3GPP TSG-RAN WG2 Meeting #109 electronic R2-19xxxxx

**24 Feb – 6 Mar 2020**

Source: RAN2 Chairman (Mediatek)

Title: Chairman Notes

# Main session email list

This sub-clause lists the email discussions of the main session, Email discussions xyz range: [000]-[099]. Main Session Comprises normally Agenda Items: 1, 2, 3, 5 NR R15 except positioning, 6.0 R16 Organizational, 6.1 IAB, 6.7 IIOT, 6.10 DCCA, 6.19 Other, 6.20 TEI16 except positioning, 6.21 On-demand SI in Conn, 6.22 URLLC, 8 Session Reports, meeting conclusion.

* [AT109e][000] RAN2 109-e Organizational Main (Chairman)

Scope: Meeting: Opening and Closing of the meeting. Comments to agenda, schedule methods etc. General things that do not fit elsewhere. Treatment of Agenda Items 1, 2 and 8. Johan’s session topics: Comments to session notes. Kick-off and management of email discussions for main session. Coordination issues.

Part 1: Intended outcome: AI1 Chairman reminders and Possibility to comment, AI2 Approval of agenda, AI2 Endorsement of RAN2 109-e Methods and Guidence

CLOSED

Part 2: Intended outcome: AI2 Approval of RAN2#108 Meeting Report

CLOSED

Part 3: Intended outcome: Approval of Reports from RAN2 Sessions,

Deadline: Mar 06 1200 CET

* [AT109e][001][NR15] Stage-2 38300 (Nokia)

Scope: CRs above, potential other R15 38300 topic TBD

CLOSED

* [AT109e][002][NR15] User Plane (Apple/Huawei)

Scope: Treat User Plane R15 CRs, tdocs above

CLOSED

* [AT109e][003][NR15] NR RRC (Ericsson)

Scope: RRC Maintenance, Treat CR above, there may be additions to the CR during the meeting.

Intended outcome: Agreed CR, other items TBD

Deadline: MAR 5 1200 CET

* [AT109e][004][NR15] Potential Easies I (Mediatek, vivo, Huawei, ASUS)

Scope: Treat [R2-2000681](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000681.zip), R2-2000359, R2-2001179, R2-2001178, [R2-2001590](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001590.zip). In case email discussion gets unexpectedly long, it can be split.

CLOSED

* [AT109e][005][NR15] Coordination on number of measurment ID (Nokia, ZTE)

Scope: Coordination on number of measurement ID, Treat the documents above

Intended outcome: Agreed CRs

Deadline: MAR 05 1200 CET (was extended).

* [AT109e][006][NR15] Potential easies II (Nokia, LG, Ericsson, ZTE)

Scope: Treat the documents R2-2000858, R2-2000859, R2-2000353, R2-2000879, R2-2000880, R2-2001612

CLOSED

* [AT109e][007][NR15] Potential easies III (Huawei, Lenovo, NTT Docomo)

Scope: Treat the documents R2-2000763, R2-2000764, R2-2001324, R2-2000682, R2-2000692.

CLOSED

* [AT109e][008][NR15] Cap Discussion (Ericsson, Mediatek, Huawei, NTT docomo, Qualcomm, Nokia)

Part 1: Scope: Treat the documents [R2-2001322](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001322.zip), [R2-2001224](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001224.zip), [R2-2000425](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000425.zip), R2-2000684, [R2-2001221](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001221.zip), [R2-2000165](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000165.zip), [R2-2002081](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002081.zip), [R2-2000034](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000034.zip), [R2-2001220](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001220.zip), [R2-2000011](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000011.zip).

CLOSED

Part 2: Agreed revisions of R2-2001220 and R2-2001224

CLOSED

* [AT109e][009][NR15] Miscellaneous Corr UE cap (Intel)

Scope: Treat the CR above, items may be added to this CR during the meeting

Intended outcome: Agreed CR

Deadline: Mar 5 1200 CET

* [AT109e][010][NR15] Potential easies IV (Huawei)

Scope: Treat the documents [R2-2001187](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001187.zip), R2-2001323, R2-2001314, R2-2001314, R2-2001313, R2-2001312

CLOSED

* [AT109e][011][R16] LS on Guidelines for UE capability definitions (Intel/Ericsson)

Intended outcome: Approved LS out

Deadline: Mar 4 1200 CET

* [AT109e][012][R16] LCID extension (Samsung)

Scope: LCID extension, applicable to all R16 WIs that have need,

Part 1: Intended outcome: Report, issues and resolutions.

CLOSED

Part 2 Intended outcome: Agreed CR

Deadline: Mar 5 1200 CET

* [AT109e][013][IAB] IAB General (Qualcomm)

Scope: WI Rapporteur email thread, Treat general items, planning etc

Intended outcome: Decide on Plans and General matters

Deadline: Mar 4 Technical disc, Mar 5 1200 CET non-technical disc.

* [AT109e][014][IAB] BAP 38340 (Huawei)

Scope: Progress BAP TS, Stage-3 and implementation focus, Treat 108#51.

Intended outcome: Address Stage-3 Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed TS.

Deadlines: Mar 4, 5, 6 (see the schedule).

* [AT109e][015][IAB] RRC CRs 38331 36331 (Ericsson)

Scope: Progress RRC CRs.

Intended outcome: Address Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed CR.

Deadlines: Mar 4, 5, 6 (see the schedule).

* [AT109e][016][IAB] Idle CRs 38304 36304 (Huawei)

Scope: Progress xx304 CRs

Part 1: Intended outcome: Endorsed CRs, revision with tdoc number

CLOSED

Part 2: Intended outcome: Address Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed CR.

Deadlines: Mar 4, 5, 6 (see the schedule).

* [AT109e][017][IAB] Stage-2 37340 CR (Huawei)

Scope: Progress Stage-2 37340 CRs

Part 1 Intended outcome: Endorsed CRs, revision with tdoc number

CLOSED

Part 2: Intended outcome: Address Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed CR.

Deadlines: Mar 4, 5, 6 (see the schedule).

* [AT109e][018][IAB] Stage-2 38300 36300 CR (Qualcomm)

Scope: Progress Stage-2 38300 38300 CRs

Intended outcome: Address Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed CR.

Deadlines: Mar 4, 5, 6 (see the schedule).

* [AT109e][019][IAB] MAC CR (Samsung)

Scope: Progress MAC CR

Intended outcome: Address Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed CR.

Deadlines: Mar 4, 5, 6 (see the schedule).

* [AT109e][020] ()

CANCELED

* [AT109e][021][IAB] BAP functionality (Huawei)

Scope: Treat remaining parts to be treated from email discussion and from summary

Intended outcome: resolution to issues, solutions.

Deadline: Mar 3 1200 CET (from conclusions pow focus on easy agreements)

* [AT109e][022][IAB] User Plane Aspects (Samsung)

Scope: Treat summary in R2-2002092

Intended outcome: issues resolution, solutions

Deadline: Mar 3 1200 CET

* [AT109e][023][IAB] IP address Allocation (Samsung)

Scope: Treat summary on IP address allocation

CLOSED

* [AT109e][024][IAB] IAB MT Features (Ericsson)

Scope: Treat summary on IAB MT Features, Progress Feature List, Treat email discussion [108#46].

CLOSED

* [AT109e][025][IAB] SI Broadcast, cell Restrictions/Reservation and Barring, Initial Access, and Connection Setup (Ericsson)

Scope: Treat summary on 6.1.5.3

CLOSED

* [AT109e][026][IIOT] IIOT General (Nokia)

Scope: WI Rapporteur email thread,

NOT USED

* [AT109e][027][IIOT] CR RRC 38331 36331 (Ericsson)

Scope: Progress RRC CRs

Intended outcome: Address CR Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed CRs.

Deadlines: Mar 4, 5, 6 (see the schedule).

* [AT109e][028][IIOT] CR PDCP 38323 36323 (LG)

Scope: Progress PDCP CRs

Intended outcome: Address CR Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed CRs.

Deadlines: Mar 4, 5, 6 (see the schedule).

* [AT109e][029][IIOT] CR MAC 38321 (Samsung)

Scope: Progress MAC CR

Intended outcome: Address CR Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed CRs.

Deadlines: Mar 4, 5, 6 (see the schedule).

* [AT109e][030][IIOT] CR Stage-2 38300 36300 (Nokia)

Intended outcome: Address CR Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed CRs.

Deadlines: Mar 4, 5, 6 (see the schedule).

* [AT109e][031][IIOT] IIOT UE capabilities (Nokia)

Scope: Progress Feature List and UE capabilities, way forward.

Intended outcome: Treat email discussion [108#47] and other papers above,

Deadline: Mar 4 1200 CET

* [AT109e][032][IIOT] Accurate Reference Timing (Nokia)

Scope: Treat summary on accurate ref timing (other papers if needed)

Intended outcome: Resolve issues, Describe Open Issues accurately.

Deadline: Mar 3 1200 CET (conclusions on “easy agreements” by Feb 27 1200 CET)

* [AT109e][033][IIOT] Scheduling Enhancements (Ericsson)

Scope: Treat summary on Scheduling Enhancements

Intended outcome: Resolve issues, Describe Open Issues accurately.

Deadline: Mar 3 1200 CET (conclusions on “easy agreements” by Feb 27 1200 CET)

* [AT109e][034][IIOT] Ethernet Header Compression (Mediatek, Huawei)

Scope: Treat email discussion [108#53] and summary on EHC

Intended outcome: Resolve issues, Describe Open Issues accurately.

Deadline: Mar 3 1200 CET (conclusions on “easy agreements” by Feb 27 1200 CET)

* [AT109e][035][IIOT] Deprioritized transmissions (CATT)

Scope: Treat summary on deprioritized transmissions.

Intended outcome: Resolve issues, Describe Open Issues accurately.

Deadline: Mar 3 1200 CET (conclusions on “easy agreements” by Feb 27 1200 CET)

* [AT109e][036][IIOT] Data Data and Data SR prioritization (Samsung)

Scope: Treat summary on Data Data and Data SR prioritization.

Intended outcome: Resolve issues, Describe Open Issues accurately.

Deadline: Mar 3 1200 CET (conclusions on “easy agreements” by Feb 27 1200 CET)

* [AT109e][037][IIOT] PDCP Duplication Enhancements (LG)

Scope: Treat summary on PDCP Duplication Enhancements.

Intended outcome: Resolve issues, Describe Open Issues accurately.

Deadline: Mar 3 1200 CET (conclusions on “easy agreements” by Feb 27 1200 CET)

* [AT109e][038][DCCA] DCCA General (Ericsson)

Scope: WI Rapporteur email thread,

NOT USED

* [AT109e][039][DCCA] UE capabilities (Huawei)

Scope: Progress Feature List and UE capabilities, way forward.

CLOSED

* [AT109e][040][DCCA] CR Stage-2 37340 (Vivo)

Intended outcome: Address CR Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed CRs.

Deadlines: Mar 4, 5, 6 (see the schedule).

* [AT109e][041][DCCA] CR Stage-2 38300 36300 (Ericsson)

Intended outcome: Address CR Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed CRs.

Deadlines: Mar 4, 5, 6 (see the schedule).

* [AT109e][042][DCCA] CR RRC 38331 36331 (Ericsson)

Scope: Progress CRs

Intended outcome: Address CR Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed CRs.

Deadlines: Mar 4, 5, 6 (see the schedule).

* [AT109e][043][DCCA] CR MAC (Ericsson)

Intended outcome: Capture agreements, also from this meeting, as they become available. Produce final agreed CRs.

Deadlines: Mar 4, 5, 6 (see the schedule).

* [AT109e][044][DCCA] Power Control NR DC (vivo)

Scope: Treat Email discussion + additional issues from the other papers to this Agenda item

Intended outcome: Last Round: Approved LS to RAN3

Deadline: Mar 5 1200 CET

* [AT109e][045][DCCA] Early Measurements Reporting (Ericsson)

Scope: Treat Email discussion + Summary

CLOSED

* [AT109e][046][DCCA] Fast SCell Activation (Oppo)

Scope: Treat Email discussion + Summary + LS

Part 2, Continuation:

Intended outcome: Report, Agreed Issues resolutions

Deadline: Mar 3 1200 CET

* [AT109e][047][DCCA] MCG SCell and SCG Configuration with RRC Resume (ZTE)

CANCELED

* [AT109e][048][DCCA] Fast MCG Recovery (Ericsson)

Scope: Treat summary Fast MCG Recovery

CLOSED

* [AT109e][049][DCCA] Async CA (Qualcomm)

Scope: Treat 108#57 (in case needed for discussion, can treat also additional papers).

CLOSED

* [AT109e][050][R16 Other WISI] NR HST (CMCC)

Scope: Treat documents above

Intended outcome: Focus first on LS and discussion doc. Achieve initial agreements, agree what we shall do. Treatment of CRs expected next meeting.

CLOSED

* [AT109e][051][R16 Other WISI] Rec bitrate FLUS and MTSI (QC)

Scope: Treat documents above, feel free to split into phases.

CLOSED

* [AT109e][052][R16 Other WISI] UL sharing for variable-duplex FDD bands (Nokia)

Scope: Treat documents above

CLOSED

* [AT109e][053][TEI16] IPA CRs (Chairman)

Scope: Approval of in-principle agreed CRs for AI 6.20.x

CLOSED

* [AT109e][054][TEI16] DL RRC segmentation (Ericsson)

Scope: DL RRC Segmentation, tdocs above

Intended outcome: Agreed CRs

Deadline: Feb 27 1200 CET

* [AT109e][055][TEI16] Autonomous Gaps (vivo, ZTE)

Scope: Autonomous gaps, tdocs above

CLOSED

* [AT109e][056][TEI16] IDC (vivo)

Scope: IDC, tdocs above

Intended outcome: Agreed CRs

CLOSED

* [AT109e][057][TEI16] Additional RACH config (NTT Docomo)

Scope: tdoc above

CLOSED

* [AT109e][058][TEI16] Downgraded configuration SRS antenna switching (Intel Oppo)

Scope: tdocs above

CLOSED

* [AT109e][059][TEI16] One-slot periodic TRS configuration (CMCC)

CLOSED

* [AT109e][060][URLLC] RRC CR (Huawei)

Intended outcome: Address CR Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed CRs.

Deadlines: Mar 4, 5, 6 (see the schedule).

* [AT109e][061][URLLC] MAC CR (Huawei)

Intended outcome: Address CR Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed CRs.

Deadlines: Mar 4, 5, 6 (see the schedule).

* [AT109e][062][URLLC] Stage-2 38300 CR (Huawei)

Intended outcome: Address CR Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed CRs.

Deadlines: Mar 4, 5, 6 (see the schedule).

* [AT109e][063][URLLC] L2 Parameters (Huawei)

Intended outcome: Treat the R2-2000780, R2-2000800, R2-2001332, R2-2001361, resolve issues, if any. Find OIs, if any.

CLOSED

* [AT109e][064][URLLC] MAC CEs (Ericsson)

Intended outcome: Treat R2-2000799, resolve issues, if any. Find OIs, if any.

CLOSED

* [AT109e][065][R16] R16 NR RRC coordination (Ericsson)

Scope: Cross WI RRC coordination, Address issues found at RRC Merge. Identify which CRs/WIs that are problematic.

Intended outcome: Identification of and Resolution to RRC issues

Deadline: Follows the deadlines of the respective CRs.

* [AT109e][066][R16] R16 LTE RRC coordination (Samsung)

Scope: Cross WI RRC coordination, Address issues found at RRC Merge. Identify which CRs/WIs that are problematic.

Intended outcome: Identification of and Resolution to RRC issues

Deadline: Follows the deadlines of the respective CRs.

* [AT109e][067][R16] L1 parameters (QC)

Scope: Discussion on L1 parameters, issues, consistency

CLOSED, NOT NEEDED

* [AT109e][068][NR15] 1-symbol PUCCH with frequency hopping (Nokia)

Scope: Allow check, Continue treat and discuss the documents R2-2000166, R2-2000167

CLOSED

* [AT109e][069][NR15] Gap Sharing (Huawei)

Scope: Discussion 1183, 1184,

Intended outcome: Agreed CRs

CLOSED

* [AT109e][070][NR15] Unsecured UE capability handling (NTT Docomo)

Scope: Based on R2-2002049 determine the interest, and if possible arrive at an agreed CR

Intended outcome: Short report or agreed CR

CLOSED

* [AT109e][071][NR15] FR2 Fallback Combinations (MTK)

Scope: LS to R4 on the details according to way forward.

Intended outcome: Approved LS

Deadline: Mar 5 CET

* [AT109e][072][NR15] BWCS for inter-ENDC BC with intra-ENDC BC (Huawei)

Intended outcome: Agreed CRs based on R2-2001318 and 1319

CLOSED

* [AT109e][073][NR15] NE-DC capability extensions (ZTE)

Intended outcome: LS to R1 to ask about applicability of 1024QAM parameter, Agreed CRs based on R2-2000487, 0488

CLOSED

* [AT109e][074][TEI16] EPS Voice Fallback (QC)

Scope: Add signalled Cabaility

Intended outcome: Agreed CRs (all three CRs together), based on R2-2000580, R2-2000581, R2-2000582

CLOSED

* [AT109e][075][TEI16] NR – ENDC handover (China Telecom)

Scope: Progress Stage-3 CRs, Decide finally whether 38306 capability is needed.

Intended outcome: Agreed CRs (if not 100% agreement, decide action by email)

CLOSED

* [AT109e][076][TEI16] Under-reporting CSI-RS capabilities (Docomo)

Scope: Progress the solution and CR, use solution in R2-2000683, R2-2000688, R2-2000689 as baseline. If progress is good, determine the need for, scope of an LS

CLOSED

* [AT109e][077][NR15] Cap Discussion II (Mediatek)

Scope: R2-2000684: Agree to have this CR, can polish the wording, R2-2000425, Different interpretations on current behaviour. continue discussion, make revisions.

Intended outcome: Agreed CR (if CR not agreeable now for 0425, then a statement clarifying current behaviour to be captured in Chair notes).

CLOSED

* [AT109e][078][NR15] Cap Discussion III (NTT DOCOMO)

Scope: R2-2002080, R2-2002081, continue discussion, Different views, Something may be needed.

Intended outcome: Agreed CRs (or LS out).

Deadline: Mar 3 1200 CET

* [AT109e][079][NR15] Cap Discussion IV (Huawei)

Scope: R2-2001322, There is significant support to make a clarification, Should attempt to convince opponents. If agreeable, cover sheet need update,

Intended outcome: Confirm need (one more round) Agreed CR

Deadline: Mar 3 1200 CET

* [AT109e][080][TEI16] NeedForGap capability (MTK)

Scope: Progress this based on agreements and papers above

Intended outcome: issues resolution, solution agreements, work on CRs (for next meeting)

Deadline: Mar 4 1200 CET

* [AT109e][081][NR15] SRS Capability report for SRS only Scell (Huawei)

Scope: Check the scenario, refer to relevant R1 decisions. If agreeable to continue; CR agree how to signal (If scenario need deeper checking can be postponed)

CLOSED

* [AT109e][082][OdSIBconn] on-demand SIB in CONNECTED Functionality (Ericsson)

Scope: Treat and progress based on R2-2001670

Intended outcome:

CLOSED

* [AT109e][083][OdSIBconn] on-demand SIB in CONNECTED CRs (Ericsson)

Scope: Treat and progress based on R2-2001670, Need to coordinate with NR pos CR to avoid clashes.

Intended outcome: agreed CRs 38300 38331

Deadline: MAR 4, 5, 6 (see schedule)

* [AT109e][084][R16] 38300 Review of R16 TPs/CRs from other groups (Nokia)

Scope: Review of TPs/CRs from other groups

Intended outcome: Agreed CRs

Deadline: MAR 6 1200 CET (see also schedule)

* [AT109e][085][R16] 36300 Review of R16 TPs/CRs from other groups (Nokia)

Scope: Review of TPs/CRs from other groups

Intended outcome: Agreed CRs

Deadline: MAR 6 1200 CET (see also schedule)

* [AT109e][086][R16] 37340 Review of R16 TPs/CRs from other groups (ZTE)

Scope: Review of TPs/CRs from other groups

Intended outcome: Agreed CRs

Deadline: MAR 6 1200 CET (see also schedule)

* [AT109e][099][ASN.1] ASN.1 Plan (Ericsson/Chairman)

Scope: gather detail plan comments and make revision.

Intended outcome: endorsed plan

Deadline: MAR 6 1200 CET

# 1 Opening of the meeting

This Agenda Item is treated by email only.

This agenda item includes a number of statements that shall be known by everyone.

**This e-Meeting**

- This e-Meeting will follow 3GPP principles for e-Meetings, e.g. an e-Meeting is an ad-hoc meeting that do not count towards a company’s voting rights.

- RAN2 109 electronic has full decision power, i.e. full decision power to make agreements and approvals according to RAN WG2 terms of reference, without any need to ratify decisions at a later RAN2 meeting.

- There will be some more leeway than usual to re-discuss or post-change agreements made at R2 109 electronic.

- Recording of voice or video at meetings is not used in 3GPP. This applies also to this e-Meeting. No specific actions are taken to prevent the recording of web conferences.

- Descriptions on how this meeting is conducted can be found in RAN2 109-e Methods and Guidance under agenda item 2.4 below

**General**

*Recording of voice or video at meetings is not used in 3GPP. This applies also to this e-Meeting. At this e-Meeting, no specific actions are taken to prevent the recording of web conferences. Companies that have concerns related to recordings, if any, may express those by email in the main meeting organizational thread [AT109e][000]*

COMMENTS

- [109e][000] Ericsson (Mattias): It is also our understanding that we should not use recordings of the e-meeting, similar to normal meetings, and hence prefer that companies do not record the meeting. The MoM and emails should sufficiently capture the discussion during the meeting.

- [109e][000] Chair: Yes, and my understanding is that we don’t record due to a gentlemen’s agreement from the past, and the clarification is present for this meeting due to the easy technical possibilities to record web conferences etc.

## Call for IPR

|  |
| --- |
| The attention of the delegates of this Working Group is drawn to the fact that **3GPP Individual Members have the obligation** under the IPR Policies of their respective Organizational Partners **to inform their respective Organizational Partners of Essential IPRs** they become aware of.  The delegates were asked to take note that they were hereby invited:   * to investigate whether their organization or any other organization owns IPRs which were, or were likely to become Essential in respect of the work of 3GPP. * to notify their respective Organizational Partners of all potential IPRs, e.g., for ETSI, by means of the IPR Statement and the Licensing declaration forms (https://www.etsi.org/images/files/IPR/etsi-ipr-form.doc) |

NOTE: IPRs may be declared to the Director-General or Chairman of the SDO, but not to the RAN WG2 Chairman.

## 1.2 Network usage conditions

Not applicable

## 1.3 Other

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| --- |
| In accordance with the Working Procedures it is reaffirmed that:  (i) compliance with all applicable antitrust and competition laws is required;  (ii) timely submissions of work items in advance of TSG or WG meetings are important to allow for full and fair consideration of such matters; and  (iii) the chairman will conduct the meeting with strict impartiality and in the interests of 3GPP |

Note on (i): In case of question please contact your legal counsel.

Note on (ii): WIDs don’t need to be submitted to the RAN2 meeting and will typically not be discussed here either.

## 1.4 Statement Regarding Engagement with Companies Added to the U.S. Export Administration Regulations (EAR) Entity List in 3GPP Activities

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| --- |
| *Updated 2019-10-10*  **1. Public Information is Not Subject to EAR**  3GPP is an open platform where all contributions (including technology protected or not by patent) made by the different Individual Members under the membership of each respective Organizational Partner are publicly available. Indeed, contributions by all and any Individual Members are uploaded to a public file server when received and then the documents are effectively in the public domain.  In addition, since membership of email distribution lists is open to all, documents and emails distributed by that means are considered to be publicly available.  As a result, information contained in 3GPP contributions, documents, and emails distributed at 3GPP meetings or by 3GPP email distribution lists, because it is made available to the public without restrictions upon its further dissemination, is not subject to the export restrictions of the EAR.  Meeting minutes are maintained for 3GPP meetings. Such meeting minutes for 3GPP meetings are made available to the public without restrictions upon its further dissemination. As a result, information, including information conveyed orally, contained in 3GPP meetings is not subject to the export restriction of the EAR; this would include information conveyed during side meetings that may occur during the main meetings, if these meetings are open to any participants and the results of all said meetings are publicly available without restrictions upon their further dissemination.  **2. Non-Public Information**  Non-public information refers to the information not contained or not intended to be contained in 3GPP contributions, documents or emails. Such non-public information may be disclosed during informal meetings, exchanges, discussions or any form of other communication outside the 3GPP meetings and email distribution lists, and may be subject to the EAR.  **3. Other Information**  Certain encryption software controlled under the International Traffic in Arms Regulations (ITAR), even if publicly available, may still be subject to US export controls other than the EAR.  **4. Conduct of Meetings**  The situation should be considered as "business as usual" during all the meetings called by 3GPP.  **5. Responsibility of Individual Members**  It should be remembered that contributions, meetings, exchanges, discussions or any form of other communication in or outside the 3GPP meetings are of the accountability, integrity and the responsibility of each Individual Member. In addition, Individual Members remain responsible for ensuring their compliance with all applicable export control regulations, including but not limited to EAR.  Individual Members with questions regarding the impact of laws and regulations on their participation in 3GPP should contact their companies’ legal counsels. |

* [AT109e][000] RAN2 109-e Organizational

Intended outcome: Agenda Item 1 Chairman Reminders Possibility to comment.

- [AT109e][000] Chair Mon 24: Please draw your attention to the text in chapters 1, 1.1, 1.3, 1.4 (in the agenda and chair notes), which provide the standard but important reminders and in addition some statements specific to this e-Meeting. In case you wish to comment please do so immediately if you need some action taken, otherwise comments can be provided until the meeting is closed.

# 2 General

This agenda Item is treated by email only

## 2.1 Approval of the agenda

By Email

[R2-2000008](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000008.zip) Agenda for RAN2#109-e Chairman agenda Late

- [AT109e][000] Chair Mon 24: Proposal to approve the Agenda in R2-2000008, deadline for comments Feb 25 12.00 CET

* [AT109e][000] Mar 25: Approved

## 2.2 Approval of the report of the previous meeting

By Email

[R2-2000009](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000009.zip) RAN2#108 Meeting Report MCC report Late

- [AT109e][000] Chair Mon 24: Proposal to approve the RAN2#108 Meeting Report in R2-2000008, deadline for comments Mar 05 1200 CET

- [AT109e][000] Chair MAR 5: No comments and deadline has passed

* [AT109e][000] Approved

## 2.3 Reporting from other meetings

## 2.4 Others

By Email

[R2-2002046](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002046.zip) RAN2 109-e Methods and Guidance RAN2 chairman, RAN2 vice chairmen, session chairs discussion

- [AT109e][000] Chair Mon 24: Proposal to endorse the RAN2 109-e Methods and Guidance in R2-2002046, deadline for comments Feb 25 1200 CET

* [AT109e][000] Mar 25: Endorsed

[R2-2002047](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002047.zip) Real Settings Test of GoToWebinar RAN2 Chairman (Mediatek), RAN2 Secretary (MCC) report

- [AT109e][000] Chair Comment: This document is for information

- [AT109e][000] Chair Mon 24: Proposal to note the report on Real Settings Test of GoToWebinar in R2-2002047, deadline for comments Feb 25 1200 CET

* [AT109e][000] Mar 25: Noted

**Agenda Additional Instructions - Scope**

Incoming LS’es are handled. As usual it is up to session chair which ones to treat (and related tdocs).

R15 and earlier: 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.

Email Discussions [108#xx] will be treated.

R16 CRs: It is planned that R16 CRs for all WIs are agreed at R2 109e and submitted to eRP (March) for approval.

R16 Stage-2: No or minimal corrections for Stage-2 TS, i.e. only input email discussions and minimal corrections needed for approval of current CRs as baseline.

Easy Agreements: For R16, R2 109e shall focus on “easy” agreements. Topics/proposals that need extensive discussions (e.g. highly controversial ones) shall be avoided, i.e. not submitted, not treated, de-prioritized, postponed etc.

TEI16: For TEI16, no treatment of new proposals, Email discussions [108#xx] will be treated. In-principle agreed CRs will be treated. May treat open proposals for which only CRs remain, e.g. with status last meeting, “Agreed, see CRs next meeting”. Could consider to start email discussions to next meeting, e.g. based on new incoming LSes.

R16 UE capabilities: TBD to what extent R16 UE capabilities is treated at R2 109e This will have lower priority. CRs are not required, but could be provided if ready for some specific WI.

**Agenda Additional Instructions - Summary of tdocs**

In particular for R16, the Intention is to treat summaries that summarize contents of submitted tdocs rather than submitted tdocs for R16. Tdocs that are covered by a summary are to be noted if the summary is treated.

Where indicated in the agenda or later in chair notes, the tdocs submitted to a sub-agenda item or on a specific sub-topic, are summarized in a summary tdoc by an appointed rapporteur. It is the task of the rapporteur to reflect submitted proposals in a neutral way, group, merge and structure to facilitate easy treatment. At this meeting it is also the task of the rapporteur to suggest potential easy agreements for treatment and suggest likely controversial proposals for postponement. There may be an email discussion for each summary that may start as soon as there is a first summary draft, e.g. before submission. When such email discussion takes place during the tdoc review week it is considered a) the purpose is mainly to check correctness and get immediate comments/suggestions b) ambition level is best effort.

Note: Time Budget Comments remain in this document only for reference. They are not applicable for R2 109e.

## General discussions by email, not captured under a specific Agenda Item

MULTI-COMPANY EMAIL DISC RAPPORTEUR

- [109e][000] Ericsson (Mats): Thanks for starting the meeting. I have question for clarification. Several of your e-mail discussions seem to be assigned to multiple companies, like 008:

* *[AT109e][008][NR15] Cap Discussion (Ericsson, Mediatek, Huawei, NTT docomo, Qualcomm, Nokia)*

*Scope: Treat the documents* [*R2-2001322*](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001322.zip)*,* [*R2-2001224*](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001224.zip)*,* [*R2-2000425*](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000425.zip)*, R2-2000684,* [*R2-2001221*](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001221.zip)*,* [*R2-2000165*](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000165.zip)*,* [*R2-2002081*](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002081.zip)*,* [*R2-2000034*](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000034.zip)*,* [*R2-2001220*](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001220.zip)*,* [*R2-2000011*](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000011.zip)*.*

*Intended outcome: First Round comments, goal to determine which of the CRs that we should attempt to agree, find candidates to leave out (postpone).*

*Deadline: Feb 26 1200 CET*

Which company is responsible for summarizing and kicking off, or how would you like to handle this? What do the company names imply? Note: There are more discussions than 008 with multiple companies, this was an example.

- [109e][000] Chari: I had hoped that the first company in the list can do the honors of sending the first email, but I also expect all authors to participate, so you don’t need to do much more than that. This particular email discussion is for a section of tdocs for which I suspect we don’t need to fully treat all, so this is the reason why multiple tdocs are bundled for a first round of comments. Ericsson is the most frequent author for this group of papers ..

# 3 Incoming liaisons

Note: LSs are moved to the respective agenda items if any.

Rel-17 - Not to be treated

[R2-2000041](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000041.zip) LS on Requirements on positioning for UAS (S6-200269; contact: InterDigital) SA6 LS in Rel-17 FS\_UASAPP To:SA1 Cc:SA2, RAN2

[R2-2002095](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002095.zip) Reply LS on UAV positioning (S1-201089; contact: InterDigital); SA1 LS in

[R2-2000082](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000082.zip) Reply LS to extend the scope of eV2X (SP-191379; contact: Telecom Italia) SA LS in Rel-17 FS\_eV2XARC\_Ph2 To:5GAA WG4 Cc:SA2, SA1, RAN, RAN2

[R2-2000087](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000087.zip) LS on 5GC assisted cell selection for accessing network slice (S2-2001728; contact: ZTE) SA2 LS in Rel-17 FS\_eNS\_Ph2 To:SA1, RAN2, RAN3

[R2-2000089](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000089.zip) Response LS on the “LS OUT on Location of UEs and associated key issues” (S3i200056; contact: Rogers) SA3-LI LS in Rel-17 FS\_5GSAT\_ARCH To:SA2, RAN2, RAN3

Withdrawn:

[R2-2000081](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000081.zip) LS on Requirements on positioning for UAS (S6-200269; contact: Interdigital) SA6 LS in Rel-17 FS\_UASAPP To:SA1 Cc:SA2, RAN2

# 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.

## 4.1 NB-IoT corrections Rel-15 and earlier

Documents in this agenda item will be handled in a break out session. Common NB-IoT/eMTC parts treated jointly with 4.2.

R2-2000617 Clarification on polling bit for RRCConnectionRelease Huawei, HiSilicon CR Rel-14 36.322 14.1.0 0143 - F NB\_IOTenh-Core

R2-2000618 Clarification on polling bit for RRCConnectionRelease Huawei, HiSilicon CR Rel-15 36.322 15.3.0 0144 - A NB\_IOTenh-Core

R2-2000632 Handling of UE Radio Capability for Paging in NB-IoT and eMTC Huawei, HiSilicon CR Rel-13 36.300 13.13.0 1260 - F NB\_IOT-Core, LTE\_MTCe2\_L1-Core

R2-2000633 Handling of UE Radio Capability for Paging in NB-IoT and eMTC Huawei, HiSilicon CR Rel-14 36.300 14.11.0 1261 - F NB\_IOT-Core, LTE\_MTCe2\_L1-Core, NB\_IOTenh-Core

R2-2000634 Handling of UE Radio Capability for Paging in NB-IoT and eMTC Huawei, HiSilicon CR Rel-15 36.300 15.8.0 1262 - A NB\_IOT-Core, LTE\_MTCe2\_L1-Core, NB\_IOTenh-Core

R2-2000635 Handling of UE Radio Capability for Paging in NB-IoT and eMTC Huawei, HiSilicon CR Rel-16 36.300 16.0.0 1263 - A NB\_IOT-Core, LTE\_MTCe2\_L1-Core, NB\_IOTenh-Core

R2-2000637 System support for Wake Up Signal Huawei, HiSilicon CR Rel-15 36.331 15.8.0 4193 - F NB\_IOTenh2-Core, LTE\_eMTC4-Core Withdrawn

R2-2000638 System support for Wake Up Signal Huawei, HiSilicon CR Rel-15 36.304 15.5.0 0779 - F NB\_IOTenh2-Core, LTE\_eMTC4-Core

R2-2000809 System support for Wake Up Signal Huawei, HiSilicon CR Rel-15 36.300 15.8.0 1264 - F NB\_IOTenh2-Core, LTE\_eMTC4-Core

R2-2000810 System support for Wake Up Signal Huawei, HiSilicon CR Rel-16 36.300 16.0.0 1265 - A NB\_IOTenh2-Core, LTE\_eMTC4-Core

## 4.2 eMTC corrections Rel-15 and earlier

Documents in this agenda item will be handled in a break out session. Common NB-IoT/eMTC parts treated jointly with 4.1.

This agenda item may not be treated during the e-meeting. No web conference is planned for this agenda item

R2-2000339 Correction for relaxed monitoring for BL and CE UE Ericsson CR Rel-14 36.304 14.7.0 0778 - F LTE\_feMTC-Core

R2-2001062 Correction to support of UP-EDT, CP-EDT, in eMTC TDD Huawei, HiSilicon CR Rel-15 36.306 15.7.0 1734 - F LTE\_eMTC4-Core

## 4.3 V2X and Sidelink corrections Rel-15 and earlier

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

## 4.4 Positioning corrections Rel-15 and earlier

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

## 4.5 Other LTE corrections Rel-15 and earlier

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

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponement of some items to next meeting. No web conference is planned for this agenda item.

Summary document to be provided by the NN.

R2-2000636 Clarification on default configuration and SRB1 for UP-EDT and RRC\_INACTIVE Huawei, HiSilicon CR Rel-15 36.331 15.8.0 4104 4 F LTE\_eMTC4-Core, NB\_IOTenh2-Core, LTE\_5GCN\_connect-Core R2-1916356

R2-2000663 Missing QCI to CAPC mapping Nokia, Nokia Shanghai Bell CR Rel-16 36.300 16.0.0 1240 4 F LTE\_unlic-Core R2-1913983

R2-2000680 Correction on cellReselectionSubPriority Nokia, Nokia Shanghai Bell CR Rel-15 36.331 15.8.0 4194 - F NR\_newRAT-Core

R2-2000685 Correction on LTE early measurement MediaTek Inc., Nokia, Nokia Shanghai Bell, Ericsson CR Rel-15 36.331 15.8.0 4195 - F LTE\_euCA-Core

R2-2000761 Corrections to T312 and Discovery Signals measurement Lenovo, Motorola Mobility CR Rel-15 36.331 15.8.0 4198 - F HetNet\_eMOB\_LTE-Core, LTE\_SC\_enh\_L1-Core, TEI15

R2-2001134 Interpretation of UE capabilities for non-contiguous intra-band CA Nokia, Nokia Shanghai Bell discussion Rel-12 LTE\_CA-Core, TEI12

R2-2001135 Clarification to UE capabilities for non-contiguous intra-band CA Nokia, Nokia Shanghai Bell CR Rel-12 36.331 12.18.0 4206 - F LTE\_CA-Core, TEI12

R2-2001136 Clarification to UE capabilities for non-contiguous intra-band CA Nokia, Nokia Shanghai Bell CR Rel-13 36.331 13.15.0 4207 - A LTE\_CA-Core, TEI12

R2-2001137 Clarification to UE capabilities for non-contiguous intra-band CA Nokia, Nokia Shanghai Bell CR Rel-14 36.331 14.13.0 4208 - A LTE\_CA-Core, TEI12

R2-2001138 Clarification to UE capabilities for non-contiguous intra-band CA Nokia, Nokia Shanghai Bell CR Rel-15 36.331 15.8.0 4209 - A LTE\_CA-Core, TEI12

R2-2001139 Inclusion of Maximum Number of PDCP SDUs per TTI for DL Categories 22-26 Nokia, Nokia Shanghai Bell CR Rel-15 36.306 15.7.0 1736 - F LTE\_1024QAM\_DL-Core, TEI15

R2-2001140 Clarification on codebook-HARQ-ACK-r13 capability for CA with more than 5CCs Nokia, Nokia Shanghai Bell CR Rel-13 36.306 13.12.0 1737 - F LTE\_CA\_enh\_b5C-Core Late

R2-2001141 Clarification on codebook-HARQ-ACK-r13 capability for CA with more than 5CCs Nokia, Nokia Shanghai Bell CR Rel-14 36.306 14.11.0 1738 - A LTE\_CA\_enh\_b5C-Core Late

R2-2001142 Clarification on codebook-HARQ-ACK-r13 capability for CA with more than 5CCs Nokia, Nokia Shanghai Bell CR Rel-15 36.306 15.7.0 1739 - A LTE\_CA\_enh\_b5C-Core Late

[R2-2001156](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001156.zip) Correction of UE assistance information Samsung Telecommunications CR Rel-15 36.331 15.8.0 4210 - F TEI15, NR\_newRAT-Core

R2-2001157 Correction of UE assistance information Samsung Telecommunications CR Rel-16 36.331 15.8.0 4164 2 A TEI15, NR\_newRAT-Core R2-1916490

R2-2001158 Minor corrections collected by Rapporteur Samsung Telecommunications CR Rel-15 36.331 15.8.0 4211 - F TEI15

R2-2001347 The problem of LTE RLC out-of-order delivery configuration Samsung discussion LTE\_HRLLC

R2-2001351 CR on RLC OutOfOrderDelivery configuration Samsung CR Rel-15 36.331 15.8.0 4217 - F LTE\_HRLLC

R2-2001508 Correction on the content of RRCConnectionReconfigurationComplete message Google Inc. CR Rel-15 36.331 15.8.0 4224 - F LTE\_5GCN\_connect-Core

R2-2002056 Correction to full configuration Google Inc. CR Rel-15 36.331 15.8.0 4151 3 F LTE\_QMC\_Streaming-Core

# 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.

## 5.1 Organisational

Incoming LSs, etc.

By Email

[R2-2000036](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000036.zip) Reply LS on Tx DC location (R4-1915361; contact: Huawei) RAN4 LS in Rel-15 NR\_newRAT-Core To:RAN1, RAN2

[Chair] Treated in email discussion 000

## 5.2 Stage 2

### 5.2.1 Stage 2 corrections for TS 38.300

You should discuss your stage 2 CRs with the specification rapporteurs before submission.

By Email - Potential easy

[R2-2000566](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000566.zip) Security and RRC Resume Request Nokia (Rapporteur) CR Rel-15 38.300 15.8.0 0188 - F NR\_newRAT-Core

=> Revised in R2-2002215

[R2-2002215](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002215.zip) Security and RRC Resume Request Nokia (Rapporteur) CR Rel-15 38.300 15.8.0 0188 1 F NR\_newRAT-Core

* [AT109e][001][NR15] Agreed

[R2-2000567](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000567.zip) Security and RRC Resume Request Nokia (Rapporteur) CR Rel-16 38.300 16.0.0 0189 - A NR\_newRAT-Core

=> Revised in R2-2002216

[R2-2002216](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002216.zip) Security and RRC Resume Request Nokia (Rapporteur) CR Rel-16 38.300 16.0.0 0189 1 A NR\_newRAT-Core

* [AT109e][001][NR15] Agreed
* [AT109e][001][NR15] Stage-2 38300 (Nokia)

Scope: CRs above, potential other R15 38300 topic TBD

Intended outcome: Agreed CRs

CLOSED

### 5.2.2 Stage 2 corrections for TS 37.340

You should discuss your stage 2 CRs with the specification rapporteurs before submission.

By Web Conf

[R2-2001175](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001175.zip) Clarification on PDCP version change Huawei, HiSilicon CR Rel-15 37.340 15.8.0 0166 1 F NR\_newRAT-Core R2-1915574

[R2-2001176](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001176.zip) Clarification on PDCP version change Huawei, HiSilicon CR Rel-15 36.331 15.8.0 4152 1 F NR\_newRAT-Core R2-1915573

*Move From 5.4.1.5*

R2-2000937 Allowing PDCP version change without handover Ericsson CR Rel-15 36.306 15.7.0 1733 - F NR\_newRAT-Core

[R2-2000938](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000938.zip) Allowing PDCP version change without handover Ericsson CR Rel-15 36.331 15.8.0 4201 - F NR\_newRAT-Core

- Suggest to add capability for PDCP version change wo Handover

*Move From 5.4.3*

[R2-2000159](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000159.zip) TS 36.331 Clarifying the options for PDCP version change Nokia, Nokia Shanghai Bell CR Rel-15 36.331 15.8.0 4186 - F NR\_newRAT-Core

R2-2000160 TS 36.306 Clarifying the options for PDCP version change Nokia, Nokia Shanghai Bell CR Rel-15 36.306 15.7.0 1726 - F NR\_newRAT-Core

- Nokia think that UEs in the field normal capability today is that PDCP version change is done wo handover.

