3GPP TSG-RAN WG2 Meeting #111-e R2-20xxxxx

Online, August 17th - 28th, 2020

Source: Session Chair (MediaTek)

Title: Report of 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.

* [AT111-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: Friday 2020-08-28 1000 UTC

* [AT111-e][601][POS] UE E-CID measurement reporting in LTE Rel-15 (Nokia)

 Scope: Discuss the CR in R2-2008051 and determine if it is agreeable.

 Intended outcome: Agreed CR

 Deadline: Wednesday 2020-08-19 1000 UTC

* [AT111-e][602][Relay] TR skeleton approval (OPPO)

 Scope: Discuss and approve the TR skeleton from R2-2006602 updated as necessary.

 Intended outcome: Agreeable TR skeleton, in R2-2008251

 Deadline: Monday 2020-08-24 1200 UTC

* [AT111-e][603][Relay] Scope, requirements, and scenarios (InterDigital)

 Scope: Discuss proposals on the scope, requirements, and scenarios for UE-to-network and UE-to-UE relaying, including:

* Coverage scenarios
* Connectivity scenarios
* Uu and PC5 RATs
* RRC states for relaying
* Cast types for the PC5 link
* Potential reuse of requirements from earlier releases (e.g. FeD2D, LTE ProSe relaying)

 Intended outcome: Summary with potential agreeable TP, in R2-2008252

 Deadline: Monday 2020-08-24 1200 UTC

* [AT111-e][604][Relay] L3 relay protocol stacks (Qualcomm)

 Scope: Discuss and document the proposed L3 relay design(s), focussing on general mechanisms of L3 architecture based sidelink relaying including protocol stacks and high level description of required UP/CP functionalities..

 Intended outcome: Summary with potential agreeable TP, in R2-2008253

 Deadline: Monday 2020-08-24 1200 UTC

* [AT111-e][605][Relay] L2 relay mechanism (MediaTek)

 Scope: Discuss and document the proposed L2 relay design(s), focussing on general mechanisms of L2 architecture based sidelink relaying including protocol stacks and high level description of required UP/CP functionalities.

 Intended outcome: Summary with potential agreeable TP, in R2-2008254

 Deadline: Monday 2020-08-24 1200 UTC

* [AT111-e][606][Relay] Discovery model and procedure (OPPO)

 Scope: Discuss proposals on the discovery model and procedures, including:

* Protocol stacks for discovery
* Potential reuse of discovery models from LTE
* Resource pool for discovery
* Visibility of discovery signalling in AS layers
* Conditions for discovery
* Authorisation related aspects

 Intended outcome: Summary with potential agreeable TP, in R2-2008255

 Deadline: Wednesday 2020-08-26 1200 UTC

* [AT111-e][607][POS] Integrity definitions, KPIs, and use cases (Swift)

 Scope: Discuss proposals and attempt to reach consensus on definitions, KPIs, and use cases for positioning integrity.

 Intended outcome: Summary with potential agreeable TP, in R2-2008256

 Deadline: Thursday 2020-08-20 1100 UTC

* [AT111-e][608][POS] SUPL update to methods table in 38.305 (Qualcomm)

 Scope: Checking of the CR in R2-2007630.

 Intended outcome: Agreed CR

 Deadline: Thursday 2020-08-27 1200 UTC

* [AT111-e][609][POS] Checking of R2-2007831, R2-2007828, and R2-2006841 (Huawei)

 Scope: Confirm the changes in R2-2007831, R2-2007828, and R2-2006841 taking into account RAN3 progress where relevant. For R2-2006841, step 5 of the flow should be updated but no new procedure is introduced.

 Intended outcome: Agreed CRs

 Deadline: Thursday 2020-08-27 1200 UTC

* [AT111-e][610][POS] RRC miscellaneous CR (Ericsson)

 Scope: Generate a positioning update RRC CR:

* Review R2-2006942 and capture RAN2 agreements from P1 and P2 of R2-2007581
* Discuss P8, P10, P11 of R2-2007581 and capture agreeable aspects

 Intended outcome: Agreeable CR

 Deadline: Thursday 2020-08-27 1200 UTC

# 4 EUTRA corrections Rel-15 and earlier

See Appendix A for reference to Work items, work item codes and WIDs.

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

## 4.4 Positioning corrections Rel-15 and earlier

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

[R2-2008051](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2008051.docx) UE E-CID measurement reporting Nokia, Nokia Shanghai Bell CR Rel-15 36.305 15.5.0 0091 - F LCS\_LTE

* [AT111-e][601][POS] UE E-CID measurement reporting in LTE Rel-15 (Nokia)

 Scope: Discuss the CR in R2-2008051 and determine if it is agreeable.

 Intended outcome: Agreed CR

 Deadline: Wednesday 2020-08-19 1000 UTC

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

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

Only essential corrections

## 5.5 Positioning corrections

Corrections to both the stage 2 and stage 3 aspects related to positioning. Stage 2 CRs should be discussed with the specification rapporteur before submission.

Documents in this agenda item will be handled in a break out session.

[R2-2006665](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5C38305_CR0026_%28Rel-15%29_R2-2006665.docx) Correction on 38.305 in Table 4.3-1Supported versions of UE positioning methods CATT CR Rel-15 38.305 15.6.0 0026 - F NR\_newRAT-Core

[R2-2006666](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5C38305_CR0027_%28Rel-16%29_R2-2006666.docx) Correction on 38.305 in Table 4.3-1Supported versions of UE positioning methods CATT CR Rel-16 38.305 16.1.0 0027 - A NR\_newRAT-Core

[R2-2006667](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5C36305_CR0089_%28Rel-15%29_R2-2006667.docx) Correction on 36.305 in Table 4.3-1Supported versions of UE positioning methods CATT CR Rel-15 36.305 15.5.0 0089 - F NR\_newRAT-Core

[R2-2006668](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5C36305_CR0090_%28Rel-16%29_R2-2006668.docx) Correction on 36.305 in Table 4.3-1Supported versions of UE positioning methods CATT CR Rel-16 36.305 16.1.0 0090 - A NR\_newRAT-Core

# 6 Rel-16 NR Work Items

Essential corrections. While high maintenance intensity is expected, Rel-16 corrections are treated separately per WI.

## 6.6 NR Positioning Support

(NR\_pos-Core; leading WG: RAN1; REL-16; started: Mar 19; target; Jun 20; WID: RP-200218, SR: RP-201342). R2 and R1 parts are 100% complete.

(NR TEI16 Positioning)

Documents in this agenda item will be handled in a break out session

Email max expectation: 5 email threads

### 6.6.1 General and Stage 2 corrections

Including incoming LSs, Including impact to 36.305 and 38.305. Stage 2 corrections should be discussed with the specification rapporteur before submission.

