3GPP TSG-RAN WG2 Meeting #109 electronic R2-20xxxxx

**24 Feb – 6 Mar 2020**

Source: Session Chair (Mediatek)

Title: Report from session on Rel-15 and 16 LTE and NR positioning

# Organisational Notes

This subclause is not an Agenda Item. It contains general guidance for the organisation of the meeting.

1. LSs: As noted under AI 6.8.2.1, LSs will be treated only if flagged by the presenting company. Otherwise they will be noted without presentation.
2. Running CRs: For each specification, a running CR will be endorsed as baseline and sent to email discussion (unless it can be agreed immediately). Where there is a separate running CR for a feature (e.g. SSR), the “secondary” running CR will be endorsed for a merge into the main CR as part of the email discussion. The last web conference session (second week) should agree a running CR for each specification.
3. CRs handled by email: For the agenda items indicated to be treated only by email, an approval email thread will be launched from the beginning of the meeting. For CRs that have been previously endorsed and are independent of the main running CRs (i.e. those that do not introduce new posSIBs), the discussion deadline is short, to allow for online discussion in case any unexpected issues are raised. For the main running CRs, and others that interact with them (i.e. those that introduce new posSIBs), the deadline is during the second meeting week to allow time for the posSIB harmonisation discussion to conclude.
4. Output of email discussions: Where possible, the email discussion should conclude with an agreed document. Discussions requiring a comeback will be treated in an available slot (expected during the second meeting week, but early-concluding email discussions could be handled in the first week if needed).
5. Organisational information and updates: Information related to the organisation of the sessions will be shared under email discussion **[AT109e][600][POS] Organizational Nathan - Positioning (MediaTek)** (see list below).

# 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.

* [AT109e][600][POS] Organizational Nathan - Positioning (MediaTek)

**Status:** Started

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

**Intended Outcome:** Approval of report from positioning session

**Deadline:** Friday 2020-03-06 1200 CET

* [AT109e][601][POS] Harmonise posSIB numbering across CRs (Intel)

**Status:** Started

**Scope:** Align posSIB numbering between the following CRs:

* R2-2001333 (38.331 running CR)
* R2-2001216 (36.331 CR to introduce PPP-RTK)
* R2-2001255 (38.331 CR to introduce on-demand SI request in connected mode)
* R2-2001230 (37.355 CR to introduce PPP-RTK)
* R2-2001234 (TPs to 37.355 to introduce UE-based DL positioning)
* R2-2000006 (37.355 CR to introduce barometric pressure broadcast)
* R2-2000188 (36.331 CR to introduce barometric pressure broadcast)
* R2-2000396 (36.331 CR to introduce TBS AD broadcast)
* R2-2000426 (37.355 CR to introduce TBS AD broadcast)
* R2-2000153 (37.355 CR to introduce NavIC)
* R2-2000157 (36.331 CR to introduce NavIC)

**Intended Outcome:** Agreed document listing the posSIB numbers, for reference by individual CR authors

**Deadline: Thursday** 2020-02-27 1200 CET

* [AT109e][602][NR TEI] BDS B1C signal CRs (CATT)

**Status:** Started

**Scope:** Agree to the CRs in R2-2000238, R2-2000239, and R2-2000240

**Intended Outcome:** Agreed CRs

**Deadline:** Wednesday 2020-02-26 1200 CET

* [AT109e][603][NR TEI] GNSS integer ambiguity level indication CR (Ericsson)

**Status:** Started

**Scope:** Agree to the CR in R2-2001256

**Intended Outcome:** Agreed CR

**Deadline:** Wednesday 2020-02-26 1200 CET

* [AT109e][604][LTE TEI] Broadcast of barometric pressure assistance data CRs (Polaris)

**Status:** Started

**Scope:** Agree to the CRs in R2-2000006 and R2-2000188. Note: Updates to the CRs will be needed to align with the output of [AT109e][601].

**Intended Outcome:** Agreed CRs

**Deadline:** Tuesday 2020-03-03 1200 CET

* [AT109e][605][LTE TEI] Barometric pressure sensor bias CR (Polaris)

**Status:** Started

**Scope:** Agree to the CR in R2-2000007

**Intended Outcome:** Agreed CR

**Deadline:** Wednesday 2020-02-26 1200 CET

* [AT109e][606][LTE TEI] Broadcast of TBS assistance data CRs (NextNav)

**Status:** Started

**Scope:** Agree to the CRs in R2-2000396 and R2-2000426. Note: Updates to the CRs will be needed to align with the output of [AT109e][601].

**Intended Outcome:** Agreed CRs

**Deadline:** Tuesday 2020-03-03 1200 CET

* [AT109e][607][NAVIC] NavIC CRs (Reliance Jio)

**Status:** Started

**Scope:** Agree to the CRs in R2-2000153, R2-2000157, and R2-2000158. Note: Updates to the CRs will be needed to align with the output of [AT109e][601].