DISCUSSION

- Samsung has same understanding as Nokia, and think default behaviour is to change PDCP version without Handover.

- ZTE think we already concluded that default behaviour is with HO. Intel think this was the default assumption when making the TS, and think the Nokia proposed capability doesn’t make sense. Intel think that a UE that can do this without HO for sure can do this with HO. Mediatek agrees as well.

- QC think from implementation point of view both are ok, and think that HO gives better security. Vivo agrees

- Samsung cannot agree to Ericsson and Huawei proposals, for compatibility reasons.

- TMO think security may be an issue, and think IODT may be an upcoming problem.

- KDDI are concerned about impact to existing network but doesn’t understand the Security issue.

- Docomo think security is a valid issue. We usually need to change when changing bearer.

- Verizon is still looking at security issue.

Chair wonders if there are UE compatibility issues to do PDCP version change with HO.

- Samsung need to check, but don’t understand the security issue. QC think that a network using same DRB ID is problematic.

- Huawei think that if we postpone, then if there will be more proposals on the table, such proposal need to be advertised in advance.

- Ericsson clarifies that they wrote their proposals to be compatible towards UEs in field.

- Intel think the original intention was with HO.

- QC think in R2 we always prioritize UE compatibility.

* Postpone (again), to next meeting

### 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 item is treated in a breakout session.

R2-2000762 Corrections to the Location measurement indication procedure Lenovo, Motorola Mobility CR Rel-15 38.331 15.8.0 1454 - F NR\_newRAT-Core

## 5.3 Stage 3 user plane

Essential functional corrections.

### 5.3.1 MAC

By Email – Discussion

[R2-2001626](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001626.zip) Clarification on the Operation of DRX Inactivity Timer Apple CR Rel-15 38.321 15.8.0 0700 - F NR\_newRAT-Core

=> Revised in R2-2002065

[R2-2002065](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002065.zip) Clarification on the Operation of DRX Inactivity Timer Apple CR Rel-15 38.321 15.8.0 0700 1 F NR\_newRAT-Core

* [AT109e][002][NR15] Majority’s view is Alt2, and one company prefers Alt1; There seems to be support to have a clarification, Companies can check the internal implementation. Can come back next meeting.

[R2-2001354](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001354.zip) Clarification on p-CSI reporting multiplexed with SR in DRX Huawei, HiSilicon discussion Rel-15 NR\_newRAT-Core

Agreements [AT109e][002][NR15]

* R2 understanding is that DRX active time starts after the SR transmission and p-CSI reporting does not start until 4ms after SR is sent.
* No CR is needed.
* [AT109e][002][NR15] User Plane (Apple/Huawei)

Scope: Treat User Plane R15 CRs, tdocs above

CLOSED

Not to be Treated

[R2-2001468](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001468.zip) Correction on the RACH parameters for BFR Huawei, HiSilicon CR Rel-15 38.321 15.8.0 0697 - F NR\_newRAT-Core

[R2-2001589](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001589.zip) UL grant overridden between configured grant and RAR grant ASUSTeK discussion Rel-15 NR\_newRAT-Core

Not available:

R2-2000975 Correction on the RACH parameters for BFR Huawei, HiSilicon discussion Rel-15 NR\_newRAT-Core Late

### 5.3.2 RLC

Not to be treated

[R2-2001295](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001295.zip) Ordering of PDCP SN and RLC SN Qualcomm Incorporated CR Rel-15 38.322 15.5.0 0031 - F NR\_newRAT-Core

### 5.3.3 PDCP

Not to be treated

[R2-2001294](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001294.zip) PDCP Recovery conditions Qualcomm Incorporated CR Rel-15 38.331 15.8.0 1482 - F NR\_newRAT-Core

[R2-2001296](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001296.zip) Ordering of PDCP SN and RLC SN Qualcomm Incorporated CR Rel-15 38.323 15.6.0 0041 - F NR\_newRAT-Core

### 5.3.4 SDAP

## 5.4 Stage 3 control plane

Essential functional corrections.

### 5.4.1 NR RRC

Including all architecures

By Email

R2-2001081 Miscellaneous non-controversial corrections Set V Ericsson CR Rel-15 38.331 15.8.0 1472 - F NR\_newRAT-Core

=> Revised in R2-2002291

R2-2002291 Miscellaneous non-controversial corrections Set V Ericsson CR Rel-15 38.331 15.8.0 1472 1 F NR\_newRAT-Core

* [AT109e][003][NR15] NR RRC (Ericsson)

Scope: RRC Maintenance, Treat CR above, there may be additions to the CR during the meeting.

Intended outcome: Agreed CR, other items TBD

Deadline: MAR 5 1200 CET

#### 5.4.1.1 Connection control

Including L1 Parameters, L2 Parameters, Connection establishment and release, Connection reconfiguration (also reconfig with sync, Handover), Connection resume and release with RRC\_INACTIVE state, Security procedures, re-establishment, RRC processing delay requirements etc.

By Web Conf

Unsecured Capability handling

Moved from 3:

[R2-2000073](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000073.zip) Reply LS on Handling of UE radio network capabilities in 4G and 5G (S3-194488; contact: Intel) SA3 LS in Rel-15 TEI15, 5GS\_Ph1-SEC To:RAN2 Cc:SA2, RAN3

[R2-2002049](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002049.zip) Unsecured UE capability handling NTT DOCOMO INC. discussion NR\_newRAT-Core Late

Moved from 4.5:

[R2-2000965](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000965.zip) Discussion on security requirement for UE capability enquiry Huawei, HiSilicon discussion Rel-15 TEI15, LTE-L23

[R2-2001619](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001619.zip) Unsecured UE capability handling NTT DOCOMO INC. CR Rel-15 38.331 15.8.0 1497 - F NR\_newRAT-Core

Moved from 5.2.1:

R2-2001608 Unsecured UE capability handling NTT DOCOMO INC. CR Rel-15 38.300 15.8.0 0202 - F NR\_newRAT-Core

Moved from 4.5:

R2-2001096 Security requirement for UE capability enquiry for LTE Intel Corporation, NTT DoCoMo, Apple CR Rel-15 36.331 15.8.0 4041 3 C TEI15 R2-1914745

[R2-2002094](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002094.zip) Security requirement for UE capability enquiry for LTE Intel Corporation, NTT DoCoMo, Apple CR Rel-15 36.331 15.8.0 4041 4 C TEI15 R2-1914745

* Agreed

R2-2001604 Unsecured UE capability handling NTT DOCOMO INC. CR Rel-15 36.300 15.8.0 1269 - F LTE\_euCA-Core

R2-2001614 Unsecured UE capability handling NTT DOCOMO INC. CR Rel-15 36.331 15.8.0 4226 - F LTE\_euCA-Core, LTE\_5GCN\_connect-Core

DISCUSSION on the 9 tdocs above.

- Chair understands that Huawei / Intel proposals for LTE may be straightforward (copy NR solution), To be treated in LTE session.

- But due to technical problems docomo can’t explain

* Have an email discussion to determine whether there is interest for the additional proposals in 2049
* [AT109e][070][NR15] Unsecured UE capability handling (NTT Docomo)

Scope: Based on R2-2002049 determine the interest, and if possible arrive at an agreed CR

Intended outcome: Short report or agreed CR

CLOSED

[R2-2002310](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002310.zip) Report of [AT109e] [070][NR15] Unsecured UE capability handling (NTT Docomo) NTTDOCOMO, INC. (offline email discussion rapporteur)

* [AT109e][070][NR15] Noted

Agreements [AT109e][070][NR15]

* No further optimization for indicating the UE capability secured or unsecured when transferring to other nodes.
* No further optimization for indicating the NB-IoT UE capability valid or invalid when transferring to other nodes before SA3 provides any solution.

RRC Release and L2

[R2-2000341](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000341.zip) Poll request in RRC signalling from NW to UE Ericsson discussion Rel-15 NR\_newRAT-Core

- Ericsson explains that there has been NR UEs that requires the network to poll at release, which is wrong.

- Ericsson proposes to clarify that the network may choose whether to poll or not.

- QC think the note will not help and increases the ambiguity and prefers to leave this to impl.

- Samsung think this is not a new issue. Network may poll and UE may or may not be able to send Status report

- MTK agrees that network can choose it to include a poll or not and think this it clear in RLC and would prefer to not specify UE behaviour further.

- Docomo has understood there are different behaviours in field, and think a clarification can be useful.

- Huawei also don’t think we need to clarify. Nokia agrees

* There seems to be general understanding that network may choose if to poll for DL RRC transmissions.
* Not much support to clarify UE behaviour, Noted, not agreed

[R2-2000342](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000342.zip) Clarification of successful acknowledgement of RRCRelease message Ericsson CR Rel-15 38.331 15.8.0 1437 - F NR\_newRAT-Core

Gap Sharing

[R2-2001183](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001183.zip) Clarification on gap sharing configuration at handover and re-establishment Huawei, HiSilicon CR Rel-14 36.331 14.13.0 4212 - F LTE\_feMTC-Core

- Samsung point out there there are cover page problems, UE impact should be removed. Ericsson and Nokia think UE need to be indicated.

- Oppo wonder why gap sharing config is not released along with the gap configuration,

- Huawei understand that some UEs release, and some don’t. Ericsson think gaps and gap sharing is always released by the network. QC think indeed there are different UE implementations and we need this.

- Nokia think that for handover the UE release is strange, but less strange for reestablishment.

- Intel think the WI codes are strange, and wonder if NR is impacted. Huawei clarify yes.

* Shall handle the different UE implementations by specifying network behaviour, consider handover and re-establishment.
* Work on the details by email

=> Revised in R2-2002332

R2-2002332 Clarification on gap sharing configuration at handover and re-establishment Huawei, HiSilicon CR Rel-14 36.331 14.13.0 4212 1 F LTE\_feMTC-Core

* [AT109e][069][NR15] Agreed

R2-2001184 Clarification on gap sharing configuration at handover and re-establishment Huawei, HiSilicon CR Rel-15 36.331 15.8.0 4213 - A LTE\_feMTC-Core, NR\_newRAT-Core

=> Revised in R2-2002333

R2-2002333 Clarification on gap sharing configuration at handover and re-establishment Huawei, HiSilicon CR Rel-15 36.331 15.8.0 4213 1 A LTE\_feMTC-Core, NR\_newRAT-Core

* [AT109e][069][NR15] Agreed
* [AT109e][069][NR15] Gap Sharing (Huawei)

Scope: Discussion 1183, 1184,

Intended outcome: Agreed CRs

CLOSED

By Email – Potential Easy

[R2-2001590](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001590.zip) Correction on NZP-CSI-RS-ResourceSet ASUSTeK CR Rel-15 38.331 15.8.0 1496 - F NR\_newRAT-Core

=> Revised in R2-2002129

[R2-2002129](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002129.zip) Correction on NZP-CSI-RS-ResourceSet ASUSTeK CR Rel-15 38.331 15.8.0 1496 1 F NR\_newRAT-Core

* [AT109e][004][NR15] agreed

R2-2001178 Correction to RRC reconfiguration complete for NR-DC Huawei, HiSilicon CR Rel-15 38.331 15.8.0 1384 1 F NR\_newRAT-Core R2-1915580

* [AT109e][004][NR15] postponed

R2-2001179 Correction to DRB addition/modification for the LTE UE not in EN-DC Huawei, HiSilicon CR Rel-15 38.331 15.8.0 1380 1 F NR\_newRAT-Core R2-1915575

* [AT109e][004][NR15] Contents is agreed. Merged with the Rapporteur CR.

R2-2000359 Cell re-selection during RRC connection resume vivo CR Rel-15 38.331 15.8.0 1355 1 F NR\_newRAT-Core R2-1914686

* [AT109e][004][NR15] Contents is agreed. Merged with the Rapporteur CR.

[R2-2000681](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000681.zip) Correction on reporting of uplink TX direct current MediaTek Inc. CR Rel-15 38.331 15.8.0 1450 - F NR\_newRAT-Core

=> Revised in R2-2002141

R2-2002141 Correction on reporting of uplink TX direct current MediaTek Inc. CR Rel-15 38.331 15.8.0 1450 1 F NR\_newRAT-Core

* [AT109e][004][NR15] agreed
* [AT109e][004][NR15] Potential Easies I (Mediatek, vivo, Huawei, ASUS)

Scope: Treat [R2-2000681](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000681.zip), R2-2000359, R2-2001179, R2-2001178, [R2-2001590](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001590.zip). In case email discussion gets unexpectedly long, it can be split.

CLOSED

R2-2002139 Report of [AT109e][004][NR15] Potential Easies I MediaTek discussion Rel-16 NR\_newRAT-Core

* Noted

Not to be treated

R2-2000664 Clarification on the presence of ssb-perRACH-Occasion for the CSI-RS based CFRA ZTE Corporation, Sanechips, Ericsson (Rapporteur) CR Rel-15 38.331 15.8.0 1449 - NR\_newRAT-Core

[R2-2001466](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001466.zip) Correction on PUSCH-less uplink carrier Huawei, HiSilicon CR Rel-15 38.331 15.8.0 1492 - F NR\_newRAT-Core

R2-2001180 Potential issue on the Counter Check in (NG)EN-DC and NR standalone Huawei, HiSilicon discussion Rel-15 NR\_newRAT-Core

R2-2001181 Draft LS to SA3 on potential issue of Counter Check Huawei, HiSilicon LS out Rel-15 NR\_newRAT-Core To:SA3

R2-2000233 Add Description of RACH Resouse Distribution CATT CR Rel-15 38.331 15.8.0 1435 - F NR\_newRAT-Core

R2-2000856 Discussion on recursion in RRC Nokia, Nokia Shanghai Bell discussion Rel-15 NR\_newRAT-Core

R2-2000857 Clarification on recursion in RRC messages Nokia, Nokia Shanghai Bell CR Rel-15 38.331 15.8.0 1456 - F NR\_newRAT-Core

R2-2000616 Clarification on RRCReconfiguration and RRCReconfigurationComplete in MR-DC Apple CR Rel-15 38.331 15.8.0 1448 - F NR\_newRAT-Core

R2-2001177 Correction on the need for reconfiguration with sync in (NG)EN-DC, NR-DC and NE-DC Huawei, HiSilicon, Ericsson CR Rel-15 38.331 15.8.0 1382 1 F NR\_newRAT-Core R2-1915578

R2-2001186 Clarification on SCell release Huawei, HiSilicon CR Rel-15 38.331 15.8.0 1415 1 F NR\_newRAT-Core R2-1916033

Not available

R2-2000973 Correction on PUSCH-less uplink carrier Huawei, HiSilicon discussion Rel-15 NR\_newRAT-Core Late

Withdrawn

R2-2000187 Clarification on RRCReconfiguration and RRCReconfigurationComplete in MR-DC Apple CR Rel-15 38.331 15.8.0 1432 - F NR\_newRAT-Core Withdrawn

#### 5.4.1.2 RRM and Measurements and Measurement Coordination

Including late drop.

By Email - Discussion

Coordination on number of measurment ID

[R2-2000245](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000245.zip) Corrections on maxMeasIdentitiesSCG-NR in MR-DC ZTE Corporation, Sanechips, Ericsson, NEC, CATT CR Rel-15 38.331 15.8.0 1272 2 F NR\_newRAT-Core R2-1914906

=> Revised in R2-2002344

R2-2002344 Corrections on maxMeasIdentitiesSCG-NR in MR-DC ZTE Corporation, Sanechips, Ericsson, NEC, CATT CR Rel-15 38.331 15.8.0 1272 3 F NR\_newRAT-Core

below Move from 5.4.1.4

[R2-2000163](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000163.zip) TDOC Capability Coordination for Measurement Reporting Identities in MR-DC Nokia, Nokia Shanghai Bell discussion Rel-15 NR\_newRAT-Core

* [AT109e][005][NR15] noted
* [AT109e][005][NR15] Coordination on number of measurement ID (Nokia, ZTE)

Scope: Coordination on number of measurement ID, Treat the documents above

Intended outcome: Agreed CRs

Deadline: MAR 05 1200 CET (Stop time)

R2-2002218 Summary of [AT109e][005][NR15] Coordination on number of measurment ID ZTE Corporation discussion Rel-15 NR\_newRAT-Core

* [AT109e][005][NR15] noted
* [AT109e][005][NR15] For measurement identity coordination in MR-DC, dummify the legacy field (i.e. maxMeasIdentitiesSCG), and introduce new fields (i.e. maxIntraFreqMeasIdentitiesSCG, maxInterFreqMeasIdentitiesSCG) for intra-frequency and inter-frequency measurement identity coordination.

below Move from 5.4.1.4, not treated

[R2-2000162](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000162.zip) TS 38.331 Capability Coordination for Measurement Reporting Identities in MR-DC Nokia, Nokia Shanghai Bell CR Rel-15 38.331 15.8.0 1428 - F NR\_newRAT-Core

SSB to measure

R2-2000858 SSB-ToMeasure related clarification Nokia, Nokia Shanghai Bell discussion Rel-15 NR\_newRAT-Core

* Noted

[R2-2000859](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000859.zip) SSB-ToMeasure related clarification Nokia, Nokia Shanghai Bell CR Rel-15 38.331 15.8.0 1457 - F NR\_newRAT-Core

* [AT109e][006][NR15] Not Agreed. No Reply in email discussion.

#### 5.4.1.3 System information

By Web Conf

[R2-2000343](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000343.zip) ETWS and CMAS acquisition during measurement gaps Ericsson discussion Rel-15 NR\_newRAT-Core

- QC agree with the observations but think gaps are important as well, and think there could be bad consequences.

- QC think the network should schedule these transmissions when there are no gaps.

- Oppo think the proposal makes sense, but think this can be left for impl.

- Nokia wonder why this is an issue in NR, while we haven’t addressed this for LTE. Samsung also wonders. Ericsson think this has been discussed for LTE and the problem exists there.

- Samsung think that according to TS the UE will acquire the SIBs immediately. Vivo agrees and think no clarification is needed. LG agrees as well

- Mediatek think that acc to R4 the UE don’t receive anything from serving cell in m gap.

- Docomo think that also in LTE UE doesn’t prioritize ETWS over gaps, so for LTE collisions need to be handled by network.

* Chair: UE vendor seems not completely aligned on what should be the behaviour
* Chair: No support, people are not convinced there is a real problem

R2-2000344 Clarification for SIB6, SIB7 and SIB6 acquisition during measurement gaps Ericsson CR Rel-15 38.331 15.8.0 1438 - F NR\_newRAT-Core

By Email – Potential Easy

R2-2000353 Clarification on the PLMN-IdentityInfoList ZTE Corporation, Sanechips CR Rel-15 38.331 15.8.0 1440 - F NR\_newRAT-Core

=> Revised in R2-2002183

R2-2002183 Clarification on the PLMN-IdentityInfoList ZTE Corporation, Sanechips CR Rel-15 38.331 15.8.0 1440 1 F NR\_newRAT-Core

* [AT109e][006][NR15] Agreed

#### 5.4.1.4 Inter-Node RRC messages

By Web Conf

[R2-2001452](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001452.zip) Discussion on SN trigger MN release measurement gap Nokia, Nokia Shanghai Bell discussion Rel-15 NR\_newRAT-Core

- Ericsson think it may be too late to agree something like this.

- ZTE also think this is not needed. P1 would be ok but not P2. Intel agrees, Ericsson think we don’t need a CR.

- Chair: There seems to be no support to make a clarification.

* P1 reflects intended behaviour

[R2-2001456](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001456.zip) Clarification on SN trigger MN release measurement gap Nokia,Nokia Shanghai Bell CR Rel-15 38.331 15.8.0 1491 - F NR\_newRAT-Core

[R2-2000166](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000166.zip) TDoc IODT issue in 1-symbol PUCCH configuration with frequency hopping Nokia, Nokia Shanghai Bell discussion Rel-15 NR\_newRAT-Core

- Wrong AI

- Docomo wonder why FH would be configured for 1 symbol

- CATT think R1 is discussing the same issue this week, so maybe we should wait.

- Nokia think the main problem is the RRC reject which is clearly R2.

- Huawei are not sure ..

- ZTE QC: Have to check

* Continue by email, allow for checking.

[R2-2000167](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000167.zip) TS 38.331 IODT issue in 1-symbol PUCCH configuration with frequency hopping Nokia, Nokia Shanghai Bell CR Rel-15 38.331 15.8.0 1430 - F NR\_newRAT-Core

* [AT109e][068][NR15] 1-symbol PUCCH with frequency hopping (Nokia)

Scope: Allow check, Continue treat and discuss the documents R2-2000166, R2-2000167

Intended outcome: Agreed CRs

CLOSED

R2-2002324 Summary of email discussion [AT109e][068][NR15] IODT issue in 1-symbol PUCCH configuration with frequency hopping Nokia, Nokia Shanghai Bell discussion Rel-15 NR\_newRAT-Core

* [AT109e][068][NR15] Not sufficient support to update TS

RAN2 Understanding [AT109e][068][NR15], (no need to update TS):

- From RAN2 perspective, It is understood from RAN1 discussions that the presence or absence of the intra-slot frequency hopping configuration (a.k.a *intraSlotFrequencyHopping and secondHopPRB*) does not have any impact on how the 1-symbol PUCCH is transmitted.

a) For UEs supporting PUCCH format 0/2 without intra-slot frequency hopping, intra-slot frequency hopping configuration can be provided but will be ignored for 1-symbol PUCCH.

b) For UEs NOT supporting PUCCH format 0/2 without intra-slot frequency hopping, to avoid possible different interpretations by the UE, 1-symbol PUCCH can still be configured no matter intra-slot frequency hopping configuration is provided or not.

Email – Potential Easy

[R2-2000879](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000879.zip) Correction on p-maxNR-FR1 for NE-DC Ericsson CR Rel-15 38.331 15.8.0 1460 - F NR\_newRAT-Core

=> Revised in R2-2002154

R2-2002154 Correction on p-maxNR-FR1 for NE-DC Ericsson CR Rel-15 38.331 15.8.0 1460 1 F NR\_newRAT-Core

* [AT109e][006][NR15] agreed

[R2-2000880](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000880.zip) Correction on SFTD frequency list in INM Ericsson CR Rel-15 38.331 15.8.0 1461 - F NR\_newRAT-Core

* [AT109e][006][NR15] agreed

R2-2001612 Correction on handover preparation message LG Electronics Inc. CR Rel-16 36.331 15.8.0 4225 - F NR\_newRAT-Core

* [AT109e][006][NR15] contents is agreed, merged with rapporteur CR
* [AT109e][006][NR15] Potential easies II (Nokia, LG, Ericsson, ZTE)

Scope: Treat the documents R2-2000858, R2-2000859, R2-2000353, R2-2000879, R2-2000880, R2-2001612

CLOSED

R2-2002155 Potential easies II Ericsson discussion Rel-15 NR\_newRAT-Core

* Noted

#### 5.4.1.5 Other

Email – Potential Easy

R2-2000763 Introduction of provisions for late non-critical extensions Lenovo, Motorola Mobility CR Rel-15 38.331 15.8.0 1455 - F NR\_newRAT-Core

* [AT109e][007][NR15] agreed

R2-2000764 Introduction of provisions for late non-critical extensions Lenovo, Motorola Mobility CR Rel-15 36.331 15.8.0 4199 - F LTE\_eMTC4-Core, NB\_IOTenh2-Core, NR\_newRAT-Core, LTE\_QMC\_Streaming-Core

* [AT109e][007][NR15] agreed

R2-2001324 CR on overheating assistance reporting in handover case Huawei, HiSilicon CR Rel-15 38.331 15.8.0 1484 - F NR\_newRAT-Core

=> Revised in R2-2002149

R2-2002149 CR on overheating assistance reporting in handover case Huawei, HiSilicon CR Rel-15 38.331 15.8.0 1484 1 F NR\_newRAT-Core

* [AT109e][007][NR15] agreed

Not to be treated

[R2-2000693](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000693.zip) Correction on RLC entity release in case of full config Huawei, HiSilicon CR Rel-15 38.331 15.8.0 1452 - F NR\_newRAT-Core

Withdrawn

R2-2001185 "Need M" field mandatory presence due to a child presence condition Huawei, HiSilicon discussion Rel-15 NR\_newRAT-Core Withdrawn

### 5.4.2 LTE changes related to NR

By Email – Potential easy

R2-2000682 Clarification on candidate NR frequencies for IDC in EN-DC NTT DOCOMO, INC., Ericsson, MediaTek Inc., ZTE Corporation, Qualcomm Incorporated CR Rel-15 36.331 15.8.0 4168 1 F NR\_newRAT-Core R2-1915832

=> Revised in R2-2002189

R2-2002189 Clarification on candidate NR frequencies for IDC in EN-DC NTT DOCOMO, INC., Ericsson, MediaTek Inc., ZTE Corporation, Qualcomm Incorporated CR Rel-15 36.331 15.8.0 4168 2 F NR\_newRAT-Core

* [AT109e][007][NR15] agreed

R2-2000692 Correction on FR1-GP flag Huawei, HiSilicon CR Rel-15 36.331 15.8.0 4196 - F NR\_newRAT-Core

=> Revised in R2-2002143

R2-2002143 Correction on FR1-GP flag Huawei, HiSilicon CR Rel-15 36.331 15.8.0 4196 1 F NR\_newRAT-Core

* [AT109e][007][NR15] contents is agreed. Merged with rapporteur CR
* [AT109e][007][NR15] Potential easies III (Huawei, Lenovo, NTT Docomo)

Scope: Treat the documents R2-2000763, R2-2000764, R2-2001324, R2-2000682, R2-2000692.

CLOSED

[R2-2002142](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002142.zip) report of [AT109e][007][NR15] Potential easies III (Huawei, Lenovo, NTT Docomo) Huawei, HiSilicon discussion Rel-15 NR\_newRAT-Core

* noted

Not to be treated

R2-2001455 Correction on Release of EN-DC CATT CR Rel-16 36.331 15.8.0 4223 - F NR\_newRAT-Core

### 5.4.3 UE capabilities and Capability Coordination

Including Late Drop

Including outcome of the email discussion [108#04][R15 NR] Support of 70MHz channel bandwidth (Huawei)

By Web Conf

FR2 fallback

[R2-2000600](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000600.zip) Handling of fallbacks for combined contiguous and non-contiguous CA in FR2 Apple, Nokia, Nokia Shanghai Bell, OPPO, Intel discussion Rel-15 NR\_newRAT-Core

[R2-2001222](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001222.zip) Handling of FR2 fallback band combinations Ericsson discussion

DISCUSSION on the two tdocs above

- Intel think that the apple proposal can already be support by R4 TS, in R4 TS it is stated for some cases fallbacks are not included.

- Docomo think that the change to not support all fallbacks in R4 was recent. Docomo support the Ericsson view, and think there is no problem to support all fallbacks. IS there a real problem. Nokia think the support of all fallbacks generates a lot of work in RAN4.

- LG also support the Apple proposal.

- Mediatek think there may be a compatibility problem, and we need to know more before agreeing a solution.

- Apple think that in R4 we have lot of BC but in field only a few are used.

- Vivo think R2 need to decide together with R4 and don’t want to agree.

- Verizon think it is difficult to decide.

- Nokia think that also there is a testing issue in the future so UEs will not be able to test all possible combination. Docomo think that testing is anyway done by testing tools and is not an issue.

- TMO think that testing has never covered all cases, but are not sure this is a valid reason, and agree with Docomo.

- Verizon think there is indeed a testing effort and this is important.

- Chair wonder what is the main problem of going in the direction of the Apple CRs.

- Ericsson think that there is impact to network. Verizon think this is a true observation. Chair wonder if the impact is mainly for new cases.

- Intel think we need to do something now, as R4 already has started working acc to this.

- Chair think we could go in this direction, if used carefully.

- Ericsson first want to verify the problem.

- TMO think the network impact should not be neglected.

- Apple think R4 know very well the R2 impacts when they made their agreement.

- MTK think that valid fallbacks must be specified in R4. Fallbacks cannot automatically be considered supported just based on signalling. MTK want to clarify what is the real UE capability, i.e. R4 TS + signalling.

- Ericsson cannot accept to change.

- [AT109e][000] Chair: WA is withdrawn and removed.

* Chair’s decided way forward

**R2 assume to follow R4 decision to not support all fall-backs.**

**Send an LS to R4 with questions to understand more detailed requirements for a solution, and understand better what R4 actually means with not supporting all fallbacks.**

**Next Q expect to agree on the solution (solution could cover impact in R4 and R2).**

* [AT109e][071][NR15] FR2 Fallback Combinations (MTK)

Scope: LS to R4 on the details according to above.

Intended outcome: Approved LS

Deadline: Mar 5 CET

R2-2002312 [DRAFT] Reply LS on Handling of Fallbacks for combined contiguous and non-contiguous CA or DC configurations in FR2 MediaTek Inc LS out Rel-15 NR\_newRAT-Core

- Apple don’t like Q1. Think it is obvious that the benefit is UE testing and development. Intel agrees.

- Ericsson think we discussed the motivation in R2 and it is clear that companies have a different view.

- Chair proposes Q1: RAN2 respectfully ask RAN4 to share the understanding on intentions for a solution for “not support all fallbacks”

- Apple cannot accept Q1 and think we can also have no LS.

- Docomo think the last version is a good compromise and we should send an LS.

- LG think current proposal is ok and think we can make Q1 part of the text instead.

- TMO support the LS. VDF also think the LS should be sent. Both TMO and VDF see no harm in asking question.

- Chair asks to agree

- APPLE OBJECTs to send the LS with Q1 (sustained objection)

- Chair last attempt: Have “Companies in RAN2 have different understanding on intentions and detail requirements for a solution.” In P1. Ericsson cannot accept this.

- Chair: This seems stuck and RAN2 cannot progress this due to sustained objections. Chair will notify RAN4 chair that R2 can currently not agree.

* noted
* close this discussion, no outcome

R2-2000601 CR to TS38.331 on FR2 intra band contiguous and non-contiguous CA fallback Apple, Nokia, Nokia Shanghai Bell, OPPO, Intel CR Rel-16 38.331 15.8.0 1447 - F NR\_newRAT-Core

R2-2000602 CR to TS38.306 on FR2 intra band contiguous and non-contiguous CA fallback Apple, Nokia, Nokia Shanghai Bell, OPPO, Intel CR Rel-16 38.306 15.8.0 0234 - F NR\_newRAT-Core

[R2-2001223](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001223.zip) [DRAFT] Reply LS on Handling of Fallbacks for combined contiguous and non-contiguous CA or DC configurations in FR2 Ericsson LS out To:RAN4

LS request BCS

[R2-2000035](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000035.zip) Reply LS on BCS reporting for EN-DC BC (R4-1915358; contact: Huawei) RAN4 LS in Rel-15 NR\_newRAT-Core To:RAN2

* [AT109e][072][NR15] Noted

[R2-2001318](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001318.zip) CR on BWCS for inter-ENDC BC with intra-ENDC BC (38.331) Huawei, HiSilicon CR Rel-15 38.331 15.8.0 1409 1 F NR\_newRAT-Core R2-1915892

[R2-2001319](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001319.zip) CR on BWCS for inter-ENDC BC with intra-ENDC BC (38.306) Huawei, HiSilicon CR Rel-15 38.306 15.8.0 0208 1 F NR\_newRAT-Core R2-1915893

DISCUSSION

- Docomo are ok to address this, but think we need to be careful. The Huawei CR impact meaning in an existing field. For the new scenario we can just introduce new support for inter-band case. Suggest discuss by email.

- QC think that Huawei are keeping compatibility and support this. Intel agrees. Samsung agrees. Nokia too. Docomo would be ok as well. Chair: CRs seems agreeable

- Nokia think some small rewording is needed

* Revised, the contents of the CRs above are agreed, except that small rewordings can be discussed.
* [AT109e][072][NR15] BWCS for inter-ENDC BC with intra-ENDC BC (Huawei)

Intended outcome: Agreed CRs based on R2-2001318 and 1319

CLOSED

R2-2002127 CR on BWCS for inter-ENDC BC with intra-ENDC BC (38.331) Huawei, HiSilicon CR Rel-15 38.331 15.8.0 1409 2 F NR\_newRAT-Core

* [AT109e][072][NR15] agreed

R2-2002128 CR on BWCS for inter-ENDC BC with intra-ENDC BC (38.306) Huawei, HiSilicon CR Rel-15 38.306 15.8.0 0208 2 F NR\_newRAT-Core

* [AT109e][072][NR15] agreed

NE-DC capability extensions

[R2-2000487](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000487.zip) Introduction of extended capabilities for NE-DC only BCs ZTE Corporation, Sanechips discussion Rel-15 NR\_newRAT-Core

* Noted

[R2-2000488](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000488.zip) CR on introduction of extended capabilities for NE-DC only BCs ZTE Corporation, Sanechips CR Rel-15 38.331 15.8.0 1445 - F NR\_newRAT-Core

=> Revised in R2-2002220

R2-2002220 CR on introduction of extended capabilities for NE-DC only BCs ZTE Corporation, Sanechips CR Rel-15 38.331 15.8.0 1445 1 F NR\_newRAT-Core

* [AT109e][073][NR15] Postponed

DISCUSSION

- Nokia think their CRs are very similar to ZTEs CRs and would be ok with those.

- ZTE think -v1570 version need to be discussed. Huawei agrees, and are not sure this is applicable to NEDC, might need to ask R1.

- MTK think the CRs are ok, have some preference of ZTE version. The 1024QAM parameter that need discussion. QC agrees this is needed.

- Samsung would prefer to not have 4 parallel lists and prefer the Huawei proposal, and think we can support this also with no change.

- Ericsson think we need to look further at this.

- Docomo think we need to change.

- Chair: There is support to have CRs to fix the support of the extensions. There seem to be somewhat more support for the ZTE CR.

- Huawei think we should send LS to R1 to check for 1024 QAM. MTK would be ok.

* [AT109e][073][NR15] NE-DC capability extensions (ZTE)

Intended outcome: LS to R1 to ask about applicability of 1024QAM parameter, Agreed CRs based on R2-2000487, 0488

CLOSED

R2-2002221 LS on the applicability of UE capability for NE-DC ZTE Corporation LS out Rel-15 NR\_newRAT-Core To:RAN1

* [AT109e][073][NR15] Approved (this is the final version)

[R2-2001182](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001182.zip) Clarification on NE-DC only band combination Huawei, HiSilicon CR Rel-15 38.331 15.8.0 1474 - F NR\_newRAT-Core

[R2-2000161](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000161.zip) TS 38.331 Fixing NE-DC Band Combinations Nokia, Nokia Shanghai Bell CR Rel-15 38.331 15.8.0 1427 - F NR\_newRAT-Core

=> Revised in R2-2002061

[R2-2002061](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002061.zip) TS 38.331 Fixing NE-DC Band Combinations Nokia, Nokia Shanghai Bell CR Rel-15 38.331 15.8.0 1427 1 F NR\_newRAT-Core

Other

[R2-2001082](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001082.zip) Clarification of handover and measurement capabilities in NR-DC and NE-DC Ericsson CR Rel-15 38.306 15.8.0 0245 - F NR\_newRAT-Core

- Huawei think PScell in NE-DC is LTE cell so it shouldn’t apply there. Ericsson agrees that maybe this need to be corrected.

- Google think PScell change should be indicated with the BC. ZTE think these are indeed UE cap not BC.

- Nokia think the intent is ok, but NE-DC and NR-DC also implies support for NR SA so maybe the only problem to fix is the word only. Intel agrees. Huawei think then we might need to re-review the whole TS. Intel think we shouldn’t change too much. Some capabilities are R1 capabilities.

- ZTE think we need to clarify further for PScell change. QC think anyway means mandatory with capability signalling.

- Oppo agrees with the intention but think ngEN-DC should be included.

- Samsung agrees something need to change.

* Will have a change

EMAIL DISCUSSION to next meeting:

* [Post109e][][NR15] Clarification of capabilities with NR-DC and NE-DC (Ericsson)

Scope: Based on R2-2001082, find an acceptable CR, Check whether more places need update.

Intended outcome: Agreeable CR

Deadline: Next Meeting

[R2-2001382](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001382.zip) SRS Capability report for SRS only Scell Huawei, HiSilicon CR Rel-15 38.331 15.8.0 1490 - F NR\_newRAT-Core

=> Revised in R2-2002036

[R2-2002036](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002036.zip) SRS Capability report for SRS only Scell Huawei, HiSilicon CR Rel-15 38.331 15.8.0 1490 1 F NR\_newRAT-Core

DISCUSSION

- QC support to have a change

- Samsung wonders in which scenario this problem occurs. Can the outlined problem occur? Intel are also wondering, but think this is indeed agreed in R1, and think R1 reference to the coversheet. Huawei think yes this is possible.

- Nokia also wonder, is this TDD or FDD?

- Docomo wonder if we can use existing signalling for this? Ericsson also think this may be possible.

- OPPO also wonder about the scenario.

- Huawei think DL carrier cannot use the UL feature set ..

* Postponed
* [AT109e][081][NR15] SRS Capability report for SRS only Scell (Huawei)

Scope: Check the scenario, refer to relevant R1 decisions. If agreeable to continue; CR agree how to signal (If scenario need deeper checking can be postponed)

CLOSED

EMAIL DISC to next meeting:

* [Post109e][NR15] SRS Capability report for SRS only Scell (Huawei)

Scope: Check the understanding on legacy behaviors and figure out an agreeable CR to fix the problem, ref R2-2002036 and [AT109e][081]

Intended outcome: Agreed CR (if possible)

Deadline: Next Meeting

By Email – Discussion

[R2-2000011](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000011.zip) LS on UE data rate (R1-1913552; contact: Ericsson) RAN1 LS in Rel-15 NR\_newRAT-Core To:RAN2

* Noted

[R2-2000034](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000034.zip) LS on UE capability of intraBandENDC-Support (R4-1913130; contact: Qualcomm) RAN4 LS in Rel-15 NR\_newRAT-Core To:RAN2

* Noted

[R2-2000165](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000165.zip) TS 38.306 Clarifying consequences if not supported Nokia, Nokia Shanghai Bell CR Rel-15 38.306 15.8.0 0176 3 F LTE\_NR\_DC\_CA\_enh-Core R2-1915508

* [AT109e][008] Round 1: Postpone, Wait for R1 LS

[R2-2001221](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001221.zip) Clarification on maximum number of supported PDSCH Resource Element mapping patterns Ericsson CR Rel-15 38.306 15.8.0 0249 - F NR\_newRAT-Core

* [AT109e][008] Round 1: Not Agreed
* [AT109e][008][NR15] Cap Discussion (Ericsson, Mediatek, Huawei, NTT docomo, Qualcomm, Nokia)

1st Round Scope: Treat the documents [R2-2001322](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001322.zip), [R2-2001224](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001224.zip), [R2-2000425](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000425.zip), R2-2000684, [R2-2001221](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001221.zip), [R2-2000165](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000165.zip), [R2-2002081](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002081.zip), [R2-2000034](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000034.zip), [R2-2001220](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001220.zip), [R2-2000011](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000011.zip).

Intended outcome: First Round comments, goal to determine which of the CRs that we should attempt to agree, find candidates to leave out (postpone).

CLOSED

R2-2002134 [AT109e][008][NR15] Cap Discussion Ericsson discussion Rel-16 NR\_newRAT-Core

DISCUSSION

- [AT109e][000] Monday 24 Docomo (Hideaki-san): For this "combo" email discussion, one approach would be to prepare a document listing all tdocs and ask interested companies to fill in their views for each tdoc, if the intention of proposed changes is agreeable or not. If the majority thinks that the CR is needed, then, we will work on polishing the CR for further. If you agree, the 1st company in the list can prepare such the tdoc?

- [AT109e][000] Chair: yes your proposal was more or less exactly what I had in mind. If the first company cannot do this, some other company could do it, and it can be resolved in the respective email discussion.

- [AT109e][000] Huawei (Yang): Looking at the tdoc number listed in the email thread, we think several companies have frequent authors. The UE capability discussion is always complicated and we actually think to split a bit further on these papers might be more helpful. In our view we suggest R2-2001322 and R2-2000034 can be two separate email discussions, as both discussion need careful evaluation on backward compatibility. The contribution author can be the email rapporteur. For others we are fine to group them together and have one company to lead the email discussion.

- [AT109e][000] Tuesday 25 Chair: Dear Yang Thanks for the suggestion, it is a good one. I suggest we make this split if we decide to go ahead (i.e. after this email discussion have discussed one round). If you think the discussions are complex for some documents we can also do email discussion to next meeting.

- [AT109e][008] Chair: Decision Part 1:

R2-2000165        Postpone, Wait for R1 LS

R2-2001221        Not Agreed.

R2-2001220        Agree to have this CR, can polish the wording (Ericsson)

R2-2001224        Intention OK, Significant support for the CR Continue,

Continue to treat 2020 and 1224 in [AT109e][008], Deadline Mar 3

R2-2000684        Agree to have this CR, can polish the wording (Mediatek)

R2-2000425        Different interpretations on current behaviour. Continue,

Continue to treat 0684 and 0425 in [AT109e][077], Deadline Mar 3

R2-2002080, R2-2002081 Not clear, Something may be needed,

Continue to treat R2-2002080, R2-2002081 in [AT109e][078], Deadline Mar 3

R2-2001322        There is significant support to make a clarification,

Continue to treat in New Email discussion [AT109e][079], Deadline Mar 3

* [AT109e][008][NR15] Cap Discussion (Ericsson)

Round 2 Scope: R2-2001224 Agree to have this CR, can polish the wording, R2-2001220 Intention OK, Significant support for the CR, continue discussion, make revisions.

Intended outcome: Agreed CRs

CLOSED

[R2-2001224](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001224.zip) Capability coordination for NE-DC Ericsson CR Rel-15 38.331 15.8.0 1475 - F NR\_newRAT-Core

=> Revised in R2-2002275

R2-2002275 Capability coordination for NE-DC Ericsson CR Rel-15 38.331 15.8.0 1475 1 F NR\_newRAT-Core

* [AT109e][008][NR15] Agreed

[R2-2001220](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001220.zip) Data rate for the case of single carrier standalone operation Ericsson CR Rel-15 38.306 15.8.0 0248 - F NR\_newRAT-Core

=> Revised in R2-2002276

R2-2002276 Data rate for the case of single carrier standalone operation Ericsson CR Rel-15 38.306 15.8.0 0248 1 F NR\_newRAT-Core

* [AT109e][008][NR15] Agreed

R2-2000684 Correction on SRB capability in NR-DC MediaTek Inc. CR Rel-15 38.306 15.8.0 0236 - F NR\_newRAT-Core

* [AT109e][077][NR15] Agreed

[R2-2000425](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000425.zip) Correction on removal of NR-DC and NE-DC band combinations when capabilityRequestFilterCommon is absent MediaTek Inc. CR Rel-15 38.331 15.8.0 1444 - F NR\_newRAT-Core

[R2-2002274](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002274.zip) Correction on removal of NR-DC and NE-DC band combinations when capabilityRequestFilterCommon is absent MediaTek Inc. CR Rel-15 38.331 15.8.0 1444 1 F NR\_newRAT-Core

* [AT109e][077][NR15] Agreed

* [AT109e][077][NR15] Cap Discussion II (Mediatek)

Scope: R2-2000684: Agree to have this CR, can polish the wording, R2-2000425, Different interpretations on current behaviour. continue discussion, make revisions.

