3GPP TSG-RAN WG2 Meeting #116bis-e R2-22xxxxx

Online, 17-25 January 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.

* [AT116bis-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: Tuesday 2022-01-25 1800 UTC

* [AT116bis-e][606][Relay] CT1 LS on discovery (CATT)

Scope: Discuss the LS in R2-2200062, determine any RAN2 spec impact, and draft a reply.

Intended outcome: Approvable LS in R2-2201696 and report to Tuesday CB session on spec impact in R2-2201695

Deadline: Monday 2022-01-24 1800 UTC

* [AT116bis-e][607][Relay] Relay UE capabilities (Qualcomm)

Scope: Start discussion of UE capabilities for relaying, with R2-2200178 as an initial input, and attempt to conclude on a baseline set of capabilities for a draft CR to 38.306.

Intended outcome: Report to Tuesday CB session

Deadline: Monday 2022-01-24 1800 UTC

* [AT116bis-e][608][Relay] RAN sharing (Huawei)

Scope: Discuss the issue of RAN sharing for relays, taking into account the related parts of contributions from AI 8.7.2.1. Conclude on what will be supported and analyse spec impact (conclusions to be taken into account by rapporteurs of affected running CRs).

Intended outcome: Report to Tuesday CB session

Deadline: Monday 2022-01-24 1800 UTC

* [AT116bis-e][609][Relay] Open issues on discovery (InterDigital)

Scope: Start discussion of the inputs on discovery from AI 8.7.3.1 with focus on the open issues identified by the rapporteur in R2-2200365, and converge where possible.

Intended outcome: Report to Thursday online session

Deadline: Wednesday 2022-01-19 1800 UTC

* [AT116bis-e][610][POS] Positioning UE capabilities (Intel)

Scope: Start discussion of UE capabilities for positioning, with R2-2200284 as an initial input, and attempt to conclude on a baseline set of capabilities to be reflected in 38.331/38.306 and 37.355.

Intended outcome: Report to Monday CB session

Deadline: Friday 2022-01-21 1600 UTC

* [AT116bis-e][611][POS] GNSS integrity (Swift)

Scope: Start discussion of the proposals from R2-2200012 to determine agreeability and resulting spec impact.

Intended outcome: Report to Wednesday online session (including revision of R2-2200012 if needed)

Deadline: Tuesday 2022-01-18 2200 UTC

* [AT116bis-e][612][POS] Positioning accuracy enhancements (Apple)

Scope: Discuss the contributions in AI 8.11.7 on accuracy enhancements (excluding PRU topics). Determine agreeable RAN2 spec impact from RAN1 conclusions and identify any issues requiring further RAN2 discussion.

Intended outcome: Report to Monday CB session

Deadline: Friday 2022-01-21 1600 UTC

* [AT116bis-e][613][POS] BDS and NavIC CRs (CATT)

Scope: Review the draft CRs in R2-2200298/R2-2201070/R2-2200433, collect any comments, and revise the CRs if needed.

Intended outcome: Endorsed draft CRs (without CB)

Deadline: Friday 2022-01-21 1600 UTC

* [AT116bis-e][614][POS] PRUs (Huawei)

Scope: Discuss the contributions on PRUs in AIs 8.11.7/8.11.8 and the related LSs in R2-2200139/R2-2200140, determine agreeable way forward, and analyse RAN2 spec impact. Draft a reply LS to SA2 if needed.

Intended outcome: Report to Monday CB session, and approvable LS if one is needed

Deadline: Friday 2022-01-21 1600 UTC

* [AT116bis-e][615][Relay] Support of idle/inactive relay UE in path switch (Intel)

Scope: Discuss and attempt to converge on the possible support of a relay UE in RRC\_IDLE or RRC\_INACTIVE during direct-to-indirect path switch.

Intended outcome: Report to online session

Deadline: Thursday 2022-01-20 1600 UTC

# 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: 6 tdocs

Email max expectation: 7 threads

### 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.

Work plan and open issues, for information

[R2-2200038](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200038%20-%20Work%20planning%20for%20R17%20SL%20relay.docx) Work planning for R17 SL relay OPPO, CMCC Work Plan Rel-17 NR\_SL\_relay-Core

[R2-2200365](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200365%20-%20Remaining%20open%20issues%20for%20R17%20SL%20relay.docx) Remaining open issues for R17 SL relay OPPO discussion Rel-17 NR\_SL\_relay-Core

Incoming LS and draft reply

[R2-2200062](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Docs\R2-2200062.zip) LS on the indication of discovery message and PC5-S signalling to ProSe layer (C1-217167; contact: CATT) CT1 LS in Rel-17 5G\_ProSe To:RAN2 Cc:SA2

[R2-2200165](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200165.docx) Indication of Discovery Message and PC5-S Signalling to ProSe Layer CATT discussion Rel-17 NR\_SL\_relay-Core

[R2-2200366](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200366%20-%20Discussion%20on%20C1-217167.docx) Discussion on C1-217167 OPPO discussion Rel-17 NR\_SL\_relay-Core

* [AT116bis-e][606][Relay] CT1 LS on discovery (CATT)

Scope: Discuss the LS in R2-2200062, determine any RAN2 spec impact, and draft a reply.

Intended outcome: Approvable LS in R2-2201696 and report to Tuesday CB session on spec impact in R2-2201695

Deadline: Monday 2022-01-24 1800 UTC

R2-2201695 (Summary of [606]) CATT discussion Rel-17 NR\_SL\_relay-Core

R2-2201696 LS reply on the indication of discovery message and PC5-S signalling to ProSe layer CATT LS out Rel-17 NR\_SL\_relay-Core To:CT1 Cc:SA2

UE capability

[R2-2200178](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200178%20-%20Initial%20consideration%20on%20UE%20capability%20of%20sidelink%20relay.doc) Initial consideration on UE capability of sidelink relay Qualcomm Incorporated discussion NR\_SL\_relay-Core

Running CRs

[R2-2200364](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Docs\R2-2200364.zip) Running CR for TS 38.351 OPPO draft TS Rel-17 38.351 0.2.0 NR\_SL\_relay-Core

[R2-2200658](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200658%20Running%20CR%20of%2038.322%20for%20SL%20relay.docx) Running CR of 38.322 for SL Relay Samsung draftCR Rel-17 38.322 16.2.0 B NR\_SL\_relay-Core

[R2-2200659](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200659%20Running%20CR%20of%2038.323%20for%20SL%20relay.docx) Running CR of 38.323 for SL Relay Samsung draftCR Rel-17 38.323 16.6.0 B NR\_SL\_relay-Core

[R2-2200789](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200789%20Stage%202%20Running%20CR%20on%20Introduction%20of%20R17%20SL%20Relay.docx) Stage 2 Running CR on Introduction of R17 SL Relay MediaTek Inc. draftCR Rel-17 38.300 16.8.0 B NR\_SL\_relay-Core

[R2-2201160](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201160-%20Running%20CR%20of%2038.304%20for%20SL%20relay.docx) Running CR of 38.304 for SL relay Ericsson draftCR Rel-17 38.304 16.7.0 B NR\_SL\_relay-Core

[R2-2201507](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201507%20RRC%20running%20CR%20for%20SL%20relay.docx) RRC running CR for SL relay Huawei, HiSilicon draftCR Rel-17 38.331 16.7.0 B NR\_SL\_relay-Core R2-2111490

[R2-2201508](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201508%20Stage3%20open%20issues%20in%20SL%20relay%20RRC%20running%20CR.docx) Stage3 open issues in RRC running CR Huawei, HiSilicon discussion Rel-17 NR\_SL\_relay-Core

Comments on running CRs (to be considered by rapporteurs)

[R2-2200944](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200944%20PCR-stage2-corrections.docx) Stage 2 corrections for SL Relay Nokia, Nokia Shanghai Bell, Ericsson draftCR Rel-17 38.300 16.8.0 NR\_SL\_relay-Core

[R2-2200945](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200945%20PCR-RRC-corrections.docx) RRC corrections for SL Relay Nokia, Nokia Shanghai Bell, Ericsson draftCR Rel-17 38.331 16.7.0 NR\_SL\_relay-Core

### 8.7.2 L2 relay specific topics

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. This agenda item will utilise a summary document.

Summary document

[R2-2201407](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201407%20-%20Summary%20of%20AI%208.7.2.1_V3.0.docx) Summary of AI 8.7.2.1 on CP procedure OPPO discussion Rel-17 NR\_SL\_relay-Core Late

WA confirmation joint proposal

[R2-2200367](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200367%20-%20Remaining%20WA%20for%20R17%20SL%20Relay_V4.1.docx) Remaining WA for R17 SL Relay OPPO, Qualcomm Incorporated, Samsung, Intel Corporation, Apple, Huawei, HiSilicon, MediaTek Inc., Xiaomi, Nokia, Nokia Shanghai Bell, Ericsson discussion Rel-17 NR\_SL\_relay-Core

The following documents will not be individually treated

[R2-2200166](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200166.docx) Control Plane Procedures of L2 Relay CATT discussion Rel-17 NR\_SL\_relay-Core

[R2-2200172](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200172%20-%20Remaining%20issues%20on%20RRC%20connection%20management%20of%20L2%20U2N%20relay.doc) Remaining issues on RRC connection management of L2 U2N relay Qualcomm Incorporated discussion NR\_SL\_relay-Core

[R2-2200173](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200173%20-%20Remaining%20issues%20on%20paging%20and%20SIB%20forwarding%20in%20L2%20U2N%20relay.doc) Remaining issues on paging and SIB forwarding in L2 U2N relay Qualcomm Incorporated discussion NR\_SL\_relay-Core

[R2-2200226](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200226_SL_CP_Intel.docx) Leftover issues of Control plane procedures for L2 U2N relaying Intel Corporation discussion Rel-17 NR\_SL\_relay-Core

[R2-2200372](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200372-%20Left%20issues%20on%20Control%20Plane%20Aspects%20for%20L2%20Relay.docx) Left Issues on Control Plane Aspects for L2 Relay OPPO discussion Rel-17 NR\_SL\_relay-Core

[R2-2200410](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200410%20Monitoring%20Paging%20by%20a%20U2N%20Relay.doc) Monitoring Paging by a U2N Relay Lenovo, Motorola Mobility discussion NR\_SL\_relay-Core

