) Introduction of Sidelink Relay Apple CR Rel-17 38.321 16.7.0 1194 - B NR\_SL\_relay-Core

[R2-2202544](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202544%20Discussion%20on%20MAC%20CR.doc) Discussion on remaining issues of MAC CR Apple discussion Rel-17 NR\_SL\_relay-Core

[R2-2202950](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202950-CR%230046%20Introduction%20of%20SL%20Relay%20in%2038.322.docx) Introduction of SL Relay in 38.322 Samsung CR Rel-17 38.322 16.2.0 0046 - B NR\_SL\_relay-Core

[R2-2202951](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202951-CR%230086%20Introduction%20of%20SL%20Relay%20in%2038.323.docx) Introduction of SL Relay in 38.323 Samsung CR Rel-17 38.323 16.6.0 0086 - B NR\_SL\_relay-Core

[R2-2202819](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202819_38331_CR%232910_Rel-17_Introduction%20of%20SL%20relay.docx) Introduction of SL relay Huawei, HiSilicon CR Rel-17 38.331 16.7.0 2910 - B NR\_SL\_relay-Core

[R2-2202820](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202820%20Stage3%20open%20issues%20handling%20for%20SL%20relay%20RRC%20CR.docx) Stage3 open issues handling for RRC CR Huawei, HiSilicon discussion Rel-17 NR\_SL\_relay-Core

[R2-2202276](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Docs\R2-2202276.zip) Running CR for TS 38.351 OPPO draft TS Rel-17 38.351 0.4.0 NR\_SL\_relay-Core

[R2-2203519](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\38.306_CR0696(Rel-17)_R2-2203519%20-%2038.306%20CR%20for%20sidelink%20relay%20capabilities.docx) Draft 38.306 CR for sidelink relay UE capabilities Qualcomm Incorporated CR Rel-17 38.306 16.7.0 0696 - B NR\_SL\_relay-Core

Withdrawn/Not available

R2-2202781 Stage 2 Running CR on Introduction of R17 SL Relay MediaTek Inc. CR Rel-17 38.300 16.8.0 0410 - B NR\_SL\_relay-Core Withdrawn

### 8.7.2 Open issues

No documents should be submitted to 8.7.2. Please submit to 8.7.2.x.

#### 8.7.2.1 Control plane procedures

Including connection management, SI delivery, paging, access control for remote UE.

Including report of [Pre117-e][605][Relay] Open issues on relay control plane procedures (Huawei).

Email discussion report

[R2-2202822](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202822%20Report%20of%20%5bPre117-e%5d%5b605%5d%5bRelay%5d%20Open%20issues%20on%20relay%20control%20plane%20procedures%20(Huawei).docx) Summary of [Pre117-e][605][Relay] Open issues on relay control plane procedures Huawei, HiSilicon report Rel-17 NR\_SL\_relay-Core Late

Proposals for agreements:

[Easy][23/23] Proposal 3: intraFreqReselection in MIB is not forwarded by relay UE.

[Easy] [23/23] Proposal 4: useT312 cannot be configured to event X1 and X2.

[Easy] [23/23] Proposal 5: useT312 cannot be configured to event Y1 and Y2.

[Easy] [23/23] Proposal 6: PCI is included in suspendConfig (together with C-RNTI).

[Easy] [22/23] Proposal 7: SRAP configuration is not stored in UE Inactive AS context when relay UE/remote UE enters RRC\_INACTIVE state.

[Easy] [18/23] Proposal 8: New RLC configuration is introduced to configure Uu/PC5 RLC channel.

[Easy] [20/23] Proposal 9: Regarding how to allocate LCID for PC5 RLC channel of remote UE Uu RBs including SRB2 and DRBs, RAN2 confirms Rel-16 SL method is reused, i.e. LCID is allocated by UE.

Proposals for discussion:

Cause value:

Proposal 1a: On how to set the cause value in msg3 by relay UE when remote UE’s first RRC message triggers relay UE entering RRC\_CONNECTED state, RAN2 to down select the following solutions: (A new cause value specific to relay case is to be added in RRCSetupRequest/RRCResumeRequest. No new PC5 signalling. No NAS involvement.)

‐ Solution 2.1: The relay UE should set identical cause value as the one received in remote UE’s msg3 except for remote UE’s path switch or remote UE’s RNAU or remote UE’s RRC reestablishment in which cases the relay UE should use a new value.

‐ Solution 3.2: The relay UE should use a new value irrespective of remote UE’s access cause.

Discussion:

Ericsson think there would be NAS involvement if we have a new failure cause.

CATT support solution 3.2.

Intel wonder how the network will determine what priority to assign the connection request based on the new cause value in solution 3.2.

Apple have a concern with solution 3.2 and think it has more inter-layer impact than other solutions.

Nokia have a concern with the new cause value, since there are limited values available. If all the requests from the remote UE have the same cause value, they are concerned that the network cannot differentiate e.g. emergency sessions. They can accept 2.1 but not 3.2. Ericsson agree with Nokia.

MediaTek support solution 3.2 or an implementation solution but not 2.1.

CATT think both options can work but prefer solution 3.2 for layering; they would like to avoid that the relay UE decodes the remote UE’s message.

OPPO cannot accept 2.1; they understand both solutions require a new cause value, but 2.1 involves more effort for the relay UE, and does not allow the gNB to differentiate between the remote UE’s access and the relay UE’s own access.

Intel wonder about solution 2.1: They understand there was a baseline of no new PC5-RRC signalling to pass the cause value, but wonder if there is any problem with using e.g. RRCReconfigurationSidelink for this purpose; they think we could use existing signalling on PC5 in a way that does not trigger the relay’s connection. Apple could accept this suggestion.

LG prefer solution 3.2 or implementation, because in solution 2.1 the relay UE needs to decode the remote UE’s message.

Ericsson are OK with Intel’s suggestion, but think solution 3.2 is not acceptable.

Intel clarify that their suggestion differs from solution 2.1 in that the relay UE is not required to decode the message and it does not require a new cause value on Uu; they think the relay UE could choose an existing cause value for the exceptional cases.

OPPO and MediaTek cannot accept Intel’s suggestion. OPPO see this as not in the spirit of having no new PC5 signalling. They do not see additional benefit of this idea over solution 2.1. MediaTek do not accept the PC5-RRC impact and extra use of PC5 resources.

Ericsson think solution 2.1 can be done without new signalling if the remote UE uses the new cause value in its own Msg3 also. They think the important thing is that the remote and relay UEs use the same cause value.

Xiaomi wonder if we leave it to relay UE implementation, the relay UE would have freedom to set any cause value (e.g. emergency). They do not think it is acceptable if the relay UE can set the emergency value by implementation. Ericsson have the same concern. Apple have the same concern.

OPPO think we relied on implementation in IAB and P1b is a workable compromise.

Show of hands between companies who can accept solutions 2.1 and 3.2:

2.1: 9

3.2: 7

Proposal 1b: If no consensus can be achieved on proposal 1a, it is left to relay UE’s implementation on how to set cause value in its own msg3 when remote UE’s first RRC message triggers relay UE entering RRC\_CONNECTED state. (No new signalling. No RAN2 spec impact.)