Intended outcome: Agreed CR (if CR not agreeable now for 0425, then a statement clarifying current behaviour to be captured in Chair notes).

CLOSED

[R2-2002080](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002080.zip) UE capability of intra-band requirements for inter-band EN-DC/NE-DC NTT DOCOMO, INC. CR Rel-15 38.331 15.8.0 1501 - F NR\_newRAT-Core Late

[R2-2002081](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002081.zip) UE capability of intra-band requirements for inter-band EN-DC/NE-DC NTT DOCOMO, INC. CR Rel-15 38.306 15.8.0 0259 - F NR\_newRAT-Core Late

* [AT109e][078][NR15] Cap Discussion III (NTT DOCOMO)

Scope: R2-2002080, R2-2002081, continue discussion, Different views, Something may be needed.

Intended outcome: Agreed CRs (or LS out).

Deadline: Mar 3

[R2-2001322](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001322.zip) CR on fallback BC reporting Huawei, HiSilicon CR Rel-15 38.331 15.8.0 1483 - F NR\_newRAT-Core

=> Revised in R2-2002150

R2-2002150 CR on fallback BC reporting Huawei, HiSilicon CR Rel-15 38.331 15.8.0 1483 1 F NR\_newRAT-Core

* [AT109e][079][NR15] Cap Discussion IV (Huawei)

Scope: R2-2001322, There is significant support to make a clarification, Should attempt to convince opponents. If agreeable, cover sheet need update,

Intended outcome: Confirm need (one more round) Agreed CR

Deadline: Mar 3

By Email

Rapporteur CR

R2-2001393 Miscellaneous Corrections to UE capability parameters z Intel Corporation, Lenovo, Motorola Mobility, NTT DOCOMO, INC., Samsung, Qualcomm Incorporated, Ericsson  CR Rel-15 38.306 15.8.0 0255 - F NR\_newRAT-Core

=> Revised in R2-2002073

R2-2002073 Miscellaneous Corrections to UE capability parameters Intel Corporation, Lenovo, Motorola Mobility, NTT DOCOMO, INC., Samsung, Qualcomm Incorporated, Ericsson  CR Rel-15 38.306 15.8.0 0255 1 F NR\_newRAT-Core

=> Revised in R2-2002297

R2-2002297 Miscellaneous Corrections to UE capability parameters Intel Corporation, Lenovo, Motorola Mobility, NTT DOCOMO, INC., Samsung, Qualcomm Incorporated, Ericsson  CR Rel-15 38.306 15.8.0 0255 2 F NR\_newRAT-Core

* [AT109e][009][NR15] Miscellaneous Corr UE cap (Intel)

Scope: Treat the CR above, items may be added to this CR during the meeting

Intended outcome: Agreed CR

Deadline: Mar 5 1200 CET

70 MHz BW – email discussion

R2-2001312 Report for email discussion 108#04 on support of 70MHz CBW Huawei, HiSilicon discussion Rel-15 NR\_newRAT-Core

* Noted

R2-2001313 CR to 38.331 on support of 70MHz channel bandwidth Huawei, HiSilicon, Vodafone CR Rel-15 38.331 15.8.0 1410 2 F NR\_newRAT-Core R2-1916500

=> Revised in R2-2002152

R2-2002152 CR to 38.331 on support of 70MHz channel bandwidth Huawei, HiSilicon, Vodafone CR Rel-15 38.331 15.8.0 1410 3 F NR\_newRAT-Core

=> Revised in R2-2002209

R2-2002209 CR to 38.331 on support of 70MHz channel bandwidth Huawei, HiSilicon, Vodafone CR Rel-15 38.331 15.8.0 1410 4 F NR\_newRAT-Core

* [AT109e][010][NR15] Agreed

R2-2001314 CR to 38.306 on support of 70MHz channel bandwidth Huawei, HiSilicon, Vodafone CR Rel-15 38.306 15.8.0 0209 2 F NR\_newRAT-Core R2-1916501

=> Revised in R2-2002153

R2-2002153 CR to 38.306 on support of 70MHz channel bandwidth Huawei, HiSilicon, Vodafone CR Rel-15 38.306 15.8.0 0209 3 F NR\_newRAT-Core

=> Revised in R2-2002210

R2-2002210 CR to 38.306 on support of 70MHz channel bandwidth Huawei, HiSilicon, Vodafone CR Rel-15 38.306 15.8.0 0209 4 F NR\_newRAT-Core

* [AT109e][010][NR15] Agreed

Other

R2-2001323 CR on maximum stored number of deprioritisation frequencies Huawei, HiSilicon CR Rel-15 38.306 15.8.0 0254 - F NR\_newRAT-Core

=> Revised in R2-2002151

R2-2002151 CR on maximum stored number of deprioritisation frequencies Huawei, HiSilicon CR Rel-15 38.306 15.8.0 0254 1 F NR\_newRAT-Core

* [AT109e][010][NR15] Agreed

[R2-2001187](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001187.zip) Correction on parameter description of beamManagementSSB-CSI-RS Huawei, HiSilicon CR Rel-15 38.306 15.8.0 0194 2 F NR\_newRAT-Core R2-1914663

* [AT109e][010][NR15] Agreed
* [AT109e][010][NR15] Potential easies IV (Huawei)

Scope: Treat the documents [R2-2001187](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001187.zip), R2-2001323, R2-2001314, R2-2001314, R2-2001313, R2-2001312

CLOSED

[R2-2002148](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002148.zip) [AT109e][010][NR15] Potential easies IV (Huawei) Huawei discussion Rel-15 NR\_newRAT-Core

* noted

Not to be treated

XDD FRX Diff

[R2-2000013](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000013.zip) LS on XDD-FRX Differentiation (R1-1913579; contact: Qualcomm) RAN1 LS in Rel-15 NR\_newRAT-Core To:RAN2 Cc:RAN4

[R2-2000583](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000583.zip) xDD FRx split capabilities. Qualcomm Incorporated discussion Rel-16 TEI16

[R2-2000246](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000246.zip) Discussion on XDD-FRX differentiation in UE capability ZTE Corporation, Sanechips discussion Rel-15 NR\_newRAT-Core

R2-2000247 CR to 38.306 on XDD-FRX differentiation in UE capability ZTE Corporation, Sanechips CR Rel-15 38.306 15.8.0 0227 - F NR\_newRAT-Core

R2-2000248 CR to 38.331 on XDD-FRX differentiation in UE capability ZTE Corporation, Sanechips CR Rel-15 38.331 15.8.0 1436 - F NR\_newRAT-Core

[R2-2001320](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001320.zip) Discussion on capabilities with XDD-FRX differentiations Huawei, HiSilicon discussion Rel-15 NR\_newRAT-Core

[R2-2001321](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001321.zip) Draft reply LS on capabilities with XDD-FRX differentiations Huawei, HiSilicon LS out Rel-15 NR\_newRAT-Core To:RAN1 Cc:RAN4

Other

[R2-2001083](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001083.zip) Clarification of fallback per band feature set Ericsson CR Rel-15 38.306 15.8.0 0246 - F NR\_newRAT-Core

[R2-2001084](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001084.zip) Un-defined band combinations in UECapabilityInformation Ericsson discussion Rel-15 NR\_newRAT-Core, TEI15

[R2-2000531](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000531.zip) Corrections on bwp-WithoutRestriction OPPO CR Rel-15 38.306 15.8.0 0232 - F NR\_newRAT-Core

R2-2002059 Dummifying bandwidth class F for FR1 Nokia, Nokia Shanghai Bell CR Rel-15 38.306 15.8.0 0257 - F NR\_newRAT-Core Late

Withdrawn

[R2-2000164](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000164.zip) TS 38.331 Dummifying bandwidth class F Nokia, Nokia Shanghai Bell CR Rel-15 38.331 15.8.0 1429 - F NR\_newRAT-Core

### 5.4.4 Idle/inactive mode procedures

This agenda item addresses the idle and inactive behaviour specified in 38.304 or 36.304. Other aspects related to inactive (e.g. state transitions, out of coverage, etc) are covered under RRC agenda items (5.4.1.x)

Withdrawn

R2-2000340 Correction for Pcompensation for PC1 in FR2 Ericsson, NTT DOCOMO INC. CR Rel-15 38.304 15.6.0 0144 - F NR\_newRAT-Core Withdrawn

## 5.5 Void

# 6 Rel-16 NR Work Items

## 6.0 Rel-16 Organizational

### 6.0.1 RRC

Cross WI issues. CR merge issues. Organizational. Only rapporteurs input (TS rapporteur or running CR editor) is expected.

Including outcome of the email discussion [108#28][R16 RRC] RRC Merge (Ericsson Samsung)

By Web Conf

[R2-2001085](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001085.zip) [108#28][R16 RRC] RRC Merge – 38331 - Email discussion report Ericsson discussion Rel-16 TEI16

- Ericsson reports that there are several problematic places in RRC, each of them should have an email discussion

- Ericsson has focused on functional clashes

* Have one email discussion to cover at least the “yes” in the table.
* Noted

[R2-2001086](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001086.zip) Rel-16 RRC 38331 CR Merge Ericsson discussion Rel-16 TEI16

- The RRC merge file can be used to identify in detail the clashes.

* Noted

=> Revised in R2-2002293

R2-2002293 Rel-16 RRC 38331 CR Merge Ericsson discussion Rel-16 TEI16

[R2-2001160](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001160.zip) Notes from 36331 Rel-16 CR merge [108#28][R16 RRC] Samsung Telecommunications report Rel-16 36.331 LTE\_NR\_DC\_CA\_enh-Core, LTE\_feMob-Core, LTE\_eMTC5-Core, NB\_IOTenh3-Core, TEI16 Late

- Samsung point out that corrections need to be done acc to merge findings. There are also a lot of basic ASN.1 protocol problems.

* Assume that we will have an email discussion for merge issues also for LTE.
* Noted

[R2-2001159](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001159.zip) Draft 36331 Rel-16 resulting from CR merge [108#28][R16 RRC] Samsung Telecommunications other Rel-15 36.331 LTE\_NR\_DC\_CA\_enh-Core, LTE\_feMob-Core, LTE\_eMTC5-Core, NB\_IOTenh3-Core, TEI16

* Noted

GENERAL DISCUSSION

- Nokia wonders is there would be a difference. Ericsson think there are no surprises.

- Samsung think we should develop a R2 view on whether it is possible to keep time plan.

- TMO think we need a good product.

- Nokia wonder if we need to have 306 CRs now. Chair think no. ZTE think there are some small WIs for which 306 CR is ready. Chair think that for non-L1 items we can have 306 CRs. Huawei think this is only for items that has zero L1 impacts / no L1 features. Huawei pont out that 306 UE cap and RRC goes together. Chair agrees,

- Ericsson think we need to decide which CRs should go for approval. Chair agrees and think this is needed latest Mar 4.

* [AT109e][065][R16] R16 NR RRC coordination (Ericsson)

Scope: Cross WI RRC coordination, Address issues found at RRC Merge. Identify which CRs/WIs that are problematic.

CLOSED

R2-2002290 [AT109e][065][R16] R16 NR RRC coordination Email discussion report Ericsson discussion Rel-16

- Chair: it is observed that the participation was low.

* [AT109e][065][R16] This document describes a couple of issues, and action points, which the rapporteur (Ericsson) has all taken on himself. Those actions are endorsed.
* [AT109e][066][R16] R16 LTE RRC coordination (Samsung)

Scope: Cross WI RRC coordination, Address issues found at RRC Merge. Identify which CRs/WIs that are problematic.

CLOSED

CHAIR OBSERVATION

- No participation in [066]. Draft report can serve as a start for further review.

[R2-2001087](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001087.zip) Rel-16 ASN.1 review plan Ericsson discussion Rel-16 TEI16 Late

- Huawei agrees that we keep FFS and editors notes.

- Chair think all CRs will be provided

- TMO are worried TS will not be stable in June. When will Freeze happen. Chair think from now we just focus on fixing problems and open issues.

- Nokia are also concerned. Time line is challenging. Nokia think IMT2020 doesn’t require ASN.1 freeze. Oppo also have concerns. Oppo think ph1 start in april.

- Docomo also think this is challenging but similar situations in the past.

- AT&T wonder if we will have ASN.1 complete in June. Chair think yes.

- Ericsson think we can have NBC until Q3.

- Intel think bullet 1 is ok, keep FFSes, and think time plan is ok.

- Samsung think the time to provide comments is too short. Samsung think we can start with a non-official version for comments and thus start even earlier.

- LG wonder what all CRs provided to RP means? Is there a process to establish the quality.

- ZTE think we have the current situation is as it is, and we should have a plan similar to the current one. QC agrees with ZTE

- Samsung are ok with current process, acknowledge that we can try, for the moment we don’t know if success or not.

- Nokia think we need to be clear to RP. UE capabilities is a major issue. Nokia think the timeline of the current plan is an issue.

- Huawei think the plan is possible

- Intel wonders about UE capabilities, what should be the plan.

- TMO think if NBC is acceptable until September is an issue. Chair think that we shouldn’t have NBC after ASN.1 freeze. If we expect/plan NBC then we shall move the ASN.1 freeze.

* Will have a plan similar to this proposal
* Discuss details by email until tomorrow.
* [AT109e][099][ASN.1] ASN.1 Plan (Ericsson/Chairman)

Scope: gather detail plan comments and make revision.

Intended outcome: endorsed plan

Deadline: MAR 6 1200 CET

Moved from 3

R16 L1 parameters

[R2-2000023](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000023.zip) LS on updated Rel-16 LTE and NR parameter lists (R1-1913675; contact: Qualcomm) RAN1 LS in Rel-16 LTE\_eMTC5-Core, NB\_IOTenh3-Core, LTE\_DL\_MIMO\_EE-Core, LTE\_terr\_bcast-Core, NR\_2step\_RACH-Core, NR\_unlic-Core, NR\_IAB-Core, 5G\_V2X\_NRSL-Core, NR\_L1enh\_URLLC-Core, NR\_IIOT-Core, NR\_eMIMO-Core, NR\_UE\_pow\_sav-Core, NR\_pos-Core, NR\_Mob\_enh-Core, LTE\_NR\_DC\_CA\_enh-Core To:RAN2, RAN3

DISCUSSION

[Chair] Treated in email discussion 000. R16 CR rapporteurs shall take into account.

- [AT109e][000] Chair: Proposal to NOTE the Incoming LS on updated Rel-16 LTE and NR parameter lists in R2-2000023 (R1-1913675; contact: Qualcomm).

- [AT109e][000] Chair: We need to take this LS into account. Maybe that has already happened. Any questions or discussions, can be done here.

Online:

- Huawei wonder what to do with the updated L1 parameters.

- Huawei think we should reply to R1 where terminology clashes.

- Nokia agrees.

* Will have an email discussion for L1 parameters (QC)
* [AT109e][067][R16] L1 parameters (QC)

Scope: Discussion on L1 parameters, issues, consistency

CLOSED, NOT NEEDED

RAPPORTEUR STATEMENT on L1 params

- [AT109e][067][R16] QC: All R16 WIs with R2 work has Rapporteur CRs already that will take this into account, On TEI16 Multiple LTE-CRS rate matching patterns is covered both in eMimo and main sessions, RACH configuration considering TDD configuration for FR1 is covered in main session by [AT109e][057][TEI16] Additional RACH config (NTT Docomo). With these, I would conclude that we covered the RAN1 LS of its current form.

### 6.0.2 Feature List and UE capabilities

Cross WI issues. Organizational. Only rapporteurs input (TS rapporteur or running CR editor) is expected.

- Intel point out that L1 feature list is very late and encourage companies to participate.

By Web Conf

[R2-2002064](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002064.zip) [DRAFT] LS on Guidelines for UE capability definitions Ericsson LS out Rel-16 TEI16 To:RAN1, RAN4

- Ericsson think we don’t need to discuss. Email only. Intel agrees

* [AT109e][011][R16] LS on Guidelines for UE capability definitions (Intel/Ericsson)

Intended outcome: Approved LS out

Deadline: Mar 4 1200 CET

R2-2002292 [DRAFT] LS on Guidelines for UE capability definitions Ericsson LS out Rel-16 TEI16 To:RAN1, RAN4

### 6.0.3 Other

Other Cross WI issues, e.g. MAC issues. Only rapporteurs input (TS rapporteur or running CR editor) is expected.

By Email – Discussion

R2-2000533 LCID extension for Rel-16 Samsung discussion Rel-16 TEI16

Moved from 6.20.2

* Noted

R2-2001500 Extension of the LCID LG Electronics Inc. discussion TEI16

* Noted
* [AT109e][012][R16] LCID extension (Samsung)

Scope: LCID extension, applicable to all R16 WIs that have need,

Part 1: Intended outcome: Report, issues and resolutions. CLOSED

Part 2: Intended outcome: Agreed CR

Deadline: Mar 5 1200 CET

R2-2002208 Report of LCID extension for Rel-16 Samsung discussion Rel-16 TEI16

=> Revised in R2-2002277

R2-2002277 Report of LCID extension for Rel-16 Samsung discussion Rel-16 TEI16

* [AT109e][012][R16] Noted

Agreements [AT109e][012][R16]

* LCID spaces for both DL and UL MAC CEs are extended from Rel-16.
* To extend LCID spaces for MAC CEs, a new MAC subheader with one-byte eLCID field is introduced. Tentatively LCID value 34 is used for both DL and UL for the new MAC subheader.
* When the new MAC subheader with one-byte eLCID field is used, eLCID values 0 to 255 indicates LCID values 64 to 319, accordingly.
* The LCID range in IAB running CR (i.e. 64 to (216 – 65)) is updated to '320 to (216 + 319). It is FFS whether to keep reserved LCID values in IAB running CR.
* For the selection of set1 (below 64) or set2 (above 64), the general principle is that less frequent and low priority MAC CEs should be assigned to set2, and more frequent and high priority MAC CEs (which also requires low overhead) can be assigned to set1 based on consensus. With this principle, the final decision is made by each WI discussion.
* No restriction (e.g. always to have L field) is needed to assign MAC CE to set2.

R2-2002320 Introduction of a new MAC subheader for MAC Ces Samsung CR Rel-16 38.321 15.8.0 0703 - B TEI16

Review of Stage-2 TP/CRs from other groups

**38.300:**

R2-2002266 Introduction of 5G-SRVCC R3 (Nokia, Nokia Shanghai Bell) CR Rel-16 38.300 16.0.0 0205 - B SRVCC\_NR\_to\_UMTS

R2-2002269 Propagation of Roaming and Access Restriction information in NG-RAN in non-homogenous NG-RAN node deployments R3 (Ericsson, Qualcomm) CR Rel-15 38.300 15.8.0 0206 - F NR\_newRAT-Core

R2-2002270 Propagation of Roaming and Access Restriction information in NG-RAN in non-homogenous NG-RAN node deployments R3 (Ericsson, Qualcomm) CR Rel-16 38.300 16.0.0 0207 - A NR\_newRAT-Core

* [AT109e][084][R16] 38300 Review of R16 TPs/CRs from other groups (Nokia)

Scope: Review of TPs/CRs from other groups

Intended outcome: Agreed CRs

Deadline: MAR 6 1200 CET (see also schedule)

**36.300:**

R2-2002267 Propagation of Roaming and Access Restriction information in E-UTRAN in non-homogenous eNB deployments R3 (Ericsson, Qualcomm) CR Rel-15 36.300 15.8.0 1272 - F NR\_newRAT-Core

R2-2002268 Propagation of Roaming and Access Restriction information in E-UTRAN in non-homogenous eNB deployments R3 (Ericsson, Qualcomm) CR Rel-16 36.300 16.0.0 1273 - A NR\_newRAT-Core

R2-2002271 RAN3 inputs for RAN2 NB-IoT running CR R3 (Huawei, Ericsson) CR Rel-16 36.300 16.0.0 1274 - B NB\_IOTenh3-Core

R2-2002272 RAN3 inputs for RAN2 eMTC running CR R3 (Huawei, Ericsson) CR Rel-16 36.300 16.0.0 1275 - B LTE\_eMTC5-Core

* [AT109e][085][R16] 36300 Review of R16 TPs/CRs from other groups (Nokia)

Scope: Review of TPs/CRs from other groups

Intended outcome: Agreed CRs

Deadline: MAR 6 1200 CET (see also schedule)

* [AT109e][086][R16] 37340 Review of R16 TPs/CRs from other groups (ZTE)

Scope: Review of TPs/CRs from other groups

Intended outcome: Agreed CRs

Deadline: MAR 6 1200 CET (see also schedule)

## 6.1 Integrated Access and Backhaul for NR

(NR\_IAB-Core; leading WG: RAN2; REL-16; started: Dec 18; target; Mar 20; WID: RP-192188)

Time budget: 3 TU

Tdoc Limitation: 12 tdocs

### 6.1.1 Organisational

Including incoming LSs, draft TS, rapporteur inputs, etc

Including outcome of the email discussion [108#46][IAB] Feature List (Ericsson)

Including outcome of the email discussion [108#31][IAB] Running CR 38.331 36.331 (Ericsson)

Including outcome of the email discussion [108#51][IAB] Running CR 38.340 (Huawei)

By Email

LS in

R2-2000027 LS Reply on CP Bearer Mapping for IAB (R3-197659; contact: Ericsson) RAN3 LS in Rel-16 NR\_IAB-Core To:RAN2

* Noted

R2-2000045 LS on definition of IAB-MT channel bandwidth (R4-1916165; contact: Qualcomm) RAN4 LS in Rel-16 NR\_IAB-Core To:RAN2

* Noted

R2-2002253 LS on the inter donor DU re-routing and source IP configuration (R3-201418; contact: Huawei)) RAN3 LS in Rel-16 NR\_IAB-Core To:RAN2

General

R2-2000480 IAB workplan update Qualcomm Incorporated Work Plan Rel-16 R2-1914806

* [AT109e][013][IAB] IAB General (Qualcomm)

Scope: WI Rapporteur email thread, Treat general items, planning etc

Intended outcome: Decide on Plans and General matters

Deadline: Mar 4 Technical disc, Mar 5 1200 CET non-technical disc.

BAP TS– email 108#51

[R2-2000481](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000481.zip) Email discussion [108#51][IAB]: BAP functional view Qualcomm Incorporated report Rel-16

* Noted

[R2-2000990](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000990.zip) draft TS for TS 38.340 (BAP) Huawei draft TS Rel-16 38.340 0.2.1 NR\_IAB-Core Late

* Revised to remove the change-marks, in R2-2002113

R2-2002113 draft TS for TS 38.340 (BAP) Huawei draft TS Rel-16 38.340 0.3.0 NR\_IAB-Core

DISCUSSION

- Huawei think this version seems to have a modelling issue.

- Ericsson think there is no modelling issue.

- Nokia raised the modelling issue. Nokia propose to not mention which entity performs what. There are still two places to correct. Except for that endorsement is ok and the rest is just small details to fix. Vivo agrees

- Huawei and Samsung think we need some discrimination. Ericsson agrees.

- Chair think that the entity language could remain, but maybe we should clarify that the intention of modelling into entities is to clarify the functionality. It is not intended to be an implementation restriction.

- QC think what we have is quite ok.

* The intention of modelling into entities is to clarify the functionality. It is not intended to be an implementation restriction.
* The said revision in R2-2002113 is endorsed as a baseline. Can still discuss whether anything need to be captured regarding the concerns that we shouldn’t limit internal node implementations.
* [AT109e][014][IAB] BAP 38340 TS/CR (Huawei)

Scope: Progress BAP TS, Stage-3 and implementation focus, Treat 108#51.

Intended outcome: Address Stage-3 Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed TS.

Deadlines: Mar 4, 5, 6 (see the schedule).

R2-2002345 draft TS for TS 38.340 (BAP) Huawei draft TS Rel-16 38.340 0.4.0 NR\_IAB-Core

RRC CRs – email 108#31

R2-2000741 Running CR to TS 38.331 on IAB for NR Ericsson CR Rel-16 38.331 15.8.0 1471 - B NR\_IAB-Core

R2-2000742 Running CR to TS 36.331 on IAB for NR Ericsson CR Rel-16 36.331 15.8.0 B NR\_IAB-Core

- Huawei think there is some details that need fixing. Chair think we can fix details also after endorse as baseline.

* Both Endorsed as baseline (clean revisions in R2-2002122, and 2123)
* [AT109e][015][IAB] RRC CRs 38331 36331 (Ericsson)

Scope: Progress RRC CRs.

Intended outcome: Address Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed CR.

Deadlines: Mar 4, 5, 6 (see the schedule).

R2-2002283 RRC CRs 38331 36331 Ericsson discussion Rel-16 NR\_IAB-Core

DISCUSSION

P1

- LG are ok

P2

- QC think we already agreed on this

P3

- Huawei think this can be indicated in the UP.

- Nokia think this is a small issue, choice or single IE.

* The BAP entity at the IAB-MT be released on transition to IDLE mode.
* For the EN-DC case, the SRB2 on LTE leg carries information that consists of an F1-AP message encapsulated in SCTP/IP or F1-C related SCTP/IP packet.
* For now assume that IAB node will select between legacy and extended ID range using the CHOICE in ASN.1 for RRC signaling (if there are issues this can be rediscussed during ASN1 review)

R2-2002122 Running CR to TS 38.331 on IAB for NR Ericsson CR Rel-16 38.331 15.8.0 1471 1 B NR\_IAB-Core

=> Revised in R2-2002328

R2-2002328 Running CR to TS 38.331 on IAB for NR Ericsson CR Rel-16 38.331 15.8.0 1471 2 B NR\_IAB-Core

R2-2002123 Running CR to TS 36.331 on IAB for NR Ericsson CR Rel-16 36.331 15.8.0 - B NR\_IAB-Core

=> Revised in R2-2002329

R2-2002329 Running CR to TS 36.331 on IAB for NR Ericsson draftCR Rel-16 36.331 15.8.0 B NR\_IAB-Core

Idle mode 38304 36304 CRs

[R2-2000524](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000524.zip) Correction of TS 38.304 to introduce IAB Huawei, HiSilicon discussion Rel-16 NR\_IAB-Core

=> Revised in R2-2002117

[R2-2002117](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002117.zip) Correction of TS 38.304 to introduce IAB Huawei, HiSilicon CR Rel-16 38.304 15.6.0 0150 - B NR\_IAB-Core

=> Revised in R2-2002166

[R2-2002166](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002166.zip) Correction of TS 38.304 to introduce IAB Huawei, HiSilicon CR Rel-16 38.304 15.6.0 0150 1 B NR\_IAB-Core

* [AT109e][016][IAB] Endorsed as baseline

=> Revised in R2-2002321

R2-2002321 Correction of TS 38.304 to introduce IAB Huawei, HiSilicon CR Rel-16 38.304 15.6.0 0150 2 B NR\_IAB-Core

[R2-2000525](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000525.zip) Correction of TS 36.304 to introduce IAB Huawei, HiSilicon discussion Rel-16 NR\_IAB-Core

=> Revised in R2-2002118

[R2-2002118](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002118.zip) Correction of TS 36.304 to introduce IAB Huawei, HiSilicon CR Rel-16 36.304 15.5.0 0784 - B NR\_IAB-Core

=> Revised in R2-2002167

[R2-2002167](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002167.zip) Correction of TS 36.304 to introduce IAB Huawei, HiSilicon CR Rel-16 36.304 15.5.0 0784 1 B NR\_IAB-Core

* [AT109e][016][IAB] Endorsed as baseline

=> Revised in R2-2002322

R2-2002322 Correction of TS 36.304 to introduce IAB Huawei, HiSilicon CR Rel-16 36.304 15.5.0 0784 2 B NR\_IAB-Core

* [AT109e][016][IAB] Idle CRs 38304 36304 (Huawei)

Scope: Progress xx304 CRs

Part 1 (if needed) Intended outcome: Endorsed CRs, revision with tdoc number

CLOSED

Part 2:

Intended outcome: Address Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed CR.

Deadlines: Mar 4, 5, 6 (see the schedule).

=> Revised in R2-2002258

R2-2002258 Open issue discussion for TS 38.304 and 36.304 Huawei discussion Rel-16 NR\_IAB-Core

Stage-2 37340 CR

R2-2000526 Correction of TS 37.340 on the support of MR-DC for IAB Huawei, HiSilicon discussion Rel-16 NR\_IAB-Core

=> Revised in R2-2002119

R2-2002119 Correction of TS 37.340 on the support of MR-DC for IAB Huawei, HiSilicon CR Rel-16 37.340 16.0.0 0186 - B NR\_IAB-Core

=> Revised in R2-2002168

R2-2002168 Correction of TS 37.340 on the support of MR-DC for IAB Huawei, HiSilicon CR Rel-16 37.340 16.0.0 0186 1 B NR\_IAB-Core

- Part 1 of email discussion [017]: endorse CR is finished.

* [AT109e][017][IAB] The running CR in R2-2002168 is endorsed as baseline (small fix in cover page remains)

R2-2002323 Correction of TS 37.340 on the support of MR-DC for IAB Huawei, HiSilicon CR Rel-16 37.340 16.0.0 0186 2 B NR\_IAB-Core

* [AT109e][017][IAB] Stage-2 37340 CR (Huawei)

Scope: Progress Stage-2 37340 CRs

Intended outcome: Address Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed CR.

Deadlines: Mar 4, 5, 6 (see the schedule).

Stage-2 38300 CR – endorsed at R2#108

[Chair] note that low ambition level can be applied for Stage-2, e.g. 36300 CR might not be necessary now

* [AT109e][018][IAB] Stage-2 38300 36300 CR (Qualcomm)

Scope: Progress Stage-2 38300 36300 CRs

Intended outcome: Address Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed CR.

Deadlines: Mar 4, 5, 6 (see the schedule).

MAC CR

R2-2000760 Running CR to 38.321 on Integrated Access and Backhaul for NR Samsung Electronics GmbH CR Rel-16 38.321 15.8.0 0677 2 B NR\_IAB R2-1915256

R2-2002116 Running CR to 38.321 on Integrated Access and Backhaul for NR Samsung Electronics GmbH CR Rel-16 38.321 15.8.0 0677 3 B NR\_IAB

- Samsung explains that the revision just fixes a typo and that the CR only implements MAC TPs that were agreed in Reno.

* Endorsed as baseline

=> Revised in R2-2002225

R2-2002225 Running CR to 38.321 on Integrated Access and Backhaul for NR Samsung Electronics GmbH CR Rel-16 38.321 15.8.0 0677 4 B NR\_IAB

* [AT109e][019][IAB] MAC CR (Samsung)

Scope: Progress MAC CR

Intended outcome: Address Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed CR.

Deadlines: Mar 4, 5, 6 (see the schedule).

Feature List and UE cap

R2-2000740 Summary of email discussion [108#46][IAB] Feature List Ericsson discussion Rel-16 NR\_IAB-Core

- Ericsson suggest to discuss in the discussion 024, the 020 is not needed.

* Change: This discussion is merged and treated in email discussion 024, 020 is cancelled.

### 6.1.2 Stage-2 and general

Including principles and higher level aspects e.g. that involve both user plane and control plane, multi-connectivity etc.

R2 109e: R16 Stage-2: No or minimal corrections for Stage-2 TS, i.e. only input email discussions and minimal corrections needed for approval of current CRs as baseline.

R2-2000469 Parent selection at IAB nodes during Initial Setup Intel discussion Rel-16 NR\_IAB-Core

R2-2000743 On Multi-connectivity for IAB Ericsson discussion Rel-16 NR\_IAB-Core

R2-2000744 Security for inter-IAB node Signalling Ericsson discussion Rel-16 NR\_IAB-Core

R2-2001624 NR-DC support in IAB (signaling perspective) Samsung R&D Institute UK discussion R2-1916056

R2-2001634 EN-DC support in IAB Samsung R&D Institute UK discussion R2-1916055

### 6.1.3 BAP functionality

Routing, Bearer Mapping, BAP based Flow Control, Other

Summary on BAP functionality (Huawei)

By Web Conf

[R2-2000989](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000989.zip) Summary of email discussion 108#51 on BAP open issue Huawei discussion Rel-16 NR\_IAB-Core Late

P3:

- Chair think that P3 doesn’t need to agreed. It is agreed in the past, and think we also have agreed that we don’t support local load balancing.

- Chair suggest to capture: For the BAP operation: In case of Path ID mismatch, there may be several outgoing links that matches the destination. We do not specify which link shall be selected in such case (up to implementation).

- Ericsson suggest to clarify that such path mismatch should be an abnormal and temporary situation.

- Other proposals by email.

* For the BAP operation: In case of Path ID mismatch, there may be several outgoing links that matches the destination. We do not specify which link shall be selected in such case (up to implementation).
* Assumption: RAN2 expect that Path ID mismatch may occur due to RLF in the network, i.e. not in normal operation.

[R2-2002055](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002055.zip) Summary on BAP functionality in AI 6.1.3 Huawei, HiSilicon discussion Rel-16 NR\_IAB-Core

P2

- QC think R3 work on this. Ericsson agrees

- Chair: ok we leave P2 to R3.

- Nokia wonders what happens if donor gets a packet for another node. Chair think fo next meeting.

4a/4b

- Chair wonders if the CU can provide the wrong config.

- ZTE think that for 1-to-1 bearer mapping things can go wrong, and a default mapping can be used for that.

- LG think that using a default Backhaul RLF channel will bring more problems, and think that best effort traffic do not need to be re-routed.

- QC don’t like 4a. Vivo agrees. KDDI agrees

- Chair think that for the sake of discussion we may need to discuss 1-to-1 mapping and 1-to-n mapping separately.

- Nokia think that 4a can work.

- QC think that following the decision that we can re-route at RLF it means that we can also map to a different

- Huawei think that 4a can be applied always, and think a default link can be used.

- Chair: 4a/4b do not treat further in this meeting.

P5

- Futurewei think that the polled IAB node should decide for polling. Chair wonder then what information is required in the Poll. FW think the type of feedback need to be indicated. Ericsson also want to discuss furher.

- LG think 6b is FW concern.

Chair: Rest of Proposals for email discussion

* BAP operation in Donor (DU) requires that its own BAP address is configured
* [AT109e][021][IAB] BAP functionality (Huawei)

Scope: Treat remaining parts to be treated from email discussion and from summary

Intended outcome: resolution to issues, solutions.

CLOSED

R2-2002157 Proposals for approval on BAP functionality (Set I) Huawei discussion Rel-16 NR\_IAB-Core

* noted

R2-2002259 Proposals for approval on BAP functionality (Set II) Huawei discussion Rel-16 NR\_IAB-Core

* noted

Agreements [AT109e][021][IAB]

* After bootstrapping, the specific routing ID and BH RLC channel as configured by F1AP are used for non-F1 traffic.
* The CU may assign a BH RLC channel for BAP control PDU transmission via F1AP. If not assigned by the CU, the IAB-node selects the BH RLC channel for BAP control PDU by implementation.
* R16 will not specify BAP buffer related operations.
* The BH RLC channels to be reported by the polled IAB node is up to the polled IAB node implementation.
* The routing IDs to be reported by the polled IAB node is up to the polled IAB node implementation.

R2-2000270 Design of DL HbH Flow Control Message vivo discussion

R2-2000271 Discussion on BAP control PDU vivo discussion

R2-2000470 Multi-route support in IAB Intel discussion Rel-16 NR\_IAB-Core

R2-2000502 Further consideration on routing configuration ZTE, Sanechips discussion

R2-2000503 Further consideration on bearer mapping ZTE, Sanechips discussion

R2-2000504 Consideration on flow control control PDU ZTE, Sanechips discussion

R2-2000518 Remaining issues for routing Huawei, HiSilicon discussion Rel-16 NR\_IAB-Core

R2-2000519 Remaining issues for bearer mapping Huawei, HiSilicon discussion Rel-16 NR\_IAB-Core

R2-2000561 Flow control open issues in IAB NEC Corporation discussion Rel-16

R2-2000661 Considerations on BAP entity release KDDI Corporation discussion

R2-2000745 Further Discussion on BAP Layer Signaling Ericsson discussion Rel-16 NR\_IAB-Core

R2-2000746 Remaining Issues Related to HbH Flow Control Ericsson discussion Rel-16 NR\_IAB-Core

R2-2000770 Desired data rate for hop-by-hop flow control Samsung discussion Rel-16 NR\_IAB

R2-2000819 On BAP features and their mandatory vs optional support Samsung Electronics GmbH discussion

R2-2000847 Flow-control details Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_IAB-Core

R2-2000893 Remaining open Issues of IAB Flow Control CATT discussion Rel-16 NR\_IAB-Core

R2-2000902 Inter-node BH RLF indication CMCC discussion Rel-16

R2-2000903 BAP mapping support for routing CMCC discussion Rel-16 R2-1915196

R2-2001060 Remaining issues of BAP Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_IAB-Core

R2-2001562 Need of BAP buffer LG Electronics Inc. discussion Rel-16 NR\_IAB-Core R2-1916139

R2-2001563 Consideration on local routing in IAB LG Electronics Inc. discussion Rel-16 NR\_IAB-Core

R2-2001564 Details of polling for hop-by-hop flow control LG Electronics Inc. discussion Rel-16 NR\_IAB-Core

R2-2001565 Configuration of BH RLC channel for control PDU transmission LG Electronics Inc. discussion Rel-16 NR\_IAB-Core

R2-2001622 Remaining issues for IAB HbH Flow control Futurewei Technologies discussion

R2-2001635 BAP layer indication of RLF at child node Samsung R&D Institute UK discussion

### 6.1.4 User plane aspects

User plane aspects not covered by BAP, e.g. Scheduling and QoS, LCID extension..

Summary on IAB MAC impacts (Samsung)

By Web Conf

R2-2002044 Summary of IAB MAC impacts Samsung (rapporteur) discussion Rel-16 NR\_IAB-Core

=> Revised in R2-2002092

R2-2002092 Summary of IAB MAC impacts Samsung (rapporteur) discussion Rel-16 NR\_IAB-Core

* Noted
* [AT109e][022][IAB] User Plane Aspects (Samsung)

Part 1, Scope: Treat summary in R2-2002092 Intended outcome: issues resolution, solutions

CLOSED

Part 2, Outgoing LS

Deadline EOM

R2-2002120 Summary of IAB MAC impacts Samsung (rapporteur) discussion Rel-16 NR\_IAB-Core

* Noted

R2-2002162 IAB MAC impacts: Proposals for discussion and approval (Set I) Samsung discussion Rel-16 NR\_IAB-Core

* Noted

DISCUSSION

- [AT109e][022][IAB] Chair Comment: There seems to be support that RAN2 will not specify any normative solutions to handle perceived “double-counting” of the buffer data.

- Intel think the above comment is not correct. Samsung clarifies that there was no support to capture in TS. Chair think that the main requirement is that a scheduling node understands what is reported. Can be discussed at a future meeting.

Agreements [AT109e][022][IAB]

* Pre-emptive BSR will only support formats already available for “normal” BSR, i.e. we will not support pre-emptive BSR formats with special content (e.g. timing information) not used for “normal” BSR, nor will we support pre-emptive BSR formats not based on LCG reporting.
* Periodic pre-emptive BSR is not supported.
* Logical channels shall be prioritized in accordance with the following order (highest priority listed first):  
  -           C-RNTI MAC CE or data from UL-CCCH;  
  -           Configured Grant Confirmation MAC CE;  
  -           MAC CE for BSR, with exception of BSR included for padding;  
  -           Single Entry PHR MAC CE or Multiple Entry PHR MAC CE;  
  -           *MAC CE for pre-emptive BSR;*  
  -           data from any Logical Channel, except data from UL-CCCH;  
  -           MAC CE for Recommended bit rate query;  
  -           MAC CE for BSR included for padding.   
  (can still allow discussions on this)
* Pre-emptive BSR reports exclusively the volume of data expected but not yet received.
* The mapping of LCGs between the ingress and egress links is left to implementation.
* FFS if to insert a NOTE in TS 38.321 to acknowledge the ambiguity that can occur when BH RLC channels of a single ingress link LCG are mapped to different egress BH link LCGs. (can discuss in the CR discussion, or just leave the note out for now)
* RAN2 to make the clarification in the MAC spec that it is allowed to have a pre-emptive BSR MAC CE and a non-pre-emptive BSR MAC CE in the same MAC PDU.
* SR triggered by pre-emptive BSR can always be sent (assuming the relevant SR configuration has available resources, and assuming of course the BSR itself cannot be sent) i.e. it is not delayed by the use of a timer or mask.
* RAN2 will design one single fixed-length Guard Symbols MAC CE, containing values (or indices mapped thereto) of all 8 parameters introduced by RAN1.

R2-2002163 IAB MAC impacts: Proposals for discussion and approval (Set II) Samsung discussion Rel-16 NR\_IAB-Core

Agreements [AT109e][022][IAB]

* RAN2 to rule out sending pre-emptive BSR as padding.
* The only reporting format supported for the pre-emptive BSR is the Long BSR.
* Pre-emptive BSR shall be cancelled when a MAC PDU that contains the pre-emptive BSR MAC CE is sent. FFS other cancellation conditions, e.g. implementation specific.
* Pre-emptive BSR may be used for the case of dual-connected IAB node. It is up to network implementation to work out the associated MAC entity and the associated expected amount of data. RAN2 does not plan to standardize additional constraints to assist such associations.
* a NOTE in TS 38.321 to acknowledge the issue of CG-aware mapping between ingress and egress LCGs for the DC-connected node.

[R2-2002217](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002217.zip) IAB MAC impacts: Proposals for discussion and approval (Set III) Samsung discussion Rel-16 NR\_IAB-Core

DISCUSSION

P1

- Chair thought that triggering would be left to implementation

- LG think this could be covered, e.g. a note,

- Intel think this is not needed we can leave for implementation.

- Samsung think that the triggers are specified and whether to use it or not is up to implementation.

- Nokia think “shall” is too strong and can leave this for implementation,

- Lenovo think a NOTE is good.

- Chair: several companies don’t want to capture but leave for implementation

P2

- Samsung think R1 has already agreed but are waiting for R2

P3

- Huawei support

P4

- QC think we need to send LS

- LG think the IE, range mapping etc should be decided by R1. Nokia agrees.