**Intended Outcome:** Agreed CRs

**Deadline:** Tuesday 2020-03-03 1200 CET

* [AT109e][608][POS] Corrections to location measurement indication (Lenovo)

**Status:** Started

**Scope:** Update the CR from R2-2000762

**Intended outcome:** Agreed CR in R2-2001932

**Deadline:** Friday 2020-02-28 1300 CET

* [AT109e][609][POS] Reply LS to R2-2000010 (Nokia)

**Status:** Started

**Scope:** Reply to R2-2000010 indicating if the working assumption is feasible

**Intended outcome:** Agreeable draft LS in R2-2001933

**Deadline:**  Thursday 2020-02-27 1300 CET

* [AT109e][610][POS] Revision of running CR to 38.305 (Intel)

**Status:** Started

**Scope:** Update the CR from R2-2000473

**Intended outcome:** Agreeable CR taking into account decisions of this meeting, in R2-2001934

**Deadline:** Wednesday 2020-03-04 1300 CET

* [AT109e][611][POS] Support of non-periodic SRS cases (Huawei)

**Status:** Started

**Scope:** Progress the discussion of semi-persistent and aperiodic SRS for positioning

**Intended outcome:** Summary of agreements on support of aperiodic SRS including triggering by gNB or LMF, and progress towards design of a MAC CE for SP activation/deactivation. Summary in R2-2001935.

**Deadline:** Wednesday 2020-03-04 1300 CET

* [AT109e][612][POS] Spatial relationship configuration (Huawei)

**Status:** Started

**Scope:** Progress the discussion of spatial relationship determination and configuration for positioning

**Intended outcome:** Summary of agreements on how the spatial relationship is determined for UL-involved cases. Summary in R2-2001936.

**Deadline:** Wednesday 2020-03-04 1300 CET

* [AT109e][613][POS] PPP-RTK CR to 36.331 (Qualcomm)

**Status:** Started

**Scope:** Update the CR in R2-2001216

**Intended outcome:** Agreeable CR in R2-2001937

**Deadline:** Wednesday 2020-03-04 1300 CET

* [AT109e][614][POS] Running CR to 38.331 on positioning (Ericsson)

**Status:** Started

**Scope:** Update the CR in R2-2002112

**Intended outcome:** Agreeable CR in R2-2001938

**Deadline:**  Wednesday 2020-03-04 1300 CET

# 4 EUTRA corrections Rel-15 and earlier

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

No documents should be submitted to 4. Please submit to 4.x

NOTE For R2 109e for R15 and earlier releases, only documents on important and urgent issues shall be submitted and treated. No text enhancements without behavioural or functional change.

## 4.4 Positioning corrections Rel-15 and earlier

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

# 5 WI: New Radio (NR) Access Technology

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

NOTE For R2 109e for R15 and earlier releases, only documents on important and urgent issues shall be submitted and treated. No text enhancements without behavioural or functional change.

## 5.2 Stage 2

### 5.2.3 Positioning

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.

**This document will be treated in the first session the week of February 24**

[R2-2000762](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\38331_CR1454_(Rel-15)_R2-2000762_Corrections%20to%20NR%20LocationMeasurementIndication.docx) Corrections to the Location measurement indication procedure Lenovo, Motorola Mobility CR Rel-15 38.331 15.8.0 1454 - F NR\_newRAT-Core

Intel have some detailed comments to be taken offline. Some tidying up can be done and they think the condition should be kept for clarity.

Ericsson also think the condition on RSTD measurement is OK to keep.

Huawei think the CR is not essential. Lenovo think we should ensure that the spec is correct.

* We have the correction of the field but do not restructure the condition.
* [AT109e][608][POS] Corrections to location measurement indication (Lenovo)

Intended outcome: Agreed CR in R2-2001932

Deadline: Friday 2020-02-28 1300 CET

R2-2001932 Corrections to the Location measurement indication procedure Lenovo, Motorola Mobility CR Rel-15 38.331 15.8.0 1454 1 F NR\_newRAT-Core

# 6 Rel-16 NR Work Items

## 6.8 NR Positioning Support

(NR\_pos-Core; leading WG: RAN1; REL-16; started: Mar 19; target; Mar 20; WID: [RP-191156](file:///C:\Data\3GPP\TSGR\TSGR_84\docs\RP-191156.zip)). Documents in this agenda item will be handled in a break out session

Time budget: 1 TU

Tdoc Limitation: 6 tdocs

### 6.8.1 Organisational

Including incoming LSs, rapporteur inputs, etc. Note running CRs will be treated under the corresponding agenda items.

**LSs will only be treated if flagged by the contact companies. LSs not flagged will be automatically noted.**

**The following LS(s) will be treated in the first session the week of February 24**

[R2-2000010](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2000010_R1-1913522.doc) LS on agreements related to NR Positioning (R1-1913522; contact: Nokia) RAN1 LS in Rel-16 NR\_pos To:RAN2, RAN3, RAN4

Huawei wonder if the SMTC is configured by LMF or gNB. Intel understand that the configuration comes from the gNB; Ericsson agree.

Intel think the LMF could still provide the SMTC. Nokia understand that it is an open issue. Intel confirm it is captured as an open issue in the stage 3.

Offline discussion to draft a reply LS if needed, pending resolution of the open issue in the stage 3 discussion.