Incoming LSs

[R2-2006522](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006522_R3-204379.docx) Reply LS on Aperiodic SRS (R3-204379; contact: Intel) RAN3 LS in Rel-16 NR\_pos-Core To:RAN2 Cc:RAN1

* Noted

[R2-2006523](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006523_R3-204380.docx) LS on mapping of PosSIB(s) to Area(s) (R3-204380; contact: Huawei) RAN3 LS in Rel-16 NR\_pos-Core To:RAN2

* Noted

Summary document

[R2-2008098](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2008098%20Summary%20of%206.6.1.docx) Summary of 6.6.1 CATT discussion Rel-16 NR\_pos-Core Late

P1:

* Nokia wonder why the UE-based/UE-assisted entries were deleted. Qualcomm clarify this was for consistency with the new text. Ericsson ask for confirmation that this is in the most recent SUPL release and the reference is up to date. Qualcomm indicate this was handled as a bugfix in SUPL 2.0. CATT ask if the reference in 38.305 needs updating. Qualcomm understand that SUPL 2.0 remains as the same release. Polaris confirm this understanding. NextNav clarify it is handled as a maintenance release, and wonder if we should update the “NG-RAN node assisted” column and the E-CID description as “for E-UTRA”. Qualcomm point out we have separate E-CID methods for E-UTRA and NR, so they think the table is correct in that respect; and there is a separate Rel-15 CR addressing the NG-RAN node assisted aspect.
* NextNav think the table would be clearer for E-CID if we changed the method names.
* Nokia think Note 4 may need to be removed for clarity, and rely on stage 3 to clarify the relationship of NR CID and E-UTRA E-CID. Qualcomm think the table and note are correct because NR CID really was introduced as part of E-UTRA E-CID in Rel-15. Also point out this is somewhat out of scope for the CR. Intel tend to agree with Qualcomm and think we should focus on the proposed changes; confusion between the E-CID methods should not happen with the current table and section 8. Ericsson think we should not delete the UE-assisted and UE-based differentiation in the legacy text. Qualcomm point out we have no UE-based OTDOA in LPP so only UE-assisted is valid. Ericsson think a parallel change could be needed to 36.305.
* Ericsson would like some more time. Can discuss by email.
* Intel wonder why for NR we need to distinguish DL E-CID. Qualcomm think the SUPL CR is explicit about DL only, because the SLP cannot get the UL measurements from the gNB.
* [AT111-e][608][POS] SUPL update to methods table in 38.305 (Qualcomm)

 Scope: Checking of the CR in R2-2007630.

 Intended outcome: Agreed CR

 Deadline: Thursday 2020-08-27 1200 UTC

P2:

* On SRS-only RP, CATT think we can also discuss if the definition of PRS-only TP should be updated accordingly for DL-only positioning. Ericsson think we may not need this definition and it should have been also discussed in RAN3; they are not sure of the motivation for the new definition. Intel tend to agree with Ericsson that this should be discussed in RAN3 and they can generate a stage 2 CR. Qualcomm think this is not purely a RAN3 issue since we already use the term “SRS-only RP” in 38.305. On the PRS-only TP, we need to maintain backward compatibility with LTE. Huawei agree that the term is already used and we should define it. Intel agree that if we use the term it makes sense to define it. Ericsson wonder if we could use the existing term RP without specifying SRS-only. Ericsson would like more time for a comeback on this proposal.
* On A-AoA definition and abbreviations for A-AoA and Z-AoA, Nokia wonder if in section 3.2 it should say “angle” or “angles”.
* OK to have this change with the correction to “angle”.
* On section 8.9.1 where “UL AoA” is added, Intel point out the dash is missing.
* Qualcomm think there are additional editorial points, and this CR is not based on the latest version of the spec.
* Nokia think there is some misuse of measurement terminology.
* [AT111-e][609][POS] Checking of R2-2007831, R2-2007828, and R2-2006841 (Huawei)

 Scope: Confirm the changes in R2-2007831, R2-2007828, and R2-2006841 taking into account RAN3 progress where relevant. For R2-2006841, step 5 of the flow should be updated but no new procedure is introduced.

 Intended outcome: Agreed CRs

 Deadline: Thursday 2020-08-27 1200 UTC

P3:

* Nokia think there is related discussion in RAN3 on the geographic coordinates, and it should be discussed in one place. So we should wait for RAN3 decision. Intel agree, and in general think this proposal is to capture RAN3 agreement and RAN3 can do it directly. Huawei also agree. Qualcomm understand that RAN3 have decided RAN2 should take care of it. Huawei report that there is ongoing email discussion in RAN3 and understand that RAN3 will produce the details with no LS exchange needed. Qualcomm believe this discussion is on stage 3 and the chair notes indicate RAN2 should handle it; they note RAN2 introduced this table.
* Handle by email [609]

P4/P5:

* Intel wonder why RAN2 should confirm the meaning of an NRPPa message. CATT understand that P4 just confirms the function of the message, but they think P5 is more in RAN3 scope. vivo have the same understanding as CATT on P4 and P5. Qualcomm think generally RAN2 is responsible for 38.305 and they agree this can be decided in RAN2.
* Intel wonder if we agree this, will we still need to wait for RAN3 on the details and capture more next time? Qualcomm agree it would make sense to align stage 2 to NRPPa once stage 3 is complete. Huawei think P4 is stable already and we could capture it; they understand that RAN3 have a lot of work and there is no harm in discussing it here.
* CATT wonder if we should clarify the working scope for stage 2 between RAN2 and RAN3. Nokia think this has become a bit of a grey area; in 38.300 we allow RAN3 to send agreed CRs to RAN2 for final review and application to the spec, and it would be good to have something like this for 38.305. Qualcomm think this is under normal working procedures and any group can provide input, with the final check and approval in RAN2 responsibility. CATT agree RAN2 can check CRs from RAN3, but think RAN2 cannot originate CRs on NRPPa; they agree with Nokia’s suggestion to have RAN3 provide stage 2 CRs to RAN2 for final check. Chair thinks this could be driven by companies in RAN3. Intel agree with Qualcomm about the procedure; RAN3 can only endorse a CR to a RAN2 spec and send it to us for final agreement. Intel also agree that of course RAN2 cannot change NRPPa, but we can capture RAN3 stage 3 details into stage 2 if RAN3 have not done it.
* Ericsson think RAN3 are heavily loaded; they think we could try to agree the principle of P4.
* Nokia agree RAN3 can endorse CRs for RAN2 agreement, but think there is some extra effort to make sure stage 2/stage 3 are aligned with the current way of working; they would like RAN3 to confirm the contents of the NRPPa message officially. Intel think load is a concern in RAN2 as well and we should not spend a lot of time on this issue; instead we can capture P4/P5 next meeting.
* Noted

P6:

* Huawei think the consequence of not agreeing this proposal is just some wasted SRS transmissions; they do not see it as critical.
* CATT think the existing procedure works; the UE can send the periodic SRS first and the gNB receives it when configured to. So they also see this as an enhancement that could be discussed in Rel-17.
* Qualcomm think step 5 in the existing sequence is not correct because there is no activation for the periodic case, and this could be clarified in the wording. CATT agree with Qualcomm. Intel also agree and think we do not need to introduce a new procedure. Ericsson think this is acceptable as long as we clarify the applicability of step 5.
* Step 5 can be updated; CR to be revised offline.