- Huawei think we can capture in R2 TS. Intel agrees. Huawei think we already now have value range and granularity from R1 and R4.

- QC think we can ask R1 to specify this in their TS.

- Huawei think we can discuss 11 vs 12 bits.

* The T\_delta MAC CE shall not contain SCS.
* Send LS to ask R1 (cc R4) to capture the range mapping of the IE signalled for T\_delta, inform about our current design.
* Add to [AT109e][022][IAB]: Approved LS deadline EOM

R2-2000272 Preemptive BSR Procedures and Format vivo discussion

R2-2000471 Uplink latency reduction Intel discussion Rel-16 NR\_IAB-Core

R2-2000483 (TP for NR\_IAB BL CR to TS 38.321) MAC CE for guard symbols Qualcomm Incorporated, Samsung other Rel-16

R2-2000505 Discussion on the pre-emptive BSR format ZTE, Sanechips discussion

R2-2000506 Discussion on remaining issues on Timing Delta MAC CE ZTE, Sanechips discussion

R2-2000507 TP for Timing Delta MAC CE ZTE, Sanechips discussion

R2-2000508 Draft LS on Timing Delta signaling ZTE, Sanechips discussion

R2-2000514 Remaining issue of pre-emptive BSR in IAB Kyocera discussion

R2-2000520 Remaining issues of the pre-emptive BSR Huawei, HiSilicon discussion Rel-16 NR\_IAB-Core

R2-2000521 Leftover issues to support the IAB RACH procedure Huawei, HiSilicon discussion Rel-16 NR\_IAB-Core

R2-2000527 Remaining issue for the Timing Delta MAC CE Huawei, HiSilicon discussion Rel-16 NR\_IAB-Core

R2-2000528 TP for Guard Symbols MAC CEs Huawei, HiSilicon discussion Rel-16 NR\_IAB-Core

R2-2000747 Remaining Aspects of Pre-emptive BSR Format Ericsson discussion Rel-16 NR\_IAB-Core

R2-2000748 L1 Resource Multiplexing MAC CE Ericsson discussion Rel-16 NR\_IAB-Core

R2-2000781 Finalising Rel-16 pre-emptive BSR design Samsung Electronics GmbH discussion

R2-2000782 TP on outstanding issues with pre-emptive BSR Samsung Electronics GmbH discussion

R2-2000808 Open issues with IAB LCID space extension and its wider impact on Rel-16 Samsung Electronics GmbH discussion

R2-2000848 Remaining issues of buffer status reporting for IAB Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_IAB-Core

R2-2000849 Format for pre-emptive BSR Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_IAB-Core

R2-2000850 MAC CE for guard symbols indication Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_IAB-Core

R2-2000894 Remaining Issues on Pre-emptive BSR CATT discussion Rel-16 NR\_IAB-Core

R2-2001018 Consideration on uplink low-latency scheduling Lenovo, Motorola Mobility discussion Rel-16

R2-2001019 Pre-emptive BSR in DC scenario Lenovo, Motorola Mobility discussion Rel-16

R2-2001020 BSR and pre-BSR in packet re-routing scenario Lenovo, Motorola Mobility discussion Rel-16

R2-2001342 Data volume reporting and dual connectivity with Pre-emptive BSR Futurewei Technologies discussion R2-1914768

R2-2001556 Consideration on truncated pre-BSR MAC CE LG Electronics Inc. discussion Rel-16 NR\_IAB-Core

R2-2001558 Remaining issues on Timing Delta MAC CE LG Electronics Inc. discussion Rel-16 NR\_IAB-Core

R2-2001559 [DRAFT] LS on Timing Delta MAC CE LG Electronics Inc. LS out Rel-16 NR\_IAB-Core To:RAN1

R2-2001560 LCG based UL grant LG Electronics Inc. discussion Rel-16 NR\_IAB-Core R2-1916137

R2-2001561 Ambiguity of pre-BSR with multiple parents LG Electronics Inc. discussion Rel-16 NR\_IAB-Core

R2-2001591 Discussion on including pre-emptive BSR in MAC PDU ASUSTeK discussion Rel-16 38.321 NR\_IAB-Core

R2-2001592 Discussion on cancelling pre-emptive BSR ASUSTeK discussion Rel-16 38.321 NR\_IAB-Core

R2-2001631 F1-U Flow Control and Reordering Issues Sequans Communications discussion Rel-16 NR\_IAB-Core R2-1913630

R2-2001632 Packet Marking for E2E Flow Control Sequans Communications discussion Rel-16 NR\_IAB-Core R2-1913631

R2-2001645 TP for Guard Symbol MAC CE ZTE Corporation, Sanechips discussion

### 6.1.5 Control plane aspects

Not to be Treated

R2-2000273 Discussion on IAB BH RLF report mechanism in case of DC vivo discussion R2-1914920

R2-2000274 Verification of BH RLF notification vivo discussion R2-1914918

R2-2000275 [Draft] LS on BH RLF notification verification vivo LS out R2-1914919 To:SA3

R2-2000276 RLF Notification Messages vivo discussion

R2-2000472 Further discussion on Backhaul RLF handling Intel discussion Rel-16 NR\_IAB-Core

R2-2000509 Discussion on IAB BH RLF handling ZTE, Sanechips discussion

R2-2000510 Discussion on BAP control PDU of RLF indication ZTE, Sanechips discussion

R2-2000516 Possible issues on Backhaul RLF handling Kyocera discussion

R2-2000662 Considerations on Intra-CU indication KDDI Corporation discussion

R2-2000749 Further details on Backhaul link RLF Notification Types to Downstream Node(s) Ericsson discussion Rel-16 NR\_IAB-Core

R2-2001348 Cell Selection for Backhaul RLF Recovery Futurewei Technologies discussion R2-1916061

R2-2001633 Remaining issues on IAB RLF Samsung R&D Institute UK discussion

#### 6.1.5.2 Configuration

Summary on IAB Configuration except IP address (Ericsson)

Summary on IAB IP address configuration (Samsung).

By Email

[R2-2002045](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002045.zip) Summary on IAB IP address configuration Samsung (rapporteur) discussion Rel-16 NR\_IAB-Core

* noted
* [AT109e][023][IAB] IP address Allocation (Samsung)

Scope: Treat summary on IP address allocation

Intended outcome: agreed solutions, agreed issues resolutions

CLOSED

[R2-2002164](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002164.zip) IAB IP address allocation - Proposals for discussion and approval Samsung discussion Rel-16 NR\_IAB-Core

DISCUSSION

P1

- Chair think we don’t need to explicitly agree. This is indeed the case.

P2

- Nokia think RRC reconfiguration complete is better and allows a unified solution.

- Samsung think only Nokia want this.

- QC suggest to agree as a working assumption.

P4

- QC think R3 shall resolve this.

- Nokia think R3 will resolve this.

* R2 assumes that whether there are any additional scenarios (apart from node integration and recovery from RLF) where an IAB node may need to request one or more IP addresses is left to RAN3.
* As a working assumption, RRCSetupComplete message is used by the IAB node to request IP address for the case of node integration in the SA scenario. This assumption can be revisited after all cases has been addressed.
* Issue on IP address request in the NSA case is moved to email discussion to next meeting
* Issue on whether – following recovery from RLF – there is a need for the IAB node to request an IP address is moved to email discussion.
* Confirm that R2 will implement R3 agreements

*-* **RAN2 to implement IP address addition and removal in RRC [this serves merely as a reminder of the work to be done].**

**- RAN2 to implement in RRC the mapping between the IPv4 address(es)/IPv6 prefix assigned to the IAB node, and the related donor-DU’s BAP address RRC, when assigning the IP address to the IAB node [this serves merely as a reminder of the work to be done].**

* [Post109e][IAB] IP address allocation (Samsung)

Scope: NSA case, following recovery from RLF, R3 should decide what is required, R2 should look at signalling solution (which message etc). Take R3 decisions and outcomes into consideration.

Intended outcome: Report, possibly agreeable TP

Deadline: next meeting

[R2-2002057](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002057.zip) Summary of 6.1.5.2: IAB-MT Features List Ericsson discussion Rel-16 NR\_IAB-Core

* [AT109e][024][IAB] IAB MT Features (Ericsson)

Scope: Treat summary on IAB MT Features, Progress Feature List, Treat email discussion [108#46].

Intended outcome: agreements, solutions, issues resolutions

CLOSED

[R2-2002284](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002284.zip) Summary of 6.1.5.2: IAB Configuration except IP address Ericsson (rapporteur) discussion Rel-16 NR\_IAB-Core

* Noted

Agreements [AT109e][024][IAB]

* IP assignment over RRC” is of mandatory support for IAB-MTs and does not need to be listed in the feature list.
* “F1AP over LTE leg signaling for EN-DC IAB-MT” is an optional feature/capability.
* “Feature “0.1 HbH flow control” has two components: BH RLC channel based and Routing ID based. These two components are separately signalled.
* For an IAB-MT node:   
  - The “Basic Procedures” of the BAP layer feature group is mandatory.  
  - IP assignment over RRC is mandatory.  
  - All other Rel-16 features are optional.
* RAN2 to prepare 2 sets of CRs one with and another without capability signalling and let the RAN plenary to decide on it.
* RAN2 will not discuss the mandatoriness of Rel-15 features.

[R2-2000277](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000277.zip) Cell baring indication for IAB support vivo discussion

R2-2000479 Parent selection at IAB nodes during Initial Setup (Text proposal) Intel Corporation draftCR Rel-16 38.331 15.8.0 NR\_IAB-Core

R2-2000482 (TP for NR\_IAB BL CR to TS 38.331) IP address configuration Qualcomm Incorporated other Rel-16

R2-2000511 Discussion on the RRC signalling for IP address allocation ZTE, Sanechips discussion

R2-2000529 The impacts of IP address management of IAB node to RAN2 Huawei, HiSilicon discussion Rel-16 NR\_IAB-Core

R2-2000750 IP Address Assignment for IAB Node(s) Ericsson discussion Rel-16 NR\_IAB-Core

R2-2000769 IP address configuration for IAB Samsung discussion Rel-16 NR\_IAB

R2-2000895 Views on RRC States of IAB nodes CATT discussion Rel-16 NR\_IAB-Core

R2-2001016 Remaining details for IAB-MT access Samsung Electronics GmbH discussion

R2-2001059 IP address assignment for IAB nodes Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_IAB-Core

R2-2001061 IAB-MT features list and capabilities Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_IAB-Core

#### 6.1.5.3 Other

Barring, Access etc

Summary on Barring, access etc (Ericsson)

By Email (and maybe Webconf)

R2-2002058 Summary of 6.1.5.3: SI Broadcast, cell Restrictions/Reservation and Barring, Initial Access, and Connection Setup Ericsson discussion Rel-16 NR\_IAB-Core

* Noted
* [AT109e][025][IAB] SI Broadcast, cell Restrictions/Reservation and Barring, Initial Access, and Connection Setup (Ericsson)

Scope: Treat summary on 6.1.5.3

Intended outcome: agreed solutions, agreed issues resolutions

CLOSED

[R2-2002285](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002285.zip) Email discussion to progress on: SI Broadcast, cell Restrictions/Reservation and Barring, Initial Access, and Connection Setup Ericsson (rapporteur) discussion Rel-16 NR\_IAB-Core

* Noted

Agreement [AT109e][025][IAB]

* IAB-MTs ignore the IEs cellBarred, cellReservedForOtherUse, and cellReservedForOperatorUse.  
  If any issue is identified, it should be discussed at the next meeting.
* IAB-MTs are not under UAC control.

R2-2000484 IAB access barring Qualcomm Incorporated other Rel-16

R2-2000512 Consideration on IAB node access control ZTE, Sanechips discussion

R2-2000522 Backhaul RLF Recovery Huawei, HiSilicon discussion Rel-16 NR\_IAB-Core

R2-2000523 Leftover issue for cell barring Huawei, HiSilicon discussion Rel-16 NR\_IAB-Core

R2-2000751 On cell Reservations in MIB and SIB1 Ericsson discussion Rel-16 NR\_IAB-Core

R2-2000752 Draft CR to 36.304 on cell Reservations for IAB-MTs Ericsson CR Rel-16 36.304 15.5.0 0780 - B NR\_IAB-Core

R2-2000753 Draft CR to 38.304 on cell Reservations for IAB-MTs Ericsson CR Rel-16 38.304 15.6.0 0147 - B NR\_IAB-Core

R2-2000754 IAB-MT Feature Capabilities Ericsson discussion Rel-16 NR\_IAB-Core

R2-2000824 PWS information handling in IAB Sony discussion Rel-16 NR\_IAB-Core R2-1915227

R2-2000835 IAB Cell Barring Sony discussion Rel-16 NR\_IAB-Core

R2-2000892 Views on Cell Barring Mechanism for IAB CATT discussion Rel-16 NR\_IAB-Core

R2-2001021 Cell selection for IAB RLF recovery Lenovo, Motorola Mobility discussion Rel-16

R2-2001056 BH link failure handling Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_IAB-Core

R2-2001057 Remaining aspects of F1AP transport in EN-DC Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_IAB-Core

R2-2001058 Remaining aspects of IAB initial access Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_IAB-Core

R2-2001523 Access control in IAB networks LG Electronics France discussion NR\_IAB-Core

R2-2001524 Necessity of even earlier BH RLF notification LG Electronics France discussion NR\_IAB-Core

R2-2001525 BH RLF Notification Termination Layer LG Electronics France discussion NR\_IAB-Core

R2-2001605 Differential barring for IAB nodes and UEs Futurewei Technologies discussion

R2-2001625 F1AP related terminology in NSA IAB Samsung R&D Institute UK discussion

## 6.2 NR-based Access to Unlicensed Spectrum

(NR\_unlic-Core; leading WG: RAN1; REL-16; started: Dec 18; target; Mar 20; WID: [RP-191575](file:///C:\Data\3GPP\Extracts\RP-191575%20Revised%20WID%20NR-U.doc); Further prioritization guidance in RP-191581). Documents in this agenda item will be handled in a break out session.

Time budget: 3 TU

Tdoc Limitation: 9 tdocs

### 6.2.1 General

Including incoming LSs, rapporteur inputs, etc.  
Contributions in this AI are reserved for WI rapporteur inputs and/or spec rapporteur inputs and do not count towards the tdoc limits.

Rapporteur of WI can submit a paper on UE capabilities for informational purposes, but it will not be treated during e-meeting

Including outcome of the email discussion [108#38][NR-U] Running 38.331 (Qualcomm)

Including outcome of the email discussion [108#74][NR-U] Running 38.300 (Qualcomm)

Including outcome of the email discussion [108#75][NR-U] Running 38.321 (Ericsson)

Including outcome of the email discussion [108#76][NR-U] Running 38.304 (Qualcomm)

Including outcome of the email discussion [108#77][NR-U] Running 37.340 (Oppo)

R2-2000016 Response LS to RAN2 LS on SFN LSB indication in msg2/msgB (R1-1913582; contact: Qualcomm) RAN1 LS in Rel-16 NR\_unlic-Core, NR\_2step\_RACH-Core To:RAN2

R2-2000018 Reply LS on PHR reporting for NR-U (R1-1913584; contact: Lenovo) RAN1 LS in Rel-16 NR\_unlic-Core To:RAN2

R2-2000021 LS on signaling of Q for a serving cell in NR-U (R1-1913592; contact: Nokia) RAN1 LS in Rel-16 NR\_unlic To:RAN2

R2-2000414 Running CR to 37.340 for NR-U OPPO CR Rel-16 37.340 16.0.0 0183 - B NR\_unlic-Core

R2-2001254 Running RRC CR for NR Shared Spectrum Qualcomm Incorporated CR Rel-16 38.331 15.8.0 1477 - B NR\_unlic-Core

R2-2001267 Running Stage-2 CR for NR Shared Spectrum Qualcomm Incorporated CR Rel-16 38.300 16.0.0 0199 - B NR\_unlic-Core

R2-2001341 Running MAC CR for NR-U Ericsson CR Rel-16 38.321 15.8.0 0694 - B NR\_unlic-Core

R2-2001343 Summary of open issues for NR-U Running 38.321 Ericsson discussion Rel-16 NR\_unlic-Core Late

R2-2001435 Running Idle/Inactive CR for NR Shared Spectrum Qualcomm Incorporated CR Rel-16 38.304 15.6.0 0149 - B NR\_unlic-Core

R2-2001437 Control Plane Open Issues for NR Shared Spectrum Qualcomm Incorporated discussion Late

### 6.2.2 User plane

#### 6.2.2.1 RACH

Aspects of 2/4 step RACH procedure specific to unlicensed operation; including supporting extended RAR window, and LBT impact.

ONLY NEW CRITICAL OPEN Issues that are not identified in email discussions. Contributions should NOT discuss open issues in the email discussion

R2-2000145 Further Consideration on RACH Procedure in NR-U vivo discussion R2-1914370

R2-2000146 Issue on the Autonomous BWP Awitching in NR-U vivo discussion R2-1914366

R2-2000147 LBT Impacts on 2-step RACH vivo discussion R2-1914368

R2-2000416 2-step RACH for NR-U OPPO discussion Rel-16 NR\_unlic-Core

R2-2000771 RA procedure considering SSBs with QCL relationship Fujitsu discussion Rel-16 NR\_unlic-Core

R2-2000851 MSGA PUSCH LBT failure and PDCCH decoding Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_unlic-Core

R2-2000958 Remaining issue on 2-step random access in NRU Huawei, HiSilicon discussion Rel-16 NR\_unlic-Core

R2-2001208 Remaining issues on RACH Ericsson discussion NR\_unlic-Core

R2-2001209 Gapless msgA transmissions in NR-U Ericsson discussion NR\_unlic-Core

R2-2001449 Additional opportunity for Msg1 in 4-step RACH LG Electronics Polska discussion Rel-16 NR\_unlic-Core R2-1915920

R2-2001606 Consideration for C-RNTI monitoring in NR-U LG Electronics Polska discussion Rel-16 NR\_unlic-Core

#### 6.2.2.2 Handling UL LBT failures

Including detection, recovery, and reporting a consistent UL LBT failure

ONLY NEW CRITICAL OPEN Issues that are not identified in email discussions. Contributions should NOT discuss open issues in the email discussion

R2-2000148 Remaining Issues of UL LBT Failure vivo discussion R2-1914367

R2-2000415 Remaining issues on consistent uplink LBT failure for NR-U OPPO discussion Rel-16 NR\_unlic-Core

R2-2000449 Remaining issues on UL LBT failures handling Intel Corporation discussion Rel-16 NR\_unlic-Core

R2-2000534 LBT failure handling considering SUL aspect Samsung discussion Rel-16 NR\_unlic-Core

R2-2000563 LBT Failures Handling in Non-Connected State Spreadtrum Communications discussion R2-1915015

R2-2000603 SpCell LBT Failure MAC CE Delivery Apple, vivo discussion Rel-16 NR\_unlic-Core

R2-2000737 Handling of consistent UL LBT failures during HO ITRI discussion NR\_unlic-Core R2-1913064

R2-2000772 [Eri10] SR resources for consistent LBT failure Fujitsu discussion Rel-16 NR\_unlic-Core

R2-2000822 UE behavior upon consistent LBT failure Lenovo, Motorola Mobility discussion Rel-16 NR\_unlic-Core

R2-2000840 Remaining issues on consistent LBT failures and BWP switching MediaTek Inc. discussion Rel-16 NR\_unlic-Core

R2-2000904 On counting the LBT failure of a BWP with multiple sub-bands CMCC discussion Rel-16 R2-1915197

R2-2000941 Uplink transmission upon detection of LBT failure Nokia, Nokia Shanghai Bell discussion Rel-15 NR\_unlic-Core

R2-2000957 Remaining issue on handling UL LBT failure Huawei, HiSilicon discussion Rel-16 NR\_unlic-Core

R2-2000963 Remaining issues on LBT failure MAC CE Huawei, HiSilicon discussion Rel-16 NR\_unlic-Core

R2-2000999 The remaining issues for UL LBT failure ZTE Corporation, Sanechips discussion Rel-16

R2-2001207 Handling consistent UL LBT failures Ericsson discussion NR\_unlic-Core

#### 6.2.2.3 Configured grant operation

Including HARQ aspects, configuration aspects, multiple active configured grants, and conflicts between dynamic and configured grants (NR-U specific).

ONLY NEW CRITICAL OPEN Issues that are not identified in email discussions. Contributions should NOT discuss open issues in the email discussion

R2-2000417 Remaining issues on NR-U configured grant OPPO discussion Rel-16 NR\_unlic-Core Late

R2-2000821 HARQ process configuration for configured grants Lenovo, Motorola Mobility discussion Rel-16 NR\_unlic-Core

R2-2000841 Issues on retransmissions across different configured grant configurations MediaTek Inc. discussion Rel-16 NR\_unlic-Core

R2-2000959 Remaining issue on configured grant Huawei, HiSilicon discussion Rel-16 NR\_unlic-Core

R2-2001205 Configured Grant remaining issues Ericsson discussion NR\_unlic-Core

R2-2001206 Channel access priority for Configured Grant Ericsson discussion NR\_unlic-Core

R2-2001442 Consideration of delayed CG confirmation LG Electronics Polska discussion Rel-16 NR\_unlic-Core

#### 6.2.2.4 Other

Includes wideband operation aspects, HARQ, SR and PHR

ONLY NEW CRITICAL OPEN Issues that are not identified in email discussions. Contributions should NOT discuss open issues in the email discussion

R2-2000149 Remaining Issues on CAPC Selection for Configured Grant vivo discussion

R2-2000154 Consideration on SR transmission colliding with PUSCH transmission Xiaomi Communications discussion Rel-16 R2-1915956 Late

R2-2000172 Consideration on SR transmission colliding with PUSCH transmission Xiaomi Communications discussion Rel-16 R2-1915956 Late

R2-2000173 Consideration on SR transmission colliding with PUSCH transmission Xiaomi Communications discussion Rel-16 R2-1915956

R2-2000176 Remaining issues of CAPC Huawei, HiSilicon discussion Rel-16 NR\_unlic-Core

R2-2000535 Applicability of NR-U features to licensed carrier Samsung discussion Rel-16 NR\_unlic-Core R2-1915222

R2-2000669 LBT failure measurement report handling Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_unlic-Core

R2-2000838 PHR for NR-U Lenovo, Motorola Mobility discussion Rel-16 NR\_unlic-Core

R2-2000842 On PHR and autonomous retransmissions MediaTek Inc. discussion Rel-16 NR\_unlic-Core R2-1913262

R2-2000960 PHR reporting for NR-U Huawei, HiSilicon discussion Rel-16 NR\_unlic-Core

R2-2000961 Reply LS on PHR report Huawei, HiSilicon discussion Rel-16 NR\_unlic-Core

R2-2000962 Disucssion PDCCH group switching Huawei, HiSilicon discussion Rel-16 NR\_unlic-Core

R2-2001094 CAPC selection for UL transmissions Intel Corporation discussion Rel-16 NR\_unlic-Core

R2-2001108 Remaining CAPC aspects for CG when SRB is multiplexed NEC Telecom MODUS Ltd. discussion

R2-2001204 Remaining issue on PHR Ericsson discussion NR\_unlic-Core

R2-2001450 Dynamic DL opportunity enhancement based on channel busy level in NR-U LG Electronics Polska discussion Rel-16 NR\_unlic-Core R2-1915921

R2-2001451 MAC impacts of multiple CCAs in wide band operation LG Electronics Polska discussion Rel-16 NR\_unlic-Core R2-1916153

### 6.2.3 Control plane

R2-2002022 NR-U Control Plan Summary Qualcomm Incorporated discussion Rel-16 NR\_unlic-Core

#### 6.2.3.1 Mobility and RRM

Including camping and cell (re)-selection. Focus should be on idle and inactive mode mobility.  For connected mode  mobility solutions to be covered by the NR Mobility Enh WI are not to be discussed.

Note RP-191581: RRM Measurements beyond currently agreed ones have lower priority.

ONLY NEW CRITICAL OPEN Issues that are not identified in email discussions. Contributions should NOT discuss open issues in the email discussion

R2-2000151 Short Message for Stopping Paging Monitoring in NR-U vivo discussion

R2-2000336 Remaining issues on Paging Ericsson discussion NR\_unlic-Core

R2-2000337 RRM in NR-U Ericsson discussion NR\_unlic-Core

R2-2000403 Handling of SIB1 decoding error Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_unlic-Core

R2-2000405 On RLM and RLF Issues in NR-U Mediatek Inc. discussion

R2-2000670 LS on LBT failure measurement report handling Nokia, Nokia Shanghai Bell LS out Rel-16 NR\_unlic-Core To:RAN4

R2-2001546 Cell selection after consecutive UL LBT failures LG Electronics Inc. discussion

R2-2001547 Support of conditional handover for NR-U LG Electronics Inc. discussion

#### 6.2.3.2 Other

Other control plane stage-3 aspects including system information. Note RP-191581: Enhancements for System Information has lower priority

ONLY NEW CRITICAL OPEN Issues that are not identified in email discussions. Contributions should NOT discuss open issues in the email discussion

RLM/RLF will not be treated in this meeting

R2-2000150 UE Capability for NR-U Support vivo draftCR Rel-16 38.306 15.8.0 NR\_unlic

R2-2000338 Signaling of Q in NR-U Ericsson discussion

R2-2000404 Including RSSI and Channel Occupancy in NR-U UE Capabilities Mediatek Inc. draftCR Rel-16 38.306 15.8.0 C NR\_unlic, NR\_unlic-Core R2-1914584

R2-2000418 Stopping criteria for paging monitoring OPPO discussion Rel-16 NR\_unlic-Core

R2-2000442 UE Capabilities for Measurements in NR-U Mediatek Inc. discussion

R2-2000671 using spare from SIB1 Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_unlic-Core

R2-2000672 Q values per cell and useInterlacePUCCH coding Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_unlic-Core

R2-2000673 intraCellGuardBand coding Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_unlic-Core

R2-2000905 Further enhancement of reporting for NR-U cell reselection CMCC discussion Rel-16

R2-2000964 Discussion on the remaining issues in RRC signalling Huawei, HiSilicon discussion Rel-16 NR\_unlic-Core

R2-2001422 SUL Operating over NR-U Samsung discussion NR\_unlic-Core

R2-2001432 On Indicating LBT Failure for NR-U Samsung discussion NR\_unlic-Core

R2-2001469 Enhancements to MIB transmission OPPO discussion Rel-16 NR\_unlic-Core

R2-2001548 Stopping condition for paging monitoring LG Electronics Inc. discussion

R2-2001549 RLMRLF in NR-U LG Electronics Inc. discussion

## 6.4 NR V2X

(5G\_V2X\_NRSL-Core; leading WG: RAN1; REL-16; started: Mar 19; target; Mar 20; WID: [RP-191723](file:///C:\Data\3GPP\TSGR\TSGR_84\docs\RP-190984.zip)). Documents in this agenda item will be handled in a break out session

Time budget: 3 TU

Tdoc Limitation: 12 tdocs

### 6.4.1 General

Including incoming LSs, rapporteur inputs, etc.

R2-2000022 Reply LS on mapping restriction for LCP procedure (R1-19135932; contact: Vivo) RAN1 LS in Rel-16 5G\_V2X\_NRSL-Core To:RAN2 Cc:SA2

R2-2000031 LS to RAN2 on Sidelink UE Information (R3-197770; contact: Ericsson) RAN3 LS in Rel-16 5G\_V2X\_NRSL To:RAN2

R2-2000032 Reply LS on Enhancements to QoS Handling for V2X Communication Over Uu Reference Point (R3-197775; contact: Nokia) RAN3 LS in Rel-16 eV2XARC To:SA2 Cc:RAN2

R2-2000042 Reply LS to RAN2 on UL-SL Prioritization (R4-1915985; contact: Futurewei) RAN4 LS in Rel-16 5G\_V2X\_NRSL-Core To:RAN2, RAN1

R2-2000044 LS on channel raster for NR V2X UE (R4-1916146; contact: CATT) RAN4 LS in Rel-16 5G\_V2X\_NRSL To:RAN2 Cc:RAN1

R2-2000052 Reply LS on LS on PC5S and PC5 RRC unicast message protection (S2-1912002; contact: Qualcomm) SA2 LS in Rel-16 eV2XARC To:SA3 Cc:RAN2, CT1

R2-2000053 LS on clarifying NR PC5 priority level (S2-1912003; contact: LGE) SA2 LS in Rel-16 eV2XARC To:RAN1 Cc:RAN2

R2-2000061 Reply LS on PC5 unicast and groupcast security protection (S2-2000971; contact: Interdigital) SA2 LS in Rel-16 eV2XARC To:SA3, CT1 Cc:RAN2

R2-2000062 Reply LS on Response LS on SL RLM/RLF (S2-2000973; contact: Qualcomm) SA2 LS in Rel-16 eV2XARC To:RAN2, RAN1, CT1

R2-2000063 Reply LS on SL RLF handling (S2-2000974; contact: Ericsson) SA2 LS in Rel-16 5G\_V2X\_NRSL-Core, eV2XARC To:RAN2

R2-2000070 Reply LS on Enhancements to QoS Handling for V2X Communication Over Uu Reference Point (S2-2001675; contact: Nokia) SA2 LS in Rel-16 eV2XARC To:RAN3, RAN2

R2-2000075 LS on PC5 unicast and groupcast security protection (S3-194658; contact: Interdigital) SA3 LS in Rel-16 eV2XARC, FS\_eV2XARC, FS\_eV2X\_Sec To:SA2 Cc:RAN3

R2-2000083 Reply LS on signalling of sidelink RSRP and CSI (R1-1913693; contact: LGE) RAN1 LS in Rel-16 5G\_V2X\_NRSL-Core To:RAN2

R2-2000084 Reply LS on additional high layer information for sidelink physical layer operations (R1-1913694; contact: LGE) RAN1 LS in Rel-16 5G\_V2X\_NRSL-Core To:RAN2

R2-2000085 Reply LS on TX resource (re-)selection and MAC related agreements (R1-1913695; contact: LGE) RAN1 LS in Rel-16 5G\_V2X\_NRSL-Core To:RAN2

R2-2000086 Reply LS on sidelink synchronization under multiple synchronization sources with different timing (R1-1913696; contact: Qualcomm) RAN1 LS in Rel-16 5G\_V2X\_NRSL-Core To:RAN2, RAN4

R2-2000097 Reply LS on SL RLM/RLF (R1-1913464; contact: InterDigital) RAN1 LS in Rel-16 5G\_V2X\_NRSL To:RAN2

R2-2000203 38.323 CR for NR V2X CATT CR Rel-16 38.323 15.6.0 0038 - B 5G\_V2X\_NRSL-Core

R2-2000278 Running CR to 37324 for 5G\_V2X\_NRSL vivo (Rapporteur) draftCR Rel-15 37.324 15.1.0 5G\_V2X\_NRSL-Core

R2-2000756 Running CR to TS 38.331 for 5G V2X with NR sidelink Huawei, HiSilicon CR Rel-16 38.331 15.8.0 1493 - B 5G\_V2X\_NRSL-Core

R2-2000883 Draft Reply LS on Sideline UE information Ericsson LS out Rel-16 5G\_V2X\_NRSL-Core To:RAN3

R2-2001413 Running CR to 36.331 for NR V2X Huawei, HiSilicon CR Rel-16 36.331 15.8.0 4222 - B 5G\_V2X\_NRSL-Core

R2-2002018 38.323 CR for NR V2X CATT CR Rel-16 38.323 15.6.0 0038 1 B 5G\_V2X\_NRSL-Core

=> Revised in R2-2002234

R2-2002234 38.323 CR for NR V2X CATT CR Rel-16 38.323 15.6.0 0038 2 B 5G\_V2X\_NRSL-Core

### 6.4.2 Control plane

#### 6.4.2.1 RRC

Including email discussion [108#44] and remaining Uu and PC5 RRC issues. Note any capability related issues are handled in 6.4.2.2. This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. Summary document is provided by RRC CR rapporteur (Huawei).

R2-2000138 Remaining issues of PC5-RRC Qualcomm Incorporated discussion 5G\_V2X\_NRSL

R2-2000182 Discussion on Zone Configurations in NR V2X Apple discussion Rel-16 5G\_V2X\_NRSL-Core Withdrawn

R2-2000185 Discussion on TX resource pool selection Apple discussion Rel-16 5G\_V2X\_NRSL-Core Withdrawn

R2-2000189 Left issues on SLRB re-configuration due to state transition OPPO discussion 5G\_V2X\_NRSL-Core

R2-2000190 Left issues on failure case handling for NR V2X OPPO discussion 5G\_V2X\_NRSL-Core

R2-2000191 Left issues on RRC running CR OPPO discussion 5G\_V2X\_NRSL-Core

R2-2000192 Left issues on RLC mode collision OPPO discussion 5G\_V2X\_NRSL-Core

R2-2000257 NR V2X CBR left issues ZTE Corporation, Sanechips discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000261 UE behaviors upon PC5-RRC connection release and configuration failure ZTE Corporation, Sanechips discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000262 Discussion on the LS on Sidelink UE Information sent from RAN3 ZTE Corporation, Sanechips discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000263 Consideration on sidelink RLM management ZTE Corporation, Sanechips discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000264 Consideration on NR V2X cross RAT support ZTE Corporation, Sanechips discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000269 (draft)Reply LS on Sidelink UE Information ZTE Corporation, Sanechips LS out 5G\_V2X\_NRSL-Core To:RAN3

R2-2000279 MAC handling upon PC5 RRC release vivo discussion

R2-2000280 Remaining issues for sidelink SRB vivo discussion

R2-2000282 Resource pool (re-)selection based on HARQ feedback vivo discussion R2-1914927

R2-2000327 Reporting of Sensing Result for Mode 1 UEs Fraunhofer HHI, Fraunhofer IIS, Lenovo, Motorola Mobility, Deutsche Telekom discussion R2-1915552

R2-2000328 Open HARQ Issues Fraunhofer HHI, Fraunhofer IIS discussion

R2-2000419 PC5-RRC connection scope and identification of unicast link MediaTek Inc. discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000420 DRAFT LS on Layer 2 IDs and PC5 unicast link MediaTek Inc. LS out Rel-16 5G\_V2X\_NRSL-Core To:SA2

R2-2000456 Open aspects on mode 2 operation Intel Corporation discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000608 UL-SL Prioritization under SL incapable RAN Apple discussion Rel-16 FS\_NR\_V2X R2-1915442

R2-2000609 Disucssion on PC5 RRC left issues Apple discussion Rel-16 FS\_NR\_V2X

R2-2000611 Discussion on Zone Configurations in NR V2X Apple discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000614 Discussion on TX resource pool selection Apple discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000710 Conditions for Uu RRC connection establishment and resume for NR SL Huawei, HiSilicon discussion

R2-2000713 Handling of multiple resource pools for NR sidelink mode-2 Huawei, HiSilicon discussion

R2-2000714 Measurement and reporting for SL-RSRP and SL pathloss for open-loop power control Huawei, HiSilicon discussion

R2-2000739 Tirggering condition for sidelink RSRP reporting MediaTek Inc. discussion Rel-16

R2-2000757 Summary of email discussion [108#44][V2X] - Miscellaneous RRC issues for 5G V2X with NR Sidelink Huawei, HiSilicon discussion Rel-16 5G\_V2X\_NRSL-Core Late

R2-2000881 Discussion on SL information reporting over Uu Ericsson discussion Rel-16 5G\_V2X\_NRSL-Core R2-1915379

R2-2000884 Handling of SLRB (re)configuration failure Ericsson discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000885 Inter-node resource coordination in NR SL Ericsson discussion Rel-16 5G\_V2X\_NRSL-Core R2-1915377

R2-2000886 Remaining issues on capability transfer in sidelink Ericsson discussion Rel-16 5G\_V2X\_NRSL-Core R2-1915382

R2-2000947 On PC5-S and PC5-RRC signalling Ericsson discussion 5G\_V2X\_NRSL-Core

R2-2001000 Remaining Exceptional Pool Aspects LG Electronics Inc. discussion Rel-16

R2-2001077 Zone configuration and Tx Rx distance calculation Lenovo, Motorola Mobility discussion 5G\_V2X\_NRSL-Core

R2-2001090 Discussion on PC5-RRC AS-layer configuration failure and T400 expiry handling Intel Corporation discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2001099 Support of PC5-S Keep alive signalling Intel Corporation discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2001231 Discussion on timer T400 Nokia, Nokia Shanghai Bell discussion 5G\_V2X\_NRSL-Core

R2-2001334 Discussion on V2X SIB Specific Validity Area Samsung Electronics Co., Ltd discussion Rel-16 5G\_V2X\_NRSL-Core R2-1915940

R2-2001335 TX profile for selected sidelink RAT Samsung Electronics Co., Ltd discussion Rel-16 5G\_V2X\_NRSL-Core R2-1915941

R2-2001336 Aperiodic traffic support in UE Assistance Information Samsung Electronics Co., Ltd discussion Rel-16 5G\_V2X\_NRSL-Core R2-1911119

R2-2001349 Issues on layer-2 ID update LG Electronics France discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2001517 NR V2X Zone ID Qualcomm Finland RFFE Oy discussion Rel-16 Withdrawn

R2-2001519 NR V2X Minimum Communication Range values Qualcomm Finland RFFE Oy discussion Rel-16 Withdrawn

R2-2001533 NR V2X Zone ID Qualcomm Finland RFFE Oy discussion Rel-16

R2-2001541 NR V2X Zone ID Qualcomm Finland RFFE Oy discussion Rel-16

R2-2001568 UE behaviour on receipt of RRCReconfigurationFailureSidelink message and T400 expiry Qualcomm Finland RFFE Oy discussion Rel-16

R2-2001570 RRC connection initiation trigger for SLRB configuration handling Samsung Electronics Co., Ltd discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2001571 Further discussion on SL-RSRP reporting Samsung Electronics Co., Ltd discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2001593 Clarification on how UE initiates a Sidelink UE Information procedure for NR sidelink communication ASUSTeK discussion Rel-16 38.331 5G\_V2X\_NRSL-Core

R2-2001594 Clarification on how UE reports sidelink QoS flow release ASUSTeK discussion Rel-16 38.331 5G\_V2X\_NRSL-Core

R2-2001595 Supporting both IP based and non-IP based V2X messages over PC5 ASUSTeK discussion Rel-16 38.331 5G\_V2X\_NRSL-Core

R2-2002011 Summary document for AI 6.4.2.1 - RRC aspects Huawei (Rapporteur) discussion Rel-16 5G\_V2X\_NRSL-Core

#### 6.4.2.2 Others

Including email discussion [108#50], [108#103] and other remaining control plane issues, e.g. capability, idle/inactive UE procedures, etc. This agenda item may utilize a summary document to facilitate treatment of topics during the e-meeting. Summary documents are provided by CR rapporteurs (capability: OPPO, idle/inactive: ZTE).

R2-2000193 Left issues on SL capability OPPO discussion 5G\_V2X\_NRSL-Core

R2-2000199 Open issues on system information OPPO discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000204 Discussion on inter-RAT Cell Selection/Reselection CATT discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000266 Report of open issues on V2X 38.304 and 36.304 running CR ZTE Corporation, Sanechips discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000267 (running)36.304CR on cell selection(reselection) for NR V2X UE ZTE Corporation, Sanechips draftCR Rel-15 36.304 15.5.0 B 5G\_V2X\_NRSL-Core

R2-2000268 (running)38.304CR on cell selection(reselection) for NR V2X UE ZTE Corporation, Sanechips draftCR Rel-15 38.304 15.6.0 5G\_V2X\_NRSL-Core

R2-2000281 Mode switch for QoS guarantee in NR V2X vivo discussion R2-1914934

R2-2000458 Cross-RAT scheduling for NR V2X SL Intel Corporation discussion Rel-16 5G\_V2X\_NRSL-Core R2-1914853

R2-2000530 PC5 L2/L3 protocols for unicast and groupcast Kyocera discussion

R2-2000712 General framework for the introduction of UE capabilities for 5G V2X with NR SL in TS 38.306 Huawei, HiSilicon discussion

R2-2000882 Discussion on SL Mode 2 left issues Ericsson discussion Rel-16 5G\_V2X\_NRSL-Core R2-1915378

R2-2001001 Remaining issues on V2X System Information LG Electronics Inc. discussion

R2-2001417 Remaining issues on cell reselection Huawei, HiSilicon discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2001418 Remaining issue on sidelink AS configuration Huawei, HiSilicon discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2001569 Further discussion on cell reselection for V2X Samsung Electronics Co., Ltd discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2001578 NR sidelink communication resource selection Qualcomm Finland RFFE Oy discussion Rel-16

R2-2000194 Summary of [108#50][V2X] Feature List and UE caps (OPPO) OPPO report 5G\_V2X\_NRSL-Core Late

R2-2002023 Summary of sidelink capability related contributions OPPO report Rel-16 5G\_V2X\_NRSL-Core

### 6.4.3 User plane

#### 6.4.3.1 MAC

Including email discussion [108#99], [108#100] and remaining MAC issues. This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. Summary document is provided by MAC CR rapporteur (LG).