* [AT109e][609][POS] Reply LS to R2-2000010 (Nokia)

Intended outcome: Agreeable draft LS in R2-2001933

Deadline: Thursday 2020-02-27 1300 CET

R2-2001933 Draft reply LS on agreements related to NR Positioning Nokia LS out Rel-16 NR\_pos To:RAN1 Cc: RAN3, RAN4

**The following LS(s) will not be treated**

[R2-2000033](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2000033_R3-197794.docx) LS on DL-AOD procedure (R3-197794; contact: Huawei) RAN1 LS in Rel-16 NR\_pos-Core To:RAN2

* Noted without presentation

[R2-2000038](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2000038_R4-1915801.docx) Response LS on Reference Point for Timing Related Measurements in FR2 (R4-1915801; contact: CATT, Ericsson) RAN4 LS in Rel-16 NR\_pos-Core To:RAN1 Cc:RAN2, RAN3

* Noted without presentation

### 6.8.2 Architecture and protocol aspects

#### 6.8.2.1 Stage 2

Including impact to 36.305 and 38.305. This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting.

Including outcome of the email discussion [108#84][NR/Pos] Running stage 2 CR on positioning (Intel)

Summary document to be provided by Huawei [TBC]

*Running CRs*

**The following running CRs will be treated in the first session the week of February 24**

[R2-2001080](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2001080%20Stage%202%20CR%20for%20the%20introduction%20of%20SSR%20positioning%20support%20into%20LTE.docx) Stage 2 CR for the introduction of SSR positioning support into LTE Intel Corporation, ESA CR Rel-16 36.305 15.4.0 0085 - B NR\_pos-Core

* Revised in R2-2002111

[R2-2002111](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2002111%20Stage%202%20CR%20for%20the%20introduction%20of%20SSR%20positioning%20support%20into%20LTE.docx) Stage 2 CR for the introduction of SSR positioning support into LTE Intel Corporation, ESA CR Rel-16 36.305 15.4.0 0085 1 B NR\_pos-Core

* Agreed

[R2-2000473](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2000473%20Running%20stage%202%20CR-positioning%20v03.docx) Running stage 2 CR on NR positioning ([108#84][NR Pos]) Intel Corporation, ESA CR Rel-16 38.305 15.5.0 0017 - B NR\_pos-Core

Intel clarify there are still open issues to be resolved from this meeting.

* [AT109e][610][POS] Revision of running CR to 38.305 (Intel)

Intended outcome: Agreeable CR taking into account decisions of this meeting, in R2-2001934

Deadline: Wednesday 2020-03-04 1300 CET

R2-2001934 Running stage 2 CR on NR positioning ([108#84][NR Pos]) Intel Corporation, ESA CR Rel-16 38.305 15.5.0 0017 1 B NR\_pos-Core

*Summary document*

**The following summary document will be treated the week of February 24**

[R2-2001931](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2001931%20Summary%20on%20AI%206.8.2.1%20for%20R16%20Positioning_v2.docx) Summary on the Stage-2 Aspects of R16 Positioning Huawei, HiSilicon, Intel Corporation discussion Rel-16 NR\_pos-Core

ProposalToDisc1: RAN2 should discuss whether R15 SRS can be supported for R16 multi-RTT positioning.

Qualcomm understand that RAN1 have not agreed on this, but if they do later, it should be easy to incorporate. Not in RAN2 scope to decide.

Ericsson agree it would be easy to incorporate and point out the reporting would be over NRPPa since it affects the gNB Rx-Tx measurement.

CATT agree with Qualcomm.

We will wait for input from RAN1 on this point.

ProposalToDisc2: RAN 2 should discuss whether Semi-persistent SRS for positioning is supported.

• If Semi-persistent SRS for positioning is needed, an email discussion for the design of activation/deactivation MAC CE is needed.

ProposalToDisc3: RAN2 should discuss whether aperiodic SRS for positioning can be supported.

Qualcomm think there is no big signalling difference between the aperiodic and SP cases.

Huawei think the difference between SP and aperiodic is the need to design a new MAC CE for SP; for aperiodic nothing new is needed.

CATT support the use of SP but agree the new MAC CE will be a lot of effort.

Intel understand that if aperiodic is used for intra-node cases there is no extra impact ,but to use it between nodes we need an extra trigger.

vivo understand that RAN1 agree to support both cases.

Ericsson do not see a strong need for both SP and aperiodic and are fine to postpone these cases to Rel-17. They don’t think QC’s proposal for the MAC CE design is desirable in its current form and see some complexity from the design. They also understand that the RAN1 support for aperiodic is contingent on discussion in RAN2/3.

Support semi-persistent SRS for positioning.

ProposalToDisc4: RAN2 to discuss on the following aspects

• whether the gNB or the LMF triggers the decision of non-periodic SRS activation/deactivation.

• whether the delay for NRPPa signalling is considered as an issue for non-periodic SRS activation/deactivation

• whether NRPPa message MEASUREMENT REQUEST can convey the non-periodic SRS configuration

* [AT109e][611][POS] Support of non-periodic SRS cases (Huawei)

Intended outcome: Summary of agreements on support of aperiodic SRS including triggering by gNB or LMF, and progress towards design of a MAC CE for SP activation/deactivation. Summary in R2-2001935.

Deadline: Wednesday 2020-03-04 1300 CET

ProposalToDisc5: RAN2 should discuss

• whether spatial relation is determined by gNB or recommended by LMF

• whether Xn exchange of PRS configuration is needed

• whether gNB should be allowed to retrieve measurements from the UE for the purpose of spatial relation setup

Qualcomm understand that since the AD are provided by the LMF for DL-only positioning and UL+DL, the LMF needs to know about the spatial relation. Intel think for the gNB to make the decision on the spatial relation, it would need all the configuration information from neighbour cells, and it may be easier to have the LMF take the decision. vivo think for the UL case it should be determined by the gNB, since the gNB has the measurement information to determine the spatial relationship; but they are fine to have it determined by LMF for DL and UL+DL.