[R2-2200412](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200412%20SI%20acquisition%20by%20a%20remote%20UE.doc) SI acquisition by a remote UE Lenovo, Motorola Mobility discussion NR\_SL\_relay-Core

[R2-2200471](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200471_%20Open%20issues%20on%20L2%20Control%20Plane%20Procedures.docx) Open issues on L2 Control Plane Procedures vivo discussion

[R2-2200512](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200512%20Discussion%20on%20RRC%20reestablishment%20related%20parameters%20for%20L2%20sidelink%20relay%20v1%20CTC.docx) Discussion on RRC reestablishment related parameters for L2 sidelink relay China Telecom discussion Rel-17 NR\_SL\_relay-Core

[R2-2200551](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200551%20Remaining%20issues%20for%20Control%20plane.docx) Remaining issues for Control plane MediaTek Inc. discussion Rel-17

[R2-2200552](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200552%20RAN%20sharing.docx) RAN sharing MediaTek Inc., CATT, OPPO, Qualcomm Incorporated, ZTE, Huawei, HiSilicon, Apple, InterDigital discussion Rel-17

[R2-2200625](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200625.doc) Left issues on control plane procedures for L2 U2N relay Spreadtrum Communications discussion Rel-17

[R2-2200653](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200653%20Remaining%20issues%20for%20paging%20and%20SI%20delivery.doc) Remaining issues for paging and SI delivery Samsung discussion Rel-17 NR\_SL\_relay-Core

[R2-2200740](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200740%20Discussion%20on%20sidelink%20RLC%20bearer%20management%20for%20L2%20U2N%20relay.docx) Discussion on sidelink RLC bearer management for L2 U2N relay ASUSTeK discussion Rel-17 38.331 NR\_SL\_relay-Core

[R2-2200741](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200741%20Discussion%20on%20missing%20procedural%20text%20for%20applying%20C-RNTI%20of%20Remote%20UE.docx) Discussion on missing procedural text for applying C-RNTI of Remote UE ASUSTeK discussion Rel-17 38.331 NR\_SL\_relay-Core

[R2-2200742](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200742%20Discussion%20on%20missing%20procedural%20text%20for%20Relay%20UE%20to%20apply%20SL-RLC0%20configuration.docx) Discussion on missing procedural text for Relay UE to apply SL-RLC0 configuration ASUSTeK discussion Rel-17 38.331 NR\_SL\_relay-Core

[R2-2200743](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200743%20Reflecting%20Stage%202%20agreement%20on%20sidelink%20resource%20allocation%20mode%20for%20U2N%20relay.docx) Reflecting Stage 2 agreement on sidelink resource allocation mode for U2N relay ASUSTeK discussion Rel-17 38.331 NR\_SL\_relay-Core

[R2-2200776](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200776%20Considerations%20on%20CP%20issues%20v1.0.doc) Considerations on CP issues Lenovo, Motorola Mobility discussion Rel-17

[R2-2200784](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200784%20Further%20Issues%20on%20Paging%20in%20NR%20SL%20Relay.docx) Further Issues on Paging in NR Sidelink Relay Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_SL\_relay-Core

[R2-2200794](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200794%20Discussion%20on%20establishment%20cause%20of%20relay%20UE.doc) Discussion on establishment cause of relay UE Xiaomi, Lenovo, Motorola Mobility, Apple discussion

[R2-2200795](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200795%20Relay%20Connection%20control.doc) Discussion on connection control Xiaomi discussion

[R2-2200796](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200796%20Relay%20Discussion%20on%20SI%20and%20short%20message%20delivery.doc) Discusson on SI delivery Xiaomi discussion

[R2-2200855](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200855%20Control%20plane%20procedure.docx) Control plane procedure CMCC discussion Rel-17 NR\_SL\_relay-Core

[R2-2200908](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200908.doc) Area specific SI issue in L2 relay Sony discussion Rel-17 NR\_SL\_relay-Core

[R2-2200946](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200946%20RAN_Sharing.docx) Discussion on RAN sharing with L2 U2N relays Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_SL\_relay-Core

[R2-2201136](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201136%20Discussion%20on%20control%20plane%20procedures%20for%20L2%20relay.doc) Discussion on remaining issues on control plane procedures Apple discussion Rel-17 NR\_SL\_relay-Core

[R2-2201144](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201144%20(R17%20SL%20Relay%20SI_AI8721%20SI%20and%20Paging).doc) Remaining Aspects of Paging and System Information for L2 UE to NW Relays InterDigital discussion Rel-17 FS\_NR\_SL\_relay

[R2-2201145](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201145%20(R17%20SL%20Relay%20SI_AI8721%20ConnEst%20Procedure).doc) Open Issues on Connection Establishment for UE to NW Relays InterDigital discussion Rel-17 FS\_NR\_SL\_relay

[R2-2201146](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201146%20(R17%20SL%20Relay%20SI_AI8721%20IDLE_Mobility).doc) IDLE/INACTIVE Remote UE Behaviour during Remote and Relay UE Mobility InterDigital discussion Rel-17 FS\_NR\_SL\_relay

[R2-2201158](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201158-%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

[R2-2201218](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Docs\R2-2201218.zip) Consideration on the remain issues for control plane procedures LG Electronics France discussion Rel-17

[R2-2201294](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201294_SL%20Relay%20Access%20Control_Intel.docx) Access control support for U2N relaying Intel Corporation discussion Rel-17 NR\_SL\_relay-Core

[R2-2201345](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201345%20Consideration%20on%20the%20control%20plane%20procedure%20of%20SL%20relay.doc) Consideration on the control plane procedure of SL relay ZTE, Sanechips discussion Rel-17

[R2-2201509](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201509%20SI%20forwarding%20and%20paging%20for%20L2%20sidelink%20relay.docx) SI forwarding and paging for L2 sidelink relay Huawei, HiSilicon discussion Rel-17 NR\_SL\_relay-Core

[R2-2201510](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201510%20RRC%20connection%20management%20for%20L2%20sidelink%20relay.docx) RRC connection management for L2 sidelink relay Huawei, HiSilicon 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 outcome of [Post116-e][604][Relay] Remaining issues on service continuity (Xiaomi)

Email discussion summary

[R2-2200009](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200009%20-%20Summary%20of%20%5bPost116-e%5d%5b604%5d%5bRelay%5d%20Remaining%20issues%20on%20service%20continuity%20(Xiaomi).docx) Summary of [Post116-e][604][Relay] Remaining issues on service continuity (Xiaomi) Xiaomi discussion

The following documents will not be individually treated

[R2-2200167](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200167.docx) Leftover Issues on Service Continuity for L2 U2N Relay CATT discussion Rel-17 NR\_SL\_relay-Core

[R2-2200174](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200174%20-Remaining%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

[R2-2200227](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200227_SL_ServiceContinuity_Intel.docx) Remaining issues for service continuity in L2 U2N relaying Intel Corporation discussion Rel-17 NR\_SL\_relay-Core

[R2-2200333](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200333%20Remaining%20issues%20for%20service%20continuity.docx) Remaining issues for service continuity MediaTek Inc. discussion Rel-17

[R2-2200402](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200402_Further%20discussions%20on%20open%20issues%20of%20path%20switch.docx) Further discussions on open issues of path switch NEC Corporation discussion Rel-17

[R2-2200472](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200472%20Remaining%20issues%20on%20service%20continuity%20in%20L2%20U2N%20relay.docx) Remaining issues on service continuity in L2 U2N relay vivo discussion

[R2-2200488](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200488%20Discussion%20on%20remaining%20issue%20of%20service%20continuity.docx) Discussion on remaining issue of service continuity OPPO discussion Rel-17 NR\_SL\_relay-Core

[R2-2200513](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200513_Discussion%20on%20service%20continuity%20for%20L2%20UE-to-Network%20relay.docx) Discussion on service continuity for L2 UE-to-Network relay China Telecom discussion Rel-17 NR\_SL\_relay-Core

[R2-2200654](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200654%20Open%20issues%20for%20service%20continuity.doc) Open issues for service continuity Samsung discussion Rel-17 NR\_SL\_relay-Core

[R2-2200744](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200744%20Local%20remote%20UE%20ID%20allocation%20for%20direct%20to%20indirect%20path%20switching.docx) Local remote UE ID allocation for direct to indirect path switching ASUSTeK discussion Rel-17 NR\_SL\_relay-Core

[R2-2200745](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200745%20Multiple%20PDU%20sessions%20handling%20during%20direct%20to%20indirect%20path%20switching.docx) Multiple PDU sessions handling during direct to indirect path switching ASUSTeK discussion Rel-17 NR\_SL\_relay-Core

[R2-2200777](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200777%20Path%20switching%20in%20L2%20U2N%20relay%20v1.0.doc) Path switching in L2 U2N relay case Lenovo, Motorola Mobility discussion Rel-17

[R2-2200793](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200793%20Relay%20Discussion%20on%20service%20continuity.doc) Discussion on service continuity Xiaomi discussion

[R2-2200909](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200909.doc) Service continuity open issues in L2 NR sidelink relay Sony discussion Rel-17 NR\_SL\_relay-Core

[R2-2201056](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201056_service%20cont.doc) Remaining issues for Service Continuity in L2 relay Kyocera discussion

[R2-2201137](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201137%20Discussion%20on%20service%20continuity.doc) Discussion on remaining issues on service continuity Apple discussion Rel-17 NR\_SL\_relay-Core

[R2-2201147](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201147%20(R17%20SL%20Relay%20SI_AI8722%20Service_Continuity).doc) Remaining Issues on Service Continuity for L2 UE to NW Relays InterDigital discussion Rel-17 FS\_NR\_SL\_relay

[R2-2201159](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201159-%20Remaining%20Issues%20on%20service%20continuity%20for%20L2%20sidelink%20relay.docx) Remaining Issues on Service Continuity for L2 Sidelink relay Ericsson discussion Rel-17 NR\_SL\_relay-Core

[R2-2201246](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201246%20Remaining%20issues%20on%20direct-to-indirect%20path%20switching.docx) Remaining issues on direct-to-indirect path switching Sharp discussion

[R2-2201346](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201346%20Discussion%20on%20remaining%20issues%20on%20service%20continuity.doc) Discussion on remaining issues on service continuity ZTE, Sanechips discussion Rel-17

[R2-2201444](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Docs\R2-2201444.zip) Service continuity in direct-to-indirect path switch LG Electronics France discussion Rel-17

[R2-2201462](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201462%20Support%20of%20idle%20mode%20mobility%20for%20remote-UE%20in%20SL%20U2N%20relay.docx) Support of idle mode mobility for remote-UE in SL UE-to-Nwk relay Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_SL\_relay-Core R2-2110767

[R2-2201511](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201511%20Remaining%20issues%20on%20service%20continuity%20for%20L2%20U2N%20Relay.docx) Remaining issues on service continuity for L2 UE to NW Relay Huawei, HiSilicon discussion Rel-17 NR\_SL\_relay-Core

#### 8.7.2.3 Adaptation layer design

Including bearer mapping, remote UE identification, security aspects if any. This agenda item will utilise a summary document.