R2-2000140 Remaining MAC issues on NR V2X mode 1 Qualcomm Incorporated discussion 5G\_V2X\_NRSL

R2-2000181 Discussion on Tx-Side RLM Support Apple discussion Rel-16 5G\_V2X\_NRSL-Core Withdrawn

R2-2000183 Discussion on HARQ feedback for Sidelink groupcast Apple discussion Rel-16 5G\_V2X\_NRSL-Core Withdrawn

R2-2000184 Draft Reply LS on Sidelink HARQ Feedback for Groupcast Apple LS out Rel-16 5G\_V2X\_NRSL-Core To:SA2 Cc:RAN1 Withdrawn

R2-2000186 Discussion on remaining issues on SL HARQ process Apple discussion Rel-16 5G\_V2X\_NRSL-Core Withdrawn

R2-2000195 Left issues on MAC running CR for NR-V2X OPPO discussion 5G\_V2X\_NRSL-Core

R2-2000196 Left issues on HARQ for NR-V2X OPPO discussion 5G\_V2X\_NRSL-Core

R2-2000200 Open issues on prioritization OPPO discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000202 Discussion on multiple configured grants OPPO discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000205 MAC open issues CATT discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000206 Leftover Issue of SL SR CATT discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000207 New Resource (Re-) Selection Triggers CATT discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000208 Draft LS to RAN1 on New Resource (Re-) Selection Triggers CATT discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000209 Remaining Issues on NR SL RLM/RLF Procedure CATT discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000210 Draft LS to RAN1 on NR SL RLM/RLF Procedure CATT discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000211 Leftover Issues on LCP CATT discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000212 Remaining Issues on Multiple SL CGs CATT discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000213 Draft LS to RAN1 on the maximum number of HARQ process used by one SL CG configuration CATT discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000229 Remaining Issues of Sidelink CSI Reporting Samsung Electronics Co., Ltd discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000234 [Draft] LS to RAN1 on cast type indication CATT LS out Rel-16 5G\_V2X\_NRSL-Core To:RAN1

R2-2000235 Running CR to 38.321 on Introduction of 5G V2X with NR Sidelink LG Electronics France draftCR Rel-16 38.321 15.8.0 B 5G\_V2X\_NRSL

R2-2000236 Running CR to 36.321 on Introduction of 5G V2X with NR Sidelink LG Electronics France draftCR Rel-16 36.321 15.8.0 B 5G\_V2X\_NRSL

R2-2000237 Report of [108#100][V2X]: Miscellaneous issues on MAC CR for 5G V2X with NR Sidelink LG Electronics France discussion Rel-16 5G\_V2X\_NRSL

R2-2000258 Groupcast HARQ feedback related issue ZTE Corporation, Sanechips discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000259 Discussion on left MAC issues ZTE Corporation, Sanechips discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000260 Discussion on LTE-SL/NR-UL prioritization ZTE Corporation, Sanechips discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000283 Left issues on CSI report vivo discussion

R2-2000284 The UE behivour of deactivated sidelink BWP vivo discussion

R2-2000285 HARQ feedback of SL transmission reporting on uplink vivo discussion

R2-2000286 MAC PDU handling for reserved/unkonwn LCID vivo discussion

R2-2000287 Remaining issues on HARQ support for NR Sidelink vivo discussion

R2-2000288 SL BSR triggered by retxBSR-Timer expiry vivo discussion

R2-2000454 Remaining aspects for SL HARQ operation Intel Corporation discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000455 Open aspects on SL Configured Grant design Intel Corporation discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000457 Open issues on mode 2 resource selection Intel Corporation discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000532 Remaining issues of UL/SL prioritization MediaTek Inc. discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000543 Report on email discussion on [108#99][V2X] HARQ based TX side RLM/RLF InterDigital discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000544 Draft CR to 38.321 for HARQ-Based RLF at TX UE InterDigital draftCR Rel-16 38.321 15.8.0 5G\_V2X\_NRSL-Core

R2-2000545 Draft CR to 38.331 for HARQ-Based RLF at TX UE Interdigital draftCR Rel-16 38.331 15.8.0 5G\_V2X\_NRSL-Core

R2-2000546 HARQ Buffer Management at the RX UE InterDigital, Lenovo, Motorola Mobility, ZTE discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000547 Remaining Aspects of CSI Reporting InterDigital discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000548 Remaining Asoects of Sidelink HARQ Feedback for Groupcast InterDigital discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000549 Details of Flexible BSR Prioritization InterDigital, Apple discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000550 Remaining Aspects of HARQ for NR V2X InterDigital discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000562 Miscellaneous MAC issues for 5G V2X with NR Sidelink Spreadtrum Communications discussion

R2-2000610 Discussion on Tx-Side RLM Support Apple discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000612 Discussion on HARQ feedback for Sidelink groupcast Apple discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000613 Draft Reply LS on Sidelink HARQ Feedback for Groupcast Apple LS out Rel-16 5G\_V2X\_NRSL-Core To:SA2 Cc:RAN1

R2-2000615 Discussion on remaining issues on SL HARQ process Apple discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000709 On SL LCP mapping restriction for HARQ feedback enable and disable Huawei, HiSilicon discussion

R2-2000711 Further discussion on the Sidelink CSI reporting related issues Huawei, HiSilicon discussion

R2-2000715 On the left FFS on SR trigger for SL Mode 1 Huawei, Lenovo, Motorola Mobility, ZTE, Sanechips, OPPO, HiSilicon discussion

R2-2000773 Discussion on sidelink SR trigger Fujitsu discussion Rel-16 5G\_V2X\_NRSL-Core R2-1914998

R2-2000774 Discussion on remaining PDB Fujitsu discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000820 SL BWP operation Lenovo, Motorola Mobility discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000823 Remaining aspects of SL HARQ protocol operation Lenovo, Motorola Mobility discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000944 On the need of HARQ based RLF Ericsson discussion 5G\_V2X\_NRSL-Core

R2-2000946 Discussion on congestion control Ericsson discussion 5G\_V2X\_NRSL-Core

R2-2000948 Discussion on SL Mode 1 left issues Ericsson discussion 5G\_V2X\_NRSL-Core

R2-2000950 MAC miscellaneous issues Ericsson discussion 5G\_V2X\_NRSL-Core

R2-2001022 Considerations on QoS based resource pool for NR V2X Lenovo, Motorola Mobility discussion Rel-16

R2-2001023 Views on miscellaneous issues for NR V2X MAC layer Lenovo, Motorola Mobility discussion Rel-16

R2-2001073 Blind HARQ retransmissions Lenovo, Motorola Mobility discussion 5G\_V2X\_NRSL-Core

R2-2001074 Ensuring timeliness of CSI Reporting Lenovo, Motorola Mobility discussion 5G\_V2X\_NRSL-Core

R2-2001076 RLM Procedure Lenovo, Motorola Mobility discussion 5G\_V2X\_NRSL-Core

R2-2001078 Remaining aspects of NR V2X Tx UE behavior Lenovo, Motorola Mobility, Deutsche Telekom, Fraunhofer HHI and Fraunhofer IIS, Continental Automotive GmbH discussion 5G\_V2X\_NRSL-Core

R2-2001107 Discussion on BSR prioritization issue Beijing Xiaomi Software Tech discussion

R2-2001337 Remaining issue in SL SCH subheader Samsung Electronics Co., Ltd discussion Rel-16 5G\_V2X\_NRSL-Core R2-1915939

R2-2001338 Clarification for LCP procedure with HARQ feedback Samsung Electronics Co., Ltd discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2001339 Handling of error in MAC PDU for SL unicast Samsung Electronics Co., Ltd discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2001346 Logical Channel with/without HARQ Feedback Multiplexing Panasonic Corporation discussion

R2-2001414 Configuration Aspects for Configured Sidelink Grant in Mode-1 Huawei, HiSilicon discussion Rel-16 5G\_V2X\_NRSL-Core R2-1915967

R2-2001416 Remaining issues on HARQ operation for NR SL Huawei, HiSilicon discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2001481 Need of clarification on NDI in SCI for configured grant type 2 ITL discussion Rel-16

R2-2001550 Remaining issues for SL-SCH MAC subheader Qualcomm Finland RFFE Oy discussion Rel-16

R2-2001552 Remaining issues on RLM/RLF Qualcomm Finland RFFE Oy discussion Rel-16

R2-2001588 PC5 groupcast handling Qualcomm Finland RFFE Oy discussion Rel-16

R2-2001596 Considerations of CSI reporting regarding SL LCP ASUSTeK discussion Rel-16 5G\_V2X\_NRSL-Core

#### 6.4.3.2 Others

Including email discussion [108#101], [108#102] and other remaining user plane issues, e.g. RLC, PDCP, SDAP, etc. This agenda item may utilize a summary document to facilitate treatment of topics during the e-meeting. Summary documents are provided by CR rapporteurs (RLC: Ericsson, PDCP: CATT, SDAP: Vivo)

R2-2000201 Discussion on PDCP open issues OPPO discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000214 Summary of Email discussion [108#102][V2X] Remaining issues on PDCP CATT discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000215 Draft LS to SA3 on NR V2X Security issues on PDCP CATT discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000887 Running CR for 38.322 for NR V2X Ericsson CR Rel-16 38.322 15.5.0 0030 - B 5G\_V2X\_NRSL-Core

R2-2000945 On PDCP re-establishment Ericsson discussion 5G\_V2X\_NRSL-Core

R2-2000949 Discussion on RLC left issues Ericsson discussion 5G\_V2X\_NRSL-Core

R2-2001308 Initialization of HFNs of RX\_DELIV and RX\_NEXT Futurewei discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2001340 Security impact in SL PDCP Samsung Electronics Co., Ltd discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2001499 Initial Value of RX\_DELIV and RX\_NEXT Samsung discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2001544 PDCU SDU Type Length Qualcomm Finland RFFE Oy discussion Rel-16

R2-2002017 Summary of PDCP remaining issues on NR V2X CATT discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2002019 Summary for NR V2X RLC left issues Ericsson discussion Rel-16 5G\_V2X\_NRSL-Core

### 6.4.4 Others

Including other essential issues for V2X completion, which may have both control and user plane aspects. This agenda item may utilize a summary document to facilitate treatment of topics during the e-meeting (decision to be made based on submitted tdocs).

R2-2000197 Discussion on resource allocation mode for NR-V2X OPPO discussion 5G\_V2X\_NRSL-Core

R2-2000265 Discussion on multi-mode co-existence ZTE Corporation, Sanechips discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2000696 Remaining issue on Groupcast and Broadcast Support ITRI discussion 5G\_V2X\_NRSL-Core

R2-2001075 MCR for Option 2 FB and group size ambiguity Lenovo, Motorola Mobility discussion 5G\_V2X\_NRSL-Core

R2-2001091 PC5 QoS information in UAI Intel Corporation discussion Rel-16 5G\_V2X\_NRSL-Core

R2-2001415 Remaining issue for groupcast HARQ feedback option 1 and option 2 Huawei, HiSilicon discussion Rel-16 5G\_V2X\_NRSL-Core

## 6.5 Optimisations on UE radio capability signalling

(RACS-RAN-Core; leading WG: RAN2; REL-16; started: Mar 19; target; Mar 20; WID: [RP-191088](file:///C:\Data\3GPP\archive\RAN\RAN%2384\Tdocs\RP-191088.zip)). Documents in this agenda item will be handled in a break out session

Time budget: 0.5 TU

Tdoc Limitation: 2 tdocs

Apart from running CRs, it's possible to contribute to sub agenda items 6.5.2 and 6.5.3, if any new issues are identified. This Work Item will likely only be handled via offline email discussions kicked off at the e-meeting start.

### 6.5.1 Organisational

Including incoming LSs, rapporteur inputs, running CRs, etc

R2-2000354 Introduction of UECapabilityInformation segmentation in TS38.331 ZTE Corporation, Sanechips, China Southern Power Grid Co., Ltd, MediaTek Inc, CATT, Ericsson, Intel Corporation, Spreadtrum Communications CR Rel-16 38.331 15.8.0 1441 - B RACS-RAN-Core

R2-2000421 Introduction of RACS [36.300] MediaTek Inc. CR Rel-16 36.300 16.0.0 1258 - B RACS-RAN-Core

R2-2000422 Introduction of RACS [38.300] MediaTek Inc. CR Rel-16 38.300 16.0.0 0187 - B RACS-RAN-Core

R2-2000423 Introduction of UECapabilityInformation segmentation in 36.331 MediaTek Inc., CATT, Ericsson, Spreadtrum Communications, ZTE Corporation, Sanechips, OPPO, Qualcomm Incorporated CR Rel-16 36.331 15.8.0 4189 - B RACS-RAN-Core

R2-2000424 Work plan for RACS-RAN work item MediaTek Inc., CATT discussion Rel-16 RACS-RAN-Core

### 6.5.2 UE radio capability signalling using UE capability identity

Other aspects, if any, can also be covered here

R2-2000355 UE radio capability ID in inter-node RRC messages ZTE Corporation, Sanechips discussion Rel-16 RACS-RAN-Core

R2-2000356 Introduction of UE radio capability ID in inter-node RRC messages ZTE Corporation, Sanechips CR Rel-16 38.331 15.8.0 1485 - B RACS-RAN-Core

R2-2001227 Inter-node signaling of UE Capabilities Ericsson discussion

### 6.5.3 Segmentation of UE radio capabilities

R2-2000765 Transfer of segmented UECapabilityInformation by SRB2 Samsung discussion Rel-16 RACS-RAN-Core R2-1915246

R2-2000939 Generic stage-2 description for RRC segmentation Ericsson discussion Rel-16 RACS-RAN-Core

R2-2001329 Remaining issues on UE capability segmentation Huawei, HiSilicon discussion Rel-16 RACS-RAN-Core

## 6.6 Void

## 6.7 NR Industrial Internet of Things (IoT)

(NR\_IIOT-Core; leading WG: RAN2; REL-16; started: Mar 19; target; Mar 20; WID: [RP-192324](file:///C:\Data\3GPP\TSGR\TSGR_84\docs\RP-191561.zip))

Time budget: 3 TU

Tdoc Limitation: 12 tdocs

### 6.7.1 General

Rapporteur input. UE feature List UE cap etc

Including outcome of the email discussion [108#47][IIOT] UE feature list (Nokia)

Including outcome of the email discussion [108#32][IIOT] Running CR 38.331 (Ericsson)

Including outcome of the email discussion [108#52][IIOT] Running CR 38.323 (LG)

Summary UE feature list, UE capabilities (Nokia) if needed.

By Email and web conf

WI Open issue list

R2-2001046 Summary of open issues for IIOT WI Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_IIOT

* Noted

Incoming LS

[R2-2000060](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000060.zip) Reply LS on reference time delivery (S2-1912769; contact: Qualcomm) SA2 LS in Rel-16 Vertical\_LAN, NR\_IIOT To:RAN2

- Chair think there was a misunderstanding in Sa2

* Noted

RRC CRs

R2-2000783 RRC running CR for NR IIoT Ericsson draftCR Rel-16 38.331 15.8.0 NR\_IIOT-Core

=> Revised in R2-2001657

[R2-2001657](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001657.zip) RRC running CR for NR IIoT Ericsson CR Rel-16 38.331 15.8.0 1498 B NR\_IIOT-Core

* Endorsed as baseline

R2-2000784 LTE RRC running CR for NR IIoT Ericsson draftCR Rel-16 36.331 15.8.0 NR\_IIOT-Core

=> Revised in R2-2001658

R2-2001658 LTE RRC running CR for NR IIoT Ericsson CR Rel-16 36.331 15.8.0 4228 B NR\_IIOT-Core

* Endorsed as baseline

R2-2000785 Remaining minor issues in [108#32][IIoT] Running CR 38.331 Ericsson discussion NR\_IIOT-Core

* [AT109e][027][IIOT] CR RRC 38331 36331 (Ericsson)

Scope: Progress RRC CRs

Intended outcome: Address CR Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed CRs.

Deadlines: Mar 4, 5, 6 (see the schedule).

PDCP CR

R2-2001280 Summary of e-mail discussion on PDCP Running CR for NR IIOT LG Electronics Inc. report Rel-16 NR\_IIOT-Core

R2-2001281 PDCP running CR for NR IIOT PDCP Rapporteur (LG Electronics Inc.) CR Rel-16 38.323 15.6.0 0039 - B NR\_IIOT-Core

* Endorsed (as baseline)

R2-2002169 PDCP running CR for NR IIOT PDCP Rapporteur (LG Electronics Inc.) CR Rel-16 38.323 15.6.0 0039 1 B NR\_IIOT-Core

R2-2001282 Introducing EHC in LTE PDCP PDCP Rapporteur (LG Electronics Inc.) CR Rel-16 36.323 15.5.0 0278 - B NR\_IIOT-Core

=> Revised in R2-2002170

R2-2002170 Introducing EHC in LTE PDCP PDCP Rapporteur (LG Electronics Inc.) CR Rel-16 36.323 15.5.0 0278 1 B NR\_IIOT-Core

- Nokia wonder if we can refer to NR wrt the appendix. LG think it is better to have separate.

- QC think we should discuss the LTE CR a bit more before endorsing

* Discuss and check by email.
* [AT109e][028][IIOT] CR PDCP 38323 36323 (LG)

Scope: Progress PDCP CRs

Intended outcome: **Address comments to R2-2001282**. Address CR Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed CRs.

Deadlines: Mar 4, 5, 6 (see the schedule).

MAC CR

R2-2001487 MAC Running CR for NR IIOT Samsung CR Rel-16 38.321 15.8.0 0698 - B NR\_IIOT-Core

- Samsung clarifies that this version is just editorially updated cmp last endorsed version.

=> Revised in R2-2002341

R2-2002341 MAC Running CR for NR IIOT Samsung CR Rel-16 38.321 15.8.0 0698 1 B NR\_IIOT-Core

* [AT109e][029][IIOT] CR MAC 38321 (Samsung)

Scope: Progress MAC CR

Intended outcome: Address CR Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed CRs.

Deadlines: Mar 4, 5, 6 (see the schedule).

Stage-2 CRs

R2-2002013 Introduction of NR Industrial IoT features Nokia, Nokia Shanghai Bell CR Rel-16 38.300 0203 B NR\_IIOT

[Chair] Please note that ambition level can be low regarding Stage-2.

* Will have a 36300 CR (Nokia)
* [AT109e][030][IIOT] CR Stage-2 38300 36300 (Nokia)

Intended outcome: Address CR Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed CRs.

Deadlines: Mar 4, 5, 6 (see the schedule).

Feature List and UE capabilties

Input status – nothing agreed yet.

R2-2001053 Summary of e-mail discussion: [108#47][IIOT] UE feature list Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_IIOT

R2-2002072 Summary: UE features and capabilities Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_IIOT-Core

R2-2001052 UE feature list and capabilities remaining issues Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_IIOT

R2-2001054 UE radio access capabilities introduction for NR IIOT WI Nokia, Nokia Shanghai Bell CR Rel-16 38.306 15.8.0 0244 - B NR\_IIO

- Nokia think we can endorse this as baseline.

- LG has concerns on padding addition. Chair think we will update based on decisions at this meeting

- QC has concerns on items that are related to L1.

Chair: it seems we cannot endorse now, but this can anyway serve as baseline for continued discussion.

=> Revised in R2-2002279

R2-2002279 UE radio access capabilities introduction for NR IIOT WI Nokia, Nokia Shanghai Bell CR Rel-16 38.306 15.8.0 0244 1 B NR\_IIOT

R2-2001055 UE feature list introduction for NR IIOT WI Nokia, Nokia Shanghai Bell CR Rel-16 38.822 15.0.1 0002 - B NR\_IIOT

- Huawei think this TR is not maintained any longer.

=> Revised in R2-2002280

R2-2002280 UE feature list introduction for NR IIOT WI Nokia, Nokia Shanghai Bell CR Rel-16 38.822 15.0.1 0002 1 B NR\_IIOT

* [AT109e][031][IIOT] IIOT UE capabilities (Nokia)

Scope: Progress Feature List and UE capabilities, way forward.

Intended outcome: Treat email discussion [108#47] and other papers above, Endorse 38306 CR,

CLOSED

[R2-2002282](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002282.zip) Summary of [AT109e][031][IIOT] IIOT UE capabilities Nokia, Nokia Shanghai Bell

On-Line DISCUSSION on parts not only related to UE cap

P4

- QC support separate as these target separate use cases. Ericsson agrees and think they have different requirements wrt gNB reception. Nokia agrees. MTK agrees and think complexity in MAC is not a problem.

- Samsung think they have same purpose, and we don’t need overhead and complexity of separate config. Huawei Agrees. LG also think separate config is complex in MAC. CATT agrees.

- Chair think we cannot agree now need to keep open. For the sake of the MAC CR it doesn’t matter so much what is there.

P7bis

- LG think fixed size for one DRB is important. Nokia think we configure per DRB

- Ericsson wonder if we would have different capability. Nokia think this is still open

* FFS whether data vs. data and SR vs. data prioritization can be configured separately.
* Both 1-byte header and 2-bytes header is supported and the choice depends on RRC configuration (of DRB). For one DRB the header size is fixed.

Agreements and FFSes [AT109e][031][IIOT]:

* The UE supporting multipleCG-Configs shall also support lch-ToConfiguredGrantMapping.
* A single capability for PDCP duplication with more than two RLC entities covers both RLC AM and RLC UM mode.
* UE signals the maximum number of supported EHC contexts as a capability.
* A separate UE capability is defined for EHC context continuation.
* FFS whether signalling of maximum value of additional SPS periodicities and additional CG periodicities supported by a UE is required.
* FFS whether to support allowing CG periodicities of multiple of 2/7 symbols as a separate capability with a cross-slot boundary capability as a pre-requisite.
* FFS if Data vs. data and SR vs. data prioritization are signalled as a single capability.
* FFS whether LCH based prioritization can be supported without PHY prioritization. It is expected this can be discussed once RAN1 has defined feature/capability related to PHY layer prioritization

### 6.7.2 TSC

#### 6.7.2.1 Accurate reference timing

Accurate reference timing delivery from gNB to UE using broadcast and unicast RRC signalling for synchronization requirements defined in TS 22.104

Rapporteur guidance: Remaining issues:

* Propagation delay compensation
* How to determine whether a UE requires to be provisioned with reference time information

Summary Accurate reference timing (Nokia)

By Email and web conf

[R2-2002012](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002012.zip) Summary: Accurate reference timing Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_IIOT

DISCUSSION

2a

- Ericsson don’t understand why this is needed. Nokia think the network can know situations when UE based prop delay comp would make it worse

- LG don’t think this is essential, especially since UE behaviour is unspecified.

- Oppo support 2a and think it allows the network to do Prop delay comp. CATT also support Nokia, esp for the case to avoid that both network and UE do Prop delay Comp.

- MTK think we can wait until R17

- QC think P1 cannot be agreed if not P2a is agreed

2b

- Chair wonder if we can just skip this. Nokia want this. Vivo think we should mention that network shall not do compensation.

- CMCC think 2b cannot be used

- Ericsson want this

P5

- vivo are ok to skip

P4

- Chair: should stick to a simple solution.

* 2a seems non-agreeable
* P5: No particular support for EN-DC
* Can continue offline
* [AT109e][032][IIOT] Accurate Reference Timing (Nokia)

Scope: Treat summary on accurate ref timing (other papers if needed)

Intended outcome: Resolve issues, Describe Open Issues accurately.

Deadline: Mar 3 1200 CET (conclusions on “easy agreements” by Feb 27 1200 CET)

[R2-2002281](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002281.zip) Summary of [AT109e][032][IIOT] Accurate Reference Timing Nokia, Nokia Shanghai Bell

* Noted

Agreements [AT109e][032][IIOT]

* Capture for the reference time information in 38.331 that “The indicated time is referenced at the network, i.e., without compensating for RF propagation delay.”
* In Rel-16, propagation delay compensation may be done by UE implementation.
* Do not capture propagation delay compensation aspect in stage-2 specifications.
* No EN-DC specific enhancements are pursued for accurate reference time objective of Rel-16 IIOT WI.
* Do not make any specifications changes to indicate which of the received reference time information takes precedence in case the UE receives reference time via both unicast and broadcast signalling.
* It is FFS if UE in RRC Connected can request SIB9 using on-demand SI request (by reusing OSI mechanism defined for RRC Connected UEs, with assumption of no additional work is needed in IIOT WI).

R2-2000110 Remaining Issues on Propagation Delay Compensation CATT discussion NR\_IIOT-Core

R2-2000427 Discussion on propagation delay compensation Huawei, HiSilicon discussion NR\_IIOT-Core

R2-2000428 Remaining issues of reference time delivery Huawei, HiSilicon discussion NR\_IIOT-Core

R2-2000489 UE report of the TSC interest vivo discussion

R2-2000490 Discussion on propagation delay compensation in rel-16 vivo discussion

R2-2000491 Discussion on provisioning of timing information for EN-DC vivo discussion

R2-2000492 TP on 38.331 of provisioning of timing information for EN-DC vivo discussion

R2-2000493 TP on 36.331 of provisioning of timing information for EN-DC vivo discussion

R2-2000705 Consideration on propagation delay compensation for TSC OPPO discussion Rel-16 Late

R2-2000786 On downlink delay compensation Ericsson, LG, Samsung discussion NR\_IIOT-Core

R2-2000787 On UE need for time synch Ericsson discussion NR\_IIOT-Core

R2-2001047 Propagation delay compensation Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_IIOT

R2-2001048 Determining the need for accurate reference time delivery Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_IIOT

R2-2001212 Propagation Delay Compensation in TSC ZTE Corporation, Sanechips, China Southern Power Grid Co., Ltd discussion Rel-16 NR\_IIOT-Core R2-1914725 Late

R2-2001233 Request for accurate reference timing delivery in TSC ZTE Corporation, Sanechips, China Southern Power Grid Co., Ltd discussion Rel-16 NR\_IIOT-Core Late

R2-2001297 Open issues in Accurate Reference Timing Delivery Qualcomm Incorporated discussion

R2-2001426 Remaining Issues for Propagation Delay Compensation CMCC discussion Rel-16 NR\_IIOT-Core

R2-2001427 TP on IIoT Running RRC for Propagation Delay Compensation CMCC discussion Rel-16 NR\_IIOT-Core

#### 6.7.2.2 Scheduling Enhancements

Enhancements to satisfy QoS for wireless Ethernet when using TSC traffic patterns and support for TSC message periodicities with non-integer multiple of NR supported CG/SPS periodicities.

Rapporteur guidance: Remaining issues:

* Multiple SPS/CG enhancements (CG confirmation MAC CE, SFN misalignment for CG type 1 etc.)
* LCP restrictions (PHY priority-based restriction, allowed CG list)
* Other issues as identified in the e-mail discussions

Summary Scheduling Enhancements (Ericsson)

By Email

[R2-2001660](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001660.zip) [Summary document for AI 6.7.2.2] Ericsson discussion Rel-16 NR\_IIOT-Core

=> Revised in R2-2002091

[R2-2002091](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002091.zip) Summary on Scheduling Enhancement for IIoT (6.7.2.2) Ericsson discussion Rel-16 NR\_IIOT-Core

* [AT109e][033][IIOT] Scheduling Enhancements (Ericsson)

Scope: Treat summary on Scheduling Enhancements

Intended outcome: Resolve issues, Describe Open Issues accurately.

Deadline: Mar 3 1200 CET (conclusions on “easy agreements” by Feb 27 1200 CET)

[R2-2002294](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002294.zip) Summary on [AT109e][033][IIOT] Scheduling Enhancements Ericsson discussion Rel-16 NR\_IIOT-Core

* Noted

Agreements [AT109e][033][IIOT]

* Confirm LCH configured with allowedCG-List is allowed to be mapped to dynamic grant
* LCH configured with allowedPHY-PriorityIndex is allowed to be mapped to dynamic grant without any priority indication only in case the configuration allows it to be mapped on low priority grant.
* allowedPHY-PriorityIndex restriction applies only to dynamic grants.
* If configuredGrantConfigList-r16 is configured in the MAC entity, the multiple entry configured grant confirmation MAC CE is always used.
* As in legacy, the multiple entry configured grant confirmation MAC CE is generated if 1) the MAC entity has UL resources allocated for new transmission; 2) there is at least one triggered but not cancelled confirmation.
* Confirm that Multiple Entry Configured Grant Confirmation MAC CE has the same priority as Confirmation Grant Confirmation MAC CE.
* For Type-1 CG, after receiving the configuration, UE should first identify the lowest N value corresponding to the nearest available CG occasion, then, N is incremented after each CG occasion starting from the N identified in the first step.
* Introduce timeReferenceSFN in RRC CG type 1 configuration.
* Align the terminology and use name “phy-PriorityIndex” in TS 38.300, TS 38.321, TS 38.331 to indicate the priority of the grant/SR-source agreed by RAN1
* Maximum 32 CG configurations per MAC entity.
* MAC CE for CG configuration has a fixed size of 4 bytes.
* Confirm that multiple entry configured confirmation MAC CE only confirms configured grant type 2 configurations and other entries can be ignored.
* Multiple entry confirmation MAC CE confirms the reception of (re)-activation/de-activation DCI.
* Two CGs of any type, one activated in UL and another activated in SUL, are not time-overlapping by the control of the network. This can be captured in the stage-2 spec.

R2-2000111 Remaining issues for multiple CG configurations CATT discussion NR\_IIOT-Core

R2-2000429 Configured grant configurations for SUL serving cell Huawei, HiSilicon discussion NR\_IIOT-Core

R2-2000430 Discussion on the new CG type 2 confirmation MAC CE Huawei, HiSilicon discussion NR\_IIOT-Core

R2-2000431 Method to avoid confusion between UE and network for CG type 1 Huawei, HiSilicon discussion NR\_IIOT-Core

R2-2000564 Consideration on collision of measurement gap and TSN traffic Spreadtrum Communications discussion

R2-2000697 SFN misalignment issue on periodicities of non-divisor of 10240ms OPPO discussion Rel-16

R2-2000699 Left issue on multiple entry confirmation MAC CE OPPO discussion Rel-16

R2-2000706 Support mapping LCHs configured with allowedCG-list to dynamic grant OPPO discussion Rel-16

R2-2000788 LCP restriction enhancement based on PHY priority indcation Ericsson discussion NR\_IIOT-Core

R2-2000789 SPS and CG remaining MAC aspects Ericsson discussion NR\_IIOT-Core

R2-2000790 TSC AI clarifications: meaning of arrival time Ericsson discussion NR\_IIOT-Core

R2-2000791 Draft LS: TSC AI clarifications for arrival time Ericsson LS out NR\_IIOT-Core To:SA2

R2-2001049 Remaining issues on TSC scheduling Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_IIOT

R2-2001171 LCP restrictions in IIoT Intel Corporation discussion Rel-16 NR\_IIOT-Core

R2-2001290 Open issues in Scheduling Enhancements Qualcomm Incorporated discussion

R2-2001428 Remaining Issues for Multiple SPS-CG enhancements CMCC discussion Rel-16 NR\_IIOT-Core

R2-2001429 Remaining Issues for LCP restrictions CMCC discussion Rel-16 NR\_IIOT-Core

R2-2001461 The considerations on scheduling enhancement ZTE Corporation, Sanechips discussion Rel-16 NR\_IIOT-Core

R2-2001476 TP on IIoT Running RRC for Scheduling Enhancements CMCC discussion Rel-16 NR\_IIOT-Core

R2-2001489 Remaining Issues on CG Confirmation MAC CE Samsung discussion Rel-16 NR\_IIOT-Core

R2-2001493 LCP Restriction for allowedCG-List and allowedPHY-PriorityIndex Samsung discussion Rel-16 NR\_IIOT-Core

R2-2001498 Type 1 Configured Grant with Integer Periodicity Samsung discussion Rel-16 NR\_IIOT-Core

R2-2001555 Consideration on multiple entry CG confirmation MAC CE LG Electronics Inc. discussion Rel-16 NR\_IIOT-Core

R2-2001613 Multiple Entry Configured Grant Confirmation MAC CE Intel Corporation discussion Rel-16 NR\_IIOT-Core

R2-2001627 Impact of CG/SPS with periodicities non dividing HF length Sequans Communications discussion Rel-16 FS\_NR\_IIOT R2-1916231

#### 6.7.2.3 Ethernet Header Compression

Specify Ethernet header compression based on structure-aware algorithm.

Including outcome of the email discussion [108#53][IIOT] EHC remaining issues (Huawei)

Rapporteur guidance: Remaining issues:

* Padding removal support
* EHC compressed and ucompressed packet formats
* EHC and ROHC joint operation
* Other issues unresolved during e-mail discussions

Summary Ethernet Header Compression (Mediatek)

By Web Conf and email

[R2-2002097](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002097.zip) Reply LS on need for Ethernet padding compression (S1-201085; contact: Qualcomm) SA1 LS in

- Huawei think they use profinet, and there was no evidence for this.

* EHC doesn’t handle padding, no removal/compression etc.

[R2-2000175](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000175.zip) Report of email discussion [108#53] [IIOT] EHC remaining issues Huawei, HiSilicon discussion Rel-16 NR\_IIOT-Core

P3

- Chair wonder if we should discuss CID

- LG think we need to decide fixed or variable size.

- Chair wonders if the overhead is very significant. CATT think yes, and think we could go for small fixed size. QC support CATTs view. Samsung agree with CATT as well.

- MTK think that in addition to small fixed size it could be useful to have a second size.

- Oppo are ok with fixed size but think “large” size is needed. Think that in ROHC size is 14 or 17.

- Docomo think that SA hasn’t concluded how many devices are connected to a UE so > 1 octet CID may be needed.

- Intel think CID size need to be “large”.

- Nokia could be ok to compromise and have two sizes.

- ZTE think the no of devices doesn’t relate to

- LG cannot agree to 2 sizes.

- Chair: In a first round the following agreed FFS was captured “FFS if we have 1 CID size or 2 CID sizes: one byte, two bytes, Configured by RRC”, but it was later superseded by an agreement (see R2-2002282).

* Noted

[R2-2002020](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002020.zip) Summary of submissions on Ethernet header compressions MediaTek Inc. discussion Rel-16 NR\_IIOT-Core

* [AT109e][034][IIOT] Ethernet Header Compression (Mediatek, Huawei)

Scope: Treat email discussion [108#53] and summary on EHC

Intended outcome: Resolve issues, Describe Open Issues accurately.

Deadline: Mar 3 1200 CET (conclusions on “easy agreements” by Feb 27 1200 CET)

R2-2002182 [AT109e][034][IIOT] EHC Phase 1 summary MediaTek Inc. discussion Rel-16 NR\_IIOT-Core

* Noted

[R2-2002296](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002296.zip) [AT109e][034][IIOT] EHC Phase 2 summary MediaTek Inc. discussion Rel-16 NR\_IIOT-Core

* Noted

DISCUSSION

P35

- MTK think majority would like to leave this to impl. Two companies think we don’t need to compress.

- LG think we cannot mandate compressor behaivor.

- QC are ok now to leave to impl.

- CATT think the length field is dynamic and not compressible. If compressor decides to compress then the CIDs will run out, MTK think we do support CID override.

P36

- Nokia think we should have one reserved bit for extension. Ericsson agrees, at least for 2 byte header. Docomo agrees as well, and think the bit can indicate profile ID. QC as well. Huawei.

- Vivo think also a CID code point could be used.

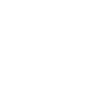
- MTK and CATT don’t want to reserve 1 bit in the one byte header., Huawei think there is no particular problem for the one byte header as the two byte header can be used.

- LG want a single format for 1 byte and 2 byte, could accept a reserved bit, but wonder what it is used for. For profile ID we need more than 1 bit, .

* If the Ethernet frame header contains a LENGTH field, the header can be sent compressed or uncompressed, no special handling
* EHC header only contains Context ID field, format indication bit, and reserved bit(s) if needed. The number of reserved bit(s) are FFS

Agreements [AT109e][034][IIOT]

* Each different PCP/DE value combination in a flow across all Q Tags (single or multiple) is associated with a separate context ID.
* The ROHC header is located after EHC header (illustrated below).

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* When a DRB is configured with RoHC and EHC, the sender/compressor behaviour for a non-IP Ethernet packet shall be to bypass ROHC and deliver that packet from EHC compressor to lower layers.
* When a DRB is configured with RoHC and EHC, the receiver/decompressor behaviour for a packet that has non-IP Ethertype (after EHC decompression) is to bypass RoHC and deliver the packet directly to higher layers.
* For SDAP Control PDU, the EHC header is not generated.
* 1-bit Indication in EHC header is used for header format differentiation.
* CID overwriting mechanism is supported.
* Use a NOTE to specify CID overwriting mechanism in the specification.
* The compressor can use an “all zeros” context ID to indicate that no context is to be established, when transmitting uncompressed packets.
* EHC feedback is transmitted via PDCP Control PDU.
* No need to specify how the compressor to determine that a context establishment procedure was unsuccessful.
* Configuration of a parameters (e.g. drb-ContinueEHC) indicates whether or not EHC is reset at PDCP re-establishment.
* EHC context continue function can be indicated separately for UL and DL, through configuration of parameters, e.g. ul-drb-ContinueEHC and dl-drb-ContinueEHC.
* The processing order of the EHC and ROHC is up to UE implementation.
* Only the feedback based mechanism is supported for EHC context establishment.
* No enhancement needed on the compressor side. The compressor keeps sending full header packets till the first feedback is received and start to transmit the compressed header packets.
* No special mechanism is needed on the decompressor side to control the number of feedbacks.

R2-2000112 Discussion on the processing order of ROHC and EHC CATT discussion NR\_IIOT-Core

R2-2000113 Remaining Issues of EHC CATT discussion NR\_IIOT-Core

R2-2000432 Further discussion on EHC related issues Huawei, HiSilicon discussion NR\_IIOT-Core

R2-2000477 Remaining issues in Ethernet header compression Intel Corporation discussion Rel-16 NR\_IIOT-Core

R2-2000494 Remaining issues for EHC vivo discussion R2-1914960

R2-2000726 SDAP control PDU handling in Rel-16 EHC Samsung discussion NR\_IIOT R2-1915077

R2-2000792 EHC solution Ericsson discussion NR\_IIOT-Core

R2-2000793 EHC padding removal Ericsson discussion NR\_IIOT-Core

R2-2000834 EHC absence of Q-Tags and NACK feedback Sony discussion Rel-16 NR\_IIOT-Core

R2-2000867 Further Consideration on Ethernet Header Compression China Telecom Corporation Ltd. discussion

R2-2001050 Joint IP and Ethernet Header compression Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_IIOT

R2-2001051 Ethernet Header compression remaining issues Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_IIOT

R2-2001229 Remaining issues for EHC in TSC ZTE Corporation, Sanechips discussion Rel-16 NR\_IIOT-Core Late

R2-2001287 CR for introducing Ethernet Headere Compression features Huawei,HiSilicon CR Rel-16 38.323 15.6.0 0040 - B NR\_IIOT-Core Withdrawn

R2-2001298 Open issues in Ethernet Header Compression Qualcomm Incorporated discussion

R2-2001309 Configuration and Processing Order of ROHC and EHC Futurewei discussion Rel-16 NR\_IIOT-Core

R2-2001501 Discussion on EHC feedback LG Electronics Inc. discussion NR\_IIOT-Core

R2-2001502 Discussion on performing ROHC and EHC LG Electronics Inc. discussion NR\_IIOT-Core

R2-2001521 Discussion on support of the padding removal LG Electronics Inc. discussion NR\_IIOT-Core Late

### 6.7.3 Intra-UE prioritization and multiplexing

Resource conflicts between dynamic grant (DG) and configured grant (CG) PUSCH and conflicts involving multiple CGs. UL data/control and control/control resource collision according to WID.

#### 6.7.3.1 Handling of deprioritized transmissions.

Rapporteur guidance: Remaining issues:

* Usage of the same HARQ process with different CG
* Whether processing timeline needs to be considered
* Other issues as identified in the e-mail discussions

Summary Deprioritized transmissions (CATT)

By Web Conf

[R2-2000485](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000485.zip) Summary on deprioritized transmissions CATT discussion NR\_IIOT-Core Late

* [AT109e][035][IIOT] Deprioritized transmissions (CATT)

Scope: Treat summary on deprioritized transmissions.

Intended outcome: Resolve issues, Describe Open Issues accurately.

Deadline: Mar 3 1200 CET (conclusions on “easy agreements” by Feb 27 1200 CET)

[R2-2002286](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002286.zip) Report of [035][IIOT] Deprioritized transmissions (CATT) CATT

DISCUSSION

P13

- CATT indicate that most companies are ok with this.

- Sony don’t understand the technical reasons, for DG it is already supported. Sony think that UEs that don’t support auto-retransmission there will be a problem.

- Ericsson think that if we have auto-retransmission then we don’t need this. And think the situation of CG and DG is different as DG always use DCI. ZTE agrees with Ericsson.

- Lenovo was originally supporting but are ok to go with majority. Nokia think we can discuss this in a future release

- LG are ok with P13, majority of companies think this is not needed.

- Chair: there seems to be some support, but majority are ok to just rely on auto-retx in this release

Issue 5

- Leonovo think that at least the UE should be allowed to use a subsequent CG resource. CMCC agrees. Ericsson think such situation would be rare. Huawei think that the current text doesn’t preclude this. Vivo think current spec means immediate next.

* Retransmission grants are not reused for new transmissions in Rel-16. No specification changes are required.
* When the CG is de-prioritized, it is up to the UE implementation to determine the processing time restriction determining whether the very next CG resource with same HARQ process can be used, or the/a following one, for an autonomous transmission

Agreements [AT109e][035][IIOT]

* UE autonomous transmission uses the same HARQ process and the same CG configuration. No change to the current running CR.
* A PDU from a de-prioritized DG scheduled for a re-transmission of a de-prioritized CG cannot be autonomously transmitted using the subsequent CG with same HARQ process. No change to the current running CR.
* *autonomousReTx* is only configurable per configured grant configuration.
* No limit (timer or counter) is specified in Rel-16 on the number of times a MAC PDU is consecutively de-prioritized. No specification changes are required.
* No optimization of the *configuredGrantTimer* procedure is foreseen to reduce the delay to the next available CG for autonomous transmission.
* No new condition on whether at least some DM-RS symbols associated with the de-prioritized PUSCH have been transmitted is added to trigger/no trigger an autonomous transmission.
* No optimization is foreseen to address the issue of a PDCCH scheduling a dynamic retransmission of the deprioritized TB received before the PUSCH used for the autonomous transmission whereas the PUSCH corresponding to the PDCCH occurs after the PUSCH resource for the autonomous transmission
* The issue of a type-2 CG configuration change between the de-prioritized CG and the new CG resource for autonomous transmission preventing the de-prioritized PDU to fit the new CG resource will be addressed.
* A HARQ process cannot be shared between different CGs.
* The issue of a running *configuredGrantTimer* when the HARQ buffer of the corresponding HARQ process is empty is not addressed.
* The issue of a LCH mapping restrictions mismatch when rescheduling a dropped CG with new transmission DG (as opposed to re-transmission DG) is not addressed.
* Postpone the discussion on the solution addressing autonomous transmission when type-2 CG’s configuration changes to the next meeting.