Ericsson think the SSB configuration itself could be provided by RRC, with indices to indicate the spatial relation in the AD, for DL-only.

Huawei think the spatial relation should be determined by the LMF because it has the neighbouring cell information. Qualcomm agree and think the serving gNB cannot make this decision. Intel and CATT also agree.

Ericsson think the gNB is already doing the UL-DL alignment for the serving cell. For DL-only it would be OK for them to have the configuration from the LMF, but for the cases with uplink involved they see it as easier for the gNB to configure, with coordination over Xn.

Intel think we should have one solution covering DL and UL. For DL the LMF makes sense and we should align to this solution.

vivo think the RRM information available in the gNB can help determine the spatial relationship.

Ericsson are not sure of the value of having one solution. They wonder if there would be additional delay for coordinating between the gNB and the LMF in multi-cell RTT.

Huawei think the recommendation can be from the LMF with the final decision in the gNB using its own RRM measurements.

CATT agree that for DL-only the LMF should configure the spatial relationship, and in the UL-involved cases the LMF has better insight into the neighbour cells and should also configure the spatial relationship. Coordination over Xn may not always be possible in real networks.

QC understand we agreed last meeting that for multi-RTT, all the AD are provided by the LMF. They don’t see a need to distinguish positioning methods in this respect, and they agree with CATT about the potential unavailability of Xn coordination.

Ericsson see that the SSB configuration will come from the gNB, and the AD from LMF can just use indices to indicate which SSB is referred to, to avoid duplicating the SSB information on two interfaces.

* [AT109e][612][POS] Spatial relationship configuration (Huawei)

Intended outcome: Summary of agreements on how the spatial relationship is determined for UL-involved cases. Summary in R2-2001936.

Deadline: Wednesday 2020-03-04 1300 CET

ProposalToDisc6:RAN2 should clarify whether R16 positioning methods can be based on LTE signals.

CATT understand based on the LS from RAN1 that only E-CID uses Rel-15 signals and other methods use Rel-16 signals only. Qualcomm have the same view.

Nokia point out we have positioning with LTE signals in Rel-15.

Qualcomm understand that RAN1 did not agree to any support of inter-RAT signals.

There is no support of Rel-16 NR RAT-dependent positioning methods with LTE signals.

ProposalToDisc7: RAN2 should discuss whether SUPL can be supported for R16 positioning methods.

Qualcomm understand that this would need to be discussed in OMA and we can’t take a decision here. Nokia agree. CATT agree that OMA should make the decision but wonder if we should send an LS to OMA to tell them to take the new version of LPP into account. Chair thinks we should wait until we have a stable spec for such an LS.

Intel suggest we mark it as unsupported rather than TBD, until OMA take a decision.

CATT think we would also need to inform OMA of the spec numbering change. Intel think they should know this. Nokia point out that 36.355 points to 37.355.

SUPL will be marked as not supported (can be revisited if OMA take some action).

ProposalToDisc8:RAN2 should discuss whether UL PRS-RSRP and DL-PRS RSRP should be optionally reported for UL-TDOA and DL-TDOA and whether both should be optionally reported for multi-RTT.

To be discussed as part of the stage 3 topics.

Furthermore, the following issues seem agreeable for most companies and RAN2 should confirm on them.

ProposalToConf1: RAN2 should confirm that uplink E-CID is also supported.

CATT understand that per RAN1, UL E-CID is not required.

QC understand that there is no RAN2 impact. Intel agree and understand that it is also out of RAN1 scope.

Huawei observe that RAN3 has no agreements or discussion on this, but they think there is no blocking issue for us to support it and we could take the decision and let RAN3 add the measurements. Intel think we cannot take this decision without RAN1 guidance.

No action on this point.

R2-2001935 Summary of offline discussion #611 on non-periodic SRS for positioning Huawei, HiSilicon discussion Rel-16 NR\_pos-Core

R2-2001936 Summary of offline discussion #612 on spatial relationship for positioning Huawei, HiSilicon discussion Rel-16 NR\_pos-Core

*Non-periodic SRS*

**The following documents will not be individually treated**

[R2-2000513](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2000513.docx) Discussion on non-periodic SRS resource for positioning ZTE Corporation discussion Rel-16 NR\_pos-Core

[R2-2000967](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2000967%20Remaining%20issues%20on%20SRS%20configuration.docx) Remaining issues on SRS configuration Huawei, HiSilicon discussion Rel-16 NR\_pos-Core

[R2-2001214](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2001214_(SP%20SRS%20Discussion).docx) Semi-persistent and aperiodic SRS-for-positioning Qualcomm Incorporated discussion Rel-16 NR\_pos-Core

[R2-2001237](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2001237%20-%20Spatial%20Relations%20and%20MAC%20CE.docx) Spatial Relations and MAC CE Ericsson discussion Rel-16

#### 6.8.2.2 RRC

Including impact to 36.331 and 38.331. This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting.