Summary document

[R2-2200943](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200943%20-%20Summary%20of%20AI%208.7.2.3%20on%20the%20adaptation%20layer%20(Ericsson).docx) summary of AI 8.7.2.3 on the adaptation layer Ericsson discussion Rel-17 NR\_SL\_relay-Core Late

The following documents will not be individually treated

[R2-2200168](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200168.docx) Leftover Issues on Adaptation Layer Design for L2 U2N Relay CATT discussion Rel-17 NR\_SL\_relay-Core

[R2-2200175](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200175%20-%20Remaining%20issues%20on%20adaptation%20layer%20of%20L2%20U2N%20relay.doc) Remaining issues on adaptation layer of L2 U2N relay Qualcomm Incorporated discussion NR\_SL\_relay-Core

[R2-2200228](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200228_SL_AdaptationLayer_Intel.docx) Open aspects of adaptation layer design for L2 U2N relaying Intel Corporation discussion Rel-17 NR\_SL\_relay-Core

[R2-2200335](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200335%20Remaining%20issues%20for%20Adaptation%20layer%20design%20v02.docx) Remaining issues for Adaptation layer design MediaTek Inc. discussion Rel-17

[R2-2200363](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200363%20-%20Left%20issues%20for%20adaptation%20layer.docx) Left issues for adaptation layer OPPO discussion Rel-17 NR\_SL\_relay-Core

[R2-2200473](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200473%20Adaptation%20Layer%20for%20Uu%20and%20PC5.docx) Adaptation Layer for Uu and PC5 vivo discussion

[R2-2200556](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200556%20SRAP%20layer%20open%20issues%20for%20L2%20U2N%20relay.docx) SRAP layer open issues for L2 U2N relay Huawei, HiSilicon discussion Rel-17 NR\_SL\_relay-Core

[R2-2200567](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200567%20Remaining%20issues%20on%20SRAP.doc) Remaining issues related to SRAP Fujitsu discussion Rel-17 NR\_SL\_relay-Core

[R2-2200655](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200655%20Flow%20control%20for%20L2%20U2N%20relay.doc) Flow control for L2 U2N Relay Samsung, Philips discussion Rel-17 NR\_SL\_relay-Core R2-2110451

[R2-2200856](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200856%20Leftover%20issues%20on%20adaption%20layer%20design.docx) Leftover issues on adaption layer design CMCC discussion Rel-17 NR\_SL\_relay-Core

[R2-2200937](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200937%20-%20Remaining%20issues%20of%20the%20adaptation%20layer.docx) Remaining issues of the adaptation layer Ericsson discussion Rel-17 NR\_SL\_relay-Core

[R2-2201347](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201347%20Discussion%20on%20adaptation%20layer%20design.doc) Discussion on adaptation layer design ZTE, Sanechips discussion Rel-17

[R2-2201465](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201465%20Remote%20ID%20for%20the%20adaptation%20layer.docx) Remote ID for the adaptation layer Nokia, Nokia Shanghai Bell discussion NR\_SL\_relay-Core

[R2-2201492](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201492%20Remote%20UE%20local%20ID.docx) Remote UE local ID in PC5 Adaptation Layer Header Beijing Xiaomi Mobile Software discussion Rel-17

[R2-2201533](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201533%20Finalizing%20design%20of%20Adapt%20layer_v2.doc) Finalizing design of Adapt layer Samsung Electronics GmbH discussion

#### 8.7.2.4 QoS

Mechanisms for E2E QoS management. This AI will not be treated online. Critical issues, if any, may be handled by email. This agenda item will utilise a summary document.

Summary document

[R2-2201659](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201659%20Summary%20of%20agenda%20item%208.7.2.4%20(QoS).doc) Summary of agenda item 8.7.2.4 (QoS) Samsung discussion Rel-17 NR\_SL\_relay-Core

The following documents will not be individually treated

[R2-2200169](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200169.docx) Leftover Issues on QoS Management for L2 U2N Relay CATT discussion Rel-17 NR\_SL\_relay-Core

[R2-2200334](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200334%20Remaining%20issues%20for%20QoS.docx) Remaining issues for QoS MediaTek Inc. discussion Rel-17

[R2-2200413](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200413_Considerations%20on%20voice%20and%20video%20support%20for%20Relays.docx) Considerations on voice and video support for Relays Philips International B.V., MediaTek, Vivo, FirstNet, KPN, TNO, Kyocera discussion Rel-17 NR\_SL\_relay-Core R2-2109822

[R2-2200474](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200474_E2E%20QoS.docx) Left issues on E2E QoS management vivo discussion

[R2-2200656](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200656%20QoS%20handling%20for%20SL%20discovery.doc) QoS handling for SL discovery Samsung discussion Rel-17 NR\_SL\_relay-Core

[R2-2200936](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200936%20-%20Aspects%20for%20QoS%20management%20with%20SL%20relay.docx) Aspects for QoS management with SL relay Ericsson discussion Rel-17 NR\_SL\_relay-Core

[R2-2200995](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200995-%20Remaining%20Issues%20in%20QoS%20for%20L2%20Sidelink%20Relay.docx) Remaining Issues in QoS for L2 Sidelink Relay Fraunhofer IIS, Fraunhofer HHI discussion Rel-17

[R2-2201148](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201148%20(R17%20SL%20Relay%20WI_AI8724%20QoS)%20.doc) Discussion on QoS for L2 UE to NW Relays InterDigital, Philips, Apple discussion Rel-17 FS\_NR\_SL\_relay

R2-2201199 Remaining issues on QoS Huawei, HiSilicon discussion Rel-17 NR\_SL\_relay-Core Withdrawn

[R2-2201348](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201348%20Discussion%20on%20QoS%20of%20SL%20relay.doc) Discussion on QoS of SL relay ZTE, Sanechips discussion Rel-17

### 8.7.3 L2/L3 common topics

For any remaining stage 3 issues related to discovery and (re)selection. No documents should be submitted to 8.7.3. Please submit to 8.7.3.x.

#### 8.7.3.1 Discovery

Including 5G ProSe Direct Discovery for the non-relaying case. Re-using LTE discovery as baseline. This agenda item may utilise a summary document (decision to be made based on submitted tdocs).

[R2-2200170](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200170.docx) Leftover Issues for Sidelink Discovery CATT discussion Rel-17 NR\_SL\_relay-Core

[R2-2200176](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200176%20-%20Remaining%20issues%20on%20discovery.doc) Remaining issues on discovery Qualcomm Incorporated discussion NR\_SL\_relay-Core

[R2-2200229](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200229_SL_discovery_Intel.docx) Discovery open aspects for U2N relaying Intel Corporation discussion Rel-17 NR\_SL\_relay-Core

[R2-2200411](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200411%20Relay%20Discovery%20in%20L2%20and%20L3%20relay%20case.doc) Relay Discovery in L2 and L3 relay case Lenovo, Motorola Mobility discussion NR\_SL\_relay-Core

[R2-2200475](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200475_Remaining%20Issues%20of%20Discovery%20Message%20Transmission.docx) Remaining Issues of Discovery Message Transmission vivo discussion

[R2-2200486](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200486%20Discussion%20on%20remaining%20issue%20of%20sidelink%20discovery.docx) Discussion on remaining issue of sidelink discovery OPPO discussion Rel-17 NR\_SL\_relay-Core

[R2-2200514](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200514%20Discussion%20on%20SL%20discovery%20remaining%20issues.docx) Discussion on SL discovery remaining issues China Telecom discussion Rel-17 NR\_SL\_relay-Core

[R2-2200657](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200657%20PDCP%20and%20RLC%20aspects%20for%20SL%20discovery.doc) PDCP and RLC aspects for SL discovery Samsung discussion Rel-17 NR\_SL\_relay-Core

[R2-2200934](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200934%20-%20Left%20issues%20for%20SL%20discovery.docx) Left issues for SL discovery Ericsson discussion Rel-17 NR\_SL\_relay-Core

[R2-2201138](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201138%20Discussion%20on%20remaining%20issues%20on%20relay%20discovery.doc) Discussion on remaining issues on relay discovery Apple discussion Rel-17 NR\_SL\_relay-Core

[R2-2201149](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201149%20(R17%20SL%20Relay%20WI_AI8731%20Discovery).doc) Using Shared and Dedicated Resource Pools for Discovery InterDigital discussion Rel-17 FS\_NR\_SL\_relay

[R2-2201343](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201343%20Further%20discussion%20on%20relay%20discovery.doc) Further discussion on Relay discovery ZTE, Sanechips discussion Rel-17

[R2-2201491](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201491%20Tx%20Resources%20for%20Discovery.docx) Tx Resource Pools for Discovery Beijing Xiaomi Mobile Software discussion Rel-17

[R2-2201512](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201512%20Remaining%20issues%20on%20relay%20discovery.docx) Remaining issues on relay discovery Huawei, HiSilicon discussion Rel-17 NR\_SL\_relay-Core

#### 8.7.3.2 Relay re selection

Re-using LTE re/selection as baseline. This agenda item may utilise a summary document (decision to be made based on submitted tdocs).