R2-2000114 Remaining Issues on Autonomous Transmission CATT discussion NR\_IIOT-Core

R2-2000495 Discussion on the MAC PDU recovery procedure vivo discussion

R2-2000593 Open Issues on TSC Scheduling Enhancement Apple discussion Rel-16 NR\_IIOT-Core

R2-2000698 Left issues on autonomous transmission OPPO discussion Rel-16

R2-2000703 Consideration on CG timer for the deprioritized MAC PDU OPPO discussion Rel-16

R2-2000755 Deprioritized transmissions on configured grants III discussion Rel-16 NR\_IIOT-Core

R2-2000794 Handling of de-prioritized MAC PDUs Ericsson discussion NR\_IIOT-Core

R2-2000813 Remaining Issues on Autonomous Transmission of Pending MAC PDUs Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_IIOT-Core

R2-2000825 HARQ retransmissions for deprioritized PDU with empty HARQ buffer Sony discussion Rel-16 NR\_IIOT-Core R2-1915228

R2-2000839 Remaining details for autonomous retransmission functionality Lenovo, Motorola Mobility discussion Rel-16 NR\_IIOT-Core

R2-2000845 On UL intra-UE prioritisation MediaTek Inc. discussion Rel-16 NR\_IIOT-Core

R2-2001028 Consideration on the de-prioritized PDU transmission Lenovo, Motorola Mobility discussion Rel-16

R2-2001033 Remaining issues on Configured Grant Huawei, HiSilicon discussion Rel-16 NR\_IIOT-Core

R2-2001291 Open issues in autonomous retransmission Qualcomm Incorporated discussion

R2-2001420 Autonomous transmission on different CG configuration LG Electronics Polska discussion Rel-16 NR\_IIOT-Core

R2-2001475 Remaining Issues for LCP restrictions CMCC discussion Rel-16 NR\_IIOT-Core Revised

R2-2001477 Remaining Issues for Handling of deprioritized transmission CMCC discussion Rel-16 NR\_IIOT-Core R2-2001475

R2-2001490 Autonomous Retransmissions of Different CG Configurations and Timeline Restriction Samsung discussion Rel-16 NR\_IIOT-Core

R2-2001628 Rescheduling dropped CG when PDU was not generated Sequans Communications discussion Rel-16 FS\_NR\_IIOT R2-1916233

#### 6.7.3.2 Data Data prioritization and SR Data Prioritization

Rapporteur guidance: Remaining issues:

* Consideration of MAC CE when doing prioritization
* Other issues as identified in the e-mail discussions

Summary Data Data Prioritization and SR Data Prioritization (Samsung)

By Email and Web Conference

[R2-2001488](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001488.zip) Summary of Data-Data Prioritization and SR-Data Prioritization Samsung discussion Rel-16 NR\_IIOT-Core Late

=> Revised in R2-2002083

[R2-2002083](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002083.zip) Summary of Data-Data Prioritization and SR-Data Prioritization Samsung discussion Rel-16 NR\_IIOT-Core Late

DISCUSSION

- QC think 4.2 does’nt work from several aspects

- LG think L1 priority is completely different from MAC priority

* We follow P5
* [AT109e][036][IIOT] Data Data and Data SR prioritization (Samsung)

Scope: Treat summary on Data Data and Data SR prioritization.

Intended outcome: Resolve issues, Describe Open Issues accurately.

Deadline: Mar 3 1200 CET (conclusions on “easy agreements” by Feb 27 1200 CET)

[R2-2002190](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002190.zip) Report of [Offline-036][IIOT] Data Data and Data SR prioritization Samsung discussion Rel-16 NR\_IIOT-Core

* Noted

DISCUSSION 5/5b

- QC think there is no need for an LS, and think R2 should look for solutions. LG agrees and think the TS is clear.

- MTK think L1 behaviour is clear, and we don’t need to ask R1. The issue look academic. IDT also think no LS is needed.

- CATT think pre-emption is not completely decided in R1 and R1 need an LS, Oppo think we should indicate our agreement/observation. ZTE think we need to ask R1.

* Observation, acc to current R2 agreements: In case that two MAC PDUs with the same L1 priority (i.e. high-high or low-low) are delivered by MAC, the second PDU has priority from RAN2 perspective (based on LCH priority).

Agreements [AT109e][036][IIOT]

* RAN2 confirms to introduce *lch-basedPrioritization* (configuration parameter of intra-UE prioritization based on LCH priority) in MAC running CR.
* RAN2 confirms that UE can perform autonomous transmission of the de-prioritized configured uplink grant by the prioritized SR transmission.
* An uplink grant addressed to CS-RNTI with NDI=1 (retransmission of CG) is a dynamic grant in prioritization.
* An uplink grant addressed to CS-RNTI with NDI=0 ((re-)activation of type 2 CG) is a configured grant in prioritization.
* RAN2 confirms the current MAC running CR already captures that CG with *configuredGrantTimer* running is not considered in prioritization.
* An uplink grant is not de-prioritized by other de-prioritized SR or uplink grant. TP in Phase-2 discussion is a baseline.

R2-2000115 Remaining issues for intra-UE multiplexing and prioritization CATT discussion NR\_IIOT-Core

R2-2000116 MAC CE priorities and LCP mapping restrictions CATT discussion NR\_IIOT-Core

R2-2000486 Avoiding unnecessary preemption among eMBB traffic CATT discussion NR\_IIOT-Core R2-1914411

R2-2000496 Intra-UE Prioritization with CA vivo discussion

R2-2000497 Remaining issues for SR and PUSCH collision vivo discussion

R2-2000701 Grant collision with the same HARQ process OPPO discussion Rel-16

R2-2000702 Discussion on SR cancelling on intra-UE prioritization involving SR OPPO discussion Rel-16

R2-2000722 Consideration of configured grant timer for Intra-UE prioritization Asia Pacific Telecom co. Ltd discussion

R2-2000795 On PHY and MAC interaction to support intra-UE prioritization Ericsson discussion NR\_IIOT-Core

R2-2000796 Draft LS on PHY and MAC interaction to support intra-UE prioritization Ericsson LS out NR\_IIOT-Core To:RAN1

R2-2000797 Remaining details of intra-UE prioritization Ericsson discussion NR\_IIOT-Core

R2-2000814 Intra-UE Prioritization for conflicts with existing MAC PDU Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_IIOT-Core

R2-2000815 Intra-UE Prioritization Considering MAC CEs and Configured Grant Timer Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_IIOT-Core

R2-2001010 HARQ process collision between CG and DG Huawei, HiSilicon discussion Rel-16 NR\_IIOT-Core

R2-2001011 Prioritization issues for MAC CEs and PUSCH Huawei, HiSilicon discussion Rel-16 NR\_IIOT-Core

R2-2001029 L1-priority applies for CG Lenovo, Motorola Mobility discussion Rel-16

R2-2001101 Handling of dropped SRs InterDigital discussion Rel-16 NR\_IIOT-Core

R2-2001289 Open issues in Intra-UE prioritization Qualcomm Incorporated discussion

R2-2001431 The handling of de-prioritized CG due to SR transmission LG Electronics Polska discussion Rel-16 NR\_IIOT-Core

R2-2001434 CS-RNTI ambiguity in IIoT LG Electronics Polska discussion Rel-16 NR\_IIOT-Core

R2-2001457 Remainiing issues on intra-UE multiplexing ZTE Corporation, Sanechips discussion Rel-16 NR\_IIOT-Core

R2-2001458 Consideration on HARQ Conflict Between Configured Grant and Dynamic Grant ZTE Corporation, Sanechips discussion Rel-16 NR\_IIOT-Core

R2-2001459 Consideration on the multiplexing between BSR MAC CE and URLLC data ZTE Corporation, Sanechips discussion Rel-16 NR\_IIOT-Core

R2-2001492 UL-SCH Resource De-prioritization by Deprioritized SR Samsung discussion Rel-16 NR\_IIOT-Core

R2-2001494 Condition of Priority Value Determination Samsung discussion Rel-16 NR\_IIOT-Core

R2-2001495 Transmission of Deprioritized Data by Retransmission Grant Samsung discussion Rel-16 NR\_IIOT-Core

R2-2001496 lch-basedPrioritization and MAC CE Priority Samsung discussion Rel-16 NR\_IIOT-Core

R2-2001497 Prioritization of SR Transmission Samsung discussion Rel-16 NR\_IIOT-Core

R2-2001557 Priority determination considering MAC CE LG Electronics Inc. discussion Rel-16 NR\_IIOT-Core

R2-2001597 Additional prioritization for configured uplink grant ASUSTeK discussion Rel-16 NR\_IIOT-Core

R2-2001598 Handling UL grant prioritization with non-overlapping PUSCH duration ASUSTeK discussion Rel-16 NR\_IIOT-Core

#### 6.7.3.4 Other

R2-2000700 Intra-UE prioritization between multiple SRs OPPO discussion Rel-16

R2-2001566 Measurement gap skipping for TSN traffic LG Electronics Inc. discussion Rel-16 NR\_IIOT-Core R2-1915919

### 6.7.4 PDCP duplication enhancements

Network Controlled duplication. PDCP duplication with up to 4 RLC entities configured by RRC. Mechanisms or enhancements relating to dynamic control of how a set or subset of configured RLC entities or legs are used for PDCP duplication, duplication activation/deactivation.

Rapporteur guidance: Remaining issues:

* Rel-15 and Rel-16 duplication MAC CEs utilization
* Duplicated PDU discarding upon RLC entity deactivation
* Other issues as identified in the e-mail discussions

Summary PDCP duplication Enhancements (LG)

By Email and Web Conf

[R2-2001286](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001286.zip) Summary of PDCP duplication enhancements LG Electronics Inc. report Rel-16 NR\_IIOT-Core Late

* [AT109e][037][IIOT] PDCP Duplication Enhancements (LG)

Scope: Treat summary on PDCP Duplication Enhancements.

Intended outcome: Resolve issues, Describe Open Issues accurately.

Deadline: Mar 3 1200 CET (conclusions on “easy agreements” by Feb 27 1200 CET)

[R2-2002171](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002171.zip) Summary of [AT109e][037][IIOT] PDCP Duplication Enhancements LG Electronics Inc. report Rel-16 NR\_IIOT-Core

* Noted

Agreements [AT109e][037][IIOT]

* Rel-16 PDCP duplication is applied to SRBs.
* For SRBs, all secondary RLC entities are activated when configured.
* MAC CE based activation/deactivation of PDCP duplication is not supported for SRBs.
* When a secondary RLC entity is deactivated (but PDCP duplication is still activated), the UE shall discard duplicated PDCP PDUs in the deactivated secondary RLC entity.
* If Rel-16 MAC CE indicates all secondary RLC entities are deactivated for a DRB, the UE shall deactivate PDCP duplication for the DRB. FFS whether and how this has TS impact.
* DRBdup ID in Rel-16 MAC CE is set to 5bits full DRB ID.
* FFS if and how Rel-15 MAC CE is used for Rel-16 Duplication

R2-2000117 Discussion on the Rel-15 Duplication MAC CE CATT, Sharp discussion NR\_IIOT-Core

R2-2000118 On the Open Issues of PDCP Duplication CATT discussion NR\_IIOT-Core

R2-2000119 LCH-to-Cell Restriction in Rel-16 CATT discussion NR\_IIOT-Core R2-1914418

R2-2000498 Reusing legacy MAC CE for multi-leg PDCP duplication vivo discussion

[R2-2000499](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000499.zip) Discussion on LCID restriction vivo discussion R2-1914961

R2-2000565 Discussion on configured selective PDCP duplication mechanism Spreadtrum Communications discussion R2-1915019

R2-2000597 Open Items for usage of R15 MAC CE for PDCP Duplication Apple discussion Rel-16 NR\_IIOT-Core

R2-2000704 Cell restriction for PDCP duplication in IIoT OPPO discussion Rel-16

R2-2000775 MAC CE for duplication per UE or per MAC entity Fujitsu discussion Rel-16 NR\_IIOT-Core

R2-2000776 R15 MAC CE duplication on/off for R16 duplication on/off Fujitsu discussion Rel-16 NR\_IIOT-Core

R2-2000798 Remaining issues related to MAC CEs for PDCP duplication Ericsson discussion NR\_IIOT-Core

R2-2000816 On MAC CEs for PDCP Duplication Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_IIOT-Core

R2-2000817 PDCP Duplication for SRB in Rel-16 Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_IIOT-Core

R2-2000818 PDCP PDU Discarding by Secondary RLC entities Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_IIOT-Core

R2-2000868 Discussion on MAC CE for PDCP Duplication China Telecom Corporation Ltd. discussion

R2-2000929 To discard duplicate PDUs for the RLCs deactivated for PDCP duplication Sharp, CATT discussion

R2-2000940 CR for discarding duplicate PDUs for the RLCs deactivated for PDCP duplication Sharp draftCR Rel-16 38.323 15.6.0 NR\_IIOT

R2-2001012 Discussion on PDCP duplication activation/deactivation Huawei, HiSilicon discussion Rel-16 NR\_IIOT-Core

R2-2001013 Remaining issues of cell restriction for PDCP duplication Huawei, HiSilicon discussion Rel-16 NR\_IIOT-Core

R2-2001030 Reuse R15 MAC CE on/off for R16 configurations Lenovo, Motorola Mobility discussion Rel-16

R2-2001172 Remaining issues in PDCP duplication enhancements Intel Corporation discussion Rel-16 NR\_IIOT-Core

R2-2001283 Issues on Duplicate PDU discard LG Electronics Inc. discussion Rel-16 NR\_IIOT-Core

R2-2001284 Issues on Duplication Activation-Deactivation MAC CE LG Electronics Inc. discussion Rel-16 NR\_IIOT-Core

R2-2001288 Open issues in PDCP duplication enhancements Qualcomm Incorporated discussion

R2-2001460 Discussion on UE based PDCP dupllication activation/deactivation ZTE Corporation, Sanechips discussion Rel-16 NR\_IIOT-Core

R2-2001462 Remaining issues on PDPC duplication enhancement ZTE Corporation, Sanechips discussion Rel-16 NR\_IIOT-Core

R2-2001491 Remaining Issues of PDCP Duplication for IIOT Samsung discussion Rel-16 NR\_IIOT-Core

## 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.

R2-2000010 LS on agreements related to NR Positioning (R1-1913522; contact: Nokia) RAN1 LS in Rel-16 NR\_pos To:RAN2, RAN3, RAN4

R2-2000033 LS on DL-AOD procedure (R3-197794; contact: Huawei) RAN1 LS in Rel-16 NR\_pos-Core To:RAN2

R2-2000038 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

R2-2001243 Summary of [108#87][NR/Rel-16] Additional path reporting Ericsson discussion Rel-16

=> Revised in R2-2001659

R2-2001659 Summary of [108#87][NR/Rel-16] Additional path reporting Ericsson discussion Rel-16

R2-2001255 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

R2-2001279 Summary of [108#86][NR/Pos] Single positioning method approach in LPP Ericsson report Rel-16

R2-2001333 Running CR for the introduction of NR positioning Ericsson draftCR Rel-16 38.331 15.8.0 B NR\_pos-Core

### 6.8.2 Architecture and protocol aspects

R2-2001237 Spatial Relations and MAC CE Ericsson discussion Rel-16

R2-2001239 Overhead in current structure Ericsson discussion Rel-16

#### 6.8.2.1 Stage 2

Including impact to 36.305 and 38.305. This agenda item may utilize a summary document to facilitate treatment of topics during the e-meeting (decision to be made based on submitted tdocs).

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

R2-2000289 Reduce overhead of RSTD measurement report vivo discussion

R2-2000290 Remaining issues on support of NR RAT-dependent positioning vivo discussion

R2-2000473 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

R2-2000513 Discussion on non-periodic SRS resource for positioning ZTE Corporation discussion Rel-16 NR\_pos-Core

R2-2001080 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

R2-2001214 Semi-persistent and aperiodic SRS-for-positioning Qualcomm Incorporated discussion Rel-16 NR\_pos-Core

#### 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)

R2-2000243 UL SRS UE capabilities captured by RRC in TS 38.331. CATT discussion Rel-16 NR\_pos-Core

R2-2000967 Remaining issues on SRS configuration Huawei, HiSilicon discussion Rel-16 NR\_pos-Core

R2-2000968 Discussion on GAP request for RSTD measurement Huawei, HiSilicon discussion Rel-16 NR\_pos-Core

R2-2000971 Discussion on on-demand SI in connected for NR positioning Huawei, HiSilicon discussion Rel-16 NR\_pos-Core

R2-2001216 Introduction of PPP-RTK (SSR) Qualcomm Incorporated CR Rel-16 36.331 15.8.0 4215 - B NR\_pos-Core

R2-2001228 Introduction of NR positioning Qualcomm Incorporated CR Rel-16 38.321 15.8.0 0693 - B 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)

R2-2000241 Design of ProvideAssistantData for RAT-Dependent positioning methods CATT discussion Rel-16 NR\_pos-Core

R2-2000474 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

R2-2000475 UE capability on positioning ([108#85][NR Pos]) Intel Corporation discussion Rel-16 37.355 NR\_pos-Core

R2-2000476 Open issues in LPP CR Intel Corporation discussion Rel-16 NR\_pos-Core

R2-2000966 Remaining issues on DL positioning procedure Huawei, HiSilicon, MediaTek discussion Rel-16 NR\_pos-Core

R2-2000969 Discussion on DL-AoD positioning procedure Huawei, HiSilicon discussion Rel-16 NR\_pos-Core

R2-2000970 Discussion on SRS capability transfer Huawei, HiSilicon discussion Rel-16 NR\_pos-Core

R2-2000991 SSB Configuration for UL-PRS and DL-PRS LG Electronics Inc. discussion Rel-16

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

R2-2001173 Summary on LPP for aganda 6.8.2.3 Intel Corporation discussion Rel-16 NR\_pos-Core Late

R2-2001230 Introduction of PPP-RTK (SSR) Qualcomm Incorporated CR Rel-16 37.355 15.0.0 0251 - B NR\_pos-Core

R2-2001232 posSIBs for NR positioning Qualcomm Incorporated discussion NR\_pos-Core

R2-2001278 Single positioning method approach in LPP Ericsson CR Rel-16 37.355 15.0.0 0253 - B NR\_pos-Core

R2-2001353 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)

R2-2000242 Further Considerations on Broadcast Assistance Data CATT discussion Rel-16 NR\_pos-Core Late

R2-2001236 Segmentation info in gNB Ericsson discussion Rel-16

R2-2001241 Summary of [108#88][NR/Rel-16] Remaining issues on broadcast assistance data Ericsson discussion Rel-16 Late

R2-2001268 Restructuring of LPP Broadcast solution to remove overheads Ericsson draftCR Rel-16 37.355 15.0.0 B NR\_pos-Core

R2-2001269 Restructuring of RRC Broadcast solution to remove overheads Ericsson draftCR Rel-16 38.331 15.8.0 B NR\_pos-Core

R2-2001636 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)

R2-2000837 On supporting UE-based positioning Sony discussion Rel-16 NR\_pos-Core

R2-2001234 Summary of [108#89][NR/Pos] UE-based downlink positioning assistance data Qualcomm Incorportaed discussion NR\_pos-Core

R2-2001240 UE-based configuration options Ericsson discussion Rel-16

R2-2001244 Remaining details for UE-based downlink positioning assistance data Qualcomm Incorporated discussion NR\_pos-Core

R2-2001245 Summary of UE-based positioning Agenda Item 6.8.2.5 Qualcomm Incorporated discussion Late

### 6.8.3 Other

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

## 6.9 NR mobility enhancements

(NR\_Mob\_enh-Core; leading WG: RAN2; REL-16; started: Jun 18; target; Mar 20; WID: [RP-192277](file:///C:\Data\3GPP\archive\TSGR\TSGR_83\Docs\RP-190489.zip)). Documents in this agenda item will be handled in a break out session

No documents should be submitted to 6.9.

Treated together with 7.3,

Joint 6.9 and 7.3 Time budget: 3 TU

Joint 6.9 and 7.3 Tdoc Limitation: 12 tdocs

This agenda item will utilize a summary document procedure for some sub-agenda items to facilitate treatment of topics during the e-meeting, which may lead to postponement of some topics to next meeting.

A web conference may be used for handling some of the discussions in this WI.

### 6.9.1 Organisational

*Including incoming LSs, running CRs, rapporteur inputs, etc*

*Including outcome of email discussion [108#62][NR Mob] Running Stage-2 CR (Intel)*

*Including CHO part of the outcome of email discussion [108#66][LTE NR Mob] Open issues for LTE and NR mobility (Intel)*

*Including NR part of the outcome of email discussion [108#45][LTE NR Mob] UE feature list for LTE and NR mobility (Intel)*

*A web conference may be used to treat some topics in this agenda item.*

R2-2000015 Reply LS to RAN1&4 on UE capabilities on DAPS HO (R1-1913581; contact: Intel) RAN1 LS in Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core To:RAN2 Cc:RAN4

R2-2000037 Reply to LS on UE capabilities on DAPS HO (R4-1915781; contact: Qualcomm) RAN4 LS in Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core To:RAN2 Cc:RAN1

R2-2000071 Reply LS to LS on AS key derivation for conditional handover (S3-194447; contact: Apple) SA3 LS in Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core To:RAN2 Cc:RAN3

R2-2000459 UE feature list for LTE and NR mobility Intel Corporation discussion Rel-16 LTE\_feMob-Core, NR\_Mob\_enh-Core

R2-2000460 Running CR for the introduction of NR mobility enhancement Intel Corporation CR Rel-16 38.300 16.0.0 0172 2 B NR\_Mob\_enh-Core R2-1913995

R2-2000461 Report of [108#66][LTE NR Mob] Open issues for LTE and NR mobility Intel Corporation discussion Rel-16 LTE\_feMob-Core, NR\_Mob\_enh-Core

R2-2000462 RRC running CR for introduction of NR mobility enhancement [108#34] Intel Corporation draftCR Rel-16 38.331 15.8.0 B NR\_Mob\_enh-Core Withdrawn

R2-2000463 RRC running CR for introduction of NR mobility enhancement [108#66 P2] Intel Corporation draftCR Rel-16 38.331 15.8.0 B NR\_Mob\_enh-Core

R2-2000466 Open issues in RRC CR on NR mobility Intel Corporation discussion Rel-16 NR\_Mob\_enh-Core

R2-2001092 UE Capability for Rel-16 NR mobility enhancement Intel Corporation draftCR Rel-16 38.306 15.8.0 NR\_Mob\_enh-Core Withdrawn

R2-2001093 UE Capability for Rel-16 LTE even further mobility enhancement Intel Corporation draftCR Rel-16 36.306 15.7.0 LTE\_feMob-Core Withdrawn

R2-2001270 UE Capability for Rel-16 NR mobility enhancement Intel Corporation CR Rel-16 38.306 15.8.0 0250 - B NR\_Mob\_enh-Core

R2-2001271 RRC running CR for introduction of NR mobility enhancement [108#34] Intel Corporation CR Rel-16 38.331 15.8.0 1478 - B NR\_Mob\_enh-Core

R2-2001272 UE Capability for Rel-16 LTE even further mobility enhancement Intel Corporation CR Rel-16 38.331 15.8.0 1479 - B NR\_Mob\_enh-Core Withdrawn

R2-2001473 UE Capability for Rel-16 LTE even further mobility enhancement Intel Corporation CR Rel-16 36.306 15.7.0 1742 - B LTE\_feMob-Core

R2-2001520 Interruption Time Reduction in Release 16 Samsung, KT, LG Uplus, Verizon Wireless, ZTE, KDDI discussion NR\_Mob\_enh-Core

R2-2001530 RAN4 requirements on Make-Before-Break Samsung discussion NR\_Mob\_enh-Core

R2-2001531 Stage-2 details (38.300/37.340) for Make-Before-Break Samsung, ZTE discussion NR\_Mob\_enh-Core

R2-2001540 Supporting Make-Before-Break in NR Samsung, ZTE draftCR Rel-15 38.331 15.8.0 B NR\_Mob\_enh-Core

R2-2001543 Supporting Make-Before-Break in NR Samsung, ZTE draftCR Rel-15 38.306 15.8.0 B NR\_Mob\_enh-Core

### 6.9.2 Reduction in user data interruption during DAPS handover

*Contributions on DAPS handovers for LTE and NR are treated jointly in under 7.3.2. Do not use this AI for any item that can be discussed jointly - This AI only addresses NR-specific topics.*

*Including remaining details (if any) on SDAP handling during DAPS handover.*

R2-2000126 DAPS handover without key change Ericsson discussion Rel-16 NR\_Mob\_enh-Core

R2-2001149 Source connection handling during DAPS HO Qualcomm Incorporated discussion

R2-2001152 Remaining open issues on DAPS HO Qualcomm Incorporated discussion

### 6.9.3 Conditional handover and fast handover failure recovery

Contributions on conditional handover for LTE and NR are treated jointly under 6.9.3 except where otherwise noted.

No documents should be submitted to 6.9.3. Please submit to 6.9.3.x

R2-2000591 Open issues on Mobility Enhancement Apple discussion Rel-16 NR\_Mob\_enh-Core

#### 6.9.3.1 Conditional handover – configuration and execution details

*This AI jointly addresses NR and LTE.*

*Including outcome of email discussion [108#34][NR Mob] Running RRC CR for CHO and DAPS (Intel)*

*Including RRC and ASN.1 details not handled in email discussions.*

*Including remaining open issues of CHO (as per email discussion [108#66]).*

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponement of some items to next meeting. A web conference may be used for some topics in this agenda item.

R2-2000329 Major CHO issues discussed in [108#66][NR Mob] phase-2 Ericsson discussion NR\_Mob\_enh-Core

R2-2000330 Major CHO issues not discussed in [108#66][NR Mob] Ericsson discussion NR\_Mob\_enh-Core

R2-2000374 RRC remaining issues for conditional handover configuration vivo discussion Rel-16 NR\_Mob\_enh-Core

R2-2000375 Discussion on CHO release vivo discussion Rel-16 NR\_Mob\_enh-Core R2-1914698

R2-2000444 On CHO execution triggering with two joint events Futurewei discussion Rel-16 NR\_Mob\_enh-Core

R2-2000445 Resource limitation on number of CHO candidates Futurewei discussion Rel-16 NR\_Mob\_enh-Core

R2-2000464 Remaining issues on PDCP status report for CHO Intel Corporation discussion Rel-16 LTE\_feMob-Core, NR\_Mob\_enh-Core Withdrawn

R2-2000468 "And" events for CHO Intel Corporation discussion Rel-16 LTE\_feMob-Core, NR\_Mob\_enh-Core

R2-2000592 Consecutive CHO Apple discussion Rel-16 NR\_Mob\_enh-Core

R2-2000653 On the need of including CHO configuration in HO command OPPO discussion Rel-16 NR\_Mob\_enh-Core

R2-2000922 Further consideration on CHO compliance check failure CMCC discussion Rel-16

R2-2000923 Combination of CHO and DAPS HO CMCC discussion Rel-16

R2-2001002 On reconfigurations when CHO is prepared Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_Mob\_enh-Core R2-1913151

R2-2001257 Conventional HO overriding a CHO command ZTE Corporation, Sanechips discussion Rel-16 NR\_Mob\_enh-Core

R2-2001258 CHO triggering configuration ZTE Corporation, Sanechips discussion Rel-16 NR\_Mob\_enh-Core

R2-2001259 Applicable CHO configuration ZTE Corporation, Sanechips discussion Rel-16 NR\_Mob\_enh-Core

R2-2001384 Discussion on configuration aspect for CHO Huawei, HiSilicon, China Telecom discussion Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core R2-1915844

R2-2001385 Discussion on remaining issues for CHO Huawei, HiSilicon discussion Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core

R2-2001534 Consideration of HO Command including CHO LG Electronics Inc. discussion Rel-16 NR\_Mob\_enh-Core

R2-2001584 Further details of CHO configuration and execution China Telecom discussion Rel-16 NR\_Mob\_enh-Core

R2-2001637 Remaining issues for CHO execution Samsung R&D Institute UK discussion

R2-2001651 Autonomous release of conditional configuration Google Inc. discussion

R2-2001654 On the target to configure conditional handover Google Inc. discussion

#### 6.9.3.2 Conditional handover – failure handling

*This AI jointly addresses NR and LTE.*

*Including open issues and details on CHO failure handling not handled in email discussions*

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponement of some items to next meeting. A web conference may be used for some topics in this agenda item.

R2-2000331 CHO and re-establishment procedure Ericsson discussion NR\_Mob\_enh-Core

R2-2000376 Discussion on the CHO during failure handling vivo discussion Rel-16 NR\_Mob\_enh-Core

R2-2001003 On T312 in Conditional PSCell change or handover Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_Mob\_enh-Core

R2-2001105 Avoid consecutive CHO failure Beijing Xiaomi Software Tech discussion

R2-2001106 Discussion on the use case of CHO failure recovery Beijing Xiaomi Software Tech discussion

R2-2001260 Discussion on fast RLF recovery when applying CHO and fast MCG recovery ZTE Corporation, Sanechips discussion Rel-16 NR\_Mob\_enh-Core

#### 6.9.3.3 Conditional handover – other aspects

*This AI jointly addresses NR and LTE.*

*Including remaining open issues for measurements for CHO.*

*Including discussion on UE capabilities for CHO.*

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponement of some items to next meeting. A web conference may be used for some topics in this agenda item.

R2-2000332 Other aspects of CHO Ericsson discussion NR\_Mob\_enh-Core

R2-2000377 Discussion on simultaneous connectivity in CHO vivo discussion Rel-16 NR\_Mob\_enh-Core R2-1914701

R2-2000855 Measurement reporting while CHO is configured PANASONIC R&D Center Germany discussion R2-1915541

R2-2000899 Further Discussion on Cell Evaluation for CHO Cell Selection CATT discussion Rel-16 NR\_Mob\_enh-Core

R2-2000918 Discussion on CHO for DC scenarios CMCC discussion Rel-16 Revised

R2-2001004 On serving cell’s radio link status reporting for CHO preparation Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_Mob\_enh-Core

R2-2001305 Timing of Key Derivation in Conditional Handover Futurewei discussion Rel-16 NR\_Mob\_enh-Core

R2-2001306 Draft LS on the Timing of AS Key Derivation in Conditional Handover Futurewei discussion Rel-16 NR\_Mob\_enh-Core

R2-2001386 Discussion on combination of simultaneous connectivity and CHO Huawei, HiSilicon discussion Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core R2-1915846

R2-2001535 T304 Running Issue When CHO Execution LG Electronics Inc. discussion Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core

R2-2001537 Measurement ID Handling for CHO and CPC LG Electronics Inc. discussion Rel-16 NR\_Mob\_enh-Core R2-1916205

R2-2001545 CHO in NR-U LG Electronics Inc. discussion

R2-2001553 Discussion on CHO for DC scenarios CMCC discussion Rel-16 R2-2000918

#### 6.9.3.4 Fast handover failure recovery

This AI only addresses NR.

*Including outcome of email discussion [108#16][NR Mob] T312 for PCell and PSCell (Samsung) and any remaining Stage-3 details of T312 support.*

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponement of some items to next meeting. No web conference is planned for this agenda item.

R2-2000652 Discussion on CHO impact on T312 OPPO discussion Rel-16 NR\_Mob\_enh-Core

R2-2000928 T312 handling in NR Sharp discussion

R2-2001609 Discussion on T312 support in CHO events Samsung discussion Rel-16 NR\_Mob\_enh-Core

R2-2001623 Introduction of T312 for NR PSCell in (NG)EN-DC Samsung CR Rel-16 36.331 15.8.0 4227 - B NR\_Mob\_enh-Core

#### 6.9.3.5 Conditional handover - beam specific aspects

This AI only addresses NR.

Including *discussion on beam-related aspects for CHO. No new proposals should be provided, and any contributions should provide TPs illustrating the required Stage-3 specification changes.*

#### 6.9.3.6 Summary documents for conditional handover and fast handover failure recovery

Summary documents for Ais 6.9.3.1, 6.9.3.2, 6.9.3.3, 6.9.3.4 and 6.9.3.5 should be submitted under this AI.

Summary document of 6.9.3.1 to be provided by NN.

Summary document of 6.9.3.2 to be provided by NN.

Summary document of 6.9.3.3 to be provided by NN.

Summary document of 6.9.3.4 to be provided by NN.

Summary document of 6.9.3.5 to be provided by NN.

R2-2002016 CHO failure handling Nokia discussion Rel-16 NR\_Mob\_enh-Core

### 6.9.4 Conditional PSCell addition/change

No documents should be submitted to 6.9.4. Please submit to 6.9.4.x

R2-2000333 Remaining open issues for conditional PSCell change Ericsson discussion Rel-16 NR\_Mob\_enh-Core

#### 6.9.4.1 Conditional PSCell change for intra-SN

*Including outcome of email discussion [108#67][NR Mob] Resolving open issues in CPAC and creating TP (CATT). Including remaining details of SN-initiated procedures (other cases are not considered in Rel-16).*

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponement of some items to next meeting. No web conference is planned for this agenda item.

R2-2000446 Failure and validation handling on intra-SN CPC Futurewei discussion Rel-16 NR\_Mob\_enh-Core

R2-2000447 Fast Pcell RLF recovery during intra-SN CPC Futurewei discussion Rel-16 NR\_Mob\_enh-Core

R2-2000554 Remaining Issues and TP on Simultaneous CHO and CPC Configurations InterDigital discussion Rel-16 NR\_Mob\_enh-Core

R2-2000560 Failure Recovery for Conditional Pscell change Nokia, Nokia Shanghai Bell discussion Rel-16

R2-2000606 Discussion on open issues in PSCell change Apple discussion Rel-16 NR\_Mob\_enh-Core

R2-2000900 Report on email discussion [108#67][NR Mob] Resolving open issues in CPAC and creating TP (CATT) CATT discussion Rel-16 NR\_Mob\_enh-Core

R2-2001005 On MN-initiated reconfigurations during conditional PSCell change Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_Mob\_enh-Core

R2-2001006 On informing the MN about CPC execution Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_Mob\_enh-Core

R2-2001007 On avoiding simultaneous CHO and CPC Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_Mob\_enh-Core

R2-2001008 Draft LS on avoiding simultaneous CHO and CPC Nokia, Nokia Shanghai Bell LS out Rel-16 NR\_Mob\_enh-Core To:RAN WG3

R2-2001043 Stage-3 CR for Conditional PSCell Change for intra-SN without MN involvement CATT CR Rel-16 38.331 15.8.0 1470 - B NR\_Mob\_enh-Core

R2-2001044 Stage-2 CR for Conditional PSCell Change for intra-SN without MN involvement CATT CR Rel-16 37.340 16.0.0 0181 - B NR\_Mob\_enh-Core

R2-2001045 Stage-3 CR for Conditional PSCell Change for intra-SN without MN involvement CATT CR Rel-16 36.331 15.8.0 4203 - B NR\_Mob\_enh-Core

R2-2001103 Remaining issues for CPC-intra-SN in NR Potevio Company Limited discussion Rel-16 NR\_Mob\_enh-Core

R2-2001150 Remaining issues on failure handling for conditional PSCell change Qualcomm Incorporated discussion

R2-2001151 Remaining issues on RRC message handling for conditional PSCell change Qualcomm Incorporated discussion

R2-2001163 Remaining issues concerning conditional change (mostly PSCell) Samsung Telecommunications discussion Rel-16 NR\_Mob\_enh-Core

R2-2001387 Discussion on leftovers for CPAC Huawei, HiSilicon discussion Rel-16 NR\_Mob\_enh-Core

R2-2001388 Discussion on failure handling for MR-DC for CHO Huawei, HiSilicon discussion Rel-16 NR\_Mob\_enh-Core

R2-2001536 Transaction ID Issue in CPC LG Electronics Inc. discussion Rel-16 NR\_Mob\_enh-Core

R2-2001538 Consideration of SCG failure with CPC LG Electronics Inc. discussion Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core R2-1916207

#### 6.9.4.2 Summary documents for conditional handover and fast handover failure recovery

The summary document for AI 6.9.4.1 should be submitted under this AI.

Summary document of 6.9.4.2 to be provided by NN.

R2-2000901 Summary document for conditional PSCell change for Intra-SN CATT discussion Rel-16 NR\_Mob\_enh-Core Late

## 6.10 DC and CA enhancements

(LTE\_NR\_DC\_CA\_enh-Core; leading WG: RAN2; REL-16; started: Jun 18; target; Mar 20; WID: [RP-192336](file:///C:\Data\3GPP\TSGR\TSGR_84\docs\RP-191600.zip), see also guidance in RP 192326)

Time budget: 2 TU

Tdoc Limitation: 8 tdocs

### 6.10.1 Organisational

Including incoming LSs, running CRs, rapporteur inputs, etc

Including outcome of the email discussion [108#48][DCCA] DCCA R2 feature list (Huawei)

Including outcome of the email discussion [108#33][DCCA] RRC running CRs 36.331, 38.331 (Ericsson)

Summary DCCA Org (Ericsson) if needed

By email

General

[R2-2002042](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002042.zip) Feature summary for DC and CA enhancements: organizational aspects Ericsson discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core Late

Incoming LS

R2-2000026 Reply LS on Fast MCG Link Recovery using SRB3 (R3-197606; contact: ZTE) RAN3 LS in Rel-16 LTE\_NR\_DC\_CA\_enh-Core To:RAN2

* Noted

R2-2000039 Reply LS on direct SCell activation in RRC resume message (R4-1915844; contact: ZTE) RAN4 LS in Rel-16 LTE\_NR\_DC\_CA\_enh-Core To:RAN2

* Noted
* [AT109e][038][DCCA] DCCA General (Ericsson)

Scope: WI Rapporteur email thread,

NOT USED

Feature List and UE capabilities

[R2-2001189](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001189.zip) Summary of [108#48][DCCA] DCCA R2 feature list Huawei discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core Late

* Noted

R2-2001190 TP for 38.331 on introducing UE capability for eDDCA Huawei draftCR Rel-16 38.331 15.8.0 LTE\_NR\_DC\_CA\_enh-Core Late

* [AT109e][039][DCCA] Endorsed

R2-2001191 TP for 36.331 on introducing UE capability for eDCCA Huawei draftCR Rel-16 36.331 15.8.0 LTE\_NR\_DC\_CA\_enh-Core Late

* [AT109e][039][DCCA] Endorsed

R2-2001192 Running CR for 38.306 on introducing UE capability for eDCCA Huawei CR Rel-16 38.306 15.8.0 0247 - B LTE\_NR\_DC\_CA\_enh-Core Late

* [AT109e][039][DCCA] Endorsed (not for approval RP)

R2-2002335 Running CR for 36.306 on introducing UE capability for eDCCA Huawei CR Rel-16 36.306 15.7.0 1744 - B LTE\_NR\_DC\_CA\_enh-Core

* [AT109e][039][DCCA] Endorsed (not for approval RP)
* [AT109e][039][DCCA] UE capabilities (Huawei)

Scope: Progress Feature List and UE capabilities, way forward.

Intended outcome: Treat email discussion [108#47] and other papers above, endorsed CLOSED

R2-2002334 [AT109e][039][DCCA] UE capabilities (Huawei) Huawei discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

Stage-2 37340 CRs

Input Status – endorsed R2#108

[R2-2000292](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000292.zip) Running CR to 37.340 for CA\_DC enhancements vivo, Ericsson draftCR Rel-16 37.340 16.0.0 LTE\_NR\_DC\_CA\_enh-Core

- Ericsson think no more updates are needed to stage-2 CRs.

* [AT109e][040][DCCA] CR Stage-2 37340 (Vivo)

Intended outcome: Address CR Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed CRs.

Deadlines: Mar 4, 5, 6 (see the schedule).

Stage-2 36300 38300 CRs

Input Status – endorsed R2#108

R2-2001246 Running CR for 36.300 on CA/DC Enhancements Ericsson CR Rel-16 36.300 16.0.0 1268 - B LTE\_NR\_DC\_CA\_enh-Core

R2-2001247 Running CR for 38.300 for CA/DC Enhancements Ericsson CR Rel-16 38.300 16.0.0 0198 - B LTE\_NR\_DC\_CA\_enh-Core

- Ericsson think no more updates are needed to stage-2 CRs.

* [AT109e][041][DCCA] CR Stage-2 38300 36300 (Ericsson)

Intended outcome: Address CR Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed CRs.

Deadlines: Mar 4, 5, 6 (see the schedule).

RRC CRs - Email [108#33]

Input Status – to be endorsed

R2-2001248 Running CR for 36.331 for CA/DC Enhancements Ericsson CR Rel-16 36.331 15.8.0 4216 - B LTE\_NR\_DC\_CA\_enh-Core Late

=> Revised in R2-2002287

R2-2002287 Running CR for 36.331 for CA/DC Enhancements Ericsson CR Rel-16 36.331 15.8.0 4216 1 B LTE\_NR\_DC\_CA\_enh-Core

R2-2001249 Running CR for 38.331 on CA/DC Enhancements Ericsson CR Rel-16 38.331 15.8.0 1476 - B LTE\_NR\_DC\_CA\_enh-Core Late

=> Revised in R2-2002288

R2-2002288 Running CR for 38.331 on CA/DC Enhancements Ericsson CR Rel-16 38.331 15.8.0 1476 1 B LTE\_NR\_DC\_CA\_enh-Core

- Part 1 of the email discussion to endorse the CRs is done.

* [AT109e][042][DCCA] The running CRs in R2-2001248 and R2-2001249 are hereby endorsed as baseline CRs.
* [AT109e][042][DCCA] CR RRC 38331 36331 (Ericsson)

Scope: Progress CRs

Intended outcome: Address CR Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed CRs.

Deadlines: Mar 4, 5, 6 (see the schedule).

R2-2002132 Open issues regarding DCCA stage 3 running CRs Ericsson discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

MAC CRs

* [AT109e][043][DCCA] CR MAC (Ericsson)

Intended outcome: Capture agreements, also from this meeting, as they become available. Only impact due to dormancy is expected. Produce final agreed CRs.

Deadlines: Mar 4, 5, 6 (see the schedule).

Missing in previous version

[R2-2002082](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002082.zip) Feature summary for miscellaneous topics in CA&DC Ericsson

* Noted, take into account relevant parts in other email discussion.

### 6.10.2 NR-NR Dual Connectivity

Seems finished, no open issue

Summary DCCA NRNRDC (Ericsson) if needed

By Email

[R2-2000293](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000293.zip) Report of email discussion power control for NR-DC vivo discussion

[R2-2000137](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000137.zip) Remaining issues of power control in NR-DC Qualcomm Incorporated discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

[R2-2000294](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000294.zip) Draft LS on NR-DC power control vivo LS out To:RAN4 Cc:RAN1

[R2-2000674](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000674.zip) NR DC power control Nokia, Nokia Shanghai Bell discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

[R2-2000872](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000872.zip) Remaining issues for NR-DC power control Ericsson discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

[R2-2001391](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001391.zip) NR-DC power control Huawei, HiSilicon discussion Rel-16 NR\_newRAT-Core

* [AT109e][044][DCCA] Power Control NR DC (vivo)

Scope: Treat Email discussion + additional issues from the other papers to this Agenda item

Intended outcome: Last Round: Approved LS to RAN3

Deadline: Mar 5 1200 CET

R2-2002256 Summary of power Control NR DC vivo discussion Rel-16 F LTE\_NR\_DC\_CA\_enh-Core

R2-2002257 Text proposal of power control NR-DC vivo draftCR Rel-16 38.331 LTE\_NR\_DC\_CA\_enh-Core

R2-2002109 Report of email discussion power control for NR-DC vivo discussion

[R2-2002256](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002256.zip) Summary of power Control NR DC vivo discussion

P3

- Ericsson think the pattern might is needed and it should be in Xn for ENDC

- QC didn’t find this in Xn, but think it should be in Xn as it is semi-static

- Nokia think the pattern should be shared.

- Vivo would be ok to send LS to R3. Oppo think we need to ask if it is already there.

- ZTE think that for NR DC the pattern is already there by R3.