Including outcome of the email discussion [108#41][NR/Pos] Running CR to 38.331 on positioning (Ericsson)

Summary document to be provided by the CR rapporteur (Ericsson)

*Running CRs*

**The following running CRs will be treated in the first session the week of February 24**

[R2-2001216](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2001216_(Running%20CR%2036331_SSR).docx) Introduction of PPP-RTK (SSR) Qualcomm Incorporated CR Rel-16 36.331 15.8.0 4215 - B NR\_pos-Core

posSIB numbers need to be aligned to 37.355.

* [AT109e][613][POS] PPP-RTK CR to 36.331 (Qualcomm)

Intended outcome: Agreeable CR in R2-2001937

Deadline: Wednesday 2020-03-04 1300 CET

R2-2001937 Introduction of PPP-RTK (SSR) Qualcomm Incorporated CR Rel-16 36.331 15.8.0 4215 1 B NR\_pos-Core

[R2-2001333](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2001333%20RRC%20Positioning_v5.docx) Running CR for the introduction of NR positioning Ericsson draftCR Rel-16 38.331 15.8.0 B NR\_pos-Core

* Revised in R2-2002112

[R2-2002112](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2002112.docx) Running CR for the introduction of NR positioning Ericsson draftCR Rel-16 38.331 15.8.0 B NR\_pos-Core

Qualcomm do not understand the need for the “type 2 SRS” terminology and think we need to distinguish the Rel-15 and Rel-16 spatial relations more clearly. Apple have the same concern and think it would be better to implement a new SRS configuration IE for this purpose. Nokia also agree on the terminology issue.

* [AT109e][614][POS] Running CR to 38.331 on positioning (Ericsson)

Intended outcome: Agreeable CR in R2-2001938

Deadline: Wednesday 2020-03-04 1300 CET

R2-2001938 Running CR for the introduction of NR positioning Ericsson draftCR Rel-16 38.331 15.8.0 B NR\_pos-Core

[R2-2001255](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2001255%20-%20Running%20CR%20on%2038.331%20for%20on-demand%20SIB.docx) Running CR on 38.331 for on-demand SI procedure in RRC\_CONNECTED for Positioning Ericsson draftCR Rel-16 38.331 15.8.0 NR\_pos

*Summary document*

**The following summary document will be treated the week of February 24**

[R2-2002052](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2002052.docx) Summary for Positioning RRC running CR Ericsson discussion Rel-16 NR\_pos-Core

*SRS*

**The following documents will not be individually treated**

[R2-2000243](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2000243.doc) UL SRS UE capabilities captured by RRC in TS 38.331. CATT discussion Rel-16 NR\_pos-Core

[R2-2001228](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2001228_(MAC%20CE%20for%20SRS-for-positioning).docx) Introduction of NR positioning Qualcomm Incorporated CR Rel-16 38.321 15.8.0 0693 - B NR\_pos-Core

*Other documents*

**The following document will not be individually treated**

[R2-2000968](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2000968%20Discussion%20on%20GAP%20request%20for%20RSTD%20measurement.doc) Discussion on GAP request for RSTD measurement Huawei, HiSilicon discussion Rel-16 NR\_pos-Core

#### 6.8.2.3 LPP

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting.

Including outcome of the email discussion [108#85][NR/Pos] Running CR to 36.355 (Intel)

Including outcome of the email discussion [108#86][NR/Pos] Single positioning method approach in LPP (Ericsson)

Including outcome of the email discussion [108#87][NR/Pos] Additional path reporting (Ericsson)

Summary document to be provided by the CR rapporteur (Intel)

Running CRs

**The following running CRs will be treated the week of February 24**

R2-2001168 Introduction of Rel-16 NR positioning Intel Corporation CR Rel-16 37.355 15.0.0 0250 - B NR\_pos-Core Late

[R2-2000474](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2000474%20Capturing%20RAN1%20parameters%20for%20positioning_v04.docx) LPP CR Capturing RAN1 parameters for positioning ([108#85][NR Pos]) Intel Corporation draftCR Rel-16 37.355 15.0.0 NR\_pos-Core R2-1914728

[R2-2001230](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2001230_(Running%20CR%2037355_SSR)_v6.docx) Introduction of PPP-RTK (SSR) Qualcomm Incorporated CR Rel-16 37.355 15.0.0 0251 - B NR\_pos-Core

Email discussions

**The following email discussion summaries will be treated the week of February 24**

[R2-2001279](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2001279%20Email%20discussion%20NR-Pos%20Single.docx) Summary of [108#86][NR/Pos] Single positioning method approach in LPP Ericsson report Rel-16

* Revised in R2-2002115

[R2-2002115](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2002115_(Email%20discussion%20108%2386NR-Pos%20Single%20positioning%20method%20approach%20in%20LTE)_QC_ERIC.docx) Summary of [108#86][NR/Pos] Single positioning method approach in LPP Ericsson report Rel-16

[R2-2000475](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2000475%20108%2385%20UE%20capability%20on%20NR%20positioning_V01.doc) UE capability on positioning ([108#85][NR Pos]) Intel Corporation discussion Rel-16 37.355 NR\_pos-Core

[R2-2001243](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2001243%20Summary-of-108%2387NR-Rel16-Additional-Path-Reporting_HW_CATT_MTK_NOK_Eric.docx) Summary of [108#87][NR/Rel-16] Additional path reporting Ericsson discussion Rel-16