Cell barring:

Proposal 2: RAN2 to further discuss how to handle the case when the cellBarred in the MIB is set to barred:

‐ [2/22] Option 1: Relay UE forwards cellBar in the discovery message together with cellAccessRelatedInfo.

‐ [8/22] Option 2: Relay UE does not accept new remote UE’s DCR except the UEs accessing for path switch, and release the PC5 connections with other idle/inactive remote UEs.

‐ Option 3: Leave to network and/or relay UE implementation. RAN2 does not pursue specified solutions in Rel-17.

Discussion:

Ericsson would prefer option 3 with no spec impact. Nokia have a similar view and think the majority was for not forwarding cell barring.

Huawei think only two companies suggested option 3 in the email discussion; they prefer option 1 and think options 2 and 3 both add complexity, but they can accept option 3.

Agreements:

[Easy][23/23] Proposal 3: intraFreqReselection in MIB is not forwarded by relay UE.

[Easy] [23/23] Proposal 4: useT312 cannot be configured to event X1 and X2.

[Easy] [23/23] Proposal 5: useT312 cannot be configured to event Y1 and Y2.

[Easy] [23/23] Proposal 6: PCI is included in suspendConfig (together with C-RNTI).

[Easy] [22/23] Proposal 7: SRAP configuration is not stored in UE Inactive AS context when relay UE/remote UE enters RRC\_INACTIVE state.

[Easy] [18/23] Proposal 8: New RLC configuration is introduced to configure Uu/PC5 RLC channel.

[Easy] [20/23] Proposal 9: Regarding how to allocate LCID for PC5 RLC channel of remote UE Uu RBs including SRB2 and DRBs, RAN2 confirms Rel-16 SL method is reused, i.e. LCID is allocated by UE.

A new cause value specific to relay case is to be added in RRCSetupRequest/RRCResumeRequest. No new PC5 signalling. No NAS impact.

It is left to relay UE’s implementation on how to set cause value in its own msg3 when remote UE’s first RRC message triggers relay UE entering RRC\_CONNECTED state, with the possible exception of the emergency case (to be discussed offline).

Leave the handling of barred cell to network and relay UE implementation. RAN2 does not pursue specified solutions in Rel-17.

* [AT117-e][627][Relay] Remaining issues on control plane (Huawei)

Scope:

* Discuss emergency case for relay UE setting cause value

Intended outcome: Report to CB session

Deadline: Tuesday 2022-03-01 1200 UTC

Agenda item summary

[R2-2203591](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203591%20-%20summary%20of%20%5b616%5d_Control_plane_v01_Rapp.docx) Summary of [Pre117-e][609][Relay] Summary of AI 8.7.2.1 Control plane procedures (InterDigital) InterDigital discussion Rel-17 NR\_SL\_relay-Core

Potentially agreeable:

Recommendation 8: Update the running CR to disable relay UE sending SI update to the remote UE when the remote UE enters RRC\_CONNECTED.

Recommendation 9: Discuss observations 1-3, 6 from R2-2202471 in the running CR discussion.

Recommendation 10: Update the running CR to capture that relay reselection can occur following transmission of the RRCSetupRequest and before the connection is established.

Recommendation 12: Update the running CR to include the PC5-RLC channel configuration and SRAP configuration of the remote UE SRB1 in the RRCSetup message.

Discussion:

OPPO think these recommendations are not needed as agreements and can be directly discussed under the running CR.

Nokia also think it should be handled in the running CR.

ZTE think R12 is separate from the running CR and should be discussed online.

Xiaomi wonder if R8 requires the relay UE to be aware of the remote UE’s RRC state. InterDigital indicate we had agreed last meeting that the RRC state would not be explicitly informed, but the SI forwarding would be disabled when the remote UE is in RRC\_CONNECTED; the proposal is just to capture the existing agreement. OPPO understand this is already in the running CR.

Agreement:

Include the PC5-RLC channel configuration and SRAP configuration of the remote UE SRB1 in the RRCSetup message.

For further discussion:

Recommendation 1: RAN2 discuss whether the remote UE provides the relay UE an indication whether to use the same i\_s to determine the PO in RRC\_INACTIVE as in RRC\_IDLE.

Recommendation 3: A remote UE in RRC\_IDLE/RRC\_INACTIVE receiving NotificationMessageSidelink message with indicationType as relayUE-CellReselection or relayUE-HO and deciding to keep the PC5-RRC connection assumes that a cell reselection occurs. RAN2 discusses how to capture the cell ID acquisition at the remote UE in the running CR if the cell change occurs to the relay.

Recommendation 4: RAN2 discuss whether the relay UE sends notification message to the remote UE upon CHO triggered at the relay UE.

Recommendation 5: RAN2 discuss whether the relay UE sends notification message to the remote UE upon failed re-establishment.

Recommendation 11: RAN2 discuss whether the AS layer sends an indication to upper layer for service request upon reception of a message via SL-RLC0

Recommendation 16: RAN2 discuss whether new triggers for reporting SidelinkUEInformationNR (in addition to legacy triggers) are needed for reporting the source L2 ID by a relay UE.

Discussion:

Ericsson think R16 should be discussed because the existing triggers do not consider relaying. Qualcomm agree.

InterDigital think R3 is also important, but it can be discussed in the running CR.

OPPO think R16 overlaps with R3.1c in the report of [Pre117-e][604]. For R3, they think the first sentence is unavoidable and the remote UE has no other option.

Xiaomi think R5 is important.

ZTE think R11 can be left to UE implementation.

Kyocera agree with Xiaomi about R5.

InterDigital think we could assign these to the running CR discussion explicitly.

Agreement:

The recommendations above (apart from R12) can be raised in the RRC running CR discussion.

The following documents will not be individually treated

[R2-2202184](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202184%20-%20Remaining%20issues%20on%20control%20plane%20procedure%20of%20L2%20U2N%20relay.doc) Remaining issues on control plane procedure of L2 U2N relay Qualcomm Incorporated discussion NR\_SL\_relay-Core

[R2-2202340](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202340%20Left%20issue%20of%20control%20plane%20procedure.docx) Left issue on NR sidelink relay control plane procedure OPPO discussion Rel-17 NR\_SL\_relay-Core

[R2-2202344](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202344.doc) Discussion on notification of cell reselection and HO of a relay UE SHARP Corporation discussion NR\_SL\_relay-Core

[R2-2202345](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202345.doc) Discussion on SRAP config SHARP Corporation discussion NR\_SL\_relay-Core

[R2-2202357](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202357.docx) Indication to Upper Layer to Trigger Service Request of L2 Relay CATT discussion Rel-17 NR\_SL\_relay-Core

[R2-2202358](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202358.docx) Impacts on RAN of AN Release of Relay UE CATT discussion Rel-17 NR\_SL\_relay-Core

[R2-2202379](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202379%20Further%20discussion%20on%20RRC%20connection%20establishment%20of%20remote%20UE.doc) Further discussion on RRC connection establishment of remote UE ZTE, Sanechips discussion Rel-17

[R2-2202411](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202411.doc) Remaining open issues on control plane procedures for L2 U2N relay Spreadtrum Communications discussion Rel-17

[R2-2202471](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202471%20(R17%20SL%20Relay%20SI_AI8721%20CapturingSIAgreements).doc) On Capturing the Agreements Related to SI in the RRC CR InterDigital discussion Rel-17 NR\_SL\_relay-Core