P7:

* Intel think this can be discussed in RAN3 directly as it is related to an NRPPa message. Ericsson agree. CATT think this should not be an issue since it is clear that for multi-RTT the signal should be Rel-16 SRS, and agree it can be discussed in RAN3. Huawei understand that this is exactly the issue since the gNB does not know that Rel-16 SRS is needed.
* Noted (RAN3 can discuss)

P8:

* Huawei think this is also an NRPPa proposal that can be discussed in RAN3. CATT agree.
* Noted (RAN3 can discuss)

CRs

[R2-2006841](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006841%20UL%20SRS%20Configurations.docx) Signalling sequence for UL SRS Configuration Ericsson discussion Rel-16 38.305

[R2-2007630](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007630_%28CR%2038305-g10%20SUPL%20support%29.docx) Correction to SUPL support for NR positioning methods Qualcomm Incorporated CR Rel-16 38.305 16.1.0 0028 - F NR\_pos-Core

[R2-2007828](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007828%20Correction%20to%20Stage-2%20for%20gNB%20and%20LMF%20information%20transfer.docx) DraftCR to Stage-2 for gNB and LMF information transfer Huawei, HiSilicon CR Rel-16 38.305 16.1.0 0029 - F NR\_pos-Core

[R2-2007829](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007829%20Text%20proposal%20on%20stage2%20spec%20for%20aperiodic%20SRS.docx) Text proposal on stage2 spec for aperiodic SRS Huawei, HiSilicon CR Rel-16 38.305 16.1.0 0030 - F NR\_pos-Core

[R2-2007830](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007830%20TP%20for%20POSITIONING%20INFORMATION%20REQUEST.docx) TP for POSITIONING INFORMATION REQUEST Huawei, HiSilicon CR Rel-16 38.305 16.1.0 0031 - F NR\_pos-Core

[R2-2007831](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007831%20Miscellaneous%20correction%20to%20stage2%20specification.doc) Miscellaneous correction to stage2 specification Huawei, HiSilicon CR Rel-16 38.305 16.1.0 0032 - F NR\_pos-Core

### 6.6.2 RRC corrections

Including impact to 36.306, 36.331 and 38.331.

Summary document

[R2-2007581](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007581%20Summary%20of%20the%20AI%206.6.2%20for%20RRC%20in%20Pos.docx) Summary of the AI 6.6.2 for positioning RRC correction Huawei, HiSilicon discussion Late

P1:

* Huawei understand that this is basically editorial. Intel agree this is a correct change.
* Huawei think this can be merged to the miscellaneous corrections CR.
* Field description will be removed; to be merged into R2-2006942.

P2:

* Huawei understand that this is also editorial but may not be strongly motivated. Qualcomm do not see a strong need to change the ASN.1 even though BC. Nokia think we could go with the rapporteur’s preference. Intel understand there is no backward compatibility issue with changing a field name, but do not have a strong view. Ericsson think it would be OK to align.
* Align the field names; to be merged into R2-2006942.

P3:

* Qualcomm think this change is not needed.
* Noted

P4/P5/P6:

* Huawei clarify this issue is still under RAN4 discussion, but RAN4 have agreed a UE capability is needed; they prefer to add a new field description rather than add to an existing one, because the new field is no longer conditionally optional.
* Chair wonders if there is value in endorsing a baseline CR without agreeing to it. Ericsson think we can capture the ASN.1 impact.
* Intel understand that we need to wait for RAN4 no matter whether we agree to a baseline or not. They think the change is simple once RAN4 have concluded, so we don’t need to endorse a baseline CR, and think we cannot capture capability now and the function in the next version. Huawei clarify they do not intend to endorse the existing CR formally but just to wait for RAN4 and capture their agreements as soon as possible. They can also accept just waiting for RAN4.
* Ericsson think we can start discussion before hearing from RAN4. Intel think we should only trigger RAN2 discussion if we receive an agreement from RAN4.
* Noted (wait for RAN4)

P7:

* Intel think there are also LPP changes proposed related to this change, and we need to discuss whether to capture them.
* Qualcomm think the system information area ID is described in RRC and any related procedure should remain in RRC. For both P7 and P8, they think we do not need descriptions of the handling in LPP.
* CATT think P7 is not related to LPP but a general clarification of the interface between layers. However, their motivation is the assumption that LPP needs this information.
* Intel agree with Qualcomm that the validity is handled in RRC.
* Ericsson think this is more UE implementation and may not need to be specified. Nokia agree that there is no requirement to handle this in LPP.
* CATT think LPP needs this information to judge whether the system information is valid.
* Intel agree with Ericsson that this is UE implementation.
* Noted

P9:

* Apple understand that this is covered in email discussion [014].
* [AT111-e][610][POS] RRC miscellaneous CR (Ericsson)

 Scope: Generate a positioning update RRC CR:

* Review R2-2006942 and capture RAN2 agreements from P1 and P2 of R2-2007581
* Discuss P8, P10, P11 of R2-2007581 and capture agreeable aspects

 Intended outcome: Agreeable CR

 Deadline: Thursday 2020-08-27 1200 UTC

Proposal7: RRC should forward systemInformationAreaID to the upper layer when receiving it in SIB1. [R2-2006664]

Proposal8: posSIB-MappingInfo is forwarded to upper layers upon reception of SIB1 only if the cell from which SIB1 is acquired is not barred

Proposal9: T350 is started when DedicatedSIBRequest incldues posSIB. RAN2 to downselect from the following two options:

- Move the UE procedure to start T350 from 5.2.2.3.5 to 5.2.2.3.6. [R2-2006755]

- Add the UE procedure to start T350 for posSIB in 5.2.2.3.5. [R2-2007076]

Proposal10: Delete the duplicated behaviour of stopping timer T350 for RRC re-establishment. [R2-2006755]

Proposal11: Add an extension marker to the field posSI-BroadcastStatus in posSchedulingInfoList. [R2-2006844]

Proposal 12: Review the miscellaneous corrections in R2-1006942.

Measurement gap patterns

[R2-2006544](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006544%20Remaining%20issues%20on%20measurement%20gap%20for%20NR%20positioning.docx) Remaining issues on measurement gap for NR positioning vivo discussion NR\_pos-Core

[R2-2006926](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006926%20RRCMeasurement%20gaps.docx) Measurement gaps for PRS-based measurements Ericsson CR Rel-16 38.331 16.1.0 1754 - B NR\_pos-Core

[R2-2007559](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007559%20capability%20.docx) Introuduction of UE Capabilitues for support of measurement gaps for PRS-based measurements Ericsson CR Rel-16 38.306 16.1.0 0384 - B NR\_pos-Core

[R2-2007832](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007832%20Introduction%20of%20PRS%20mesurement%20gap.doc) Introduction of PRS mesurement gap Huawei, HiSilicon CR Rel-16 38.331 16.1.0 1925 - F NR\_pos-Core

[R2-2007837](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007837%20Correction%20on%20PRS%20mesurement%20gap%20capability.doc) Correction on PRS mesurement gap capability Huawei, HiSilicon CR Rel-16 38.306 16.1.0 0393 - F NR\_pos-Core

System information

[R2-2006664](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5C38331_CR1726_%28Rel-16%29_R2-2006664.docx) Correction on 38.331 to capture agreements of area scope for posSIB validity CATT CR Rel-16 38.331 16.1.0 1726 - F NR\_pos-Core

[R2-2006755](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5C38331_CR1736_%28Rel-16%29_R2-2006755.docx) Correction on on-demand SI in RRC\_CONNECTED CATT CR Rel-16 38.331 16.1.0 1736 - F NR\_pos-Core