=> Revised in R2-2001659

[R2-2001659](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2001659%20Summary-of-108%2387NR-Rel16-Additional-Path-Reporting.docx) Summary of [108#87][NR/Rel-16] Additional path reporting Ericsson discussion Rel-16

Summary document

**The following summary document will be treated the week of February 24**

[R2-2001173](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2001173%20Summary%20on%20LPP%20for%20agenda%206.8.2.3%20v02.doc) Summary on LPP for aganda 6.8.2.3 Intel Corporation discussion Rel-16 NR\_pos-Core Late

The posSIB numbers will be aligned in the following email discussion (output to be recorded in this agenda item):

* [AT109e][601][POS] Harmonise posSIB numbering across CRs (Intel)

**Scope:** Align posSIB numbering between the following CRs:

* R2-2001333 (38.331 running CR)
* R2-2001216 (36.331 CR to introduce PPP-RTK)
* R2-2001255 (38.331 CR to introduce on-demand SI request in connected mode)
* R2-2001230 (37.355 CR to introduce PPP-RTK)
* R2-2001234 (TPs to 37.355 to introduce UE-based DL positioning)
* R2-2000006 (37.355 CR to introduce barometric pressure broadcast)
* R2-2000188 (36.331 CR to introduce barometric pressure broadcast)
* R2-2000396 (36.331 CR to introduce TBS AD broadcast)
* R2-2000426 (37.355 CR to introduce TBS AD broadcast)
* R2-2000153 (37.355 CR to introduce NavIC)
* R2-2000157 (36.331 CR to introduce NavIC)

**Intended Outcome:** Agreed document listing the posSIB numbers, for reference by individual CR authors

**Deadline: Thursday** 2020-02-27 1200 CET

Other documents

**The following documents will not be individually treated**

[R2-2000241](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2000241.doc) Design of ProvideAssistantData for RAT-Dependent positioning methods CATT discussion Rel-16 NR\_pos-Core

[R2-2000289](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2000289%20Reduce%20overhead%20of%20RSTD%20measurement%20report_final.docx) Reduce overhead of RSTD measurement report vivo discussion

[R2-2000290](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2000290%20Remaining%20issues%20on%20support%20of%20NR%20RAT-dependent%20positioning_clean.docx) Remaining issues on support of NR RAT-dependent positioning vivo discussion

[R2-2000476](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2000476%20Open%20issues%20in%20LPP%20CR.doc) Open issues in LPP CR Intel Corporation discussion Rel-16 NR\_pos-Core

[R2-2000966](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2000966%20Remaining%20issues%20on%20DL%20positioning%20procedure.docx) Remaining issues on DL positioning procedure Huawei, HiSilicon, MediaTek discussion Rel-16 NR\_pos-Core

[R2-2000969](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2000969%20Discussion%20on%20DL-AoD%20positioning%20procedure.docx) Discussion on DL-AoD positioning procedure Huawei, HiSilicon discussion Rel-16 NR\_pos-Core

[R2-2000970](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2000970%20Discussion%20on%20SRS%20capability%20transfer.docx) Discussion on SRS capability transfer Huawei, HiSilicon discussion Rel-16 NR\_pos-Core

[R2-2000991](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2000991_SSB_Configs.docx) SSB Configuration for UL-PRS and DL-PRS LG Electronics Inc. discussion Rel-16

[R2-2001232](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2001232_(posSIBs%20for%20NR%20positioning).docx) posSIBs for NR positioning Qualcomm Incorporated discussion NR\_pos-Core

[R2-2001278](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2001278%20CR%2037355%20Single%20positioning%20method%20approach%20in%20LPP.docx) Single positioning method approach in LPP Ericsson CR Rel-16 37.355 15.0.0 0253 - B NR\_pos-Core

[R2-2001353](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2001353%20Strongest%20first%20path%20indication%20with%20RSTD%20and%20UE%20RxTx%20measurements%20.docx) Strongest first path indication with RSTD and UE RxTx measurements Ericsson discussion Rel-16

#### 6.8.2.4 Broadcast assistance data

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting.

Including outcome of the email discussion [108#88][NR/Pos] Remaining issues on broadcast assistance data (Ericsson)

Summary document to be provided by the email discussion rapporteur (Ericsson)

Email discussion

**The following email discussion summary will be treated the week of February 24**

[R2-2001241](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2001241%20Summary%20of%20108%2388NR-Rel16%20Remaining%20Broadcast%20Issues_V2.docx) Summary of [108#88][NR/Rel-16] Remaining issues on broadcast assistance data Ericsson discussion Rel-16 Late

*Summary document*

**The following summary document will be treated the week of February 24**

[R2-2002053](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2002053.docx) Summary for Broadcast of Assistance Data Ericsson discussion Rel-16 NR\_pos-Core

*Other documents*

**The following documents will not be individually treated**

[R2-2000242](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2000242.docx) Further Considerations on Broadcast Assistance Data CATT discussion Rel-16 NR\_pos-Core Late

[R2-2000971](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2000971%20Discussion%20on%20on-demand%20SI%20in%20connected%20for%20NR%20positioning.docx) Discussion on on-demand SI in connected for NR positioning Huawei, HiSilicon discussion Rel-16 NR\_pos-Core