[R2-2200177](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200177%20-%20Remaining%20issues%20on%20relay%20(re)selection.doc) Remaining issues on relay (re)selection Qualcomm Incorporated discussion NR\_SL\_relay-Core

[R2-2200422](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200422_U2N%20Relay%20UE%20operation%20Threshold%20Conditions%20-%20Impact%20of%20UE%20mobility.docx) U2N Relay UE operation Threshold Conditions: Impact of UE Mobility Philips International B.V., FirstNet, MediaTek, Lenovo, Motorola Mobility discussion Rel-17 NR\_SL\_relay-Core R2-2109823

[R2-2200171](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200171.docx) Leftover Issues for Relay Reselection CATT discussion Rel-17 NR\_SL\_relay-Core

[R2-2200476](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200476_Remaining%20Issues%20on%20Relay%20(re)selection.docx) Remaining issues on Relay (re)selection vivo discussion

[R2-2200487](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200487%20Discussion%20on%20remaining%20issue%20of%20relay%20reselection.docx) Discussion on remaining issues of NR sidelink relay (re)selection OPPO discussion Rel-17 NR\_SL\_relay-Core

[R2-2200626](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200626.doc) Left issues on NotificationMessageSidelink message Spreadtrum Communications discussion Rel-17

[R2-2200778](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200778%20Relay%20(re)selection%20in%20L2%20and%20L3%20relay%20case%20v1.0.doc) Relay (re)selection for L2 and L3 relay Lenovo, Motorola Mobility discussion Rel-17

[R2-2200935](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200935%20-%20Aspects%20for%20SL%20relay%20selection%20and%20reselection.docx) Aspects for SL relay selection and reselection Ericsson discussion Rel-17 NR\_SL\_relay-Core

[R2-2201198](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201198.docx) Discussion on relay reselection aspects Huawei, HiSilicon discussion Rel-17 NR\_SL\_relay-Core

[R2-2201344](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201344%20Further%20discussion%20on%20relay%20selection.doc) Further discussion on Relay selection ZTE, Sanechips discussion Rel-17

## 8.11 NR positioning enhancements

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

Time budget: 2 TU

Tdoc Limitation: 7 tdocs

Email max expectation: 7 threads

### 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.

Open issue list and work planning (including UE capabilities)

[R2-2200285](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200285%20Open%20issue%20lists%20on%20Rel-17%20positioning%20WI.docx) Open issue lists on Rel-17 positioning WI Intel Corporation discussion Rel-17 NR\_pos\_enh-Core

[R2-2200284](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200284%20Rel-17%20positioning%20capabilities.docx) Rel-17 positioning capabilities Intel Corporation discussion Rel-17 NR\_pos\_enh-Core

Incoming LS with RAN2 in Cc:

[R2-2200113](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200113_R3-216235.docx) Reply LS on location estimates in local co-ordinates (R3-216235; contact: Huawei) RAN3 LS in Rel-17 5G\_eLCS\_ph2 To:RAN1, SA2 Cc:RAN2

Incoming LSs with “take into account” action

[R2-2200074](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200074_R1-2112784.docx) LS on latency improvement for PRS measurement with MG (R1-2112784; contact: Huawei) RAN1 LS in Rel-17 NR\_pos\_enh To:RAN2, RAN3

[R2-2200082](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200082_R1-2112844.docx) LS on TRP beam/antenna information (R1-2112844; contact: Ericsson) RAN1 LS in Rel-17 NR\_pos\_enh To:RAN2, RAN3

[R2-2200083](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200083_R1-2112846.docx) LS on configuration and transmission of SRS for positioning in RRC\_INACTIVE state (R1-2112846; contact: Intel) RAN1 LS in Rel-17 NR\_pos\_enh-Core To:RAN2

[R2-2200089](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200089_R1-2112881.docx) LS on PRS processing window (R1-2112881; contact: Huawei) RAN1 LS in Rel-17 NR\_pos\_enh To:RAN2, RAN3

[R2-2200092](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200092_R1-2112968.docx) LS on the reporting of the Tx TEG association information (R1-2112968; contact: CATT) RAN1 LS in Rel-17 NR\_pos\_enh-Core To:RAN2, RAN4 Cc:RAN3

[R2-2200139](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200139_S2-2109104.docx) Reply LS on Response LS on Positioning Reference Units (PRUs) for enhancing positioning performance (S2-2109104; contact: Huawei) SA2 LS in Rel-17 NR\_pos\_enh-Core To:RAN2 Cc:RAN1, RAN3

[R2-2200140](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200140_S2-2109105.docx) Response LS on Positioning Reference Units (PRUs) for enhancing positioning performance (S2-2109105; contact: CATT) SA2 LS in Rel-17 5G\_eLCS\_ph2 To:RAN1, RAN2 Cc:RAN3

Draft replies

[R2-2200302](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200302%20Reply%20LS%20on%20the%20Response%20LS%20on%20Positioning%20Reference%20Units%20(PRUs)%20for%20enhancing%20positioning%20performance.docx) [Draft]Reply LS on the Response LS on Positioning Reference Units (PRUs) for enhancing positioning performance CATT LS out Rel-17 NR\_pos\_enh-Core To:SA2 Cc:RAN1, RAN3

Draft replies not from LS contact company

[R2-2200523](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200523%20%5bDraft%5d%20Response%20LS%20on%20the%20latency%20improvement%20for%20PRS%20measurement%20with%20MG.docx) [Draft] Response LS on the latency improvement for PRS measurement with MG ZTE LS out To:RAN1 Cc:RAN3

[R2-2200524](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200524%20%5bDraft%5d%20Response%20LS%20on%20the%20PRS%20processing%20window.docx) [Draft] Response LS on the PRS processing window ZTE LS out To:RAN1 Cc:RAN3

[R2-2200525](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200525%20%5bDraft%5d%20Response%20LS%20on%20the%20reporting%20of%20the%20Tx%20TEG%20association%20information.docx) [Draft] Response LS on the reporting of the Tx TEG association information ZTE LS out To:RAN1 Cc:RAN3,RAN4

[R2-2200526](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200526%20%5bDraft%5d%20Response%20LS%20on%20the%20TRP%20beam%20antenna%20information.docx) [Draft] Response LS on the TRP beam antenna information ZTE LS out To:RAN1 Cc:RAN3

Running CRs

[R2-2200282](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200282-Running%2038.305.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

[R2-2200431](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200431%20Running%20MAC%20CR%20for%20R17%20Positioning.docx) Draft running CR for MAC spec in R17 positioning Huawei, HiSilicon draftCR Rel-17 38.321 16.7.0 B NR\_pos\_enh-Core

[R2-2200432](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200432%20Draft%20running%20CR%20for%20LTE%20RRC%20spec%20for%20GNSS%20integrity%20in%20R17%20positioning.docx) Draft running CR for LTE RRC spec for GNSS integrity in R17 positioning Huawei, HiSilicon draftCR Rel-17 36.331 16.7.0 B NR\_pos\_enh-Core

[R2-2200959](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200959_(37355%20running%20CR)_v1.docx) Running LPP CR for NR positioning enhancements Qualcomm Incorporated draftCR Rel-17 37.355 16.7.0 B NR\_pos\_enh

[R2-2201390](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201390_(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

[R2-2201391](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201391_(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

### 8.11.2 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 scheduled location time, preconfigured assistance data, UE capability storage, measurement gap and PRS priority; any other topics will be treated at lower priority. This agenda item will utilise a summary document.

Summary document

[R2-2201652](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201652_(Summary%20Latency%20Reduction)_v2.docx) Summary on agenda item 8.11.2 on Latency Enhancements Qualcomm Incorporated discussion Rel-17 NR\_pos\_enh-Core

Scheduled Location Time:

Proposal 1a: Include a "Scheduled Location Time" with measurement time window in LPP CommonIEsRequestLocationInformation, defining the desired time when the location measurements or location estimate is to be obtained/valid.

Proposal 1b: The time base for the scheduled location time T should support UTC Time, GNSS Time, LTE/NR Network Time, and Relative Time.

Proposal 1c: The Measurement Time Window might be asymmetric – instead of being T-t to T+t, might be T-t1 to T+t2.

Proposal 1d: Include the capability to support scheduled location in each method-ProvideCapabilites message, where 'method' can be any of the LPP positioning methods. The capability should indicate the time base(s) supported for scheduling location measurements.

Proposal 1e: The "response time" can be carried in the following messages:

- LPP capability request

- NRPPa positioning information request

- NRPPa positioning activation request

Discussion:

vivo are OK with P1a/P1b but do not prefer P1c and think no measurement window is needed. Qualcomm understand that the window should tell the UE in what window the measurement should be made, and the proposal matches what is in LPPe.

Qualcomm think P1e is not quite of a piece with the other proposals and are not sure why the response time would be in the capability signalling.

ZTE think the response time is already adequate to define when the UE should report, and if the scheduled location time is known to the LMF it can schedule the response time properly. However, they can accept the scheduled location time if the majority want it.

OPPO agree with vivo that P1c is not needed and think it has not been discussed before. They think the function of the scheduled location time is OK but the window is not needed.

Nokia agree with P1a; for P1b, they think we could simplify to one solution instead of having multiple time reference options. On P1e, they are not sure why the response time needs to be signalled in the capability.

Intel indicate SA2 agreed to provide the location time to allow the UE to enter CM\_CONNECTED; they do not see a requirement to have a window or to make it per-method. Qualcomm think the support may be different per method, e.g. not supporting the scheduled time for E-CID where available measurements are reported. This is also why they propose different time references, because different methods use different time.

Ericsson think the need for the feature is unclear and it could be done in the LCS layer.

Xiaomi wonder how the UE will schedule the measurement if a gap is needed, since the gNB controls the gap timing. On P1e, they think if the response time is included, the preparation phase can be completed in advance.

Lenovo ask if the scheduled time is carried with RequestLocationInformation, can the same effect be achieved with a shorter responseTime? They also wonder if P1a considers only the first positioning fix or also subsequent fixes.

Intel think these questions are related to how the UE uses the scheduled time; they understand that is a reference for when the UE would enter connected mode, not when it would do the measurement. They would prefer that we just follow SA2 guidance and leave to UE implementation how to use it.

Qualcomm think the UE can trigger a gap request when it needs it, and for the periodic fixes raised by Lenovo, they understand that the time applies to the first fix and the rest follow with the configured periodicity. On the comment from Intel, they understand that the position fix should be valid at the scheduled location time, so the UE should do everything possible to ensure this including scheduling measurements as well as transition to connected mode.

Agreements:

Proposal 1a (modified): Include a "Scheduled Location Time" with measurement time information in LPP CommonIEsRequestLocationInformation, defining the desired time when the location measurements or location estimate is to be obtained/valid. FFS if the information is an absolute time or a window.