[R2-2202472](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202472%20(R17%20SL%20Relay%20SI_AI8721%20CauseValue).doc) Cause Value Setting for Connection Establishment for UE to NW Relays InterDigital discussion Rel-17 NR\_SL\_relay-Core

[R2-2202473](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202473%20(R17%20SL%20Relay%20SI_AI8721%20HandlingNotificationMessageSidelink).doc) Handling the Sidelink Notification Message InterDigital discussion Rel-17 NR\_SL\_relay-Core

[R2-2202567](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202567.docx) Further Discussion on L2 CP Issue O6.03 vivo discussion

[R2-2202569](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202569.doc) Draft reply LS on establishment/resume cause value on L2 SL Relay vivo LS out To:CT1 Cc:SA2, RAN3

[R2-2202847](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202847%20Reflecting%20agreement%20on%20sidelink%20resource%20allocation%20mode%20configuration%20for%20L2%20U2N%20remote%20UE%20in%20RRC%20running%20CR.docx) Reflecting agreement on sidelink resource allocation mode configuration for L2 U2N remote UE in RRC running CR ASUSTeK discussion Rel-17 38.331 NR\_SL\_relay-Core

[R2-2202953](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202953%20Open%20issue%20on%20SI%20request%20over%20PC5.doc) Open issue on SI request over PC5 Samsung discussion Rel-17 NR\_SL\_relay-Core

[R2-2203135](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203135%20CauseCode.docx) Considerations on cause codes Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_SL\_relay\_enh-Core

[R2-2203148](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203148%20Relay%20Connection%20control.doc) Discussion on connection control open issues Xiaomi discussion

[R2-2203178](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203178%20Remaining%20issues%20on%20CP.doc) Remaining issues on CP Lenovo, Motorola Mobility discussion NR\_SL\_relay-Core

[R2-2203272](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203272%20Support%20of%20idle%20mode%20relay%20UE%20during%20path%20switch.docx) Support of relay UE in RRC\_IDLE/INACTIVE state during direct to indirect path switching Nokia, Nokia Shanghai Bell discussion NR\_SL\_relay\_enh-Core Late

[R2-2203306](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203306_SL%20Relay%20access%20cause%20value_Intel.docx) Setting cause value for Relay UE access Intel Corporation discussion Rel-17 NR\_SL\_relay-Core

[R2-2203308](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203308%20Paging%20impact%20on%20connection%20setup%20latency%20for%20SL%20Relay.docx) Discussion on added latency for paging forwarding Nokia, Nokia Shanghai Bell discussion NR\_SL\_relay-Core

[R2-2203326](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203326-%20Remaining%20issues%20on%20control%20plane%20for%20L2%20sidelink%20relay.docx) Remaining issues on control plane for L2 sidelink relay Ericsson discussion Rel-17 NR\_SL\_relay-Core

#### 8.7.2.2 Service continuity

Service continuity between Uu and relay paths, limited to intra-gNB cases.

Including report of [Pre117-e][603][Relay] Open issues on relay service continuity (CATT)

Email discussion report

[R2-2202356](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202356.docx) Report of [Pre117-e][603][Relay] Open Issues on Relay Service Continuity (CATT) CATT report Rel-17 NR\_SL\_relay-Core Late

Potentially easily agreeable:

Proposal 1: [22/23] RAN2 confirm the working assumption of “The gNB can select a relay UE in any RRC state i.e., RRC\_IDLE/INACTIVE/CONNECTED as a target Relay UE when triggering the direct to indirect path switch procedure for the Remote UE by the Remote UE oriented solution, i.e. after receiving the path switch command, Remote UE establishes PC5 link with the Relay UE and sends HO complete message via the Relay UE which will trigger the Relay UE to enter CONNECTED state. ”

Proposal 2: [22/23] For the delivery of RRCReconfigurationComplete message by the Remote UE, default configuration of SL-RLC1 is used for PC5 RLC channel configuration to support RRC\_IDLE/INACTIVE target Relay UE for direct to indirect path switch procedure.

Proposal 4: [18/23]The stop condition of the new T304-like timer in Remote UE is upon successfully sending RRCReconfigurationComplete message (i.e., PC5 RLC acknowledge is received from target relay).

Proposal 5: [19/23] When SL-RSRP of the serving relay is not available, it is up to remote UE’s implementation to measure SD-RSRP.

Agreements:

Proposal 1: [22/23] RAN2 confirm the working assumption of “The gNB can select a relay UE in any RRC state i.e., RRC\_IDLE/INACTIVE/CONNECTED as a target Relay UE when triggering the direct to indirect path switch procedure for the Remote UE by the Remote UE oriented solution, i.e. after receiving the path switch command, Remote UE establishes PC5 link with the Relay UE and sends HO complete message via the Relay UE which will trigger the Relay UE to enter CONNECTED state. ”

Proposal 2: [22/23] For the delivery of RRCReconfigurationComplete message by the Remote UE, default configuration of SL-RLC1 is used for PC5 RLC channel configuration to support RRC\_IDLE/INACTIVE target Relay UE for direct to indirect path switch procedure.

Proposal 4: [18/23]The stop condition of the new T304-like timer in Remote UE is upon successfully sending RRCReconfigurationComplete message (i.e., PC5 RLC acknowledge is received from target relay).

Proposal 5: [19/23] When SL-RSRP of the serving relay is not available, it is up to remote UE’s implementation to measure SD-RSRP.

For further discussion:

Proposal 3: RAN2 to further discuss whether to confirm the working assumption of “UE capability for support by the remote UE of handover to idle/inactive UE.”[13/23] or not [10/23]

Discussion:

OPPO think we should support this as part of the compromise for handover to idle/inactive relay UEs.

Ericsson wonder what the impact for the remote UE to support this would be; they see no need for the capability. Qualcomm indicate that some issues, e.g. P7 below, occur in the idle/inactive case only and would require new implementation by the remote UE.

Lenovo agree with Ericsson. Intel agree with Qualcomm.

Ericsson think the remote UE just needs to accept the path switch command.

Proposal 7: If remote UE identifies the target relay UE has changed its serving cell before path switch, remote UE triggers RRC reestablishment as legacy behavior upon expiry of T304 timer. FFS on how the remote UE identifies that the target relay UE has changed.

Discussion:

Qualcomm think this is a failure case where almost all companies agreed.

Lenovo wonder if a UE capability will resolve P7. Qualcomm understand that the capability can prevent the failure case from occurring for remote UEs that cannot support it.

Xiaomi think P7 is essential to support the path switch to idle/inactive UE, and it is a new UE behaviour, so a capability makes sense.

Ericsson understand that P7 could also happen when the relay UE is connected. Chair understood the network would not trigger the relay UE handover during a path switch. Nokia agree with Ericsson.

Xiaomi think we can remove the FFS in P7 because the cell ID is in the discovery message. Apple think we are not sure how frequently the discovery message is sent; InterDigital have the same concern. Intel think the UE may enter RRC\_CONNECTED after sending the discovery message.

Lenovo think the remote UE has to handle T304 expiry in any case.

