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] Nathan’s Organizational Email Thread (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

# 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

# 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

**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

[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

### 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 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

[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

*Summary document*

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

R2-2001931 Summary on the Stage-2 Aspects of R16 Positioning Huawei, HiSilicon, Intel Corporation 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

[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

[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 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 in the first session 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

[R2-2001230](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**

[R2-2000474](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

[R2-2001279](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

[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 Summary on LPP for aganda 6.8.2.3 Intel Corporation discussion Rel-16 NR\_pos-Core Late

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 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 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 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

[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

# 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**

[R2-2000006](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

[R2-2000007](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

[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

[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

R2-2000398 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

[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

## 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