[R2-2006844](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006844%20Extention%20.docx) Addition of extension marker for positioning SI broadcast status Ericsson CR Rel-16 38.331 16.1.0 1741 - F NR\_pos-Core

[R2-2007076](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007076_CR1779_38331_Rel16_Corrections%20to%20acquisition%20of%20posSIB%28s%29%20in%20RRC_CONNECTED.docx) Corrections to acquisition of posSIB(s) in RRC\_CONNECTED Samsung Electronics Co., Ltd CR Rel-16 38.331 16.1.0 1779 - F NR\_pos-Core

[R2-2007078](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007078_CR1781_38331_Rel16_Corrections%20to%20handing%20posSIB-MappingInfo%20in%20received%20SIB1.docx) Corrections to handing posSIB-MappingInfo in received SIB1 Samsung Electronics Co., Ltd CR Rel-16 38.331 16.1.0 1781 - F NR\_pos-Core

Others

[R2-2006942](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006942%20RRC%20Minor.docx) Minor corrections and update for RRC Positioning Ericsson CR Rel-16 38.331 16.1.0 1757 - F NR\_pos-Core

[R2-2007547](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007547_CR_unused%20field_38.331.docx) Corrections to unused field nr-CarrierFreq and misalignment between LPP and RRC Samsung Electronics Romania CR Rel-16 38.331 16.1.0 1860 - F NR\_pos-Core

### 6.6.3 LPP corrections

Including impacts to UE capabilites

Summary document

[R2-2008120](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2008120_%28Summary%20of%206.6.3%20LPP%20Corrections%29.docx) Summary of LPP corrections agenda item 6.6.3 Qualcomm Incorporated discussion NR\_pos-Core

CRs

[R2-2006543](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006543%20Correction%20of%20DL-PRS-NumSymbols.docx) Correction of DL-PRS-NumSymbols vivo discussion NR\_pos-Core

[R2-2006546](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006546%20Discussion%20on%20remaining%20issues%20on%20LPP.docx) Discussion on remaining issues on LPP vivo discussion NR\_pos-Core

[R2-2006663](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5C37355_CR0262_%28Rel-16%29_R2-2006663.docx) Correction on 37.355 to capture agreements of area scope for posSIB validity CATT CR Rel-16 37.355 16.1.0 0262 - F NR\_pos-Core

[R2-2006847](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006847%20reference%20TRP.docx) Need of reference TRP in the TRP-LocationInfo IE for UE-based assistance data distribution efficiency Ericsson discussion Rel-16 37.355

[R2-2006949](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006949%20Handling%20on%20RAN1%20positioning%20related%20capabilities.doc) Handling on RAN1 positioning related capabilities Intel Corporation discussion Rel-16 NR\_pos-Core

[R2-2006950](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006950%20Capture%20RAN1%20positioning%20related%20capabilities.docx) Capture RAN1 positioning related capabilities Intel Corporation CR Rel-16 37.355 16.1.0 0263 - F NR\_pos-Core

[R2-2007632](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007632_%28CR%2037355-g10%20UE%20Capabilities%29.docx) Addition of missing SRS for Positioning capabilities Qualcomm Incorporated CR Rel-16 37.355 16.1.0 0264 - F NR\_pos-Core

[R2-2007634](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007634_%28CR%2037355-g10%20AD%20sharing%20and%20priority%20description%29.docx) Assistance data sharing and priority for measurements Qualcomm Incorporated CR Rel-16 37.355 16.1.0 0265 - F NR\_pos-Core

[R2-2007635](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007635_%28CR37355-g10%20padding%20of%20c0%29.docx) Addition of missing padding rule for initial counter c0 Qualcomm Incorporated CR Rel-16 37.355 16.1.0 0266 - F LCS\_LTE\_acc\_enh-Core, NR\_pos-Core

[R2-2007833](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007833%20Correction%20of%20the%20SRS%20capability%20in%20LPP.docx) Correction of the SRS capability in LPP Huawei, HiSilicon CR Rel-16 37.355 16.1.0 0267 - F NR\_pos-Core

[R2-2007834](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007834%20Correction%20on%20SignalMeasurementInformation.doc) Correction on SignalMeasurementInformation Huawei, HiSilicon CR Rel-16 37.355 16.1.0 0268 - F NR\_pos-Core

[R2-2007835](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007835%20Correction%20on%20ProvideAssistantData.doc) Correction on ProvideAssistantData Huawei, HiSilicon CR Rel-16 37.355 16.1.0 0269 - F NR\_pos-Core

[R2-2007836](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007836%20Correction%20on%20PRS%20configuration.doc) Correction on PRS configuration Huawei, HiSilicon CR Rel-16 37.355 16.1.0 0270 - F NR\_pos-Core

[R2-2007941](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007941%20Correction%20to%20NR-SSB-Config.docx) Correction to NR-SSB-Config ZTE Corporation, Sanechips CR Rel-16 37.355 16.1.0 0271 - F NR\_pos-Core

### 6.6.4 MAC corrections

[R2-2006545](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006545%20Discussion%20on%20SRS%20for%20positioning%20during%20the%20DRX%20inactive%20period.docx) Discussion on SRS for positioning during the DRX inactive period vivo discussion NR\_pos-Core

### 6.6.5 Other

# 7 Rel-16 EUTRA Work Items

Essential corrections

## 7.6 LTE Positioning

(NavIC, LTE TEI16 Positioning)

# 8 Rel-17 NR Work Items

## 8.7 NR Sidelink relay SI

(FS\_NR\_SL\_relay; leading WG: RAN2; REL-17; WID: RP-193253)

Time budget: 2 TU

Tdoc Limitation: 4 tdocs

Email max expectation: 4 threads

### 8.7.1 Organizational

TR skeleton, rapporteur inputs, other organizational documents. Documents in this AI do not count towards the tdoc limitation.

Incoming LS

[R2-2006531](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006531_S2-2004750.docx) LS on Security Requirements for Sidelink/PC5 Relays (S2-2004750; contact: MediaTek) SA2 LS in Rel-17 FS\_5G\_ProSe To:SA3 Cc:RAN2, RAN3

Workplan

[R2-2006601](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006601%20-%20Work%20plan%20of%20R17%20SL%20relay.doc) Work plan of R17 SL relay OPPO discussion Rel-17 FS\_NR\_SL\_relay

TR skeleton

[R2-2006602](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CDocs%5CR2-2006602.zip) Skeleton of TR 38.836 v0.0.0 OPPO draft TR Rel-17 38.836 0.0.0 FS\_NR\_SL\_relay

* [AT111-e][602][Relay] TR skeleton approval (OPPO)

 Scope: Discuss and approve the TR skeleton from R2-2006602 updated as necessary.

 Intended outcome: Agreeable TR skeleton, in R2-2008251

 Deadline: Monday 2020-08-24 1200 UTC

R2-2008251 Skeleton of TR 38.836 v0.0.0 OPPO draft TR Rel-17 38.836 0.0.0 FS\_NR\_SL\_relay

Other

[R2-2007168](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007168.docx) ?[Draft]? LS to SA3 on the security related aspects for NR sidelink relay CATT LS out FS\_NR\_SL\_relay To:SA3

### 8.7.2 Scope, requirements, and scenarios

Clarify the required contents of the TR, high-level requirements, assumptions on supported scenarios. Including expectations on other groups if any.