Agreements:

Proposal 7 (modified): If remote UE identifies the target relay UE has changed its serving cell before path switch, remote UE triggers RRC reestablishment as legacy behavior upon expiry of T304 timer, at least for the case of relay UE in RRC\_IDLE/RRC\_INACTIVE. To be determined in [AT117-e][621] how the remote UE identifies that the target relay UE has changed cell and if this can occur in RRC\_CONNECTED.

If RRC\_CONNECTED and RRC\_IDLE/RRC\_INACTIVE cases are differentiated, confirm the working assumption of “UE capability for support by the remote UE of handover to idle/inactive UE.” This refers to a capability of the remote UE itself. If they are not differentiated, check the need for a capability in [AT117-e][621].

Proposal 6: RAN2 to further discuss that whether separate threshold is needed for SD-RSRP measurement for the case that when SL RSRP of the serving relay is not available [9/23]or not [14/23].

Discussion:

OPPO think a single threshold is enough. Qualcomm agree.

Apple think if there is only a single threshold, the UE will have to treat the SD-RSRP measurement with the same threshold as SL-RSRP.

LG think if power imbalance does not occur, one threshold is enough.

Agreement:

No separate threshold is needed for SD-RSRP measurement for the case that when SL RSRP of the serving relay is not available (UE treats the SD-RSRP measurement with the same threshold as SL-RSRP).

Proposal 8: When the new T304-like timer is stopped in remote UE but the direct to indirect path switch fails due to IDLE/INACTIVE relay UE fails to establish the connection on Uu hop of indirect path, a similar handling as relay UE’s HO/Uu RLF, i.e.:

-Upon relay UE receives RRCReject or experiences other connection establishment/resume failure, it either triggers PC5-S release or sends notification message indicating Uu RRC connection failure to remote UE.

-PC5-S release or notification message shall trigger remote UE’s RRC reestablishment. But in case of notification, remote UE can choose to keep the current PC5 connection with this target relay, or release the PC5 connection and reselect to other relay.

Agreement:

Proposal 8 above will be handled in [AT117-e][621].

Other documents

[R2-2202185](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202185%20-%20Remaining%20issues%20on%20service%20continuity%20of%20L2%20U2N%20relay.doc) Remaining issues on service continuity of L2 U2N relay Qualcomm Incorporated discussion NR\_SL\_relay-Core

[R2-2202341](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202341%20Left%20issue%20of%20service%20continuity.docx) Left issue on NR sidelink relay service continuity OPPO discussion Rel-17 NR\_SL\_relay-Core

[R2-2202380](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202380%20Remaining%20issues%20on%20service%20continuity.doc) Remaining issues on service continuity ZTE, Sanechips discussion Rel-17

[R2-2202545](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202545%20Discussion%20on%20direct%20to%20indirect%20path%20switch.doc) Discussion on remaining issues for direct-to-indirect path switch Apple discussion Rel-17 NR\_SL\_relay-Core

[R2-2202584](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202584%20Path%20switching%20in%20L2%20U2N%20relay%20v1.0.doc) Path switching in L2 U2N relay case Lenovo, Motorola Mobility discussion Rel-17

[R2-2202738](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202738_RRC%20corrections%20on%20path%20switch.docx) RRC corrections on path switch NEC Corporation discussion Rel-17 NR\_SL\_relay\_enh-Core

[R2-2202821](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202821%20Stage%203%20issue%20on%20NCGI%20reporting%20in%20measurement%20result.docx) Stage3 issue on NCGI reporting in measurement result Huawei, HiSilicon discussion Rel-17 NR\_SL\_relay-Core

[R2-2202848](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202848%20Potential%20issues%20on%20multiple%20PDU%20sessions%20handling%20during%20U2N%20direct%20to%20indirect%20path%20switching.docx) Potential issues on multiple PDU sessions handling during U2N direct to indirect path switching ASUSTeK discussion Rel-17 NR\_SL\_relay-Core

[R2-2203202](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203202.doc) Service continuity open issues in L2 NR sidelink relay Sony discussion Rel-17 NR\_SL\_relay-Core

#### 8.7.2.3 Adaptation layer design

Including bearer mapping, remote UE identification, security aspects if any.

Including report of [Pre117-e][604][Relay] Open issues on relay adaptation layer (OPPO)

Email discussion report

[R2-2202200](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202200%20-%20Summary%20of%20open%20issue%20for%20SRAP_Phase-2.docx) Summary of [Pre117-e][604][Relay] Open issues on relay adaptation layer (OPPO) OPPO report Rel-17 NR\_SL\_relay-Core Late

Unanimous:

Recommendation 1 [19/19]: RAN2 confirm the working assumption of ” Remote local UE ID is 8 bits.”

Recommendation 2 [19/19]: RAN2 confirm the working assumption of ” Remote UE ID is always present in PC5 adaptation layer header.”

Recommendation 3-1a-1 [19/19]: L2 relay UE report source L2 ID of relay-related discovery transmission to gNB.

Recommendation 4 [19/19]: When a SRAP Data PDU that contains a UE ID or BEARER ID which is not included in sl-SRAP-Config-Remote (for Remote UE) or sl-SRAP-Config-Relay (for Relay UE) is received, the SRAP entity shall discard the received SRAP Data PDU.

With clear majority (>80% support)

Recommendation 3-2a [18/19]: L2-remote, L2-relay, L3-remote and L3-relay UE report destination L2 ID for discovery transmission. L2-relay-UE, L3-remote-UE and L3-relay-UE report (i.e., except L2-remote-UE) destination L2 ID for established PC5 link for relaying.

Recommendation 3-2b [17/19]: In SUI, when reporting a particular destination L2 ID associated with discovery, RAN2 not pursue explicit relay type indication to differentiate between relay-discovery and non-relay-discovery.

Recommendation 3-2c [16/19]: For the destination L2 ID reporting for discovery and for established PC5 link for relay, add a new IE (i.e., instead of reusing the existing field sl-DestinationIdentity).

Recommendation 3-2e [17/19]: L2 relay-UE not report the updated ID of L2-remote UE of the established PC5 link.

Recommendation 5 [18/19]: For RRC\_INACTIVE / RRC\_IDLE L2-Relay UE, it gets local ID configuration for L2-remote UE during direct-to-indirect switching from network configuration on sl-LocalIdentity-r17.

Recommendation 6 [17/19]: In order for L2-relay UE to differentiate between SRAP data PDU for SRB and DRB if the BEARER ID is 0/1/2/3, for a SRAP Data PDU received from PC5 (or Uu) via sl-Egress-RLC-Channel-Uu (or via sl-Egress-RLC-Channel-PC5), L2-relay UE can know whether it is SRB or DRB based on the associated sl-RemoteUE-RB-Identity.

Discussion:

Huawei think on recommendation 3-2b, if we do not have this differentiation, the network cannot know how to configure the threshold. OPPO understand this was discussed by email and the network has to blindly provide both the relay- and non-relay-related parameters.

ZTE think the wording of R2 should be ”local UE ID”.

Apple wonder on R3-2e, if it results in the remote UE having two IDs after the change, potentially confusing the gNB. ZTE agree with Apple. OPPO indicate that the relay UE anyway has to maintain the mapping for both IDs during the transition period, so from the gNB perspective there is no effort.

Apple think we agreed that the remote UE reports the source L2ID to the gNB directly, and R3-2e seems not consistent with that. OPPO think whether the source ID is reported for the PC5 link is a separate proposal. Ericsson agree with OPPO.