Proposal 1d: Include the capability to support scheduled location in each method-ProvideCapabilities message, where 'method' can be any of the LPP positioning methods. The capability should indicate the time base(s) supported for scheduling location measurements.

Proposal 1f: Based on decisions and agreements made on Proposals 1a-1e, Rapporteur for LPP running CR should take the TP in [13] R2-2200962 into account.

Pre-configured Assistance Data:

Stage 2:

Proposal 2a: Decide on additional Stage 2 impacts after further progress and agreements on "pre-configured assistance data" has been made (e.g., Proposals 3 below). Rapporteur for Stage 2 running CR will update Stage 2 accordingly.

Proposal 2b: If "pre-configured assistance data" turns out to be functionally different compared to current Assistance Data Transfer mechanisms, a definition of "pre-configured assistance data" should be added to e.g., Stage 2.

Validity Conditions:

Proposal 3a: Pre-configured assistance data can be associated with a "validity area". FFS on details.

Proposal 3b: Pre-configured assistance data can be associated with a "validity time". FFS on details.

Proposal 3c: Pre-configured assistance data can be explicitly modified or released. FFS on details.

Proposal 3d: Pre-configured assistance data can consist of multiple instances, where each instance is applicable to a different area within the network. FFS on details.

Discussion:

Nokia think only area validity is needed. CATT have the same understanding.

Qualcomm think we could apply P3a/P3b to DL-PRS assistance data and both of these are functionally needed. In general, they see that the DL-PRS assistance data should not be associated with a specific configuration; they do not see the need for P3c and think it would make the LMF remember the AD configuration per UE, including potentially sharing this information between multiple LMFs. InterDigital have the same understanding.

ZTE agree with Qualcomm regarding P3a/P3b; on P3c, they think modification is already supported in the current spec and do not see the latency benefit of having a release operation.

Intel understand that if we do not have P3c, we need to specify whenever the UE receives assistance data, it releases any stored AD. They think P3c is clearer regarding sync between the UE and the network.

Lenovo share Qualcomm’s concern on P3c.

vivo agree with Intel that the modification in P3c provides useful flexibility, and they think P3a/P3b are essential.

CATT have a concern about the validity time, because the network does not know the UE’s mobility state and has a hard time selecting an appropriate validity time. So they think it is not workable from network side. Ericsson also have a concern and think the PRS may be dynamic, e.g. because of the on-demand mechanism. Ericsson also support P3d; Fraunhofer agree in this respect.

Intel doubt if P3d is needed and do not see the use case where the network needs to provide multiple configurations over a very large area.

Qualcomm wonder if we would have the validity information in broadcast also or only in LPP.

OPPO think P3d is functionally similar to P3a and allows the network to configure AD for different areas.

Agreements:

Proposal 3a (modified): Pre-configured DL-PRS assistance data can be associated with a "validity area" at least in LPP. FFS on details and whether it would be included in RRC broadcast.

Proposal 3e: Based on agreements and further progress on Proposals 3a-3d, specific UE behaviour/procedures may need to be specified. FFS on details.

Measurement Gaps for Positioning:

RRC:

Proposal 4a: The pre-configured Measurement Gap Configurations for Positioning are provided via RRCReconfiguration message. FFS whether an existing IE can be re-used for adding the pre-configured Measurement Gap Configurations for Positioning or whether a new IE should be introduced.

Proposal 4b: The content of a pre-configured Measurement Gap for Positioning Configuration includes at least the existing measurement gap parameter and an ID. Other parameter are FFS.

Proposal 4c: The existing RRC LocationMeasurementIndication procedure to request the positioning measurement gaps can still be used by a UE, even when pre-configured measurement gaps are provided to the UE.

Proposal 4d: Concurrent measurement gap can only be associated with only multiple pre-configured gaps for positioning, but there can be only one activated measurement gap at a time.

Proposal 4e: Network-Controlled Small Gap is not supported for PRS measurement.

MAC:

Proposal 5a: A new UL MAC CE for positioning measurement gap activation and deactivation request is introduced.

Proposal 5b: The new UL MAC CE for positioning measurement gap activation and deactivation request includes at least the ID of the pre-configured positioning measurement gap configuration for which the activation/deactivation is requested. Other parameter are FFS.

Proposal 5c: A new DL MAC CE for positioning measurement gap activation and deactivation command is introduced.

Note, if this Proposal is agreed, RAN2 may need to send an LS to RAN1 confirming that DL MAC CE can also be used for positioning measurement gap deactivation.

Proposal 5d: The new DL MAC CE for positioning measurement gap activation and deactivation command includes at least the ID of the pre-configured positioning measurement gap configuration which has been configured/activated by the gNB. Other parameter are FFS.

Proposal 5e: The Scheduling Request should be triggered when there is no PUSCH and UL MAC CE for positioning measurement gap activation/deactivation request is triggered.

Discussion:

Ericsson think it is unfortunate that RAN1 took this agreement and they do not see a latency benefit; they think RRC configuration will work and is easier to extend.

Nokia think the RAN4 LS suggested that it should be RRC, and this should be discussed in RAN2, but they are not sure how best to resolve the discrepancy.

CATT think option 1 in the RAN1 LS is not workable, because it is hard for the LMF to activate the measurement gap: The LMF does not know the actual DL-PRS resources that the UE measures, and it does not know the MG configuration. They think the use of a MAC CE is appropriate and it is not necessary to introduce another mechanism.

Qualcomm understand that at the beginning of the WI, we decided to leave this as a RAN1 topic, and now we have concerns with the RAN1 decision. From a functional point of view they do not see a problem. They understand that if we do not need the MAC CEs, we do not need the MG preconfiguration feature as a whole. ZTE agree with Qualcomm; so do Huawei.

Huawei think we should follow RAN1 unless there is a problem. On Nokia’s point, they think the agreement from RAN4 was from the perspective of MG enhancement and the RAN1 agreement is from the perspective of positioning latency reduction.

vivo agree with Qualcomm and Huawei about the RAN1 conclusion, and on the CATT question, they think option 1 can work if seen as assistance data from the LMF to the gNB for the MG configuration.

Ericsson could accept a working assumption. Nokia are not fundamentally worried about the proposal but want to make sure RAN1/4 are clear on what we are doing.

Huawei note there was an agreement under MG enhancements not to have a new DL MAC CE.

CATT do not support LMF activation of the measurement gap and want it to be clear in the LS to RAN1 that we have the gNB activating the measurement gap.

Intel understand that what RAN1 agreed is that the LMF can indicate something to the gNB, and then the gNB can use the MAC CE-based activation, with the details up to RAN3. Huawei agree.

Agreements:

Proposal 5a: A new UL MAC CE for positioning measurement gap activation and deactivation request is introduced.

Proposal 5b: The new UL MAC CE for positioning measurement gap activation and deactivation request includes at least the ID of the pre-configured positioning measurement gap configuration for which the activation/deactivation is requested. Other parameter are FFS.

Proposal 5c (modified): A new DL MAC CE for positioning measurement gap activation and deactivation command is introduced for positioning latency reduction. LS to RAN1/4 indicating our conclusion, and confirming that DL MAC CE can also be used for positioning measurement gap deactivation as well as activation (to be drafted by email).

Proposal 5d: The new DL MAC CE for positioning measurement gap activation and deactivation command includes at least the ID of the pre-configured positioning measurement gap configuration which has been configured/activated by the gNB. Other parameter are FFS.

Proposal 5e: The Scheduling Request should be triggered when there is no PUSCH and UL MAC CE for positioning measurement gap activation/deactivation request is triggered.

Proposal 5f: Based on decisions and agreements made on Proposals 5a-5e, Rapporteur for MAC running CR should take the TPs in [4] R2-2200304 and [7] R2-2200430 into account.

NRPPa:

Proposal 6a: The information that needs to be transferred between LMF and gNB to support the positioning measurement gap configuration and pre-configuration may include one or more of the following options:

- DL-PRS configuration of the relevant TRPs

- Positioning measurement gap capabilities of the UE

- Positioning QoS

- Explicit Positioning measurement gap configuration information (e.g., as defined in RRC GapConfig)

- Positioning measurement gap configuration information as defined in RRC LocationMeasurementIndication message

FFS on other option(s).

FFS on which option(s) are needed.

FFS on whether different information content is needed for positioning measurement gap configuration and positioning measurement gap pre-configuration.

Stage 2:

Proposal 7a: Based on decisions and agreements made on Proposals 4-6, Rapporteur for Stage 2 running CR should take the TPs in [5] R2-2200326 and [7] R2-2200430 into account.

PRS Processing Window

RRC:

Proposal 8a: The PRS processing window configuration can be provided to the UE via RRCReconfiguration using one of the following options:

- configured per BWP

- included in MeasConfig

FFS on other option(s).

Proposal 8b: Based on decisions and agreements made on Proposal 8a, Rapporteur for RRC running CR should take the TP in [15] R2-2201069 into account.

MAC:

Proposal 9a: A new DL MAC CE for PRS Processing Window activation and deactivation command is introduced.

Note, if this Proposal is agreed, RAN2 may need to send an LS to RAN1 confirming that DL MAC CE can also be used for PRS Processing Window deactivation.

Proposal 9b: The new DL MAC CE for PRS Processing Window activation and deactivation command includes at least the ID of the pre-configured PRS Processing Window configuration. Other parameter are FFS.

Proposal 9c: The UE behaviour related to the PRS Processing Window feature is captured in the MAC specification.

Proposal 9d: RAN2 to discuss and decide, whether UL MAC CE can also be used for PRS processing window activation/deactivation. If agreed, RAN2 may need to send an LS to RAN1.

Proposal 9e: Based on decisions and agreements made on Proposals 9a-d, Rapporteur for MAC running CR should take the TPs in [7] R2-2200430 into account.

NRPPa:

Proposal 10a: The information that needs to be transferred between LMF and gNB to support PRS Processing Windows may include one or more of the following options:

- DL-PRS configuration of the relevant TRPs

- PRS Processing Window capabilities of the UE

- PRS Processing Window configuration information analogous to RRC LocationMeasurementIndication message

- Priority assigned to DL-PRS

FFS on other option(s).

FFS on which option(s) are needed.