* [AT111-e][603][Relay] Scope, requirements, and scenarios (InterDigital)

 Scope: Discuss proposals on the scope, requirements, and scenarios for UE-to-network and UE-to-UE relaying, including:

* Coverage scenarios
* Connectivity scenarios
* Uu and PC5 RATs
* RRC states for relaying
* Cast types for the PC5 link
* Potential reuse of requirements from earlier releases (e.g. FeD2D, LTE ProSe relaying)

 Intended outcome: Summary with potential agreeable TP, in R2-2008252

 Deadline: Monday 2020-08-24 1200 UTC

R2-2008252 (Summary of [AT111-e][603]) InterDigital discussion Rel-17 FS\_NR\_SL\_relay

[R2-2008046](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CDocs%5CR2-2008046.zip) General considerations on working for NR SL relay Huawei, HiSilicon, Apple, CMCC, China Telecom, China Unicom, MediaTek Inc., Sharp, Spreadtrum, Xiaomi, ZTE Corporation, Sanechips discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006609](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006609.docx) Clarification on the Scenarios for NR Sidelink Relay CATT discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006721](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006721%20consideration%20on%20the%20study.docx) Considerations on the Study of NR Sidelink Relay Futurewei discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006554](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006554%20-%20Study%20item%20scope%20and%20focus%20areas%20prioritization.docx) Discussion on sidelink relay study item scope and focus areas prioritization Qualcomm Incorporated discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006570](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006570.docx) Scenarios and Assumptions on Sidelink Relay MediaTek Inc. discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006603](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006603%20-%20Scenarios%20for%20sidelink%20relay%20study.doc) Scenarios for sidelink relay OPPO discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006717](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006717%20NR%20Sidelink%20Relay%20Requirements%20and%20Scenarios.docx) Requirements, Assumptions and Supported Scenarios for NR Sidelink Relay Intel Corporation discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006735](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006735%20Initial%20Considerations%20for%20NR%20SL%20Relay.doc) Initial considerations on NR sidelink relay ZTE Corporation, Sanechips discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006758](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006758%20%28R17%20SL%20Relay%20SI_A872%29.doc) Discussion and TP on Requirements and Scenarios for SL Relays InterDigital discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006856](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006856-UE-to-UE%20Relay%20for%20unicast%20SL.docx) NR SL-based UE-to-UE relay for unicast SL Nokia, Nokia Shanghai Bell discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006857](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006857-casting%20types%20in%20SL%20based%20relays.docx) Casting types in NR SL-based relays Nokia, Nokia Shanghai Bell discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006866](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006866_8_7_2_Scope%20requirements%20and%20scenarios%20in%20sidelink%20relay.doc) Scope, Requirements and Scenarios in NR Sidelink Relaying Fujitsu discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006968](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006968%20Sidelink%20relay%20scenario.doc) NR sidelink relay scenarios Samsung Electronics Co., Ltd discussion Rel-17 FS\_NR\_SL\_relay

[R2-2007038](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007038_SL%20relay%20discussion%20in%20SI%20phase.doc) SL relay discussion in SI phase vivo discussion Rel-17

[R2-2007039](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007039_Scope%20and%20Scenarios%20of%20SL%20relay.docx) Scope and Scenarios of SL relay vivo discussion Rel-17

[R2-2007043](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007043.doc) Scope and scenarios on NR sidelink relay Spreadtrum Communications discussion

[R2-2007099](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5C._R2-2007099%20SL%20relay%20scearios_v1.doc) Discussion on NR Sidelink Relay Scenarios Apple, Convida Wireless discussion Rel-17 FS\_NR\_SL\_relay

[R2-2007202](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007202%20High-level%20requirements%20-cln.doc) High-level requirements Samsung Electronics GmbH discussion

[R2-2007290](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007290-%20Service%20continuity%20in%20sidelink%20relay.docx) Service continuity scenarios for sidelink relay Ericsson discussion Rel-17 FS\_NR\_SL\_relay

[R2-2007293](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007293-%20Scope%20and%20initial%20steps%20for%20SL%20relay.docx) Scope and initial steps for SL relay Ericsson discussion Rel-17 FS\_NR\_SL\_relay

[R2-2007626](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007626_relaying.doc) Initial considerations for SL relaying Kyocera discussion Rel-17

[R2-2007775](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007775%20Discussion%20on%20UE-to-network%20coverage%20extension.docx) Discussion on UE-to-network coverage extension ETRI discussion Rel-17

[R2-2008017](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2008017%20Scope%20and%20scenarios%20for%20NR%20sidelink%20relay.docx) Scope and scenarios for NR sidelink relay LG Electronics Inc. discussion Rel-17 FS\_NR\_SL\_relay

### 8.7.3 Relaying Mechanisms and their characteristics

Start to populate the TR. Put on the table mechanisms, their characteristics at least with respect to aspects A-F for L2 and L3 relay etc.

* [AT111-e][604][Relay] L3 relay protocol stacks (Qualcomm)

 Scope: Discuss and document the proposed L3 relay design(s), focussing on general mechanisms of L3 architecture based sidelink relaying including protocol stacks and high level description of required UP/CP functionalities..

 Intended outcome: Summary with potential agreeable TP, in R2-2008253

 Deadline: Monday 2020-08-24 1200 UTC

* [AT111-e][605][Relay] L2 relay mechanism (MediaTek)

 Scope: Discuss and document the proposed L2 relay design(s), focussing on general mechanisms of L2 architecture based sidelink relaying including protocol stacks and high level description of required UP/CP functionalities.

 Intended outcome: Summary with potential agreeable TP, in R2-2008254

 Deadline: Monday 2020-08-24 1200 UTC

R2-2008253 (Summary of [AT111-e][604]) Qualcomm Incorporated discussion Rel-17 FS\_NR\_SL\_relay

R2-2008254 (Summary of [AT111-e][605]) MediaTek Inc. discussion Rel-17 FS\_NR\_SL\_relay

Scope and work organisation

[R2-2006604](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006604%20-%20Protocol%20stack%20and%20CP%20procedure%20for%20sidelink%20relay.docx) Protocol stack and CP procedure for SL relay OPPO discussion Rel-17 FS\_NR\_SL\_relay

[R2-2007292](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007292-%20Considerations%20on%20L2%20and%20L3%20SL%20relay%20protocol%20design.docx) Considerations on L2 and L3 SL relay protocol design Ericsson discussion Rel-17 FS\_NR\_SL\_relay

General architecture and procedures

[R2-2007608](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007608_SLRelay_ProtocolStack_Intel.docx) Impact on user plane protocol stack and control plane procedure for Sidelink Relay Intel Corporation discussion Rel-17 FS\_NR\_SL\_relay

[R2-2008047](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2008047.doc) Study aspects of UE-to-Network relay and solutions for L2 relay Huawei, HiSilicon discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006722](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006722%20protocol%20stack%20and%20connection%20setup.docx) Protocol Stack and Connection Setup Procedure of Sidelink Relay Futurewei discussion Rel-17 FS\_NR\_SL\_relay