[R2-2001236](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2001236%20-%20Segmentation%20info%20in%20gNB.docx) Segmentation info in gNB Ericsson discussion Rel-16

[R2-2001239](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2001239%20Overhead.docx) Overhead in current structure Ericsson discussion Rel-16

[R2-2001268](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2001268%20LPP%20restructure%20CR.docx) Restructuring of LPP Broadcast solution to remove overheads Ericsson draftCR Rel-16 37.355 15.0.0 B NR\_pos-Core

[R2-2001269](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2001269%20RRC%20Restructuring.docx) Restructuring of RRC Broadcast solution to remove overheads Ericsson draftCR Rel-16 38.331 15.8.0 B NR\_pos-Core

[R2-2001636](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Docs\R2-2001636.zip) On supporting of SIB for positioning Samsung R&D Institute UK discussion

#### 6.8.2.5 UE-based positioning

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting.

Including outcome of the email discussion [108#89][NR/Pos] UE-based downlink positioning assistance data (Qualcomm)

Summary document to be provided by the email discussion rapporteur (Qualcomm)

Email discussion

**The following email discussion summary will be treated the week of February 24**

[R2-2001234](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2001234_(Email%20discussion%20108-89NR-Pos%20Assistance%20Data%20for%20UE-based).docx) Summary of [108#89][NR/Pos] UE-based downlink positioning assistance data Qualcomm Incorportaed discussion NR\_pos-Core

Summary document

**The following summary document will be treated the week of February 24**

[R2-2001245](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2001245_(Summary%20of%206.8.2.5%20UE-based%20positioning).docx) Summary of UE-based positioning Agenda Item 6.8.2.5 Qualcomm Incorporated discussion Late

Other documents

**The following documents will not be individually treated**

[R2-2000837](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2000837_Virtual_Pos_1.0.doc) On supporting UE-based positioning Sony discussion Rel-16 NR\_pos-Core

[R2-2001240](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2001240%20UE-based.docx) UE-based configuration options Ericsson discussion Rel-16

[R2-2001244](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2001244_(UE-Based%20Remaining%20Details).docx) Remaining details for UE-based downlink positioning assistance data Qualcomm Incorporated discussion NR\_pos-Core

### 6.8.3 Other

R2-2000291 Inactive state measurement message sending for positioning vivo discussion Withdrawn

## 6.20 NR TEI16 enhancements

### 6.20.1 RAN2 led TEI16 enhancements - Control plane related

**The following documents will be treated by email discussion**

[R2-2000238](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\36%20305_CR0083r1_(Rel-16)_R2-2000238.docx) Introduction of B1C signal in BDS system in A-GNSS CATT, CAICT, CMCC, China Telecom, China Unicom, Huawei, ZTE Corporation, MediaTek Inc CR Rel-16 36.305 15.4.0 0083 1 B TEI16 R2-1912203

[R2-2000239](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\37%20355_CR0248_(Rel-16)_R2-2000239.docx) Introduction of B1C signal in BDS system in A-GNSS CATT, CAICT, CMCC, China Telecom, China Unicom, Huawei, ZTE Corporation, MediaTek Inc CR Rel-16 37.355 15.0.0 0248 - B TEI16

[R2-2000240](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\38%20305_CR0013r1_(Rel-16)_R2-2000240.DOCX) Introduction of B1C signal in BDS system in A-GNSS CATT, CAICT, CMCC, China Telecom, China Unicom, Huawei, ZTE Corporation, MediaTek Inc CR Rel-16 38.305 15.5.0 0013 1 B TEI16 R2-1912205

* Above 3 tdocs for agreement by email discussion:
* [AT109e][602][NR TEI] BDS B1C signal CRs (CATT)

**Scope:** Agree to the CRs in R2-2000238, R2-2000239, and R2-2000240

**Intended Outcome:** Agreed CRs

**Deadline:** Wednesday 2020-02-26 1200 CET

[R2-2001238](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2001238%20-%20Transfer%20of%20unicast%20RS%20observations%20with%20GNSS%20integer%20ambiguity%20level%20information.docx) Transfer of unicast RS observations with GNSS integer ambiguity level information Ericsson discussion Rel-16

[R2-2001256](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2001256%20-%20CR%20on%2037.355%20Introducing%20support%20for%20GNSS%20Integer%20Ambiguity%20Level%20Indications.docx) Introducing support for GNSS Integer Ambiguity Level Indications Ericsson CR Rel-16 37.355 15.0.0 0252 - B NR\_pos, NR\_pos-Core R2-1916412

=> For agreement by email discussion:

* [AT109e][603][NR TEI] GNSS integer ambiguity level indication CR (Ericsson)

**Scope:** Agree to the CR in R2-2001256

**Intended Outcome:** Agreed CR

**Deadline:** Wednesday 2020-02-26 1200 CET

# 7 Rel-16 LTE Work Items

Documents in these agenda items will be handled in break out sessions

## 7.6 LTE TEI16 enhancements

Small Technical Enhancements to LTE. TEI should be predominantly within a single WG and fully completed within the same quarter in all affected WGs. RAN2 impact of RAN1/4-led TEI shall be limited to RRC signalling of configuration parameters and UE capabilities (no MAC impact, no RRC procedural impact, etc). Please also see RP-191602 endorsed at RAN#84.