Stage 2:

Proposal 11a: Based on decisions and agreements made on Proposals 8-10, Rapporteur for Stage 2 running CR should take the TPs in [5] R2-2200326 and [7] R2-2200430 into account.

Other:

Proposal 12a: Company Proposals in section 4.3 should be discussed individually if time permits.

Proposal 13a: Company Proposals in section 5 should be discussed individually if time permits.

* [AT116bis-e][616][POS] Remaining proposals on latency reduction (Qualcomm)

Scope: Discuss the remaining proposals on validity conditions for preconfigured assistance data, measurement gaps, and PRS processing window.

Intended outcome: Report to CB session

Deadline: Friday 2022-01-21 1600 UTC

The following documents will not be individually treated

[R2-2200256](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200256%20Discussion%20on%20positioning%20latency%20reduction.docx) Discussion on positioning latency reduction ZTE discussion

[R2-2200278](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200278.docx) Leftover issues on Latency reduction Intel Corporation discussion Rel-17 NR\_pos\_enh-Core

[R2-2200279](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200279.docx) RAN1 issues on Latency reduction Intel Corporation discussion Rel-17 NR\_pos\_enh-Core

[R2-2200304](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200304%20Discussion%20on%20latency%20reduction%20enhancement.docx) Discussion on latency reduction enhancement CATT discussion Rel-17 NR\_pos\_enh-Core

[R2-2200326](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200326%20Discussion%20on%20latency%20enhancement_cl.docx) Discussion on latency enhancement vivo discussion Rel-17 NR\_pos\_enh-Core

[R2-2200428](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200428%20Discussion%20on%20pre-configured%20PRS.docx) Discussion on PRS preconfiguration Huawei, HiSilicon discussion Rel-17 NR\_pos\_enh-Core

[R2-2200430](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200430%20Discussion%20on%20MGenh%20and%20PPW%20for%20positioning%20latency%20reduction.docx) Discussion on MG/PPW enhancement for positioning Huawei, HiSilicon discussion Rel-17 NR\_pos\_enh-Core

[R2-2200559](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Docs\R2-2200559.zip) Further consideration of positioning latency enhancements OPPO discussion Rel-17 NR\_pos\_enh-Core

[R2-2200709](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200709%20Positioning%20enhancement%20on%20latency%20reduction.doc) Positioning enhancement on latency reduction. Xiaomi discussion

[R2-2200730](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200730%20Discussion%20on%20the%20response%20time.docx) Discussion on the response time Samsung discussion Rel-17 NR\_pos\_enh-Core

[R2-2200914](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200914_Pos_latency.docx) Considerations on positioning latency Sony discussion Rel-17 NR\_pos\_enh-Core

[R2-2200958](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200958_RRC_INACTIVE_Fraunhofer_Ericsson_Lenovo_Vivo.docx) Providing a list of AD for reducing signalling load and latency Fraunhofer IIS; Fraunhofer HHI; Ericsson; Lenovo; Vivo discussion

[R2-2200962](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200962_(Scheduling%20Location%20in%20Advance).docx) Remaining Issues on Scheduling Location in Advance Qualcomm Incorporated discussion

[R2-2200988](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200988_PosLatencyReduction_LenMM.docx) On Positioning Latency Reduction Enhancements Lenovo, Motorola Mobility discussion Rel-17

[R2-2201069](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201069%20RRC%20and%20MAC%20Impacts.docx) Discussion On RRC and MAC Impacts, TP on RRC Impacts Ericsson discussion Rel-17

[R2-2201184](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201184%20(R17%20NR%20POS%20WI_AI8112_Latency).doc) Discussion on Enhancements for Latency Reduction InterDigital, Inc. discussion Rel-17 NR\_pos\_enh-Core

[R2-2201185](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201185%20(R17%20NR%20POS%20WI_AI8112_Latency_MG).doc) Discussion on Measurement Gap and PRS Priority Enhancements InterDigital, Inc. discussion Rel-17 NR\_pos\_enh-Core

[R2-2201309](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201309%20(8.11.2)%20Simulation%20study%20for%20multiple%20QoS%20class%20handling%20for%20latency%20reduction.docx) Simulation study for multiple QoS class handling for latency reduction Samsung R&D Institute UK discussion

[R2-2201311](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201311%20(8.11.2)%20multiple%20QoS%20handling%20for%20latency%20reduction.docx) Handling of multiple QoS for latency reduction Samsung R&D Institute UK discussion R2-2111083

[R2-2201312](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201312%20(8.11.2)%20latency%20reduction%20by%20MG%20config.docx) Latency reduction via new measurement gap activation Samsung R&D Institute UK discussion

### 8.11.3 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. This agenda item will utilise a summary document.

Summary document

[R2-2201068](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201068%20RRC%20Inactive%20Summary.docx) Summary of AI 8.11.3 RRC\_INACTIVE Ericsson discussion Rel-17 Late

Easy Proposals:

Proposal 1 To support UL positioning in RRC\_INACTIVE, reuse SDT TA timer for TA validation.

Proposal 2 To support UL positioning in RRC\_INACTIVE, reuse RSRP change based solution for TA validation

Proposal 3 The SRSp configuration is considered as invalid if TA is not valid.

Proposal 4 When cell reselection is performed and UE initiates RRC resume procedure to the cell which is different from the cell in which the SRSp is configured, the TA timer configuration for SRS should be released.

Proposal 5 The SRSp configuration is released when the UE sends RRCResumeRequest to an gNB other than the gNB where it is released to RRC\_INACTIVE state.

Proposal 6 BWP info together with the SRS-PosResourceSet IE is included in RRCRelease message for SRS configuration in RRC\_INACTIVE.

Proposal 7 RAN2 confirms RAN1 agreement that UE may be configured to transmit UL SRS for Positioning where the following parameters are additionally configured for the transmission of the SRS for Positioning during the RRC\_INACTIVE state: frequency location and bandwidth, SCS, CP length.

Proposal 8 Add the restriction on AP SRS in the field description of resourceType “The aperiodic is not applicable for the UE in RRC\_INACTIVE.”.

Discussion:

Qualcomm wonder what the “reuse” in P1/P2 means; they are not clear if the proposal is for a new similar timer or to reuse the exact same timer. Huawei have the same question. Ericsson understood the intention was to reuse the mechanism with a separate timer.

ZTE are fine with following the SDT mechanism for release, but think it is only workable when there is no cell reselection. So they think the validity conditions need discussion. CATT agree and think P1-P5 have a precondition that the SRSp is configured for the original cell.

Huawei think the cell reselection issue is addressed by P5.

OPPO agree with P3 and think the configuration is cell-specific; they wonder if we need to release the SRSp configuration if the TA is not valid. Huawei think we have not agreed this for CG-SDT.

Intel think we do not optimise positioning for mobility in RRC\_CONNECTED and therefore do not need to worry about the cell reselection case in RRC\_INACTIVE. Ericsson agree with Intel.

Huawei think we are repeating discussion from CG-SDT, and in that case, the reason the UE does not release the resource is because the network is unaware that the UE reselected; the UE releases the resource only on transmission of RRCResumeRequest.

Intel think this is a different case from CG-SDT in that the SRSp may be measured by other gNBs that received the configuration from LMF, and these gNBs cannot continue their measurement if the UE changes cell. Huawei think this would be an optimisation and prefer to keep the CG-SDT approach.

Agreements:

Proposal 1 (modified) To support UL positioning in RRC\_INACTIVE, reuse SDT TA timer mechanism (with a separate timer with similar function) for TA validation.

Proposal 2 To support UL positioning in RRC\_INACTIVE, reuse RSRP change based solution for TA validation

Proposal 3 The SRSp configuration is considered as invalid if TA is not valid.

Proposal 4 When cell reselection is performed and UE initiates RRC resume procedure to the cell which is different from the cell in which the SRSp is configured, the TA timer configuration for SRS should be released.

Proposal 5 (modified) The SRSp configuration is released when the UE sends RRCResumeRequest to a cell other than the cell where it is released to RRC\_INACTIVE state.

Proposal 6 BWP info together with the SRS-PosResourceSet IE is included in RRCRelease message for SRS configuration in RRC\_INACTIVE.

Proposal 7 RAN2 confirms RAN1 agreement that UE may be configured to transmit UL SRS for Positioning where the following parameters are additionally configured for the transmission of the SRS for Positioning during the RRC\_INACTIVE state: frequency location and bandwidth, SCS, CP length.

Proposal 8 Add the restriction on AP SRS in the field description of resourceType “The aperiodic is not applicable for the UE in RRC\_INACTIVE.”.

FFS if the TA timer configuration is invalidated upon any cell reselection.

LS related Proposals:

Proposal 14 RAN2 to decide how to capture the stage 2 details in specification

A. It is not necessary to introduce the new positioning procedures in stage 2 specification for RRC inactive UE positioning [8]

B. Send LS to SA2 to let SA2 decide the spec impacts [12, 3]. Use [R2-2200961] as baseline

C. Capture in TS 38.305 [12]

Proposal 23 RAN2 to send an LS to RAN4 as provided in [14] asking UE measurements validity when UE has performed measurements in different RRC states. Should the previous measurements be discarded, or can it be continued after state transition.

Discussion:

Huawei understand the intention of P23 but think this is already being discussed in RAN4. From RAN2 perspective they do not see stage 3 impact.

Intel think the only impact would be if RAN4 agree that the measurement in different RRC states would be different, and then we would have to trigger the UE to stop measurements at state transition. Since we have not received anything from RAN4, they consider that we don’t have to do anything.

Proposals expected to be treated:

Stage 2:

[UL] Proposal 9 RAN2 to agree to one of the options when to provide Event Report Ack.

A. A note can be added in procedure proposed by [7] saying Step 5 may appear after step 7

B. It is agreed that event report ACK is provided once the UL-positioning has been successfully configured at the UE and TRPs

Discussion:

Qualcomm think the acknowledgement should be sent when everything has finished, and from a UE point of view we should have the same behaviour independent of the positioning method.

vivo think if the ack is triggered after the SRSp configuration is completed, it is not aligned with SA2 specs and the UE behaviour becomes different in different RRC states.

Huawei think option B is aligned with the stage 2 proposal from the Huawei/joint document. The concern is that the gNB might accidentally release the UE prematurely, and they think this case is not common or critical to address; they think the LMF can prevent a premature release without SRSp configuration. Intel agree that we do not need to address this case.