* For NR-DC power control, need an IE to indicate thesemi-static TDD pattern of MCG to SN when semi-static power control Alt 1-2 is set by MN (may already be present)
* Send an LS to check and ask for this to RAN3 (vivo) Draft LS, approve LS in [AT109e][044][DCCA]
* Send the LS to RAN4 to inform two new parameters introduced in RAN2 for NR-DC power control. A proposed LS is provided in R2-2000294.
* For NR-DC power control,the *NR-DC-PC-mode* configured by MN is indicated to SN

[R2-2000294](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000294.zip) LS on power control for NR-DC LSout to:R4 cc:R1 Ran2

* Approved (this is the final version)

### 6.10.3 Early measurement reporting

Early measurement reporting for MR-DC, NR-DC, and CA in IDLE, INACTIVE.

Including outcome of the email discussion [108#54][DCCA] Early measurements (Ericsson)

Summary DCCA Early Measurement Reporting (Ericsson)

By Email and Web Conf

[R2-2001252](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001252.zip) Report on Email Discussion [108#54][DCCA] Early measurements (Ericsson) Ericsson discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

* Noted

[R2-2002043](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002043.zip) Feature summary for early measurements Ericsson discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

* Noted

[R2-2002131](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002131.zip) Report on offline discussion [AT109e][045][DCCA] Early measurement reporting – Phase 1 Ericsson

DISCUSSION

P6, 7, 8

- QC think these are related to R4 requirements, and some numbers may need to be changed, and we should ask R4.

- Ericsson propose those to be discussed further.

- Samsung think 8 is in the easy agreements section

- Chair: also P8 for further discussion

P9

* The UE starts to perform early measurements only when it is configured with measIdleDuration in RRC(Connection)Release (i.e. early measurement cannot be started only based on SIB signalling).
* RAN2 to confirm that the different ways of configuring early measurements are: *All configuration received in dedicated signalling (i.e. RRC(Connection)Release; or All configuration received in broadcast (except for the measIdleDuration); or The dedicated signalling contains measIdleDuration and the list of the EUTRA/NR carriers:*

***- For E-UTRA carriers, the measurement configuration is contained via the dedicated signaling***

***- For each of the NR carriers, the SSB configuration can be configured either via dedicated signalling or via SIB.***

* RAN2 to confirm that the NR/EUTRA carrier list can not be split into SIB and dedicated signalling (i.e. either both in SIB or both in dedicated).
* The measIdleDuration range in LTE euCA to be adopted in NR (i.e. ENUMERATED {sec10, sec30, sec60, sec120, sec180, sec240, sec300, spare})
* As in LTE euCA, the RSRQ-Range-r13 IE (i.e. -30..46) will be used for specifying the thresholds for early measurement reporting of E-UTRA carriers in NR.
* The SCS IE to be on the top level of the MeasIdleCarrierNR (i.e. not within the ssb-MeasConfig IE).
* Capture the “available” aspect in procedure text.
* Clarification to be added in 36.331 that the UE will be configured with only one validity area (either the rel-15 or rel-16 version).
* In LTE/NR rel-16, the UE performs measurement on a carrier only if it is capable of CA or DC between the concerned carrier and the serving carrier.
* No special handling will be specified for the case of 2-step resume without context fetch (i.e. can be handled via network implementation).
* RNA update is not triggered due to going out of the validity area.
* For early measurements while camping in LTE, the UE is required to measure E-UTRA if idleModeMeasurements-r15 is included. The UE is required to measure NR carriers, if idleModeMeasurements-r16 is included IEs, in SIB2 respectively.
* In NR rel-16, the idleModeMeasurements can be used to specify whether the UE is required to perform early measurements on EUTRA, NR or both carriers. FFS if one IE (i.e. ENUMERATED {eutra, nr, both} or separate IEs (i.e. one for EUTRA, one for NR) is to be used.
* The frequencyBandList to be on the top level of MeasIdleCarrierNR. FFS regarding nrofSS-BlocksToAverage-r16 and absThreshSS-BlocksConsolidation-r16 IEs.
* No additional information elements regarding dedicated SSB configuration validity will be specified.
* In rel-16, SFTD measurements cannot be configured as part of early measurement configuration.
* No special handling of early measurement results during inter-RAT cell reselection will be specified.
* The early measurement configuration will not be enhanced to support per (serving)-frequency early measurement target frequency list.
* A NOTE to be added in 36/38.331 that UE is not required to perform early measurements on a given frequency if it finds mismatch between dedicated and SIB SSB configuration.
* [AT109e][045][DCCA] Early Measurements Reporting (Ericsson)

Scope: Treat Email discussion + Summary

CLOSED

R2-2002289 Summary of [AT109e][045][DCCA] Early Measurements Reporting – Part 2 (Ericsson) Ericsson discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

DISCUSSION

P3

- Samsung think this is not needed.

- Huawei think this is controversial, and the network can anyway just request

- Chair: we don’t continue P3 (at this meeting).

P4/P5

- Oppo think this is not needed. Only one flag is needed. Intel agrees. Nokia also agrees this is not needed.

- Chair: not so much support we don’t contiunue (at this meeting).

* For early measurement configuration and reporting, ASN.1 signalling to allow the configuration of

-up to 8 E-UTRA and 8 NR carries to be measured

-up to 8 E-UTRA and 8 NR carriers to be reported

-up to 32 beams to be included in the NR results

* LS to be sent to RAN4 (Ericsson), with the purpose of:

- informing RAN2 decision (proposal 1)

- asking for input:

- clarification on the UE requirement aspects of early measurement performance and reporting

R2-2000252 Remaining issues for SSB measurement configuration CATT discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2000295 Priority for early measurement frequency vivo discussion

R2-2000322 Open issues for early measurement OPPO discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2000323 Draft LS on early measurement configuration during 2 step resume procedure without UE context relocation OPPO LS out Rel-16 LTE\_NR\_DC\_CA\_enh-Core To:RAN3

R2-2000675 LTE early measurement legacy text changes Nokia, Nokia Shanghai Bell discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2000676 On early measurements related to SCG CA Nokia, Nokia Shanghai Bell discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2000889 Early measurement performing for SCG CA case CATT discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2001124 Early measurement indication in NR SIB1 ZTE Corporation, Sanechips, Ericsson, MediaTek Inc discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2001162 Remaining eDCCA issues (early measurements, fast MCG recovery) Samsung Telecommunications discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core Late

R2-2001193 Discussion on UE behaviour of checking MR-DC band combination when performing early measurement Huawei, HiSilicon discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2001194 Discussion on editor’s notes in the running CR for early measurement Huawei, HiSilicon discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2001195 Considerations on SFTD measurement in idle/inactive state Huawei, HiSilicon discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2001250 Early measurement configuration in UE context retrieval Ericsson, Qualcomm Incorporated, LG Electronics Inc., CATT, OPPO discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2001251 Granular reporting of early measurement results Ericsson, MediaTek Inc., ZTE Corporation, LG Electronics Inc. discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2001262 Remaining Issues on Early Measurements ZTE Corporation, Sanechips discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2001403 Early measurement results handling upon inter-RAT cell reselection LG Electronics discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2001404 Validity area enhancement in NR LG Electronics discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2001574 Early measurement configuration mismatch in 2-step resume Samsung Electronics Co., Ltd discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

### 6.10.4 Efficient and low latency configuration signalling

Minimizing signalling overhead and latency needed for initial cell setup, additional cell setup and additional cell activation for data transmission. Contributions related to early measurement reporting should not be submitted in this AI.

Please submit to 6.10.4.x

#### 6.10.4.1 Direct SCell activation

Further details related to direct SCell activation by RRC upon SCell addition or after a handover. Support of MCG SCell and SCG Configuration with RRC Resume (AI 6.10.4.3) should be concluded before discussing whether direct SCell activation by RRC is applicable to RRC Resume.

#### 6.10.4.2 Fast SCell activation

Solutions for fast SCell activation including 'dormancy' like behaviour, provision of temporary RS resources at SCell activation, etc. This topic will be discussed again by RAN2 after receiving input from RAN1/4 on the feasibility and benefit of the potential solutions in response to LS [R2-1908483](file:///C:\Data\3GPP\Extracts\R2-1908483%20-%20LS%20on%20NR%20fast%20SCell%20activation.docx) sent from RAN2#106.

Including outcome of the email discussion [108#56][DCCA] Scell Dormancy Open Issues (Oppo)

Summary Fast SCell activation (OPPO)

By Email and Web Conf

[R2-2000314](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000314.zip) Email report [108#56][DCCA] Scell Dormancy Open Issues OPPO report Rel-16 LTE\_NR\_DC\_CA\_enh-Core

* Noted

[R2-2001511](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001511.zip) Summary of fast SCell activation OPPO report Rel-16 LTE\_NR\_DC\_CA\_enh-Core Late

* Noted

[R2-2002110](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002110.zip) Summary of fast SCell activation (OPPO) OPPO report Rel-16 LTE\_NR\_DC\_CA\_enh-Core Late

DISCUSSION

P1

- Nokia wonder how this is related to first active bandwidth part.

- intel think that the intention is to say ”similar to”

P2

- Intel think this restriction is not needed. Could be up to the network. Intel think this means that dormant Scells cannot be kept in dormancy at mobility. Apple also think this is not needed. IDT agrees as well. MTK would be ok to not have the restriction. Vivo think we can just leave this to network. Samsung agrees as well.

- LG support this proposal. QC as well. QC think this is not the intention of first active BWP, and think if we don’t have the restriction we need to consider more cases.

- Nokia think there is no case to have a recently activated Scell to be immediately dormant.

- Oppo indicate that there is majority support to have the restriction.

- Chair: there seems to be support to not have this limitation, we don’t take on additional work to specify UE behaviours by this.

P3

- Intel think we leave this to network implementation. ZTE agrees.

- QC think this (and 2) can be discussed more.

- Ericsson propose to skip P3 and agree to P2.

P7

- Nokia wonders if this is needed.

- Intel think this just says it is not applicable.

- QC think this is per Scell so we need it.

P19

- Mediatek think it is strange to have different model for UL and DL, and think it is related to SRS transmission.

- FW think UL dormant BWP is not needed, and think we need to agree the behaviour first.

- Ericsson just want to define UL behaviour rather than tieing this to UL BWP.

- ZTE also want to wait for discussion on SRS.

- QC think we can decide modelling independent of

- Chair: it seems most companies want to first discuss the behaviour and then the model.

* The network will explicitly configure the dormant BWP associated with one BWP id by RRC in downlinkBWP-ToAddModList and explicitly indicate the dormant BWP in ServingCellConfig (similar to first active downlink BWP and default downlink BWP).
* Chair: Can discuss P2/P3 further and can introduce such restrictions if benefits can be found in having them (and if consensus is achieved).
* Legacy SCell A/D MAC CE can be used to transit a SCell from activated state to deactivated state, no matter whether the SCell is in dormant BWP or not.
* Legacy SCell A/D MAC CE can be used to transit a SCell from deactivated state to activated state, the BWP with firstActiveDownlinkBWP-Id is activated like legacy
* No impact on the behaviour of sCellDeactivationTimer due to dormancy behaviour.
* bwp-InactivityTimer should stop if running when UE enters dormant BWP.
* Timer-based transition between non-dormancy and dormancy is NOT supported (i.e. no new timer or timer behaivour is introduced).
* Rel-15 legacy behaviour of TA maintenance will be applied for dormancy Scell (i.e. no spec impact)

Agreements P10-P16 [AT109e][046][DCCA]

* L1 based mechanism agreed in RAN1 can only apply to activated state cell. The UE should ignore the dormancy indication in DCI for deactivated SCell.
* Network will configure the BWP id via RRC to be activated BWP upon transition from dormancy behavior to non-dormancy behavior (does not reuse the firstActiveDownlinkBWP-Id in RRC).
* UE will not monitor the PDCCH for the SCell when enter dormant BWP for the SCell.
* The pdcch-Config IE, pdcch-ConfigCommon and sps-Config IE are not configured for the dormant BWP. And CSI-RS configuration can be configured for the dormant BWP.
* To support beam management in dormancy SCell:   
  - The tci-StatesToAddModList in pdsch-Config IE can be configured for the dormant BWP.   
  - BFR is supported and radioLinkMonitoringConfig IE and BeamFailureRecoverySCellConfig can be configured for dormant BWP for beam failure detection purpose.  
  - An LS needs to be sent to RAN1 to check any issues.
* performing periodic or semi-persistent CSI measurements on dormancy SCell with the corresponding report transmitted on other cell (i.e., sPCell or non-dormancy SCell) is supported”.
* At most 2 set of SCell group configuration are supported in RRC signalling, i.e. Scell-groups-for-dormancy-outside-active-time and Scell-groups-for-dormancy-within-active-time as defined in RAN1.
* In one SCell group configuration set, SCell can be configured only in one dormancy SCell group and the only the SCell configured with dormant BWP can be configured in the dormancy SCell group.

[R2-2002156](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002156.zip) **Proposed discussion order for dormant BWP OPPO**

DISCUSSION

20.2

- FW think this doesn’t work, SRS is needed in dormant mode. IF SRS is not supported then UL quality cannot be estimated, and latency is important. Huawei agrees with FW, and think the latency is a main argument. LG agrees as well. ZTE agrees as well, and think if this is the case then all Scell can be dormant.

- Intel support this, and don’t think SRS is important, there is anyway UL on Pcell etc, and CSI can be used. If SRS is there, the improvement is only for the very first symbols. FW think CSI is not so applicable to UL, esp for higher freq, even TDD.

- QC support these proposals. SRS helps for UL estimation, but think they are not essential, and think there can be QCL relation between UL and DL CSI-RS for high freq, and think it is important to be able to turn off UE tx. Apple agrees. Vivo support as well, and think that for UL network can trigger RACH etc. Samsung support this due to power consumption. Oppo support as well. Nokia agree, a) due to power consumption, b) due to impact to continued work,

- Nokia think that R1 didn’t estimate Power consumption due to UL activity. Nokia think we can go with this proposal for this release and can continue further enhancements next release.

- Ericsson also think power consumption is a main aspect, and skipping SRS would be simple.

- Intel think BWP modelling is complex.

- Vivo think we go this way for at least R16.

- ZTE think we should allow one Scell in a TAG to transmit SRS.

- FW think SRS is a L1 signal and think R2 cannot make decision.

- Verizon think the power saving aspect is much more important than the SRS.

20.1

- FW think R1 need to be consulted for this.

- Nokia wonder if we really would ask for R1 Confirm. QC agrees, R1 can check issues but should not open the full discussion in R1.

* SRS transmission (including aperiodic SRS, semi-periodic SRS and periodic SRS) is not supported in case the the DL BWP is switched to dormant BWP. This point will be included in the RAN1 LS to allow issues checking.
* The UE should stop all the UL behavior in case the DL BWP is switched to dormant BWP, i.e. stop any UL transmission, suspend any configured uplink grant Type 1, clear any configured uplink grant of configured grant Type 2 in the dormancy SCell. This point will be included in the RAN1 LS to allow issues checking.
* No UL dormant BWP is defined, and the UL behaviour is specified in TS38.321 in case the DL BWP is switched to dormant BWP.
* [AT109e][046][DCCA] Fast SCell Activation (Oppo)

Scope: Treat Email discussion + Summary + LS

Intended outcome: Report, Agreed Issues resolutions

Deadline: Mar 3 1200 CET

[R2-2002224](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002224.zip) Email discussion [AT109e#46][DCCA] Scell Dormancy Open Issues OPPO discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

P5

- MTK think R1 should make the desicion, and suggest to add to R1 LS. Nokia think this is also about overhead of signalling. QC agree with Nokia.

P9:

- FW are ok.

- Nokia think this was discussed in R1, and they have agreed.

- QC agrees this was agreed in R1 but there are Q: Will the UE receive two indications? Nokia think this can be an issue. Ericsson think this shold be addressed by R1, could include question in an LS. QC would be ok with LS question.

- Chair: R2 don;t need to agree etc if this has been agreed already in R1.We just take R1 agreement into account.

P11

- QC are ok.

- LG wonder what is the use case for first BWP, it seems not needed. LG can be ok with majority view. Intel thikn that if network expects data for a UE, the network may use dormancy, and e.g. HO doesn’t change Data avialability / expectation. Apple agrees.

- Intel think we already discussed this. A limitation doesn;t seem needed. Nokia would also be ok.

P12

- Nokia think we don’t need to limit. MTK agrees. Samsung agrees as well. Apple as well.

- QC also don’t agree to not have no limitation and think this is redundant.

- Oppo support the original proposal think we could ask R1.

- Chair wonders why we need to change R1 agreement.

- MTK think we can just ask R1 what they have agreed

* On P12 can ask R1 what they have agreed.
* No limitation for relationship between first active BWP and dormant BWP for BWP configuration, i.e. no spec impact.
* Include in LS to R1 question what is the scenario for and whether the UE will receive two indications as a consequence of <Two separate first active non-dormant BWPs will be configured in RRC for the cases within active time and outside active time respectively when leaving dormant BWP>
* FFS: the implicit BFD-RS configuration for dormant BWP is supported or not.

Agreements [AT109e][046][DCCA]

* Performing periodic or semi-persistent CSI measurements on dormancy SCell with the corresponding report transmitted on other cell (i.e., sPCell or non-dormancy SCell) is supported”. Aperiodic CSI reporting (no matter it is triggered via self-carrier scheduling or cross-carrier scheduling, no matter it is transmitted on dormant SCell or on other non-dormant SCell) is not supported.
* The pdcch-ConfigCommon IE, sps-Config IE are not configured for dormant BWP and CSI-RS configuration can be configured for dormant BWP
* To support beam management in dormancy SCell:   
  -       The tci-StatesToAddModList in pdsch-Config IE can be configured for the dormant BWP.  
  -       if PDSCH-Config is configured in dormant BWP, the UE only applies the TCI state, and doesn’t apply other configurations.  
  -       pdsch-ConfigCommon IE are not configured for dormant BWP;
* The BFR is supported for the dormant BWP and BFR procedure follow the R16 eMIMO agreements. Both radioLinkMonitoringConfig IE and BeamFailureRecoverySCellConfig can be configured for dormant BWP for beam failure detection purpose.
* UE will not monitor the PDCCH for the Scell (i.e. for cross-carrier scheduling) when the scheduled SCell is in dormancy.
* L1 based mechanism agreed in RAN1 can only apply to activated SCell. The UE should ignore the dormancy indication in DCI for deactivated SCell.
* Network will configure the BWP id via RRC to be activated BWP upon transition from dormancy to non-dormancy (does not reuse the firstActiveDownlinkBWP-Id in RRC).
* To support SCell group configuration in RRC:  
  -       At most 2 sets of Scell group configuration are supported in RRC signalling, i.e. Scell-groups-for-dormancy-outside-active-time and Scell-groups-for-dormancy-within-active-time as defined in RAN1.  
  -       One Scell could be configured only in one Scell group of the outside active time Scell Groups. One Scell could be configured only in one Scell group of the inside active time Scell Groups  
  -       Only Scell configured with dormant BWP can be configured in the dormancy Scell group.

Draft LS

R2-2000319 Draft LS on dormant BWP configuration and related operation OPPO LS out Rel-16 LTE\_NR\_DC\_CA\_enh-Core To:RAN1

=> Revised in R2-2002222

[R2-2002222](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002222.zip) Draft LS on dormant BWP configuration and related operation OPPO LS out Rel-16 LTE\_NR\_DC\_CA\_enh-Core To:RAN1

Discussion

R2-2000136 Finalize NR SCell dormancy Qualcomm Incorporated discussion LTE\_NR\_DC\_CA\_enh-Core

R2-2000296 Remaining issue of SCell dormancy vivo discussion

R2-2000321 Fast Scell activation in sTAG OPPO discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2000448 Discussion on Scell domancy Futurewei discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2000678 BFD on Dormant Scell Nokia, Nokia Shanghai Bell discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2000679 BFR on Dormant Scell Nokia, Nokia Shanghai Bell discussion Rel-15 LTE\_NR\_DC\_CA\_enh-Core

R2-2001225 Remaining issues for SCell dormancy Ericsson discussion

R2-2001226 Short CSI reporting for NR CA Ericsson discussion

R2-2001263 On SRS transmission on SCell in dormancy ZTE Corporation, Sanechips discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2001264 On transmission from dormancy behavior ZTE Corporation, Sanechips discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2001265 On UL dormant BWP ZTE Corporation, Sanechips discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2001302 SRS transmission on dormancy SCell LG Electronics Inc. discussion LTE\_NR\_DC\_CA\_enh-Core

R2-2001303 Consideration on dormant uplink BWP LG Electronics Inc. discussion LTE\_NR\_DC\_CA\_enh-Core

R2-2001344 Discussion on some open items of SCell dormancy operation Intel Corporation discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2001389 SCell dormancy behaviour Huawei, HiSilicon discussion Rel-16 NR\_newRAT-Core

R2-2001453 Temporary RS utilization for SCell and SpCell CATT discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core R2-1914530

R2-2001513 the ASN.1 design for SCell group configuration OPPO discussion LTE\_NR\_DC\_CA\_enh-Core

* The 17 tdocs above are noted

Not Treated

R2-2000315 Text Proposal of dormant BWP introduction-38300 OPPO draftCR Rel-16 38.300 16.0.0 LTE\_NR\_DC\_CA\_enh-Core

R2-2000316 text proposal of dormant BWP introduction-38331 OPPO draftCR Rel-16 38.331 15.8.0 LTE\_NR\_DC\_CA\_enh-Core

R2-2000317 text proposal of SCell Group configuration for dormancy indication-38331-Alt 1 OPPO draftCR Rel-16 38.331 15.8.0 LTE\_NR\_DC\_CA\_enh-Core

R2-2000318 text proposal of SCell Group configuration for dormancy indication-38331-Alt2 OPPO draftCR Rel-16 38.331 15.8.0 LTE\_NR\_DC\_CA\_enh-Core

R2-2000320 38321CR introductin of dormant BWP OPPO CR Rel-15 38.321 15.8.0 0685 - B LTE\_NR\_DC\_CA\_enh-Core

=> Revised in R2-2002223

R2-2002223 38321CR introductin of dormant BWP OPPO CR Rel-15 38.321 15.8.0 0685 1 B LTE\_NR\_DC\_CA\_enh-Core

#### 6.10.4.3 MCG SCell and SCG Configuration with RRC Resume

Support of CA/DC configuration with RRC resume.

Including outcome of the email discussion [108#55][DCCA] MCG SCell and SCG Configuration with RRC Resume (ZTE)

Summary MCG SCell and SCG Configuration with RRC Resume (ZTE)

[R2-2000249](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000249.zip) [108#55] Report of MCG SCell and SCG configuration with RRC Resume ZTE Corporation discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

* Noted

[R2-2002026](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002026.zip) Summary of MCG SCell and SCG Configuration with RRC Resume ZTE Corporation discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

[R2-2002135](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002135.zip) Summary of MCG SCell and SCG Configuration with RRC Resume ZTE Corporation discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

* Noted

DISCUSSION

P2

- IDT think there is concerns with TS impact, and think we can avoid failure with small impact, there would be no issue. Ericsson agrees, and think the additional condition is a RSRP radion condition.

- Nokia wonder what would happen if we do the blind resume, is there really a problem with such failure. Huawei also think the failure is ok.

- MTK think the problem is that there are two options and it may take time to converge, and the check is not important. CATT agrees, Apple agrees as well. Samsung as well.

- Vivo think we can decide by majority, and think the optimization is not needed.

- LG think that the P2 is not just optimization and there may be latencies.

- Chair: It seems there is some interest to do check towards RSRP threshold a condition for the resume, but the majority think this is not needed / not important. Will be treated with lower priority.

P3

- Ericsson think this has already been agreed

P4

- Nokia are ok with both option A and B. Intel has a slight preference for B, A brings some more discussion on reconfig complete,

- LG think CBRA should not be used.

- MTK prefer option B, which is simpler. Apple prefer option B and with this option dedicated RACH is possible. QC too. ZTE agrees as well. Huawei also think B is simpler.

- Ericsson agrees Option B seems simpler, but think it also means that EN-DC is not supported, which is the main concern. MTK don’t understand why. Ericsson think this relates to MSG4 not being encrypted. Ericsson think this might be being fixed for LTE. Nokia confirms that this is indeed fixed for Rel-16.

- Vivo think Option A is more flexible. ZTE think with or without dedicated RACH resource the option B can be used.

B-1/B-2

- Huawei are ok. IDT as well. MTK support.

- Samsung think the main issue are which fields the network is mandated to signal.

- QC support these, and some of these are mandatory in the network config.

- Ericsson wonder why these are needed. Nokia agrees. Samsung agrees as well.

- LG wonder if MCG whether the same principle shall be applied. MTK think MCG is covered by R15 procedure.

- Vivo think that as long as we stick to existing procedures we don’t need to change anything.

* If “*SecondaryCellGroup*” is included in *RRC(Connection)Resume* without “*restoreSCG*”, UE shall release the stored SCG configuration and apply SCG configuration in “*SecondaryCellGroup*”.
* Confirm that we Support SCG delta configuration in *RRCResume* message (by including *restoreSCG* and *secondaryCellGroup*).
* For *restoreSCG* upon RRC resume, Network shall always include *secondaryCellGroup* (with at least reconfigurationWithSync) together with *restoreSCG*.
* [AT109e][047][DCCA] MCG SCell and SCG Configuration with RRC Resume (ZTE)

Status: CANCELED

R2-2000297 Some remaining issues on SCG resume vivo discussion

R2-2000298 Granularity of early measurement and reporting vivo discussion

R2-2000553 Handling the SCG Configuration in RRC Resume InterDigital, Ericsson, LG, OPPO, KT Corp discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2000588 Optimization of RRC Resume with SCG Configuration Procedure Apple discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2000589 RRC Resume with SCG Configuration Procedure Apple discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2001253 Synchronization and random access to the PSCell during resume Ericsson discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2001390 Remaining issues on SCG configuration with RRC Resume Huawei, HiSilicon discussion Rel-16 NR\_newRAT-Core

R2-2001607 Remaining issue on SCG delta configuration LG Electronics Inc. discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2001610 Remaining issue on SN notificaiton LG Electronics Inc. discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2001611 Remaining issue on stored SCG configuration LG Electronics Inc. discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

* The 10 tdocs above are Noted

Not Treated:

R2-2000551 Draft 36.331 CR for Handling SCG Configuration in Resume InterDigital, Ericsson, LG, OPPO draftCR Rel-16 36.331 15.8.0 LTE\_NR\_DC\_CA\_enh-Core

R2-2000552 Draft 38.331 CR for Handling SCG Configuration in Resume InterDigital, Ericsson, LG, OPPO draftCR Rel-16 38.331 15.8.0 LTE\_NR\_DC\_CA\_enh-Core

#### 6.10.4.4 Other

Other enhancements not addressed in the AIs above

### 6.10.5 Fast MCG link Recovery

Further details of fast recovery of MCG link by utilizing the SCG link for recovery during MCG failure while operating under MR-DC.

Summary Fast MCG link Recovery (Ericsson)

By Email and Web Conf

[R2-2001669](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001669.zip) Feature summary for fast MCG recovery Ericsson (Rapporteur) discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

* Noted

[R2-2002137](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002137.zip) Fast MCG recovery Ericsson

DISCUSSION

P3

- Nokia wonder what fast recovery RRC reconfiguration message means.

- MTK wonder why we need this. Ericsson think this is related to SON/MDT and we don’t really need an agreement. QC also think this is not needed.

- Apple think that if we have it we need to refer to MCG configuration.

- [Chair] OK so lets skip this, can come back if a need is found.

P4

- Ericsson think this is also realted to SON MDT and should be skipped. QC agrees

- [Chair] OK so lets skip this, can come back if a need is found.

P5

- LG wonder if conditional PScell change is considered as well. Nokia think we need to progress CPC further before discussing here. CATT think we should not mix. Chair: we wait

P10

- Nokia think Proposal is ok, but should we send a LS to R3?

- Huawei think we never discussed inter-RAT for recovery.

- CATT agrees that the table describes the cases we support. CATT would like to confirm that also IRAT could be a possible option, but think there is no additional work in R3. Nokia think we have a dedicated message.

- Vivo think we can postpone this.

- QC think interRAT is not supported.

- Ericsson think we should not add cases to the ones listed.

- Samsung think that the table is mainly about handover and think it is confusing to refer to it for MCG recovery

P6

- ZTE think this shall be left open.

- Ericsson think we have already agreed that.

P13

- Oppo think radio link failure should be the cause used.

- Ericsson and Nokia think other failure is ok. MTK as well, and think there is no Radio Link Failure

* The values for T316 are: ms50, ms100, ms200, ms300, ms400, ms500, m600, ms1000, ms1500, ms2000
* RAN2 to confirm that in case of MCG failure during the execution of PSCell change or addition, the UE shall trigger RRC re-establishment procedure (as currently implemented in the RRC Running CR).
* FFS if The MR-DC scenarios illustrated in Table B-1 of TS 37.340 are supported for the fast MCG recovery procedure (i.e., the intention is to not support additional cases than the one illustrated in Table B-1 of TS 37.340).
* RAN2 to confirm that, in case of SRB3, the *MCGFailureInformation* and the response to it are sent encapsulated within the *ULInformationTransferMRDC* and the *DLInformationTransferMRDC*.
* RAN2 confirms that the option can be adopted to handle the pending SCG RLC failure report upon the triggering of MCG fast recovery is left to UE implementation.
* RAN2 to confirm that, upon triggering RRC re-establishment due to the T316 expiry, the UE shall set the *reestablishmentCause* to *otherFailure*.
* [AT109e][048][DCCA] Fast MCG Recovery (Ericsson)

Scope: Treat summary Fast MCG Recovery, remaining aspects

CLOSED

[R2-2002226](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002226.zip) Fast MCG recovery Phase 2 Ericsson discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

* [AT109e][048][DCCA] Noted

Agreements [T109e][048][DCCA]

* RAN2 assumes to not specify any network behaviour regarding the setting of the timer T316 in relation to the value of the inactivity timer.
* It is confirmed that the UE expects the network to explicitly reconfigure the primaryPath back to MCG after sending the MCGFailureInformation. If some clarification (i.e., a note) is needed this is discussed in the RRC running CR.
* [Post109e][DCCA] Fast MCG recovery (Ericsson)

Scope: Referring to R2-2002226, a) SN change during the fast MCG recovery in an email discussion to the next meeting, b) the supported MR-DC handover scenarios for the fast MCG recovery.

Intended outcome: Report, pave the way for agreements

Deadline: Next Meeting

R2-2000301 Fast recovery failure indication vivo discussion

R2-2000541 Discussion on RRC reestablishment initiated by failure of MCG failure recovery sharp discussion LTE\_NR\_DC\_CA\_enh-Core R2-1914893 Late

R2-2000677 Remaining details of MCG failure recovery Nokia, Nokia Shanghai Bell discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2000873 SN change during fast MCG recovery procedure Ericsson discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2000874 Value range for T316 Ericsson discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2001266 Further issues on MCG fast recovery ZTE Corporation, Sanechips discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2001454 Discussion on MCG Failure Information Report CATT discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

=> Revised in R2-2002039

R2-2002039 Discussion on MCG Failure Information Report CATT discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2001618 Remaining issue on gurard timer setup LG Electronics Inc. discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core Withdrawn

R2-2001620 Remaining issue on gurard timer setup LG Electronics Inc. discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2001655 Further Correction on fast MCG link recovery Google Inc. discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

* The 10 tdoc above are Noted

### 6.10.6 Cross-Carrier scheduling with different numerologies

RAN2 aspects related to cross-carrier scheduling, to be discussed after RAN1 has made some progress.

Not to be Treated

[R2-2000590](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000590.zip) Clarification on DRX Timers for Cross-carrier Scheduling with Different Numerologies Apple draftCR Rel-16 38.331 15.8.0 LTE\_NR\_DC\_CA\_enh-Core

### 6.10.7 Other

Including any RAN2 aspects related to the objectives 6, 7 and 8 (for which the WID did not identify RAN2 impact)

Including outcome of the email discussion [108#57][DCCA] Async CA (QC)

By Email

[R2-2000109](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000109.zip) [108#57] Async CA (QC) - Report on Email Discussion Qualcomm Incorporated discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

* [AT109e][049][DCCA] Noted
* [AT109e][049][DCCA] Async CA (Qualcomm)

Scope: Treat 108#57 (in case needed for discussion, can treat also additional papers).

CLOSED

[R2-2002230](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002230.zip) Summary report: [AT109e][049][DCCA] - Remaining issues of Async CA Qualcomm discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

* [AT109e][049][DCCA] Noted

Agreements [AT109e][049][DCCA]

* In all MR-DC with async CA involving FR2 carrier(s), NW always explicitly indicate which serving cell as FR2 gap timing via RRC.
* In (NG)EN-DC and NR SA with async CA involving FR2 carrier(s), NW indicates which FR2 serving cell as FR2 gap timing reference via a newly introduced RRC IE *refFR2ServCellAsyncCA.* Same as NR rel-15, SpCell in FR1 can’t be used as FR2 gap timing reference.
* Introduce separate field descriptions on *tdm-PatternConfig-r15* and *tdm-PatternConfig-r16* with clarifications on their different use cases and UE behaviours:  
  *- tdm-PatternConfig-r15:* it is used when power control or IMD issues require single UL transmission in EN-DC with LTE FDD PCell  
  *- tdm-PatternConfig-r16:* it is used when power control or IMD issues require single UL transmission in EN-DC with LTE FDD/TDD PCell, and when DL de-sensing issue from harmonic require dual UL transmission in EN-DC with LTE FDD PCell.
* In NE-DC and NR-DC with async CA involving FR2 carrier(s), NW indicates which FR2 serving cell as FR2 gap timing reference via the new RRC IE *refFR2ServCellAsyncCA* when IE *refServCellIndicator* is set to *mcg-FR2.*
* Revert the RAN2#108 agreements on CG/SPS in Async CA as:  
  - Under async CA, the UE uses SFN of concerned serving cell for the calculation of HARQ Process ID in SPS/CG (no change of rel-15 legacy UE behaviour).     
  - Under async CA, the UE uses SFN of concerned serving cell for the calculation of downlink/uplink assignment occurrences of SPS/CG (no change of rel-15 legacy UE behaviour).
* Capture the clarifications on DRX, CG and SPS in Async CA in TS 38.321.

[R2-2000122](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000122.zip) [108#57] Async CA (QC) - CR to 38.331 on support of async CA Qualcomm Incorporated CR Rel-16 38.331 15.8.0 1466 - F LTE\_NR\_DC\_CA\_enh-Core

* [AT109e][049][DCCA] CR contents is endorsed, merged with main 38331 DCCA CR

[R2-2002231](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002231.zip) CR to 38.331 on FR2 gap timing under Async CA Qualcomm CR Rel-16 38.331 15.8.0 1503 - F LTE\_NR\_DC\_CA\_enh-Core

* [AT109e][049][DCCA] CR contents is endorsed, merged with main 38331 DCCA CR

[R2-2002232](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002232.zip) CR to 36.331 on rel-16 TDM pattern for dual UL and single UL operations in EN-DC Qualcomm CR Rel-16 36.331 15.8.0 4231 - F LTE\_NR\_DC\_CA\_enh-Core

* [AT109e][049][DCCA] Revised in R2-2002325 to take wangruis comment March4 into account

R2-2002325 CR to 36.331 on rel-16 TDM pattern for dual UL and single UL operations in EN-DC Qualcomm CR Rel-16 36.331 15.8.0 4231 1 F LTE\_NR\_DC\_CA\_enh-Core

- Chair: It seems that the revision is an small update to be consistent with recent R1 agreements, and at least one person has checked that it seems correct.

* [AT109e][049][DCCA] The revision is endorsed unseen and merged with main 36331 DCCA CR (can still have the revision checked in the email discussion)

[R2-2002233](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002233.zip) CR to 38.321 on clarifications of Async CA Qualcomm CR Rel-16 38.321 15.8.0 0702 - F LTE\_NR\_DC\_CA\_enh-Core

* [AT109e][049][DCCA] CR contents is endorsed, merged with main 38321 DCCA CR

R2-2000135 UE capability of Rel-16 DCCA enhancement Qualcomm Incorporated discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2000177 FDD and TDD Timing Alignment for Dual Connectivity VODAFONE discussion

R2-2000691 Further discussion on NR CA with unaligned frame boundary MediaTek Inc. discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

R2-2001350 RAN2 impact to support enhancements for dual UL and single UL operations in EN-DC Huawei, HiSilicon discussion Rel-16 NR\_newRAT-Core

R2-2001392 UE capability for eDCCA RAN1 features Huawei, HiSilicon discussion Rel-16 NR\_newRAT-Core

R2-2001400 Discussion on FR2 gap timing in async CA ZTE Corporation, Sanechips discussion LTE\_NR\_DC\_CA\_enh-Core Late

## 6.11 UE Power Saving in NR

(NR\_UE\_pow\_sav-Core; leading WG: RAN1; REL-16; started: Mar 19; target; Mar 20; WID: [RP-191607](file:///C:\Data\3GPP\TSGR\TSGR_84\docs\RP-191607.zip), See also guidence in RP-192326). Documents in this agenda item will be handled in a break out session. NOTE: "SCell dormancy" like behaviour will be discussed in MR-DC WI.

Time budget: 1 TU

Tdoc Limitation: 4 tdocs

### 6.11.1 Organisational

Including incoming LSs, running TS, rapporteur inputs, etc

NOTE: any stage 3 identified issues with MIMO configurations should be provided to 38.331 rapporteur (Mediatek)

Contributions in this AI are reserved for WI rapporteur inputs and/or spec rapporteur inputs and do not count towards the tdoc limits.

38.306 can be submitted for informational purpose by rapporteur (Intel), but it will not be treated this meeting

Including outcome of the email discussion [108#39][Power Saving] Running 38.331 (Mediatek)

Including outcome of the email discussion [108#78][Power Saving] Running 38.321 (Huawei)

Including outcome of the email discussion [108#79][Power Saving] Running 38.304 (Vivo)

Including outcome of the email discussion [108#80][Power Saving] Running 38.300 (CATT)

Including outcome of the email discussion [108#81][Power Saving] Running 37.340 (Oppo)

R2-2000017 LS reply to RAN2 on WUS for short DRX cycle (R1-1913583; contact: CATT) RAN1 LS in Rel-16 NR\_UE\_pow\_sav-Core To:RAN2

R2-2000098 LS reply on CSI/SRS reporting (R1-1913480; contact: Vivo) RAN1 LS in Rel-16 NR\_UE\_pow\_sav-Core To:RAN2 Cc:RAN4

R2-2000364 Running 38.304 CR on UE Power saving in NR vivo (rapporteur) CR Rel-16 38.304 15.6.0 0145 - B FS\_NR\_UE\_pow\_sav

R2-2000365 Report of EmailDisc-79 on open issues for RRM measurement relaxation vivo (rapporteur) discussion Rel-16 FS\_NR\_UE\_pow\_sav

R2-2000366 Draft LS to RAN4 on RRM measurement relaxation in power saving vivo LS out Rel-16 FS\_NR\_UE\_pow\_sav To:RAN4

R2-2000411 Running CR to 37.340 for power saving OPPO CR Rel-16 37.340 16.0.0 0184 - B NR\_UE\_pow\_sav-Core

R2-2000452 UE capabilities for Rel-16 UE power saving WI Intel Corporation discussion Rel-16 NR\_UE\_pow\_sav

R2-2000453 UE capabilities for Rel-16 UE power saving WI Intel Corporation CR Rel-16 38.306 15.8.0 0231 - B NR\_UE\_pow\_sav

R2-2000843 Running CR for 38.331 for Power Savings MediaTek Inc. CR Rel-16 38.331 15.8.0 1469 - B FS\_NR\_UE\_pow\_sav R2-1915548 Late

R2-2000844 Email discussion summary on running 38.331 CR for Power Saving MediaTek Inc. discussion Rel-16 FS\_NR\_UE\_pow\_sav Late

R2-2000888 Introduction of UE Power Saving in NR CATT CR Rel-16 38.300 16.0.0 0193 - B NR\_UE\_pow\_sav-Core

R2-2001615 Running CR for Introduction of Rel-16 NR UE power saving in TS 38.321 Huawei CR Rel-16 38.321 15.8.0 0699 - B NR\_UE\_pow\_sav-Core Late

R2-2001616 Report of email discussion [108#78][Power Saving] 38.321 open issues Huawei report Rel-16 NR\_UE\_pow\_sav-Core Late

R2-2001617 [Draft] LS on MAC-PHY modelling for DCP Huawei LS out Rel-16 NR\_UE\_pow\_sav-Core To:RAN WG1 Late

### 6.11.2 PDCCH-based power saving signals/channel Additional stage-3 RAN2 aspects

NOTE: 3. As per plenary guidance (RP-192289), RAN2 is not expected to discuss any aspects related to whether additional UE behavior is needed when UE is also configured for receiving PDCCH based power saving signal/channel outside active time. No contributions on this topic should be submitted under power savings.

ONLY NEW CRITICAL OPEN Issues that are not identified in email discussions. Contributions should not discuss open issues in the email discussion.