[R2-2007181](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007181.doc) Overview of Layer-2 and Layer-3 sidelink relay mechanisms Sony discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006555](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006555%20-%20UE-to-network%20relay%20architecture%20and%20prcoedures.docx) UE-to-network relay architecture and procedures Qualcomm Incorporated discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006572](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006572.docx) Architecture Options for Sidelink Relay MediaTek Inc. discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006610](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006610.docx) User and Control Plane Procedures for L2 UE-to-NW Relay CATT discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006718](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006718_SLRelay_Intel.docx) Characteristics of L2 and L3 based Sidelink relaying Intel Corporation discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006737](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006737%20Discussion%20on%20NR%20SL%20Relay%20Architecture.doc) Discussion on NR SL Relay Architecture ZTE Corporation, Sanechips discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006759](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006759%20%28R17%20SL%20Relay%20SI%20A873%20UEtoNW%29.doc) Discussion and TP on UE to NW Relay Based on L2 Relay Architecture InterDigital discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006760](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006760%20%28R17%20SL%20Relay%20SI%20A873%20UEtoUE%29.doc) Discussion and TP on UE to UE Relay Based on L2 Relay Architecture InterDigital discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006855](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006855-L3RelayIssues.docx) Considerations for L3 UE-to-Network Relays Nokia, Nokia Shanghai Bell discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006962](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006962.docx) Mechanisms for supporting L2-based Sidelink Relays AT&T discussion

[R2-2007044](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007044.doc) Discusssion on architecture for NR sidelink relay Spreadtrum Communications discussion

[R2-2007100](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007100%20SL%20relay%20user%20plane%20procedures.doc) Discussion on User Plane mechanisms for Layer 2 Relay Apple discussion Rel-17 FS\_NR\_SL\_relay

[R2-2007101](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007101%20SL%20relay%20control%20plane%20procedures.doc) Discussion on Control Plane mechanisms for Layer 2 Relay Apple discussion Rel-17 FS\_NR\_SL\_relay

[R2-2007460](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007460%20Protocol%20stack%20design%20for%20L2%20relay%20v1.1.doc) Protocol stack design for L2 relay Lenovo, Motorola Mobility discussion Rel-17

[R2-2007461](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007461%20Relayed%20connection%20management%20v1.1.doc) Relayed connection management Lenovo, Motorola Mobility discussion Rel-17

[R2-2008019](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2008019%20Relaying%20mechanism%20for%20NR%20sidelink.docx) Relaying mechanism for NR sidelink LG Electronics Inc. discussion Rel-17 FS\_NR\_SL\_relay

Re/selection

[R2-2006736](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006736%20Discussion%20on%20relay%20initiation%20and%20relay%20UE%20%28re-%29selection.doc) Discussion on relay initiation and relay UE (re-)selection ZTE Corporation, Sanechips discussion Rel-17 FS\_NR\_SL\_relay

[R2-2007040](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007040_Selection%2C%20Authorization%20and%20Security%20for%20L2%20and%20L3%20relay.doc) Selection/Authorization and Security for L2 and L3 relay vivo discussion Rel-17

[R2-2006557](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006557%20-%20Discussion%20on%20NR%20sidelink%20relay%20selection%20and%20reselection.doc) Discussion on NR sidelink relay selection and reselection Qualcomm Incorporated discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006770](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006770%20-%20Discussion%20on%20SL%20relay%20%28re%29selection%20and%20authorization.doc) Discussion on SL relay (re)selection and authorization OPPO discussion Rel-17

[R2-2006861](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006861_NR_SL_Relaying.docx) NR Sidelink Relay (Re-)Selection Criterion and Procedure Fraunhofer IIS, Fraunhofer HHI discussion Rel-17

[R2-2006867](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006867_8_7_3_Mechanisms%20and%20their%20characteristics%20in%20sidelin%20relaying.doc) Mechanisms and Characteristics in NR Sidelink Relaying Fujitsu discussion Rel-17 FS\_NR\_SL\_relay

[R2-2008043](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2008043%20Consideration%20of%20Relay%20characteristics.docx) Consideration of Relay characteristics LG Electronics Inc. discussion Rel-17 FS\_NR\_SL\_relay

Service continuity

[R2-2008048](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2008048.docx) Service continuity for L2 UE-to-Network relay Huawei, HiSilicon discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006723](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006723%20service%20continuity.docx) Service Continuity with Sidelink Relay Futurewei discussion Rel-17 FS\_NR\_SL\_relay

[R2-2007041](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007041_Protocol%20stack%20and%20service%20continuity%20for%20L2%20and%20L3%20relay.docx) Protocol stack and service continuity for L2 and L3 relay vivo discussion Rel-17

[R2-2007816](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007816-Consideration%20on%20UE-to-NW%20Relay-v0806.doc) Considerations on UE-to-NW Relay ETRI discussion FS\_NR\_SL\_relay

[R2-2008066](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2008066.doc) Discussion on service continuity from Uu to relay Xiaomi communications discussion

QoS

[R2-2006724](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006724%20QoS.docx) QoS Control with Sidelink Relay Futurewei discussion Rel-17 FS\_NR\_SL\_relay

RRC states

[R2-2007462](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007462%20RRC%20state%20and%20CN%20registration%20of%20remote%20UE%20v1.1.doc) RRC state and CN registration of the remote UE Lenovo, Motorola Mobility discussion Rel-17

[R2-2006571](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006571.docx) RRC States for Relaying MediaTek Inc. discussion Rel-17 FS\_NR\_SL\_relay

Architecture comparison

[R2-2006611](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006611.docx) L2/L3 UE-to-NW Relay Comparison CATT discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006639](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006639.docx) L2 vs L3 - Relay (re-)Selection, Quality of Service (QoS) Fraunhofer HHI, Fraunhofer IIS discussion

[R2-2006641](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006641.docx) L2 vs L3 - Relay/Remote UE Authorization, Service Continuity Fraunhofer HHI, Fraunhofer IIS discussion

[R2-2006843](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006843.docx) View on L2/L3 SL relay ITL discussion

[R2-2007203](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007203%20L3%20vs%20L2%20relaying%20-cln.doc) L3 vs L2 relaying Samsung Electronics GmbH discussion

### 8.7.4 Discovery model/procedure for sidelink relaying

* [AT111-e][606][Relay] Discovery model and procedure (OPPO)

 Scope: Discuss proposals on the discovery model and procedures, including:

* Protocol stacks for discovery
* Potential reuse of discovery models from LTE
* Resource pool for discovery
* Visibility of discovery signalling in AS layers
* Conditions for discovery
* Authorisation related aspects