Xiaomi think the WA is not correctly copied in R2. We said ”RAN2 does not pursue procedural impact for handling it beyond P6 of” a document from the previous meeting.

Huawei wonder in R3-2b, how the gNB can know which kind of authorisation to do (relay or non-relay). OPPO understand the authorisation has separate IEs for the two cases, and the gNB can determine on this basis.

Agreements:

Recommendation 1 [19/19]: RAN2 confirm the working assumption of ”Remote local UE ID is 8 bits.”

Recommendation 2 [19/19] (modified): RAN2 confirm the working assumption of ”Remote UE ID is always present in PC5 adaptation layer header.” This refers to the remote local UE ID. No impact to RRC signalling (as indicated in the original WA).

Recommendation 3-1a-1 [19/19]: L2 relay UE report source L2 ID of relay-related discovery transmission to gNB.

Recommendation 4 [19/19]: When a SRAP Data PDU that contains a UE ID or BEARER ID which is not included in sl-SRAP-Config-Remote (for Remote UE) or sl-SRAP-Config-Relay (for Relay UE) is received, the SRAP entity shall discard the received SRAP Data PDU.

Recommendation 3-2a [18/19]: L2-remote, L2-relay, L3-remote and L3-relay UE report destination L2 ID for discovery transmission. L2-relay-UE, L3-remote-UE and L3-relay-UE report (i.e., except L2-remote-UE) destination L2 ID for established PC5 link for relaying.

Recommendation 3-2c [16/19]: For the destination L2 ID reporting for discovery and for established PC5 link for relay, add a new IE (i.e., instead of reusing the existing field sl-DestinationIdentity).

Recommendation 3-2e [17/19]: L2 relay-UE not report the updated ID of L2-remote UE of the established PC5 link.

Recommendation 5 [18/19]: For RRC\_INACTIVE / RRC\_IDLE L2-Relay UE, it gets local ID configuration for L2-remote UE during direct-to-indirect switching from network configuration on sl-LocalIdentity-r17.

Recommendation 6 [17/19]: In order for L2-relay UE to differentiate between SRAP data PDU for SRB and DRB if the BEARER ID is 0/1/2/3, for a SRAP Data PDU received from PC5 (or Uu) via sl-Egress-RLC-Channel-Uu (or via sl-Egress-RLC-Channel-PC5), L2-relay UE can know whether

it is SRB or DRB based on the associated sl-RemoteUE-RB-Identity.

Recommendation 3-2b above to be discussed in the RRC running CR discussion.

For further discussion

Recommendation 3-1a-2 [?/19]: RAN2 discuss whether to report 1) source L2 ID to be used to establish PC5 link with L2 relay UE (i.e., used to send DCR message) or 2) source L2 ID of relay-related discovery transmission to gNB (by assuming it is also the source L2 ID used to send DCR message if model-B discovery is used). And if the latter one is adopted, RAN2 discuss how to handle the case where model-A discovery is used by relay UE.

Recommendation 3-1c [?/19]: Relying RRC running-CR discussion on how to specify the initiation condition for source L2 ID reporting, at least including when source L2 ID is updated.

Recommendation 3-2d: When L2-relay UE report destination L2 ID of peer UE (i.e., ID of L2-remote UE), RAN2 discuss whether to report an indicator on whether local ID allocation is required [2/6] or not [4/6].

Agreement:

Recommendations 3-1a-2, and 3-2d above to be discussed in the RRC running CR discussion.

Other documents

[R2-2202392](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202392%20Discussion%20on%20SRAP%20for%20L2%20U2N%20relay.DOCX) Discussion on SRAP for L2 U2N relay Huawei, HiSilicon discussion Rel-17 NR\_SL\_relay-Core

[R2-2202429](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202429%20-%20Remaining%20issues%20of%20the%20adaptation%20layer.docx) Remaining issues of the adaptation layer Ericsson discussion Rel-17 NR\_SL\_relay-Core

[R2-2202675](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202675%20-%20Remaining%20issues%20on%20adaptation%20layer.doc) Remaining issue on sidelink adaptation layer Qualcomm Incorporated discussion NR\_SL\_relay-Core

[R2-2202897](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202897%20Discussion%20on%20UE's%20L2%20ID.docx) Discussion on UE's L2 ID Sharp discussion

[R2-2203172](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203172%20SRAP%20-%20miscellaneous%20issues%20v2.doc) SRAP - miscellaneous issues Samsung Electronics GmbH discussion

Withdrawn/Not available

R2-2202854 SRAP header format design CMCC discussion Rel-17 NR\_SL\_relay-Core Withdrawn

#### 8.7.2.4 QoS

Mechanisms for E2E QoS management.

Including report of [Pre117-e][602][Relay] Open issues on relay QoS (Samsung)

Email discussion report

[R2-2202955](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202955%20Summary%20of%20Open%20issues%20on%20relay%20QoS.doc) Summary of [Pre117-e][602][Relay] Open issues on relay QoS (Samsung) Samsung discussion Rel-17 NR\_SL\_relay-Core Late

Other documents

[R2-2202339](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202339%20Left%20issues%20in%20QoS%20for%20layer%202%20relay.docx) Left issue on QoS for layer 2 relay OPPO discussion Rel-17 NR\_SL\_relay-Core

[R2-2202381](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202381%20Miscellaneous%20issues%20on%20bearer%20mapping%20and%20QoS.doc) Miscellaneous issues on bearer mapping and QoS ZTE, Sanechips discussion Rel-17

[R2-2202428](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202428%20-%20Aspects%20for%20QoS%20management%20with%20SL%20relay.docx) Aspects for QoS management with SL relay Ericsson discussion Rel-17 NR\_SL\_relay-Core

[R2-2202954](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202954%20Open%20issue%20on%20new%20code-point%20for%20ARP%20in%20PDCP%20SDU%20type.doc) Open issue on new code-point for address resolution protocol (ARP) in PDCP SDU type Samsung discussion Rel-17 NR\_SL\_relay-Core

#### 8.7.2.5 Discovery and re/selection

Including 5G ProSe Direct Discovery for the non-relaying case. Re-using LTE discovery and re/selection as baseline.