Qualcomm think as a baseline, we should have common behaviour for all positioning methods. If the network sends it earlier, it can do that as a matter of implementation, but this is not in line with what SA2 have described.

Proposal 10 RAN2 to discuss the need for gNB to be aware of precisely when to transit the UE to Inactive and further ensuring the transition is not to idle; if needed; which option to opt for;

A. RAN3 based NRPPa Assistance Information

B. Similar to existing “"end indication"”

C. UE to indicate gNB about ongoing downlink positioning session

Proposal 11 RAN2 to decide whether the LPP moreMessagesOnTheWay/noMoreMessages flag should be visible at the serving gNB when sending the RRC Resume Request + Event Report

Discussion:

Qualcomm think the gNB should have assistance information from somewhere, and the UE is in the best position to provide it by making moreMessageOnTheWay visible to the gNB. However, they understand that RAN3 have agreed on option A, but do not see how it can work after the beginning of the session.

Intel do not see a strong need to have this indication, but think RAN3’s agreement on option A resolves the issue and we should avoid duplicated discussion. Huawei and vivo agree with Intel.

ZTE think the gNB will wait long enough that if LPP messages are being transmitted, the gNB will wait. Qualcomm think the gNB does not know if these are LPP messages.

CATT agree that RAN3 have discussed option A, but they prefer option B in combination with it.

Agreement:

RAN2 will not make additional effort to make the gNB aware of when to transit the UE to RRC\_INACTIVE (left to gNB implementation and RAN3 solution).

Discussion:

vivo do not think the indication is useful; the gNB implementation can handle it.

Assistance data delivery:

Proposal 12 RAN2 to discuss whether to revert the agreement to provide AD during ongoing SDT procedure or add the procedure in stage2.

WA on preconfigured SRS in RRC\_CONNECTED:

[UL] Proposal 13 RAN2 to discuss not to support pre-configuration of positioning SRS in RRC\_CONNECTED.

Stage 2 spec impact (contingent on conclusion of P14):

Proposal 15 If there is consensus to capture the stage 2 details in TS 38.305 then the baseline is taken from [6] (Huawei et al.) paper.

Proposal 16 If If there is consensus to capture the stage 2 details in TS 38.305 then RAN2 to discuss whether a common flow is used to depict UL and UL+DL positioning.

Proposal 17 If If there is consensus to capture the stage 2 details in TS 38.305 then RAN2 to discuss whether UE can include the LCS Event Report an embedded LPP Request Assistance Data message with IE NR-Multi-RTT-RequestAssistanceData and nr-AdType set to 'ul-srs' to request an UL-SRS for Multi-RTT positioning.

Proposal 18 RAN2 to discuss the need to capture LPP PDU and LCS message transfer procedures with SDT in RRC\_INACTIVE state in Stage 2 TS 38.305 [8].

Proposal 19 RAN2 to discuss whether to capture LPP PDU and LCS message transfer in RRC\_INACTIVE state in TS 38.305.

Segmentation:

Proposal 20 RAN2 to discuss whether LPP Segmentation violates any architectural constrains (application layer segmenting data to enable a certain transport selection by lower layer) and if this should be allowed.

LCS service types:

Proposal 21 RAN2 to decide which service types can be supported using SDT active period

RRM measurements:

Proposal 22 RAN2 to discuss support of RRC\_INACTIVE reporting of RRM measurements along with other DL-based positioning methods.

[UL] Proposal 24 RAN2 to discuss whether UE UL SRS configuration provided in one mode is applicable in other; if yes, RAN2 to discuss whether an indication can be used from NW to UE to support such continuity.

* [AT116bis-e][617][POS] Remaining issues on positioning in RRC\_INACTIVE (Ericsson)

Scope: Discuss the remaining prioritised proposals from R2-2201068.

Intended outcome: Report to CB session

Deadline: Friday 2022-01-21 1600 UTC

The following documents will not be individually treated

[R2-2200257](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200257%20Discussion%20on%20positioning%20in%20RRC%20INACTIVE%20state.docx) Discussion on positioning in RRC INACTIVE state ZTE discussion

[R2-2200280](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200280%20Support%20of%20UL&UL+DL%20positioning%20in%20RRC_INACTIVE.docx) Support of UL&UL+DL positioning in RRC\_INACTIVE Intel Corporation discussion Rel-17 NR\_pos\_enh-Core

[R2-2200295](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200295%20Impact%20on%20SA2%20with%20DL%20NR%20Positioning%20in%20RRC_INACTIVE%20state.docx) Impact on SA2 with DL NR positioning in RRC\_INACTIVE CATT, Ericsson discussion Rel-17 NR\_pos\_enh-Core

[R2-2200296](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200296%20Considerations%20on%20UL%20NR%20Positioning%20in%20RRC_INACTIVE%20state.docx) Discussion on UL NR Positioning in RRC\_INACTIVE state CATT discussion Rel-17 NR\_pos\_enh-Core

[R2-2200327](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200327%20Discussion%20on%20positioning%20in%20RRC_INACTIVE_cl.docx) Discussion on positioning in RRC\_INACTIVE vivo discussion Rel-17 NR\_pos\_enh-Core

[R2-2200424](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200424%20Way-forward%20for%20RRC_INACTIVE%20positioning.docx) Way-forward for RRC\_INACTIVE positioning Huawei, CATT, China Unicom, CMCC, Fraunhofer, Futurewei, HiSilicon, Intel Corporation, Spreadtrum Communications, OPPO, VIVO, Xiaomi, ZTE Corporation discussion Rel-17 NR\_pos\_enh-Core

[R2-2200425](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200425%20Remaining%20issues%20on%20RRC_INACTIVE%20DL%20Postioning.docx) Remaining issues on RRC\_INACTIVE DL Postioning Huawei, HiSilicon discussion Rel-17 NR\_pos\_enh-Core

[R2-2200710](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200710%20Discussion%20on%20positioning%20for%20UE%20in%20RRC%20Inactive.doc) Discussion on positioning for UE in RRC Inactive Xiaomi discussion

[R2-2200731](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200731%20Discussion%20on%20the%20measurement%20reporting%20in%20RRC_INACTIVE.docx) Discussion on the measurement reporting in RRC\_INACTIVE Samsung discussion Rel-17 NR\_pos\_enh-Core

[R2-2200781](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200781-%20Discussion%20on%20Positioning%20in%20RRC_INACTIVE%20state.docx) Discussion on Positioning in RRC\_INACTIVE state OPPO discussion Rel-17 NR\_pos\_enh-Core

[R2-2200957](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200957_RRC_INACTIVE_Uplink_Fraunhofer.docx) Remaining Details for RRC\_INACTIVE Positioning in Uplink Fraunhofer IIS; Fraunhofer HHI discussion Rel-17 R2-2110249

[R2-2200963](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200963_(Positioning%20in%20RRC_INACTIVE).docx) Remaining issues for positioning of UEs in RRC\_INACTIVE State Qualcomm Incorporated discussion

[R2-2200989](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200989_RRCInactive_Positioning_LenMM.docx) Remaining aspects on RRC\_INACTIVE Positioning Lenovo, Motorola Mobility discussion Rel-17

[R2-2201065](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201065%20RRC%20Inactive%20.docx) Discussion on RRC Inactive mode Positioning Ericsson discussion Rel-17

[R2-2201186](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201186%20(R17%20NR%20POS%20WI%20AI8113_INACTIVE).doc) Discussion on Positioning in RRC INACTIVE state InterDigital, Inc. discussion Rel-17 NR\_pos\_enh-Core

[R2-2201528](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201528.docx) Positioning in RRC\_INACTIVE Nokia Germany discussion Rel-17

[R2-2200961](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200961_(LS%20to%20SA2%20on%20RRC_INACTIVE).docx) [draft] LS on Positioning in RRC\_INACTIVE State Qualcomm Incorporated LS out Rel-17 NR\_pos\_enh To:SA2 Cc:RAN3

### 8.11.4 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 outcome of [Post116-e][601][POS] Network control and UE request for on-demand PRS parameters (Ericsson)

Email discussion summary

[R2-2200047](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200047%20ODPRS.docx) Report on Procedures and signalling for on-demand PRS Ericsson discussion

Proposal 1 On demand PRS request based upon explicit indication is supported. RAN2 further discusses (via other Proposals) the details whether any parameter/value or only NW indicated parameter/value to be included in the request; i.e Proposal 2.

Proposal 3 UE initiates on-demand PRS request only after NW provides the available DL-PRS configurations to UE either using posSIB or LPP dedicated Signaling.

Proposal 4 UE does not need to include NR ECID (RRM measurements) in MO-LR message while requesting for DL-PRS AD .

Proposal 5 For NW control mechanism on on-Demand PRS, UE requests on-demand PRS only on prior reception of on-demand PRS configuration.

Proposal 6 For On-Demand PRS, posSI cannot be the response for On-Demand PRS request.

Proposal 2 RAN2 to discuss and decide for explcit indication whether any parameter/value or only NW indicated parameter/value can be included in the request.