 Intended outcome: Summary with potential agreeable TP, in R2-2008255

 Deadline: Wednesday 2020-08-26 1200 UTC

R2-2008255 (Summary of [AT111-e][606]) OPPO discussion Rel-17 FS\_NR\_SL\_relay

[R2-2007098](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007098%20SL%20relay%20discovery_v1.doc) Discussion on NR Sidelink Relay Discovery Apple, Convida Wireless discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006556](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006556%20-%20Discussion%20on%20relay%20discovery.doc) Discussion on relay discovery model / procedure Qualcomm Incorporated discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006761](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006761%20%28R17%20SL%20Relay%20SI%20A874%20Discovery%29.doc) Discovery Procedure for SL Relaying InterDigital discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006573](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006573.docx) Initiation of relaying operation MediaTek Inc. discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006612](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006612.docx) Discovery Model/Procedure for NR Sidelink Relay CATT discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006738](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006738%20Discussion%20on%20relay%20discovery%20and%20link%20management.doc) Discussion on relay discovery and link management ZTE Corporation, Sanechips discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006771](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006771%20-%20Discussion%20on%20SL%20relay%20discovery%20procedure.doc) Discussion on SL relay discovery procedure OPPO discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006862](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006862_NR_SL_Relaying_Discovery.docx) NR Sidelink Relaying Discovery Fraunhofer IIS, Fraunhofer HHI discussion Rel-17

[R2-2006868](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006868_8_7_4_Discovery%20modelprocedure%20in%20sidelink%20relaying.doc) Discovery Model and Procedure in NR Sidelink Relaying Fujitsu discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006931](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006931.docx) On Sidelink Discovery for Relaying Intel Corporation discussion Rel-17 FS\_NR\_SL\_relay

[R2-2006969](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006969%20Sidelink%20relay%20discovery%20model%20and%20procedure.doc) Sidelink relay discovery model and procedure Samsung Electronics Co., Ltd discussion Rel-17 FS\_NR\_SL\_relay

[R2-2007042](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007042_Discussion%20of%20Relay%20UE%20discovery.doc) Discussion of Relay UE discovery vivo discussion Rel-17

[R2-2007045](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007045-%20Discussion%20on%20discovery%20procedure%20for%20sidelink%20relay.doc) Discussion on discovery procedure for sidelink relay Spreadtrum Communications discussion

[R2-2007291](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007291-%20Discovery%20aspects%20for%20NR%20sidelink%20relay.docx) Discovery aspects for NR sidelink relay Ericsson discussion Rel-17 FS\_NR\_SL\_relay

[R2-2007476](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007476%20Considerations%20on%20discovery%20procedure%20for%20sidelink%20relay-v1.0.doc) Considerations on discovery procedure for sidelink relay Lenovo, Motorola Mobility discussion Rel-17

[R2-2008045](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2008045%20Consideration%20of%20discovery%20model%20procedure%20for%20sidelink%20relay.docx) Consideration of discovery model/procedure for sidelink relay LG Electronics Inc. discussion Rel-17 FS\_NR\_SL\_relay

[R2-2008049](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2008049.docx) Common aspects for L2 and L3 UE-to-Network relay Huawei, HiSilicon discussion Rel-17 FS\_NR\_SL\_relay

## 8.11 NR positioning enhancements SI

(FS\_NR\_pos\_enh; leading WG: RAN1; REL-17; WID: RP-200928)

Time budget: 2 TU

Tdoc Limitation: 4 tdocs

Email max expectation: 4 threads

### 8.11.1 Organizational

Rapporteur inputs and other organizational documents. Documents in this AI do not count towards the tdoc limitation.

Workplan

[R2-2006670](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006670.docx) Updated Work Plan for R17 SI NR Positioning Enhancements CATT, Intel Corporation, Ericsson discussion Rel-17 FS\_NR\_pos\_enh

TR skeleton

[R2-2006958](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006958%20skeleton%20for%20TR38857.docx) skeleton for TR38857 Ericsson TS or TR cover Rel-17 38.857 0.0.1 FS\_NR\_pos\_enh

[R2-2006671](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006671.docx) Skeleton proposals for TR38.857 CATT draftCR Rel-17 38.857 0.0.1 FS\_NR\_pos\_enh

[R2-2006542](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006542%20-%20Proposed%20table%20of%20contents%20-%20Section%209%20-%20TR%2038.857.docx) Proposed table of contents - Section 9 (positioning integrity) - TR 38.857 Swift Navigation, Ericsson, Intel Corporation discussion Rel-17

Coordination and organisation

[R2-2006749](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006749%20Handling%20on%20Rel-16%20leftover%20issue%20in%20Rel-17-v01.doc) Handling on Rel-16 leftover issue in Rel-17 Intel Corporation discussion Rel-17 FS\_NR\_pos\_enh

[R2-2006669](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006669.docx) Summary on Rel-17 positioning enhancement discussion in RAN1 CATT, Intel Corporation, Ericsson discussion Rel-17 FS\_NR\_pos\_enh

### 8.11.2 Enhancements for commercial use cases

Scope and general discussion related to the RAN2 objective on enhancements to support high accuracy, low latency, network efficiency, and device efficienty for commercial use cases. Detailed discussions may need to wait until RAN1 have progressed.

Goals and work planning for commercial objective

[R2-2006672](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006672.docx) Discussion on ehancements for commercial use cases CATT discussion Rel-17 FS\_NR\_pos\_enh

[R2-2006578](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006578%20Discussion%20on%20R17%20positioning%20enhancement_v1.docx) Discussion on R17 positioning enhancement Huawei, HiSilicon discussion Rel-17 FS\_NR\_pos\_enh

[R2-2006567](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006567%20Discussion%20on%20potential%20positioning%20enhancement.docx) Discussion on potential positioning enhancement vivo discussion FS\_NR\_pos\_enh

[R2-2006956](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006956%20Enhancements.docx) Enhancements for commercial use cases Ericsson discussion Rel-17

[R2-2007049](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007049-Discussion%20on%20positioning%20enhancements%20for%20commercial%20use%20cases.docx) Discussion on positioning enhancements for commercial use cases Spreadtrum Communications discussion

[R2-2007629](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007629_%28Positioning%20Enhancements%29.docx) NR Positioning Enhancements Qualcomm Incorporated discussion

Latency reduction

[R2-2006750](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006750%20Consideration%20on%20the%20support%20of%20low%20latency%20requirement%20v01.doc) Consideration on the support of low latency requirement Intel Corporation discussion Rel-17 FS\_NR\_pos\_enh

[R2-2007587](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007587%20%28R17%20NR%20POS%20A8112%29.doc) End-to-end latency reduction for DL/UL positioning InterDigital, Inc. discussion Rel-17

On-demand PRS

[R2-2007128](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007128.docx) On-demand PRS transmission and dynamic PRS resource allocation Nokia, Nokia Shanghai Bell discussion Rel-17 FS\_NR\_pos\_enh

[R2-2007159](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007159%20-%20Discussion%20on%20on-demand%20DL-PRS.doc) Discussion on on-demand DL-PRS OPPO discussion Rel-17 FS\_NR\_pos\_enh

[R2-2007170](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007170%20Discussion%20on%20PRS%20enhancements.doc) Discussion on PRS enhancements Beijing Xiaomi Electronics discussion

Idle/inactive state positioning

[R2-2007157](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007157-%20Positioning%20for%20UE%20in%20RRC%20IDLE%20and%20inactive%20state.doc) Positioning for UE in RRC Idle and Inactive state OPPO discussion Rel-17 FS\_NR\_pos\_enh

[R2-2007173](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007173%20Positioning%20enhancements%20for%20RRC%20IDLE%20and%20RRC%20INACTIVE%20state%20UE.doc) Positioning enhancements for RRC IDLE and RRC INACTIVE state UE Beijing Xiaomi Electronics discussion

Withdrawn

R2-2007694 On-demand PRS transmission and dynamic PRS resource allocation Nokia, Nokia Shanghai Bell discussion Rel-17 FS\_NR\_pos\_enh Withdrawn

### 8.11.3 Integrity and reliability of assistance data and position information

[R2-2006541](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006541%20-%20TP%20Study%20on%20Positioning%20Integrity.docx) TP for Study on Positioning Integrity and Reliability Swift Navigation, Deutsche Telekom, u-blox, Ericsson, Mitsubishi Electric, Intel Corporation, CATT, UIC discussion Rel-17

#### 8.11.3.1 KPIs and use cases

* [AT111-e][607][POS] Integrity definitions, KPIs, and use cases (Swift)

 Scope: Discuss proposals and attempt to reach consensus on definitions, KPIs, and use cases for positioning integrity.