Including report of [Pre117-e][601][Relay] Discovery and relay re/selection (ZTE)

Email discussion report

[R2-2202378](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202378%20Summary%20of%20%5bPre117-e%5d%5b601%5d%5bRelay%5d%20Discovery%20and%20relay%20re-selection_final.doc) Summary of [Pre117-e][601][Relay] Discovery and relay re-selection (ZTE) ZTE, Sanechips discussion Rel-17 Late

Other documents

[R2-2202186](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202186%20-%20Remaining%20issues%20on%20discovery%20and%20relay%20(re)selection.doc) Remaining issues on discovery and relay (re)selection Qualcomm Incorporated discussion NR\_SL\_relay-Core

[R2-2202412](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202412.doc) Remaining issues on NotificationMessageSidelink message Spreadtrum Communications discussion Rel-17

[R2-2202568](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202568.docx) Remaining issues on Discovery and Relay (re)selection vivo discussion

[R2-2202585](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202585%20Discovery%20and%20Relay%20(re)selection%20in%20L2%20and%20L3%20relay%20case%20v1.0.doc) Discovery and Relay (re)selection in L2 and L3 relay case Lenovo, Motorola Mobility discussion Rel-17

[R2-2202849](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202849%20Issues%20on%20priority%20between%20PC5%20signalling%20and%20SL%20discovery.docx) Issues on priority between PC5 signalling and SL discovery ASUSTeK discussion Rel-17 38.321 NR\_SL\_relay-Core

[R2-2203233](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203233%20Discussion%20on%20relay%20re-selection%20and%20discovery.docx) Discussion on relay re-selection and discovery Huawei, HiSilicon discussion Rel-17 NR\_SL\_relay-Core

[R2-2203506](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203506.docx) Sidelink discovery support as indicated within SIB12 Beijing Xiaomi Mobile Software discussion Rel-17

#### 8.7.2.6 UE capabilities

Including report of [Pre117-e][606][Relay] Open issues on relay UE capabilities (Qualcomm)

Email discussion report

[R2-2202676](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202676%20-%20Summary%20report%20of%20open%20issues%20on%20relay%20UE%20capabilities%20(Qualcomm).doc) Summary report of offline606 - Open issues on relay UE capabilities (Qualcomm) Qualcomm Incorporated discussion NR\_SL\_relay-Core Late

Other documents

[R2-2202359](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202359.docx) Further Discussion on UE Capability CATT discussion Rel-17 NR\_SL\_relay-Core

### 8.7.3 Other

Any other topics on NR sidelink relay.

## 8.11 NR positioning enhancements

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

Time budget: 2 TU

Tdoc Limitation: 3 tdocs

### 8.11.1 Organizational

Rapporteur input. Incoming LS etc. This AI is reserved for rapporteur and organizational inputs; documents in this AI do not count towards the tdoc limitation. For LSes that need action or have impact beyond taking into account by CR rapporteurs: One tdoc by contact company (one company) to address the LS and potential reply is considered Rapporteur Input and may be provided. Related documents and proposed responses from companies other than the contact company should be submitted to the corresponding technical agenda item (and do count towards the tdoc limitation).

Including report of [Pre117-e][613][POS] RAN1 parameter list impact to RRC running CR (Ericsson)

Including report of [Pre117-e][614][POS] Issues requiring RAN1 input (Intel)

Incoming LSs

[R2-2202164](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202164_R4-2202680.doc) LS on SRS for multi-RTT positioning (R4-2202680; contact: Huawei) RAN4 LS in Rel-17 To:RAN1 Cc:RAN2, RAN3

[R2-2202165](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202165_R4-2202685.doc) Reply LS on reporting of the Tx TEG association information (R4-2202685; contact: Huawei) RAN4 LS in Rel-17 To:RAN1, RAN2 Cc:RAN3

[R2-2202166](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202166_R4-2202686.doc) LS on DRX cycle used in PRS measurement in RRC\_INACTIVE state (R4-2202686; contact: Qualcomm) RAN4 LS in Rel-17 To:RAN2, RAN3 Cc:RAN1

[R2-2202169](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202169_R4-2202780.docx) Reply LS on reporting and definition of DL PRS path RSRP (R4-2202780; contact: Nokia) RAN4 LS in Rel-17 To:RAN1, RAN2

Open issues list

[R2-2202488](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202488%20Open%20issues%20list%20on%20Rel-17%20positioning%20WI_v04.docx) Open issues list on Rel-17 positioning WI Intel Corporation discussion Rel-17 NR\_pos\_enh-Core

Email discussion reports and related documents

[R2-2202492](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202492_Report%20of%20Pre117-614-P2-v00.docx) Report of [Pre117-e][614][POS] Issues requiring RAN1 input (Intel) Intel Corporation discussion Rel-17 NR\_pos\_enh-Core Late

[R2-2202493](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202493%20Draft%20LS%20on%20issues%20requiring%20RAN1%20input%20v03.docx) Draft LS on issues requiring RAN1 input Intel Corporation LS out Rel-17 NR\_pos\_enh-Core To:RAN1 Late

[R2-2203363](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203363%20Comments.docx) Report on RAN1 parameter list impact to RRC running CR Ericsson discussion Rel-17 Late

Running CRs and related documents

[R2-2202489](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202489_Open%20issues%20on%20stage%202%20running%20CR.docx) Open issues on stage 2 running CR Intel Corporation discussion Rel-17 NR\_pos\_enh-Core

[R2-2202490](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202490-Running%2038.305%20v02.docx) Running 38.305 CR for Positioning WI on RAT dependent positioning methods Intel Corporation draftCR Rel-17 38.305 16.7.0 B NR\_pos\_enh-Core

[R2-2202861](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202861%20(Running%20CR%20of%2036_305%20GNSS%20Pos%20Integrity).docx) Running CR of 36.305 for GNSS Positioning Integrity InterDigital, Inc. draftCR Rel-17 36.305 16.4.0 B NR\_pos\_enh-Core

[R2-2202862](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202862%20(Running%20CR%20of%2038_305%20GNSS%20Pos%20Integrity).docx) Running CR of 38.305 for GNSS Positioning Integrity InterDigital, Inc. draftCR Rel-17 38.305 16.7.0 B NR\_pos\_enh-Core

[R2-2203310](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203310_(37355%20running%20CR)_v5.docx) Running LPP CR for NR positioning enhancements Qualcomm Incorporated draftCR Rel-17 37.355 16.7.0 B NR\_pos\_enh-Core

[R2-2203362](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203362%20RAN1%20Param%20CR.docx) RAN1 parameter list impact to RRC running CR Ericsson draftCR Rel-17 38.331 16.7.0 B NR\_pos\_enh-Core Late

Merged CRs

[R2-2202405](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\36%20305_CR0107_(Rel-17)_R2-2202405%7f.docx) Introduction of B2a and B3I signal in BDS system and GNSS Positioning Integrity CATT, CAICT, CMCC, China Telecom, China Unicom, Huawei, HiSilicon, Intel Corporation, ZTE Corporation, CBN, vivo, OPPO, Lenovo, MediaTek Inc, Spreadtrum Communications, Xiaomi. CR Rel-17 36.305 16.4.0 0107 - B NR\_pos\_enh-Core

R2-2202491 38.305 CR for Positioning WI Intel Corporation CR Rel-17 38.305 16.7.0 0086 - B NR\_pos\_enh-Core Late

R2-2203315 Introduction of R17 Positioning Enhancements in LPP Qualcomm Incorporated CR Rel-17 37.355 16.7.0 0332 - B NR\_pos\_enh-Core Late

[R2-2203364](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203364%20RRC%20For%20Merged%20CR.docx) Introduction of Enhanced Positioning feature Ericsson CR Rel-17 38.331 16.7.0 2952 - B NR\_pos\_enh-Core

[R2-2202605](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202605%20Introduction%20of%20R17%20PositioningEnh%20for%20MAC%20spec.docx) Introduction of R17 PositioningEnh in MAC spec Huawei, HiSilicon CR Rel-17 38.321 16.7.0 1197 - B NR\_pos\_enh-Core

[R2-2202606](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202606%20Introduction%20of%20R17%20PositioningEnh%20in%20LTE%20RRC%20spec.docx) Introduction of R17 PositioningEnh in LTE RRC spec Huawei, HiSilicon CR Rel-17 36.331 16.7.0 4762 - B NR\_pos\_enh-Core

### 8.11.2 Open issues

No documents should be submitted to 8.11.2. Please submit to 8.11.2.x.