Time budget: 1 TU

**The following documents will be treated by email discussion**

[R2-2000007](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2000007%20Sensor%20Provide%20Location%20Information%20Elements.docx) Sensor Provide Location Information Elements Correction Polaris Wireless CR Rel-16 37.355 15.0.0 0002 - F TEI16

* To be agreed by email discussion:
* [AT109e][605][LTE TEI] Barometric pressure sensor bias CR (Polaris)

**Scope:** Agree to the CR in R2-2000007

**Intended Outcome:** Agreed CR

**Deadline:** Wednesday 2020-02-26 1200 CET

[R2-2000006](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2000006%20Addition%20of%20broadcast%20of%20barometric%20pressure%20assistance%20data.docx) Addition of broadcast of barometric pressure assistance data Polaris Wireless, FirstNet, Intel, AT&T, NextNav CR Rel-16 37.355 15.0.0 0001 - C LCS\_LTE\_acc\_enh-Core, TEI16

[R2-2000188](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2000188%20Addition%20of%20broadcast%20of%20barometric%20pressure%20assistance%20data.docx) Addition of broadcast of barometric pressure assistance data Polaris Wireless, FirstNet, Intel, AT&T, NextNav CR Rel-16 36.331 15.8.0 4026 2 C LCS\_LTE\_acc\_enh-Core, TEI16 R2-1912737

* Above 2 tdocs to be agreed by email discussion:
* [AT109e][604][LTE TEI] Broadcast of barometric pressure assistance data CRs (Polaris)

**Scope:** Agree to the CRs in R2-2000006 and R2-2000188. Note: Updates to the CRs will be needed to align with the output of [AT109e][601].

**Intended Outcome:** Agreed CRs

**Deadline:** Tuesday 2020-03-03 1200 CET

[R2-2000396](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2000396.docx) Broadcast of TBS assistance data NextNav, AT&T, FirstNet, Polaris Wireless CR Rel-16 36.331 15.8.0 4134 2 C LCS\_LTE\_acc\_enh-Core, TEI16 R2-1914075

[R2-2000426](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2000426.docx) Broadcast of TBS assistance data NextNav, AT&T, FirstNet, Polaris Wireless CR Rel-16 37.355 15.0.0 0249 - C LCS\_LTE\_acc\_enh-Core, TEI16

* Above 2 tdocs to be agreed by email discussion:
* [AT109e][606][LTE TEI] Broadcast of TBS assistance data CRs (NextNav)

**Scope:** Agree to the CRs in R2-2000396 and R2-2000426. Note: Updates to the CRs will be needed to align with the output of [AT109e][601].

**Intended Outcome:** Agreed CRs

**Deadline:** Tuesday 2020-03-03 1200 CET

R2-2000398 Broadcast of TBS assistance data NextNav, AT&T, FirstNet, Polaris Wireless CR Rel-16 36.355 15.6.0 0246 2 C LCS\_LTE\_acc\_enh-Core, TEI16 R2-1914076 Withdrawn

## 7.7 Support of Indian Navigation Satellite System (NavIC)

(LCS\_NAVIC; leading WG: RAN2; REL-16; started: Sept 19; target; March-20; WID: RP-192350)

Time budget: 0 TU Final agreement of CRs is expected

This agenda item will focus on agreeing to the final CRs for the WID and will only be treated over email. No web conference is planned for this agenda item.

**The following documents will be treated by email discussion**

[R2-2000153](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2000153_CR%20of%20TS%2037.355%20%20for%20introducing%20NavIC%20in%20LTE(Rel-16)%20-%20core%20part.docx) CR of TS 36.355 for introducing NavIC in LTE Reliance Jio, MediaTek Inc., Huawei, CEWiT, Saankhya Labs Private Limited, Tejas Networks Ltd., Qualcomm Incorporated CR Rel-16 37.355 15.0.0 0247 5 B LCS\_NAVIC, LCS\_NAVIC-Core R2-1916406

[R2-2000157](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2000157_CR%20of%20TS%2036.331%20%20for%20introducing%20NavIC%20in%20LTE%20(Rel-16)-%20core%20part.docx) CR of TS 36.331 for introducing NavIC in LTE Reliance Jio, MediaTek Inc., Huawei, CEWiT, Saankhya Labs Private Limited, Tejas Networks Ltd., Qualcomm Incorporated CR Rel-16 36.331 15.8.0 4137 4 B LCS\_NAVIC R2-1916407

[R2-2000158](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202002%20-%20RAN2_109e,%20Online\Extracts\R2-2000158_CR%20of%20TS%2036.305%20%20for%20introducing%20NavIC%20in%20LTE%20-%20core%20part.docx) CR of TS 36.305 for introducing NavIC in LTE Reliance Jio, MediaTek Inc., Huawei, CEWiT, Saankhya Labs CR Rel-16 36.305 15.4.0 0084 3 B LCS\_NAVIC R2-1916408

* Above 3 tdocs to be agreed by email discussion:
* [AT109e][607][NAVIC] NavIC CRs (Reliance Jio)

**Scope:** Agree to the CRs in R2-2000153, R2-2000157, and R2-2000158. Note: Updates to the CRs will be needed to align with the output of [AT109e][601].

**Intended Outcome:** Agreed CRs

**Deadline:** Tuesday 2020-03-03 1200 CET