 Intended outcome: Summary with potential agreeable TP, in R2-2008256

 Deadline: Thursday 2020-08-20 1100 UTC

R2-2008256 (Summary of [AT111-e][607]) Swift Navigation discussion Rel-17 FS\_NR\_pos\_enh

Use cases

[R2-2006754](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006754%20Consideration%20on%20positioning%20integrity%20v01.doc) Consideration on positioning integrity Intel Corporation discussion Rel-17 FS\_NR\_pos\_enh

[R2-2006673](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006673.docx) Discussion on integrity KPIs and use cases CATT discussion Rel-17 FS\_NR\_pos\_enh

[R2-2006564](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006564%20Identify%20positioning%20integrity%20use%20case%20and%20KPIs.docx) Identify positioning integrity use case and KPIs vivo discussion FS\_NR\_pos\_enh

[R2-2006579](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006579%20Discussion%20on%20positioning%20integrity%20KPIs%20and%20relevant%20use%20cases.docx) Discussion on positioning integrity KPIs and relevant use cases Huawei, HiSilicon discussion Rel-17 FS\_NR\_pos\_enh

[R2-2006954](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006954%20%20KPIs.docx) Positioning integrity KPIs and support for RAT dependent use cases Ericsson discussion Rel-17

[R2-2007050](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007050.docx) Discussion on positioning integrity KPIs and use cases Spreadtrum Communications discussion

[R2-2007646](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007646%20Discussion%20on%20use%20cases%20and%20KPIs%20for%20position%20integrity.docx) Discussion on use cases and KPIs for position integrity ESA discussion Rel-17 FS\_NR\_pos\_enh

KPI selection

[R2-2007102](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007102%20NR%20Positioning%20Integrity.doc) Discussion on Positioning Integrity Apple discussion Rel-17 FS\_NR\_pos\_enh

[R2-2007158](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007158-%20Discussion%20on%20the%20KPIs%20of%20integrity.doc) Discussion on the KPIs of integrity OPPO discussion Rel-17 FS\_NR\_pos\_enh

[R2-2007936](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007936%20Discussion%20of%20the%20positioning%20integrity%20definition.docx) Discussion of the positioning integrity definition ZTE Corporation, Sanechips discussion Rel-17 FS\_NR\_pos\_enh

Other

[R2-2007073](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007073_Positioning_SEI.docx) Discussion on integrity and reliability for positioning based on an IIoT use case Sumitomo Elec. Industries, Ltd discussion Rel-17

[R2-2007187](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007187__Pos_Integrity_v1.0.docx) Discussion on Integrity of positioning information Sony discussion Rel-17 FS\_NR\_pos\_enh

[R2-2007937](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007937%20Discussion%20of%20the%20integrity%20events%20and%20integrity%20failure.docx) Discussion of the integrity events and integrity failure ZTE Corporation, Sanechips discussion Rel-17 FS\_NR\_pos\_enh

#### 8.11.3.2 Error sources, threat models, occurrence rates and failure modes

[R2-2006580](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006580%20Discussion%20on%20positioning%20integrity%20validation%20and%20reporting.docx) Discussion on positioning integrity validation and reporting Huawei, HiSilicon discussion Rel-17 FS\_NR\_pos\_enh

[R2-2006674](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006674.docx) Discussion on error sources, threat models, occurrence rates and failure modes CATT discussion Rel-17 FS\_NR\_pos\_enh

[R2-2006565](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006565%20Identify%20Error%20sources%20for%20postioning%20integrity.docx) Identify Error sources for positioning integrity vivo discussion FS\_NR\_pos\_enh

[R2-2006955](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006955%20Factors.docx) Factors impacting positioning integrity Ericsson discussion Rel-17

[R2-2007647](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007647%20Discussion%20on%20GNSS%20position%20integrity%20error%20sources.docx) Discussion on GNSS position integrity error sources ESA discussion Rel-17 FS\_NR\_pos\_enh

[R2-2007938](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007938%20Discussion%20of%20the%20positioning%20error%20sources%2C%20threat%20models%20and%20failure%20modes.docx) Discussion of the positioning error sources, threat models and failure modes ZTE Corporation, Sanechips discussion Rel-17 FS\_NR\_pos\_enh

#### 8.11.3.3 Methodologies for network-assisted and UE-assisted integrity

[R2-2006566](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006566%20Discussion%20on%20positioning%20integrity%20methodologies.docx) Discussion on positioning integrity methodologies vivo discussion FS\_NR\_pos\_enh

[R2-2006675](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006675.docx) Discussion on methodologies for network-assisted and UE-assisted integrity CATT discussion Rel-17 FS\_NR\_pos\_enh

[R2-2006581](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006581%20Discussion%20for%20network-assisted%20and%20UE-assisted%20integrity.docx) Discussion for network-assisted and UE-assisted integrity Huawei, HiSilicon discussion Rel-17 FS\_NR\_pos\_enh

[R2-2006957](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2006957%20LPP.docx) LPP signalling for integrity support of RAT dependent positioning Ericsson discussion Rel-17

[R2-2007160](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007160%20-%20Discussion%20on%20%20methodologies%20for%20UE-based%20and%20UE-assisted%20integrity.doc) Discussion on methodologies for UE-based and UE-assisted integrity OPPO discussion Rel-17 FS\_NR\_pos\_enh

[R2-2007238](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007238.docx) Reporting movement model Fraunhofer IIS, Fraunhofer HHI discussion Rel-17

[R2-2007246](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007246.docx) Reporting the situational quality of RAT and RAT-independent technologies Fraunhofer IIS, Fraunhofer HHI discussion

[R2-2007588](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007588%20%28R17%20NR%20POS%20A81133%29.doc) Methodologies for network-assisted and UE-assisted integrity InterDigital, Inc. discussion Rel-17

[R2-2007656](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007656%20Discussion%20on%20methodologies%20for%20position%20integrity.docx) Discussion on methodologies for position integrity ESA discussion Rel-17

[R2-2007939](file:///C%3A%5CUsers%5Cmtk16923%5CDocuments%5C3GPP%20Meetings%5C202008%20-%20RAN2_111-e%2C%20Online%5CExtracts%5CR2-2007939%20Discussion%20of%20the%20methodologies%20for%20network-assisted%20and%20UE-assisted%20integrity.docx) Discussion of the methodologies for network-assisted and UE-assisted integrity ZTE Corporation, Sanechips discussion Rel-17 FS\_NR\_pos\_enh