#### 8.11.2.1 Latency enhancements

Enhancements of signalling, and procedures for improving positioning latency of the Rel-16 NR positioning methods, for DL and DL+UL positioning methods.

Including report of [Pre117-e][607][POS] Open issues on positioning latency enhancements (Huawei)

Email report

[R2-2202604](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202604%20%5bPre117-e%5d%5b607%5d%5bPOS%5d%20Open%20issues%20on%20positioning%20latency%20enhancements%20(Huawei).docx) Summary of [Pre117-e][607][POS] Open issues on positioning latency enhancements (Huawei) Huawei, HiSilicon discussion Rel-17 NR\_pos\_enh-Core Late

Agenda item summary

[R2-2203592](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203592-summary-latency-v1.docx) Summary of AI 8.11.2.1 Apple discussion

The following documents will not be individually treated

[R2-2202408](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202408%20Discussion%20and%20TP%20on%20areaID%20for%20Latency%20enhancements.docx) Discussion and TP on areaID for Latency enhancements CATT discussion Rel-17 NR\_pos\_enh-Core

[R2-2202487](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202487.docx) On Latency Reduction open issues Intel Corporation discussion Rel-17 NR\_pos\_enh-Core

[R2-2202592](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202592-positioning-latency-v0.docx) On remaining issues for latency improvements Apple discussion

[R2-2202603](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202603%20Remaining%20issues%20on%20latency%20and%20accuracy%20enhacnement.docx) Remaining issues on latency and accuracy enhacnement Huawei, HiSilicon discussion Rel-17 NR\_pos\_enh-Core

[R2-2202858](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202858%20(R17%20NR%20POS%20WI_AI81121_Latency).doc) Remaining Issues on Latency Reduction InterDigital, Inc. discussion Rel-17 NR\_pos\_enh-Core

[R2-2202922](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202922%20MAC%20CE%20for%20pre-MG%20(de)activation%20request.docx) MAC CE for pre-MG (de)activation request Samsung discussion Rel-17 NR\_pos\_enh-Core

[R2-2202930](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202930%20Remaining%20issue%20on%20positioning%20latency%20reduction.doc) Remaining issue on positioning latency reduction Xiaomi discussion

[R2-2203042](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203042_MultiplePreconfiguredAssistanceData.docx) Way forward for preconfigured assistance data Fraunhofer IIS; Fraunhofer HHI; Ericsson; discussion

[R2-2203088](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203088%20Discussion%20on%20Latency%20enhancements.docx) Discussion on latency enhancement vivo discussion Rel-17 NR\_pos\_enh-Core

[R2-2203181](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203181%20Discussion%20on%20open%20issues%20of%20positioning%20latency%20enhancements.docx) Discussion on open issues of positioning latency enhancements ZTE discussion

[R2-2203204](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203204_Pos_latency.docx) Considerations on positioning measurement report latency Sony discussion Rel-17 NR\_pos\_enh-Core

[R2-2203211](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203211%20Discussion%20of%20positioning%20latency%20enhancement%20open%20issues.docx) Discussion of positioning latency enhancement open issues OPPO discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

[R2-2203360](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203360%20RRC%20and%20MAC%20CE%20design.docx) TP on RRC Impacts and MAC CE design Ericsson discussion Rel-17

#### 8.11.2.2 RRC\_INACTIVE

Methods, measurements, signalling and procedures to support positioning for UEs in RRC\_ INACTIVE state, for UE-based and UE-assisted positioning solutions. UL and DL+UL NR positioning methods and gNB positioning measurements for UEs in RRC\_INACTIVE are treated at lower priority.

Including report of [Pre117-e][609][POS] Open issues on positioning in RRC\_INACTIVE (InterDigital)

Email report

[R2-2203524](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203524_Pre117%20POS%20609_Open%20issues%20on%20positioning%20in%20RRC_INACTIVE%20(InterDigital)_Report.docx) Email discussion Report on [Pre117-e][609][POS] Open issues on positioning in RRC\_INACTIVE (InterDigital) InterDigital, Inc. discussion Rel-17 NR\_pos\_enh-Core

Other documents

[R2-2202338](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202338-%20Discussion%20on%20remaining%20issues%20for%20Positioning%20in%20RRC_INACTIVE%20state.docx) Discussion on remaining issues for Positioning in RRC\_INACTIVE state OPPO discussion Rel-17 NR\_pos\_enh-Core

[R2-2202601](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202601%20Remaining%20Issues%20on%20RRC_INACTIVE%20Positioning.docx) Remaining Issues on RRC\_INACTIVE Positioning Huawei, HiSilicon discussion Rel-17 NR\_pos\_enh-Core

[R2-2202602](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202602%20Draft%20LS%20to%20SA2%20on%20RRC_INACTIVE%20Positioning.docx) Draft LS on Positioning in RRC\_INACTIVE State Huawei, HiSilicon LS out Rel-17 NR\_pos\_enh-Core To:SA2 Cc:RAN3

[R2-2203089](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203089%20Discussion%20on%20positioning%20in%20RRC_INACTIVE.docx) Discussion on positioning in RRC\_INACTIVE vivo discussion Rel-17 NR\_pos\_enh-Core

[R2-2203091](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203091%20Consideration%20on%20the%20Configuration%20of%20UL%20positioning%20in%20RRC_INACTIVE.docx) Consideration on the configuration of UL positioning in RRC\_INACTIVE CATT discussion Rel-17 NR\_pos\_enh-Core

[R2-2203180](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203180%20Discussion%20on%20UL%20positioning%20configuration%20in%20RRC_INACTIVE.docx) Discussion on UL positioning configuration in RRC\_INACTIVE ZTE discussion

[R2-2203443](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203443_(Positioning%20in%20RRC_INACTIVE).docx) Remaining issues for positioning of UEs in RRC\_INACTIVE State Qualcomm Incorporated discussion

[R2-2203444](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203444_(LS%20to%20SA2%20on%20RRC_INACTIVE).docx) [draft] LS on Positioning in RRC\_INACTIVE State Qualcomm Incorporated LS out Rel-17 NR\_pos\_enh R2-2200961 To:SA2 Cc:RAN3

[R2-2203445](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203445%20RAT-D%20CR.docx) Capturing RRC impacts for RAT dependent Positioning Ericsson draftCR Rel-17 38.331 16.7.0 B NR\_pos\_enh-Core R2-2202048

#### 8.11.2.3 On-demand PRS

Specify UE-initiated and LMF-initiated on-demand transmission and reception of DL PRS for DL and DL+UL positioning for UE-based and UE-assisted positioning solutions.