Other documents

[R2-2200258](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200258%20Discussion%20on%20on-demand%20PRS.docx) Discussion on on-demand PRS ZTE discussion

[R2-2200281](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200281.docx) Support of On-Demand PRS request Intel Corporation discussion Rel-17 NR\_pos\_enh-Core

[R2-2200303](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200303%20Discussion%20on%20on-demand%20PRS.docx) Discussion on on-demand PRS CATT discussion Rel-17 NR\_pos\_enh-Core

[R2-2200328](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200328%20Discussion%20on%20on-demand%20PRS_cl.docx) Discussion on on-demand PRS vivo discussion Rel-17 NR\_pos\_enh-Core

[R2-2200426](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200426%20Discussion%20on%20on-demand%20PRS.docx) Discussion on on-demand PRS Huawei, HiSilicon discussion Rel-17 NR\_pos\_enh-Core

[R2-2200711](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200711%20Positioning%20enhancement%20about%20on-demand%20DL%20PRS%20.doc) Positioning enhancement about on-demand DL PRS Xiaomi discussion

[R2-2200780](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200780%20-%20Discussion%20on%20on-demand%20DL-PRS.doc) Discussion on on-demand DL-PRS OPPO discussion Rel-17 NR\_pos\_enh-Core

[R2-2200915](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200915_Pos_PRS_Ondemand.docx) Considerations on positioning PRS On-demand and two stage beam sweeping Sony discussion Rel-17 NR\_pos\_enh-Core

[R2-2200956](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200956_OnDemandPRS_Fraunhofer.docx) On-demand PRS Fraunhofer IIS, Fraunhofer HHI discussion Rel-17 R2-2110247 Withdrawn

[R2-2200964](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200964_(On-demand%20PRS).docx) Remaining issues for on-demand DL-PRS Qualcomm Incorporated discussion

[R2-2200993](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200993_On-DemandPRS_LenMM.docx) Remaining issues on On-Demand DL-PRS Lenovo, Motorola Mobility discussion Rel-17

[R2-2201067](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201067%20On-demand%20PRS.docx) Remaining issues on On-demand PRS Ericsson discussion Rel-17

[R2-2201103](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201103-on-demand-PRS-v0.docx) On the need for additional On-Demand PRS enhancements Apple discussion NR\_pos\_enh-Core

[R2-2201187](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201187%20(R17%20NR%20POS%20WI_AI8114_OnDemandPRS).doc) Discussion on On-demand PRS InterDigital, Inc. discussion Rel-17 NR\_pos\_enh-Core

[R2-2201257](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201257.docx) Network Control Mechanisms for On-demand PRS Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_pos\_enh-Core

[R2-2201267](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201267.docx) On the on-demand PRS Stage 2 Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_pos\_enh-Core

[R2-2201273](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201273.docx) Pre-configured and Pre-defined PRS Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_pos\_enh-Core

[R2-2201313](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201313%20(8.11.4)%20on%20demand%20PRS%20for%20positioning.docx) On-demand PRS request and configuration Samsung R&D Institute UK discussion

[R2-2201627](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201627_OnDemandPRS_Fraunhofer.docx) On-demand PRS Fraunhofer IIS, Fraunhofer HHI discussion Rel-17 R2-2110247

### 8.11.5 GNSS positioning integrity

Signalling, and procedures to support GNSS positioning integrity determination.

Including outcome of [Post116-e][602][POS] Stage 2 baseline for integrity assistance data (Swift)

Email discussion summary

[R2-2200012](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200012_%5bPost116-e%5d%5b602%5d%5bPOS%5d%20Stage%202%20Integrity%20AD%20Summary.docx) [Post116-e][602][POS] Stage 2 baseline for integrity assistance data (Swift) Swift discussion 36.305

Comments on running CRs

[R2-2200013](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200013_Running_CR%20of%2036_305%20GNSS%20Pos%20Integrity.docx) Running CR on 36.305 for Stage 2 integrity assistance data Swift draftCR Rel-17 36.305 16.4.0 B NR\_pos\_enh-Core

[R2-2200014](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200014_Running%20CR%20of%2038_305%20GNSS%20Pos%20Integrity.docx) Running CR on 38.305 for Stage 2 integrity assistance data Swift draftCR Rel-17 38.305 16.7.0 B NR\_pos\_enh-Core

Other documents

[R2-2200185](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200185%20Signalling%20for%20GNSS%20Positioning%20Integrity%20Framework.docx) Signalling for GNSS Positioning Integrity Framework Nokia, Nokia Shanghai Bell discussion Rel-17 FS\_NR\_pos\_enh

[R2-2200259](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200259%20Discussion%20on%20positioning%20integrity.docx) Discussion on positioning integrity ZTE discussion

[R2-2200329](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200329%20Discussion%20on%20GNSS%20positioning%20integrity_cl.docx) Discussion on GNSS positioning integrity vivo discussion Rel-17 NR\_pos\_enh-Core

[R2-2200427](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200427%20Remaining%20issues%20on%20positioning%20integrity.docx) Remaining issues on positioning integrity Huawei, HiSilicon discussion Rel-17 NR\_pos\_enh-Core

[R2-2200955](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200955_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 R2-2110246

[R2-2201063](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201063%20GNSS%20Integrity.docx) On GNSS Integrity Ericsson discussion Rel-17

[R2-2201188](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201188%20(R17%20NR%20POS%20WI%20AI8115_GNSS_Integrity).doc) Discussion on GNSS Positioning Integrity InterDigital, Inc. discussion Rel-17 NR\_pos\_enh-Core

[R2-2201214](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201214%20-%20Stage3_GNSS_Integrity.docx) Stage 3 Proposals on GNSS Positioning Integrity Swift Navigation, Mitsubishi Electric Corporation, Ericsson discussion Rel-17

[R2-2201314](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201314%20(8.11.5)%20Consideration%20on%20the%20signalling%20design%20for%20Positioning%20Integrity%20for%20UE%20based%20method.docx) Consideration on the signalling design for Positioning Integrity for UE-based method Samsung R&D Institute UK discussion

### 8.11.6 A-GNSS enhancements

Including support of BDS B2a and B3I signals and support of NavIC. This agenda item will not be treated online. Critical issues, if any, may be handled by email.

[R2-2200298](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200298%20Introduction%20of%20B2a%20and%20B3I%20signal%20in%20BDS%20system%20in%20A-GNSS.docx) Introduction of B2a and B3I signal in BDS system in A-GNSS CATT, CAICT draftCR Rel-17 37.355 16.7.0 B NR\_pos\_enh-Core

[R2-2201070](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201070%20NavIC%20RRC.docx) Impacts of NavIC in NR RRC Ericsson discussion Rel-17

[R2-2200433](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200433%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

### 8.11.7 Accuracy enhancements

Input on the accuracy enhancement objectives led by RAN1. This agenda item will not be treated online. Critical issues, if any, may be handled by email.

PRUs

[R2-2200283](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200283%20Support%20of%20PRU.docx) Support of PRU Intel Corporation discussion Rel-17 NR\_pos\_enh-Core

[R2-2200712](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200712%20Discussion%20on%20positioning%20reference%20unit.doc) Discussion on positioning reference unit Xiaomi discussion

[R2-2200994](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200994_PRUs_LenMM.docx) Support of Positioning Reference Units Lenovo, Motorola Mobility discussion Rel-17

[R2-2201064](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201064%20PRU.docx) On the Positioning Reference Units aspects Ericsson discussion Rel-17

[R2-2201087](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201087.docx) Way forward on PRUs for Rel-17 MediaTek Inc., Apple discussion Rel-17 NR\_pos\_enh-Core

[R2-2201191](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201191%20(R17%20NR%20POS%20WI%20AI8117_PRU).doc) Discussion on supporting Positioning Reference Units InterDigital, Inc. discussion Rel-17 NR\_pos\_enh-Core

Other accuracy enhancements

[R2-2200297](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200297%20Discussion%20on%20addtional%20TRP%20beam%20and%20antenna%20information.docx) Discussion on additional TRP beam/antenna information CATT discussion Rel-17 NR\_pos\_enh-Core

[R2-2200299](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200299%20Discussion%20on%20stage-2%20impact%20of%20mitigating%20UE%20and%20TRP%20RxTx%20timing%20delays.docx) Discussion on stage-2 impact of mitigating UE and TRP RxTx timing delays CATT discussion Rel-17 NR\_pos\_enh-Core

[R2-2200300](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200300%20Discussion%20on%20LPP%20and%20RRC%20signaling%20impact%20of%20mitigating%20UE%20and%20TRP%20RxTx%20timing%20delays.docx) Discussion on LPP and RRC signaling impact of mitigating UE and TRP RxTx timing delays CATT discussion Rel-17 NR\_pos\_enh-Core

[R2-2200301](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200301%20%5bDraft%5dReply%20LS%20on%20the%20reporting%20of%20the%20Tx%20TEG%20association%20information(R1-2112968).docx) [Draft]Reply LS on the reporting of the Tx TEG association information CATT LS out Rel-17 NR\_pos\_enh-Core To:RAN1, RAN3 Cc:RAN4

[R2-2200330](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200330%20Discussion%20on%20accuracy%20enhancements_cl.docx) Discussion on accuracy enhancements vivo discussion Rel-17 NR\_pos\_enh-Core

[R2-2200429](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200429%20Discussion%20on%20accuracy%20enhancement.docx) Discussion on accuracy enhancement Huawei, HiSilicon discussion Rel-17 NR\_pos\_enh-Core

[R2-2200916](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200916_Pos_PRU_TEG.docx) Considerations on Timing Error aspects Sony discussion Rel-17 NR\_pos\_enh-Core

[R2-2201062](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201062%20LPP%20High%20Accuracy.docx) LPP Positioning enhancements on timing errors , DL-AoD and LoS/NLoS/multipath Ericsson discussion Rel-17

[R2-2201104](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201104-accuracy-RAN1-v1.docx) Signalling impacts of RAN1 agreements on accuracy enhancements Apple discussion NR\_pos\_enh-Core

[R2-2201189](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201189%20(R17%20NR%20POS%20WI%20AI8117_AccEnh).doc) Discussion on Accuracy Enhancements InterDigital, Inc. discussion Rel-17 NR\_pos\_enh-Core

[R2-2201360](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201360%20Discussion%20on%20accuracy%20improvement%20for%20UE-assisted%20DL-AOD%20positioning_cl.docx) Discussion on accuracy improvement for UE-assisted DL-AOD positioning vivo discussion Rel-17 NR\_pos\_enh-Core

[R2-2200527](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200527%20Discussion%20on%20signalling%20support%20of%20RAN1%20agreements.docx) Discussion on signalling support of RAN1 agreements ZTE discussion

[R2-2201066](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2201066%20Beam%20information%20for%20DL%20AOD%20in%20NR%20.docx) Beam/antenna information for DL AOD in NR positioning Ericsson discussion Rel-17

### 8.11.8 Other

Input on other WI objectives. This agenda item will not be treated online. Critical issues, if any, may be handled by email.

[R2-2200331](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200331%20Discussion%20on%20positioning%20reference%20unit_cl.docx) Discussion on positioning reference unit vivo discussion Rel-17 NR\_pos\_enh-Core

R2-2200438 Summary of email discussion for PRU Huawei, HiSilicon discussion Rel-17 NR\_pos\_enh-Core Late

[R2-2200965](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202201%20-%20RAN2_116bis-e,%20Online\Extracts\R2-2200965_(PRUs).docx) On PRU support in Release-17 Qualcomm Incorporated discussion