Including report of [Pre117-e][608][POS] Open issues on on-demand PRS (Lenovo)

Email report

[R2-2202236](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202236_%5bPre117-e%5d%5b608%5d%5bPOS%5d%20Open%20issues%20on%20on-demand%20PRS%20(Lenovo)_v16_Summary.docx) Report of [Pre117-e][608][POS] Open issues on on-demand PRS Lenovo, Motorola Mobility discussion Rel-17 NR\_pos\_enh-Core Late

Other documents

[R2-2202337](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202337%20-%20Discussion%20on%20remaining%20issues%20for%20on-demand%20DL-PRS.doc) Discussion on remaining issues for on-demand DL-PRS OPPO discussion Rel-17 NR\_pos\_enh-Core

[R2-2202409](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202409%20Discussion%20on%20the%20remaining%20issues%20of%20on-demand%20PRS.docx) Discussion on the remaining issues of on-demand PRS CATT discussion

[R2-2202859](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202859%20(R17%20NR%20POS%20WI_AI81123_OnDemandPRS).doc) Remaining Issues for On-demand PRS InterDigital, Inc. discussion Rel-17 NR\_pos\_enh-Core

[R2-2203169](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203169%20(8.11.2.3)_Remaining%20issue%20for%20on-demand%20DL%20PRS.docx) Remaining issues for the On demand DL PRS Samsung R&D Institute UK discussion

[R2-2203463](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203463%20On-demand%20PRS%20Open%20Issues_clean.docx) On-demand PRS Open Issues Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_pos\_enh-Core

#### 8.11.2.4 GNSS positioning integrity

Signalling and procedures to support GNSS positioning integrity determination.

Including report of [Pre117-e][610][POS] Open issues on GNSS positioning integrity (ESA)

Email report

[R2-2203525](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203525%20Summary%20of%20%5bPre117-e%5d%5b610%5d%5bPOS%5d%20Open%20issues%20GNSS%20integrity%20(ESA).docx) [Pre117-e][610][POS] Open issues on GNSS positioning integrity (ESA) ESA discussion Rel-17 NR\_pos\_enh-Core

Other documents

[R2-2203034](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203034_UE_Integrity_Fraunhofer_Ericsson_ESA.docx) UE-aided detection of threat to GNSS systems and assistance data signaling Fraunhofer IIS; Fraunhofer HHI; Ericsson; ESA discussion R2-2200955

[R2-2203090](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203090%20Discussion%20on%20GNSS%20positioning%20integrity.docx) Discussion on GNSS positioning integrity vivo discussion Rel-17 NR\_pos\_enh-Core

[R2-2203199](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203199%20-%20Reporting%20of%20GNSS%20Positioning%20Integrity%20Result.docx) Reporting of GNSS Positioning Integrity Result Nokia, Nokia Shanghai Bell discussion Rel-17 FS\_NR\_pos\_enh

[R2-2203359](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203359%20GNSS%20integrity%20open%20issues.docx) On remaining GNSS Integrity open issues Ericsson discussion Rel-17

#### 8.11.2.5 A-GNSS enhancements

Including support of BDS B2a and B3I signals and support of NavIC.

Running CRs

[R2-2202402](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\37.355_CR0327_(Rel-17)_R2-2202402.docx) Introduction of B2a and B3I signal in BDS system in A-GNSS CATT, CAICT, CMCC, China Telecom, China Unicom, Huawei, HiSilicon, Intel Corporation, ZTE Corporation, CBN, vivo, OPPO, Lenovo, MediaTek Inc, Spreadtrum Communications, Xiaomi. CR Rel-17 37.355 16.7.0 0327 - B NR\_pos\_enh-Core R2-2200298

[R2-2202403](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\36.305_CR0106_(Rel-17)_R2-2202403.docx) Introduction of B2a and B3I signal in BDS system in A-GNSS CATT, CAICT, CMCC, China Telecom, China Unicom, Huawei, HiSilicon, Intel Corporation, ZTE Corporation, CBN, vivo, OPPO, Lenovo, MediaTek Inc, Spreadtrum Communications, Xiaomi. CR Rel-17 36.305 16.4.0 0106 - B NR\_pos\_enh-Core R2-2109485

[R2-2202404](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\38.305_CR0084_(Rel-17)_R2-2202404%7f.docx) Introduction of B2a and B3I signal in BDS system in A-GNSS CATT, CAICT, CMCC, China Telecom, China Unicom, Huawei, HiSilicon, Intel Corporation, ZTE Corporation, CBN, vivo, OPPO, Lenovo, MediaTek Inc, Spreadtrum Communications, Xiaomi. CR Rel-17 38.305 16.7.0 0084 - B NR\_pos\_enh-Core R2-2109485

[R2-2202607](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202607%20Draft%20running%20CR%20for%20stage2%20spec%20for%20NAVIC%20in%20R17%20positioning.docx) Draft running CR for stage2 spec for NAVIC in R17 positioning Huawei, HiSilicon draftCR Rel-17 38.305 16.7.0 B NR\_pos\_enh-Core

[R2-2203710](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203710%20NaVIC.docx) Introduction of NavIC for broadcast support Ericsson draftCR Rel-17 38.331 16.7.0 B NR\_pos\_enh-Core

#### 8.11.2.6 Accuracy enhancements

Input on the accuracy enhancement objectives led by RAN1.

Including report of [Pre117-e][611][POS] Open issues on positioning accuracy enhancements (CATT)

Email report

[R2-2202410](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202410%20Report%20of%20%5bPre117-e%5d%5b611%5d%5bPOS%5d%20Open%20issues%20on%20positioning%20accuracy%20enhancements%20(CATT).docx) Report of [Pre117-e][611][POS] Open issues on positioning accuracy enhancements (CATT) CATT discussion Late

Other documents

[R2-2202593](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202593-UE-TX-TEG-RRC-v0.docx) On UE Tx TEG association for UL-TDOA via RRC Apple discussion

[R2-2202860](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202860%20(R17%20NR%20POS%20WI%20AI81126_AccEnh).doc) Remaining Issues for Accuracy Enhancements InterDigital, Inc. discussion Rel-17 NR\_pos\_enh-Core

[R2-2203205](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203205_Pos_TEG.docx) Considerations on Timing Error aspects Sony discussion Rel-17 NR\_pos\_enh-Core

[R2-2203361](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203361%20LPP%20Accuracy%20enhancements%20and%20On-Demand%20PRS.docx) LPP Remaining Issues on Accuracy enhancements and On-Demand PRS Ericsson discussion Rel-17

[R2-2203462](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2203462%20TEG%20definitions.docx) Timing Error Group (TEG) definition Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_pos\_enh-Core

#### 8.11.2.7 UE capabilities

Including report of [Pre117-e][612][POS] Open issues on positioning UE capabilities (Intel)

Email report

[R2-2202494](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202494_Report%20of%20Pre117-612-v01_Rapp.docx) Report of [Pre117-e][612][POS] Open issues on positioning UE capabilities (Intel) Intel Corporation discussion Rel-17 NR\_pos\_enh-Core Late

Running CRs

[R2-2202495](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202495%20-%20Running%2038.331%20CR%20on%20positioning%20capbilities-v00.docx) Running 331 CR for Positioning UE capabilities Intel Corporation draftCR Rel-17 38.331 16.7.0 B NR\_pos\_enh-Core Late

[R2-2202496](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202202-03%20-%20RAN2_117-e,%20Online\Extracts\R2-2202496%20-%20Running%2038.306%20CR%20on%20positioning%20capbilities-v00.docx) Running 306 CR for Positioning UE capabilities Intel Corporation draftCR Rel-17 38.306 16.7.0 B NR\_pos\_enh-Core Late

### 8.11.3 Other

Any other topics on NR positioning enhancements.