R2-2000253 Contributions summary on further impacts of DCP CATT discussion Rel-16 NR\_UE\_pow\_sav-Core Late

R2-2000254 New issue on CSI reporting with DCP CATT discussion Rel-16 NR\_UE\_pow\_sav-Core

R2-2000349 Open issues DCP Ericsson discussion Rel-16 NR\_newRAT-Core

R2-2000367 PDCCH-WUS not applicable for short DRX cycle vivo discussion Rel-16 FS\_NR\_UE\_pow\_sav

R2-2000368 WUS impact on CSI reporting vivo discussion Rel-16 FS\_NR\_UE\_pow\_sav

R2-2000412 Remaining issues on DCP OPPO discussion Rel-16 NR\_UE\_pow\_sav-Core

R2-2000413 Impacts of power saivng signalling on CSI reporting OPPO discussion Rel-16 NR\_UE\_pow\_sav-Core

R2-2000450 Open issues of DCP feature Intel Corporation discussion Rel-16 NR\_UE\_pow\_sav

R2-2000584 PDCCH-WUS Mechanism Apple discussion Rel-16 NR\_UE\_pow\_sav-Core R2-1915924

R2-2000599 PDCCH-WUS and Short DRX Cycle Apple discussion Rel-16 NR\_UE\_pow\_sav-Core

R2-2000665 Discussion on introduction of search space for the DCP ZTE Corporation, Sanechips discussion Rel-16 NR\_UE\_pow\_sav-Core

R2-2000666 Introduction of search space for the DCP in TS38.331 ZTE Corporation, Sanechips CR Rel-16 38.331 15.8.0 B NR\_UE\_pow\_sav-Core

R2-2000811 Discussion on PDCCH-WUS missing problems during handover Xiaomi Communications discussion

R2-2001037 On DRX ambiguous period Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_UE\_pow\_sav-Core

R2-2001038 On DCP monitoring and CSI/SRS transmission Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_UE\_pow\_sav-Core

R2-2001040 On short DRX cycle applicability for DCP Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_UE\_pow\_sav-Core

R2-2001300 Consideration on Short DRX cycle on DCP LG Electronics Inc. discussion NR\_UE\_pow\_sav-Core

R2-2001463 Remaining issues on WUS signal for Power Saving ZTE Corporation, Sanechips discussion Rel-16 NR\_UE\_pow\_sav-Core

R2-2001482 Wakeup signaling with DRX groups Qualcomm Inc, Samsung discussion Rel-16

### 6.11.3 UE assistance

Stage 3 details of reportings mechanisms for a UE to 1) indicate its preference of transitioning out of RRC\_CONNECTED state 2) c-DRX and 3) SCell

ONLY NEW CRITICAL OPEN Issues that are not identified in email discussions. Contributions should not discuss open issues in the email discussion

R2-2000255 Reporting UE Assistance Info to NR SN CATT discussion Rel-16 NR\_UE\_pow\_sav-Core

R2-2000350 Open issues for UE assistance Ericsson discussion Rel-16 NR\_newRAT-Core

R2-2000351 Open issues for MR-DC scenarios Ericsson discussion Rel-16 NR\_newRAT-Core

R2-2000369 UE assistance information for power saving vivo discussion Rel-16 FS\_NR\_UE\_pow\_sav

R2-2000451 Open issues of new UE assistance information for PWS Intel Corporation discussion Rel-16 NR\_UE\_pow\_sav

R2-2000585 UE Assistance Information for MR-DC Apple discussion Rel-16 NR\_UE\_pow\_sav-Core

R2-2000596 UE Assistance Information for Scell Apple discussion Rel-16 NR\_UE\_pow\_sav-Core R2-1915926

R2-2000649 Remaining open issues on UE assistance information OPPO discussion Rel-16 NR\_UE\_pow\_sav-Core

R2-2000826 Power Saving UE assistance information Sony discussion Rel-16 NR\_UE\_pow\_sav-Core R2-1915232 Withdrawn

R2-2000869 Power Saving UE assistance information Sony Europe B.V. discussion Rel-16 NR\_UE\_pow\_sav-Core

R2-2001301 Remaining issue on UE assistance LG Electronics Inc. discussion NR\_UE\_pow\_sav-Core

R2-2001330 Remaining issues on UE assistance information Huawei, HiSilicon discussion Rel-16 NR\_UE\_pow\_sav-Core

R2-2001483 Remaining issues on UE Assistancec Information Qualcomm Inc discussion Rel-16

R2-2002025 Summary of open issues on UE assistance Qualcomm discussion Rel-16 NR\_UE\_pow\_sav-Core

### 6.11.6 RRM measurement relaxation

Contributions should focus on additional enhancements to LTE relaxed monitoring criteria that are specific to NR and whether neighbour cell RSRP should also be considered in cell-edge criterial.

Discuss type of RRM measurement relaxation by allowing measurements with longer intervals, and/or by reducing the number of cells/carriers to be measured. NOTE: this topic should be considered together with RAN4.

ONLY NEW CRITICAL OPEN Issues that are not identified in email discussions. Contributions should not discuss open issues in the email discussion

R2-2000256 Way forward on measurement relaxation with high priority frequencies CATT discussion Rel-16 NR\_UE\_pow\_sav-Core

R2-2000312 Configurations for RRM Measurement Relaxation in NR MediaTek Inc. discussion

R2-2000352 Open issues RRM measurement relaxation Ericsson discussion Rel-16 NR\_newRAT-Core

R2-2000370 UE Power Consumption Reduction in RRM Measurement vivo discussion Rel-16 FS\_NR\_UE\_pow\_sav R2-1914694

R2-2000595 Open Issues of RRM Measurement Relaxation Apple discussion Rel-16 NR\_UE\_pow\_sav

R2-2000827 UE power saving for inter frequency measurements Sony discussion Rel-16 NR\_UE\_pow\_sav-Core R2-1915233

R2-2000913 Discussion on power saving for inter-frequency measurements CMCC discussion NR\_UE\_pow\_sav-Core R2-1915210

R2-2001039 On RRM measurement relaxation Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_UE\_pow\_sav-Core

R2-2001063 On SrxlevRef adaptation in relaxed monitoring Huawei, HiSilicon discussion Rel-16 NR\_UE\_pow\_sav-Core R2-1915529

R2-2001064 Reducing the number of neighbour cells/carriers to measure Huawei, HiSilicon discussion Rel-16 NR\_UE\_pow\_sav-Core R2-1915530

R2-2001401 Coexistence issues of measurement relaxation and early measurements LG Electronics, Ericsson, MediaTek discussion Rel-16 NR\_UE\_pow\_sav-Core

R2-2001402 Per-frequency measurement relaxation based on neighbour cell quality LG Electronics discussion Rel-16 NR\_UE\_pow\_sav-Core

R2-2001577 RRM measurement relaxation Samsung discussion NR\_UE\_pow\_sav-Core

R2-2001643 On the frequency selection for RRM relaxation Samsung R&D Institute UK discussion

## 6.12 SON/MDT support for NR

(NR\_SON\_MDT-Core; leading WG: RAN3; REL-16; started: Jun 19; target; Mar 20; WID: [RP-191](file:///C:\Data\3GPP\TSGR\TSGR_84\docs\RP-191594.zip)776). Documents in this agenda item will be handled in a break out session

Time budget: 1 TU

Tdoc Limitation: 10 tdocs

### 6.12.1 General

Including LSs, work plan, rapporteur inputs, running TS

Including outcome of the email discussion [108#91][NR/L2M] running 38.314 CR (CMCC)

Including outcome of the email discussion [108#42][NR/MDT] running 38.331 CR to support SON/MDT (Huawei and Ericsson )

Including outcome of the email discussion [108#43][NR/MDT] Running 36.331CR for MDT (Huawei)

Including outcome of the email discussion [108#92][NR/MDT] Running 37.320 CR for MDT (CMCC, Nokia)

Including outcome of the email discussion [108#93][NR/MDT] running 38.321 CR (Ericsson)

Including outcome of the email discussion [108#49][NR MDT] running 38.306 CR (vivo)

R2-2000012 Reply LS on PRACH configuration conflict detection (R1-1913578; contact: CATT) RAN1 LS in Rel-16 NR\_SON\_MDT To:RAN3 Cc:RAN2

R2-2000028 LS on information needed for MRO in UE RLF Report (R3-197668; contact: CATT) RAN3 LS in Rel-16 NR\_SON\_MDT-Core To:RAN2

R2-2000299 Running CR to 38.306 for NR\_SON\_MDT vivo, CMCC draftCR Rel-15 38.306 15.8.0 NR\_SON\_MDT-Core

R2-2000907 Summary of open points in [108#91][NR/L2M] running 38.314 CR (CMCC) CMCC discussion Rel-16 NR\_SON\_MDT-Core

R2-2000908 Running TS 38.314 CMCC draft TS Rel-16 38.314 0.0.4 NR\_SON\_MDT-Core

R2-2000924 Leftovers for TS 37.320 to support NR MDT CMCC discussion Rel-16

R2-2000925 Running TS 37.320 CR CMCC,Nokia draftCR Rel-16 37.320 15.0.0 B NR\_SON\_MDT-Core

R2-2001123 Report of email discussion [108#93] running 38.331 CR to support RACH report Ericsson discussion

R2-2001363 Report of email discussion [108#42] Huawei other Rel-16 NR\_SON\_MDT-Core Late

R2-2001364 CR for introducing MDT and SON Huawei, Ericsson, HiSilicon CR Rel-16 38.331 15.8.0 1488 - B NR\_SON\_MDT-Core Late

R2-2001365 CR on enhancements on LTE MDT and SON Huawei, CMCC, HiSilicon CR Rel-16 36.331 15.8.0 4218 - B NR\_SON\_MDT-Core

[R2-2000927](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000927.zip) Feature list for R16 SON MDT WI CMCC discussion Rel-16 NR\_SON\_MDT-Core

### 6.12.2 MDT

The procedure, signaling and corresponding measurement quantities for MDT

ONLY CRITICAL OPEN Issues that makes MDT cannot work will be discussed. No new feature/function will be discussed this meeting.

Summary on MDT (Huawei)

R2-2000001 Remaining issues of UE Location Information Qualcomm Incorporated discussion Rel-16 NR\_SON\_MDT-Core

R2-2000100 Discussion on logged MDT CATT discussion Rel-16 NR\_SON\_MDT-Core

R2-2000101 Corrections for CEF and RLF Report CATT discussion Rel-16 NR\_SON\_MDT-Core

R2-2000102 Failure Indication about SCG CATT discussion Rel-16 NR\_SON\_MDT-Core

R2-2000300 Remaining issues on MDT vivo discussion

R2-2000807 Remaining issues on MDT ZTE Corporation, Sanechips discussion Rel-16 NR\_SON\_MDT-Core

R2-2001100 Clarification on CEF report ZTE Corporation, Sanechips discussion Rel-16

R2-2001111 [DRAFT] LS on MDT configurations Ericsson LS out Rel-16 NR\_SON\_MDT-Core To:TSG SA5, TSG RAN3

R2-2001114 Measurement configuration options for immediate and logged MDT in NR Ericsson discussion

R2-2001115 Neighbor frequency coverage hole indication in logged MDT Ericsson discussion

R2-2001117 Open issues related to current logged MDT contents in running CR Ericsson discussion

R2-2001143 A2-like measurement results in Logged MDT Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_SON\_MDT

R2-2001144 CGI in MDT reports Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_SON\_MDT

R2-2001145 Location information encoding in NR MDT Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_SON\_MDT

R2-2001146 Principle on Rareport entry logging Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_SON\_MDT

R2-2001366 Enhancements on logged MDT and accessibility measurements Huawei, HiSilicon discussion Rel-16 NR\_SON\_MDT-Core R2-1915855

R2-2001367 Discusison on sensor measurement reporting Huawei, HiSilicon discussion Rel-16 NR\_SON\_MDT-Core

R2-2001436 Clarification on Cell ID Applied to NR MDT Samsung discussion NR\_SON\_MDT-Core

R2-2001438 Introducing Further Information Useful for NR MDT Samsung discussion NR\_SON\_MDT-Core

R2-2001439 On supporting Event-triggered Logged MDT Samsung discussion NR\_SON\_MDT-Core

R2-2001441 RLF Report Enhancement Samsung discussion NR\_SON\_MDT-Core

R2-2001443 Stage-3 Miscellaneous for NR MDT Samsung discussion NR\_SON\_MDT-Core

### 6.12.3 L2 measurements

Definition of L2 measurements in TS 38.314.

No new measureemnts will be introduced to TS38.314 this meeting. Discussion only focus on current running 38.314.

Summary on L2 measurmeents (China Mobile)

R2-2000000 Remaining Issues of UL PDCP Packet Average Queuing Delay Measurement Qualcomm Incorporated discussion Rel-16 38.314 NR\_SON\_MDT-Core

R2-2000103 Correction and Open Issues of UL Delay Measurement CATT discussion Rel-16 NR\_SON\_MDT-Core

R2-2000806 Further consideration on INACTIVE UE counting ZTE Corporation, Sanechips discussion Rel-16 NR\_SON\_MDT-Core

R2-2000909 Summary of L2M open points and proposals CMCC discussion NR\_SON\_MDT-Core Late

R2-2000910 Clarification for per cell PRB usage CMCC, Ericsson, Huawei discussion NR\_SON\_MDT-Core Revised

R2-2001110 [DRAFT] LS on throughput measurement in DC based PDCP duplication scenario Ericsson LS out Rel-16 NR\_SON\_MDT-Core To:TSG RAN3, SA5

R2-2001112 Definition of number of active UEs Ericsson, CMCC discussion

R2-2001113 Handling PDCP queueing delay measurements in split bearer scenario Ericsson discussion

R2-2001119 Throughput measurement in duplication scenario Ericsson discussion

R2-2001147 Per DRB measurements in TS38.314 Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_SON\_MDT Late

R2-2001368 Discussion on per DRB and excess delay measurement for L2M Huawei, HiSilicon discussion Rel-16 NR\_SON\_MDT-Core

R2-2001369 TP on per DRB measurements for L2M Huawei, HiSilicon pCR Rel-16 38.314 0.0.3 NR\_SON\_MDT-Core

R2-2001370 Discussion on min and max value for delay measurements for L2M Huawei, HiSilicon discussion Rel-16 NR\_SON\_MDT-Core

R2-2001371 Discussion on UL delay measurements in non MR-DC Huawei, HiSilicon discussion Rel-16 NR\_SON\_MDT-Core

R2-2001372 Discussion on DL delay measurements Huawei, HiSilicon discussion Rel-16 NR\_SON\_MDT-Core

R2-2001373 Discussion on delay measurements for MR-DC and CA Huawei, HiSilicon discussion Rel-16 NR\_SON\_MDT-Core R2-1915856

R2-2001419 Clarification on PRB usage ZTE Corporation, Sanechips discussion Rel-16 R2-1915418 Withdrawn

R2-2001440 On Mapping 5QI to DRB Mediatek Inc discussion

R2-2001603 Clarification for per cell PRB usage CMCC, Ericsson, Huawei, ZTE discussion NR\_SON\_MDT-Core R2-2000910

### 6.12.4 SON

UE reporting necessary to enhance the network configuration for MRO, MLB and RACH optimization

ONLY CRITICAL OPEN Issues that makes SON cannot work will be discussed. No new feature/function will be discussed this meeting.

Summary on SON (Ericsson)

R2-2000002 Cross-system RLF report Qualcomm Incorporated discussion Rel-16 NR\_SON\_MDT-Core R2-1915049

R2-2000104 Analysis about MRO Issues Request by RAN3 CATT discussion Rel-16 NR\_SON\_MDT-Core

R2-2000105 Corrections for RACH Records Structure CATT discussion Rel-16 NR\_SON\_MDT-Core

R2-2000106 Corrections for the Content of RACH Records CATT discussion Rel-16 NR\_SON\_MDT-Core

R2-2000107 Draft Reply LS on Information Needed for MRO in UE RLF Report CATT LS out Rel-16 NR\_SON\_MDT-Core To:RAN3

R2-2000801 Remaining issues on RLF report ZTE Corporation, Sanechips discussion Rel-16 NR\_SON\_MDT-Core

R2-2000802 CR to 38300 on Introducing RLF report in NR ZTE Corporation, Sanechips CR Rel-16 38.300 16.0.0 0192 - B NR\_SON\_MDT-Core

R2-2000803 Draft Reply LS to RAN3 on RLF report ZTE Corporation, Sanechips LS out Rel-16 NR\_SON\_MDT-Core To:RAN3

R2-2000804 Remaining issues on RACH report procedure ZTE Corporation, Sanechips discussion Rel-16 NR\_SON\_MDT-Core

R2-2000805 Further considerations on RACH optimization ZTE Corporation, Sanechips discussion Rel-16 NR\_SON\_MDT-Core

R2-2001116 Open issues associated to RA report Ericsson discussion

R2-2001118 SCGFailureInformation message content alignment with RLFReport Ericsson discussion

R2-2001148 TP to 38.300 on SON support Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_SON\_MDT

R2-2001374 Discussion on remaining aspects on SON Huawei, HiSilicon discussion Rel-16 NR\_SON\_MDT-Core

R2-2001444 Inter-RAT RLF reporting for MRO Samsung discussion NR\_SON\_MDT-Core

R2-2001446 Remaining Aspects on UE History Information Mediatek Inc discussion

R2-2001479 Discussion on UE capability for location reporting in SCG failure NTT DOCOMO INC. discussion Rel-16 NR\_SON\_MDT-Core

### 6.12.5 Others

R2-2001166 Review of UE information in NR, alignment and harmonisation Samsung Telecommunications discussion Rel-16 TEI16 Late

R2-2001375 Discussion on UE history information in RRC reestablishment Huawei, HiSilicon discussion Rel-16 NR\_SON\_MDT-Core

## 6.13 2-step RACH for NR

(NR\_2step\_RACH-Core; leading WG: RAN1; REL-16; started: Dec 18; target; Mar 20; WID: [RP-192330](file:///C:\Data\3GPP\Extracts\RP-190711%20Revised%20work%20item%20proposal%202%20step%20RACH%20for%20NR.docx)). Documents in this agenda item will be handled in a break out session

Time budget: 1 TU

Tdoc Limitation: 6 tdocs

### 6.13.1 General

Running CRs, Incoming LSs, Contributions in this AI are restricted for WI rapporteur inputs and/or spec rapporteur inputs and do not count towards the tdoc limits.

Including outcome of the email discussion [108#40][2-step RA] Running 38.331 (Ericsson)

Including outcome of the email discussion [108#82][2-step RA] Running 38.321 (ZTE)

Including outcome of the email discussion [108#83][2-step RA] Running 38.300 (Nokia)

R2-2000942 Stage-2 running CR for 2-step RACH Nokia (rapporteur), Nokia Shanghai Bell CR Rel-16 38.300 16.0.0 0197 - B NR\_2step\_RACH-Core

R2-2000992 Summary of running MAC CR review issue list - phase 1 ZTE Corporation (email discussion rapporteur) report Rel-16

R2-2000993 Summary of running MAC CR review issue list - phase 2 ZTE Corporation (email discussion rapporteur) report Rel-16

R2-2000994 Summary of open issues in MAC running CR ZTE Corporation (email discussion rapporteur) discussion Rel-16

R2-2000995 Summary of open issues in MAC running CR - Updated ZTE Corporation (email discussion rapporteur) discussion Rel-16 Late

R2-2000996 Draft-Running MAC CR for 2-step RACH ZTE Corporation (email discussion rapporteur) draftCR Rel-16 38.321 15.8.0 B NR\_2step\_RACH-Core, NR\_unlic-Core, TEI16

R2-2000997 Running MAC CR for 2-step RACH ZTE Corporation (email discussion rapporteur) CR Rel-16 38.321 15.8.0 0692 - B NR\_2step\_RACH-Core, NR\_unlic-Core, TEI16

R2-2001217 Draft CR 2-step RA 38.331 Running CR Ericsson (Email disc rapporteur) draftCR Rel-16 38.331 15.8.0 B NR\_2step\_RACH-Core

R2-2001218 Open issues for RRC Ericsson (Email disc rapporteur) discussion Rel-16 NR\_2step\_RACH-Core

R2-2001219 Phase 2 and phase 1 issue list Ericsson (Email disc rapporteur) discussion Rel-16 NR\_2step\_RACH-Core

### 6.13.2 Other user plane stage-3 aspects

RA-RNTI design and open aspects of contention resolution.

R2-2000141 Simultaneous BWP Switching and Contention Resolution in 2-step RACH vivo discussion

R2-2000142 Resource Selection for 2-step RACH Considering Measurment Gap vivo discussion R2-1914377

R2-2000143 Handling of the Collision Between MsgA Grant and Another UL Grant vivo discussion

R2-2000144 Discuession on the MsgB Response Window for 2-step CFRA vivo discussion

R2-2000220 Handling PDCCH Order Initiated CFRA Samsung Electronics Co., Ltd discussion Rel-16 NR\_2step\_RACH-Core

R2-2000221 NDI Toggling Aspects Samsung Electronics Co., Ltd discussion Rel-16 NR\_2step\_RACH-Core

R2-2000222 Preamble Group Selection upon switching from 2 step CFRA to 2 step CBRA Samsung Electronics Co., Ltd discussion Rel-16 NR\_2step\_RACH-Core

R2-2000223 Preamble Group Selection upon switching from 2 step to 4 step RA Samsung Electronics Co., Ltd discussion Rel-16 NR\_2step\_RACH-Core

R2-2000225 Handling Preambles not associated with PRUs Samsung Electronics Co., Ltd discussion Rel-16 NR\_2step\_RACH-Core

R2-2000388 Preamble group selection and 2-step failure reporting Ericsson discussion Rel-16 NR\_2step\_RACH-Core

R2-2000389 Combined Back-off and 4-step switch Ericsson discussion Rel-16 NR\_2step\_RACH-Core

R2-2000391 Use of 2-step resources on different BWPs Ericsson discussion Rel-16 NR\_2step\_RACH-Core

R2-2000408 Issues on preamble group selection for 2-step RACH OPPO discussion Rel-16 NR\_2step\_RACH-Core

R2-2000409 Measurement gap impacts on MSGA transmission OPPO discussion Rel-16 NR\_2step\_RACH-Core

R2-2000777 Discussion on preamble group selection for 2step RACH initiated by HO Fujitsu discussion Rel-16 NR\_2step\_RACH

R2-2000812 Views on Remaining MAC Issues for 2-Step RACH CATT discussion NR\_2step\_RACH-Core

R2-2000831 Differentiating between MsgB carrying RRC and other messages Sony discussion Rel-16 NR\_2step\_RACH-Core R2-1915240

R2-2000833 msgB-RNTI ambiguity for CFRA and CBRA of 2-Step RACH Sony discussion Rel-16 NR\_2step\_RACH-Core

R2-2000852 2-step CBRA preamble group selection Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_2step\_RACH-Core

R2-2000853 Need for ra-MsgASizeGroupA parameter Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_2step\_RACH-Core

R2-2000951 Remaining issues on the msgA transmission Huawei, HiSilicon discussion Rel-16 NR\_2step\_RACH-Core

R2-2000952 Remaining issues on MsgB reception Huawei, HiSilicon discussion Rel-16 NR\_2step\_RACH-Core

R2-2000953 Draft LS to RAN1 on LSBs of SFN Huawei, HiSilicon discussion Rel-16 NR\_2step\_RACH-Core

R2-2000954 Open issues on MAC spec for 2-stepRACH Huawei, HiSilicon discussion Rel-16 NR\_2step\_RACH-Core

R2-2000955 MAC handling of MsgA with invalid PUSCH Huawei, HiSilicon discussion Rel-16 NR\_2step\_RACH-Core

R2-2001017 Remaining issues on 2-step CBRA Qualcomm Incorporated discussion Rel-16 NR\_2step\_RACH-Core

R2-2001125 Preamble grouping for 2-step RA NEC Telecom MODUS Ltd. discussion

R2-2001510 Further discussion on preamble group selection LG Electronics discussion NR\_2step\_RACH-Core

R2-2001512 Draft 38.321 CR on preamble group selection for 2-step RA type LG Electronics draftCR Rel-16 38.321 15.8.0 C NR\_2step\_RACH-Core

R2-2001529 Remaining issue on user plane aspects LG Electronics discussion NR\_2step\_RACH-Core

### 6.13.3 RRC stage-3 related aspects

R2-2000224 PUSCH Resource Configuration for CFRA Samsung Electronics Co., Ltd discussion Rel-16 NR\_2step\_RACH-Core

R2-2000410 Remaining issues on configuration of 2-step CFRA OPPO discussion Rel-16 NR\_2step\_RACH-Core

R2-2000586 Open Issues on 2-step RACH Apple discussion Rel-16 NR\_2step\_RACH-Core

R2-2000650 Views on Remaining RRC Issues for 2-Step RACH CATT discussion NR\_2step\_RACH-Core

R2-2000778 Discussion on RO and PO configuration for CFRA Fujitsu discussion Rel-16 NR\_2step\_RACH

R2-2000998 Resource configuration for 2-step CFRA ZTE Corporation, Sanechips discussion Rel-16

### 6.13.4 Other

CFRA for 2-step RACH for HO if time permits as per plenary guidance.

ZTE will summarize the proposals and open issues and provide possible way forward for online discussions. Companies are encouraged to work together towards a converged solution.

R2-2000390 BSR over 2-step RA Ericsson discussion Rel-16 NR\_2step\_RACH-Core

R2-2000392 Beam specific 2-step RA support Ericsson discussion Rel-16 NR\_2step\_RACH-Core

R2-2000393 MsgA transmission for NR-U Ericsson discussion Rel-16 NR\_2step\_RACH-Core

R2-2000916 Discussion on the release of the PUSCH resources CMCC discussion Rel-16

R2-2000917 Remaining issues on 2-step CFRA CMCC discussion Rel-16

R2-2000926 Open issues for 2-step CFRA CMCC discussion Rel-16 Revised

R2-2000943 MSGB for CFRA Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_2step\_RACH-Core

R2-2000956 Prioritized 2-step RACH Huawei, HiSilicon discussion Rel-16 NR\_2step\_RACH-Core

R2-2001032 Remaining issues on 2-step CFRA Qualcomm Incorporated discussion Rel-16 NR\_2step\_RACH-Core

R2-2001095 RAN2 aspect of UE capability for 2-step RACH Intel Corporation discussion Rel-16 NR\_2step\_RACH-Core

R2-2001102 Discussion on MsgB PDCCH Potevio Company Limited discussion Rel-16 NR\_2step\_RACH-Core

R2-2001471 Further discussion on 2-Step CFRA CMCC discussion Rel-16 R2-2000926

R2-2001514 Releasing CFRA resources for 2-step RA type LG Electronics discussion NR\_2step\_RACH-Core

R2-2001515 Draft 38.321 CR on release of CFRA resource for 2-step RA type LG Electronics draftCR Rel-16 38.321 15.8.0 B NR\_2step\_RACH-Core

R2-2001518 Draft 38.331 CR on release of CFRA resource for 2-step RA type LG Electronics draftCR Rel-16 38.331 15.8.0 NR\_2step\_RACH-Core

## 6.14 Single Radio Voice Call Continuity from 5G to 3G

(SRVCC\_NR\_to\_UMTS-Core; leading WG: RAN2; REL-16; started: Dec 18; target; Mar 20; WID: [RP-190713](file:///C:\Data\3GPP\archive\RAN\RAN%2383\Tdocs\RP-190713.zip)). Documents in this agenda item will be handled in a break out session

Time budget: 0.5 TU

Tdoc Limitation: 1 tdoc

Only running CRs are expected to be submitted for this Work Item. For important unexpected issues it's still possible to contribute to sub agenda item 6.14.2. This Work Item will likely only be handled via offline email discussions, kicked off at the e-meeting start.

R2-2000152 Running CR for the introduction of SRVCC from 5G to 3G China Unicom CR Rel-16 38.306 15.8.0 0222 - B SRVCC\_NR\_to\_UMTS-Core Withdrawn

R2-2000174 Running CR for the introduction of SRVCC from 5G to 3G China Unicom CR Rel-16 38.306 15.8.0 0225 - B SRVCC\_NR\_to\_UMTS-Core Withdrawn

### 6.14.1 Organisational

Including incoming LSs, running CRs, rapporteur inputs, etc

R2-2000325 Introduction of SRVCC from 5G to 3G Ericsson, ZTE CR Rel-16 37.340 16.0.0 0165 2 B SRVCC\_NR\_to\_UMTS-Core R2-1916335

R2-2000326 Running CR for introduction of SRVCC from 5G to 3G Ericsson draftCR Rel-15 38.300 15.8.0 B SRVCC\_NR\_to\_UMTS-Core R2-1914646 Withdrawn

R2-2000335 Introduction of SRVCC from 5G to 3G Ericsson CR Rel-16 38.300 16.0.0 0186 - B SRVCC\_NR\_to\_UMTS-Core

R2-2000542 Introduction of SRVCC from 5G to 3G Huawei, HiSilicon, China Unicom CR Rel-16 38.331 15.8.0 1446 - B SRVCC\_NR\_to\_UMTS-Core

R2-2000651 Introduction of SRVCC from 5G to 3G China Unicom, Huawei, HiSilicon CR Rel-16 38.306 15.8.0 0235 - B SRVCC\_NR\_to\_UMTS-Core

### 6.14.2 Other

## 6.15 Cross Link Interference (CLI) handling and Remote Interference Management (RIM) for NR

(NR\_CLI\_RIM; leading WG: RAN1; REL-16; started: Dec 18; target; Dec 19; WID: [RP-191997](file:///C:\Data\3GPP\archive\RAN\RAN%2385\Tdocs\RP-191997.zip)) Documents in this agenda item will be handled in a break out session.

Time budget: 0 TU

Tdoc Limitation: 1 tdoc

Apart from running CRs, it's possible to contribute to sub agenda item 6.15.2 for the remaining open issues. This Work Item will likely only be handled via offline email discussions kicked off at the e-meeting start.

### 6.15.1 Organisational

Including incoming LSs, running CRs, rapporteur inputs, etc

R2-2000441 Introduction of Cross Link Interference (CLI) handling and Remote Interference Management (RIM) Qualcomm Incorporated CR Rel-16 38.306 15.8.0 0230 - B NR\_CLI\_RIM-Core R2-1915716

R2-2001411 Introduction of cross link interference management Huawei, HiSilicon CR Rel-16 38.300 16.0.0 0201 - B NR\_CLI\_RIM

R2-2001412 Introduction of cross link interference management Huawei, HiSilicon, ZTE Corporation (Rapporteur) CR Rel-16 37.340 16.0.0 0182 - B NR\_CLI\_RIM

R2-2001542 Introduction of CLI handling and RIM in TS38.331 LG Electronics Inc. CR Rel-16 38.331 15.8.0 1494 - B NR\_CLI\_RIM

### 6.15.2 Other

R2-2000555 Remaining Issues of UE-CLI Reporting Nokia, Nokia Shanghai Bell discussion Rel-16

R2-2000556 UE-CLI Measurements for EN-DC Nokia, Nokia Shanghai Bell discussion Rel-16

R2-2000557 Draft LS to RAN3 on UE-CLI measurements for EN-DC Nokia, Nokia Shanghai Bell discussion Rel-16

R2-2001621 Remaining last issues on CLI Ericsson discussion Rel-16 NR\_CLI\_RIM

## 6.16 Enhancements on MIMO for NR

(NR\_eMIMO-Core; leading WG: RAN1; REL-16; started: Jun 18; target; Mar 20; WID: [RP-192271](file:///C:\Data\3GPP\archive\RAN\RAN%2385\Tdocs\RP-192271.zip)). Documents in this agenda item will be handled in a break out session.

Time budget: 1 TU

Tdoc Limitation: 3 tdocs

It's possible to contribute to all sub agenda items, to address the remaining open issues. Summary documents may then be utilized to summarize documents submitted to a given sub-AI and to make tentative proposals. For this Work Item, the discussion (on summary/company tdocs) will start during a web conference and will then continue via offline email discussions.

### 6.16.1 Organisational

Including incoming LSs , rapporteur inputs, running stage 2 CRs , etc

R2-2000095 LS on explicit higher layer signalling on PUCCH resource grouping for simultaneous spatial relation updates (R1-1913423; contact: LGE) RAN1 LS in Rel-16 NR\_eMIMO-Core To:RAN2

R2-2000096 Reply LS on multi PDCCH-based and single PDCCH-based multi-TRP operation (R1-1913463; contact: Huawei) RAN1 LS in Rel-16 NR\_eMIMO-Core To:RAN2

### 6.16.2 RRC aspects

Including output of email discussion [108#36][NR eMIMO] Running RRC CR (Ericsson).

If needed, a summary document may also be utilized to treat this agenda item.

R2-2000860 Multiple rate matching patterns with M-TRP Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_eMIMO-Core

R2-2001036 Discussion the MIMO RRC parameter CRS pattern list Qualcomm Incorporated discussion Rel-16 NR\_eMIMO-Core

R2-2001104 Proposals for [108#36][NR eMIMO] Running RRC CR (Ericsson) Ericsson Limited discussion Rel-16 NR\_eMIMO-Core

R2-2001109 Running RRC CR for Introduction of NR eMIMO Ericsson draftCR Rel-16 38.331 15.8.0 B NR\_eMIMO-Core R2-1916343

R2-2001345 Remaining RRC signalling aspects of NR eMIMO Intel Corporation discussion Rel-16 NR\_eMIMO-Core

### 6.16.3 DL MAC CE design

DL MAC CE design for TCI states activation/deactivation (for both single-PDCCH and Multi-PDCCH mTRP operation) and for all other functionalities defined by RAN1.

Including output of email discussion [108#68][NR eMIMO] Design of DL MAC CEs (Oppo).

If needed, a summary document may also be utilized to treat this agenda item.

R2-2000385 MAC CEs regarding multiple CCs/BWPs vivo discussion Rel-16 NR\_eMIMO-Core

R2-2000659 CC list-based SRS Activation MAC CE OPPO discussion Rel-16 NR\_eMIMO-Core

R2-2000660 Report of [108#68][NR eMIMO] Design of DL MAC CEs OPPO report Rel-16 NR\_eMIMO-Core

R2-2000766 Enhancement of multiple PDCCH-based TRP transmission Samsung discussion Rel-16 NR\_eMIMO-Core

R2-2000890 Views on eMIMO MAC CEs CATT discussion Rel-16 NR\_eMIMO-Core

R2-2001034 Design of MIMO DL MAC CE Qualcomm Incorporated discussion Rel-16 NR\_eMIMO-Core

R2-2001126 Remaining update for PDSCH TCI state MAC CE Ericsson discussion Rel-16 NR\_eMIMO-Core

R2-2001128 New MAC CE for indicating spatial resource for PUCCH resources Ericsson draftCR Rel-16 38.321 15.8.0 NR\_eMIMO-Core

R2-2001196 MAC CE signalling for multi-beam enhancement Huawei, HiSilicon discussion Rel-16 NR\_eMIMO-Core

R2-2001465 Considerations on TCI state MAC CE for mPDCCH mTRP transmission ZTE Corporation, Sanechips discussion Rel-16 NR\_eMIMO-Core

R2-2001551 Summary of DL MAC CE design for aganda 6.16.3 OPPO discussion Rel-16 NR\_eMIMO-Core Late

### 6.16.4 General beam management enhancements

Including details of BFR procedure for Scell. Other aspects, if any, can also be covered here

Including output of email discussion [108#69][NR eMIMO] Running MAC CR (Samsung)

Including output of email discussion [108#70][NR eMIMO] BFR MAC CE (Samsung)

If needed, a summary document may also be utilized to treat this agenda item.

R2-2000226 Remaining issues of SCell BFR Samsung Electronics Co., Ltd discussion Rel-16 NR\_eMIMO-Core

R2-2000227 Summary of Email discussion 108#70 - BFR MAC CE Samsung Electronics Co., Ltd discussion Rel-16 NR\_eMIMO-Core

R2-2000386 SR cancellation due to the truncated BFR MAC CE vivo discussion Rel-16 NR\_eMIMO-Core

R2-2000587 SCell BFR Operation Apple, Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_eMIMO-Core R2-1915934

R2-2000658 Open issues on SCell BFR OPPO discussion Rel-16 NR\_eMIMO-Core

R2-2000767 MAC running CR for NR eMIMO Samsung CR Rel-16 38.321 15.8.0 0691 - B NR\_eMIMO-Core

R2-2000891 Views on Remaining Issues of SCell BFR CATT discussion Rel-16 NR\_eMIMO-Core

R2-2001304 Consideration on Truncated format on SCell BFR MAC CE LG Electronics Inc. discussion NR\_eMIMO-Core

R2-2001421 Remaining issues on SCell BFR procedure Asia Pacific Telecom co. Ltd discussion

R2-2001464 The remaining issue on BFR on SpCell and SCell ZTE Corporation, Sanechips, Asia Pacific Telecom co. Ltd discussion Rel-16 NR\_eMIMO-Core Withdrawn

R2-2001484 Remaining issues on SCell BFR Qualcomm Inc discussion Rel-16

R2-2001509 The remaining issue on BFR on SpCell and SCell ZTE Corporation, Sanechips, Asia Pacific Telecom co. Ltd discussion Rel-16 NR\_eMIMO-Core

R2-2001599 Remaining issues of SCell BFR ASUSTeK discussion Rel-16 NR\_eMIMO-Core R2-1916037

R2-2001600 SCell BFR regarding Scell deactivation ASUSTeK discussion Rel-16 NR\_eMIMO-Core

R2-2001652 BFR MAC CE for SpCell Ericsson, Nokia, Nokia Shanghai Bell, Apple discussion Rel-16 NR\_eMIMO-Core

## 6.18 Private Network Support for NG-RAN

(NG\_RAN\_PRN-Core; leading WG: RAN3; REL-16; started: Mar 19; target; Mar 20; WID: [RP-191563](file:///C:\Data\3GPP\archive\RAN\RAN%2384\Tdocs\RP-191563.zip)). Documents in this agenda item will be handled in a break out session.

Time budget: 0.5 TU

Tdoc Limitation: 3 tdocs

It's possible to contribute to all sub agenda items, to address the remaining open issues. Summary documents may then be utilized to summarize documents submitted to a given sub-AI and to make tentative proposals. For this Work Item, the discussion (on summary/company tdocs) will start during a web conference and will then continue via offline email discussions.

R2-2001331 Open issues in NPN Qualcomm Incorporated discussion

### 6.18.1 Organisational

Including incoming LSs , rapporteur inputs, running stage 2 CRs , etc

R2-2000025 Reply LS on Sending CAG ID in NAS layer (R3-197591; contact: Ericsson) RAN3 LS in Rel-16 NG\_RAN\_PRN To:SA3, SA2, RAN2 Cc:CT1

R2-2000051 Reply LS on NPN clarifications (S1-193605; contact: Qualcomm) SA1 LS in Rel-16 Vertical\_LAN, NG\_RAN\_PRN To:SA2, RAN3 Cc:RAN2, SA3

R2-2000568 NPN Work Plan Nokia (Rapporteur) discussion Rel-16 NG\_RAN\_PRN-Core R2-1914598

R2-2000569 Non-Public Networks Nokia, China Telecom (Rapporteurs) CR Rel-16 38.300 16.0.0 0195 - B NG\_RAN\_PRN-Core R2-1914599

R2-2000570 Emergency Calls in CAG-Only Cells Nokia (Rapporteur), China Telecom, Ericsson, Intel, Nokia Shanghai Bell, Vodafone, ZTE discussion Rel-16 NG\_RAN\_PRN-Core

### 6.18.2 Cell selection and reselection

Including output of email discussion [108#37][PRN] Running RRC CR (Nokia).

Including output of email discussion [108#71][PRN] Running 38.304 CR (Qualcomm).

If needed, a summary document may also be utilized to treat this agenda item.

R2-2000003 Access Control about NPN CATT discussion Rel-16 NG\_RAN\_PRN-Core

R2-2000004 Idle and Inactive Open Issues for NPN CATT discussion Rel-16 NG\_RAN\_PRN-Core

R2-2000132 Support of emergency calls in NPN-only cells Ericsson discussion Rel-16 NG\_RAN\_PRN-Core

R2-2000357 Remaining issues on the cell reselection ZTE Corporation, Sanechips discussion Rel-16 NG\_RAN\_PRN-Core

R2-2000399 Support for Non-Public Networks Nokia (Rapporteur) draftCR Rel-16 38.331 15.8.0 NG\_RAN\_PRN-Core R2-1915388 Withdrawn

R2-2000400 Proposals on Editor’s Notes of running RRC CR Nokia, Nokia Shanghai Bell discussion Rel-16 NG\_RAN\_PRN-Core

R2-2000402 Handling of selected CAG ID in Idle/Inactive mode Nokia, Nokia Shanghai Bell discussion Rel-16 NG\_RAN\_PRN-Core

R2-2000829 Blacklist/whitelist for PCI range signaling and stage-3 details Sony discussion Rel-16 NG\_RAN\_PRN-Core

R2-2001035 Introducing the support of Non-Public Networks Nokia Hungary CR Rel-16 38.331 15.8.0 1468 - B NG\_RAN\_PRN-Core

R2-2001170 Remaining mobility issues for idle mode and connected mode Intel Corporation discussion Rel-16 NG\_RAN\_PRN-Core

R2-2001174 Open issues in the specification of NPN in TS 38.304 Lenovo, Motorola Mobility discussion Rel-16 NG\_RAN\_PRN-Core

R2-2001310 PRN Running CR for TS 38.304 Qualcomm Incorporated CR Rel-16 38.304 15.6.0 0148 - B NG\_RAN\_PRN

R2-2001311 Report for email discussion [108#71][PRN] Running 38.304 CR (Qualcomm) Qualcomm Incorporated discussion

R2-2001376 General considerations on idle and inactive mode for NPN Huawei, HiSilicon discussion Rel-16 NG\_RAN\_PRN

R2-2001423 Signalling Design on the PCI Range CMCC discussion Rel-16 NG\_RAN\_PRN-Core

R2-2001424 TP on NPN Running RRC for PCI list of PRN Cells CMCC discussion Rel-16 NG\_RAN\_PRN-Core

R2-2001526 Resolving miscellaneous issues LG Electronics France discussion NG\_RAN\_PRN-Core

R2-2001527 High Quality Criterion for SNPN LG Electronics France discussion NG\_RAN\_PRN-Core

R2-2001528 Manual CAG selection LG Electronics France discussion NG\_RAN\_PRN-Core

### 6.18.3 Connected mode aspects

Connected mode specific aspects, also including CAG ID transmission related issues (e.g. inclusion of CAG ID during Resume, etc).

If needed, a summary document may also be utilized to treat this agenda item.

R2-2000005 Connected Mode Open Issues for NPN CATT discussion Rel-16 NG\_RAN\_PRN-Core

R2-2000358 Consideration on the remaining Connected State Issues ZTE Corporation, Sanechips discussion Rel-16 NG\_RAN\_PRN-Core

R2-2000401 Proposals on open RRC issues Nokia, Nokia Shanghai Bell discussion Rel-16 NG\_RAN\_PRN-Core

R2-2001071 Discussion on the proximity indication in connected mode vivo discussion R2-1916098

R2-2001377 General considerations on connected mode for NPN Huawei, HiSilicon, China Telecom discussion Rel-16 NG\_RAN\_PRN

R2-2001430 Access and mobility control for NPN CMCC discussion Rel-16 NG\_RAN\_PRN-Core

R2-2001572 Transfer of NPN ID in RRC connection establishment Samsung Electronics Co., Ltd discussion Rel-16 NG\_RAN\_PRN-Core

R2-2001573 Discussion on ANR for NPN Samsung Electronics Co., Ltd discussion Rel-16 NG\_RAN\_PRN-Core

R2-2001586 Remaining issues discussion on NPN China Telecom discussion Rel-16 NG\_RAN\_PRN-Core

### 6.18.4 Other

Including HRNN (Human Readable Name) aspects and common idle and connected mode aspects (e.g. access control, etc.)

If needed, a summary document may also be utilized to treat this agenda item.

R2-2000130 Remaining RRC aspects of NPN Ericsson discussion Rel-16 NG\_RAN\_PRN-Core

R2-2000131 Remaining RRC aspects of NPN Ericsson draftCR Rel-16 38.331 15.8.0 B NG\_RAN\_PRN-Core

R2-2000668 Consideration on the HRNN and Access control ZTE Corporation, Sanechips, Qualcomm Inc discussion Rel-16 NG\_RAN\_PRN-Core

R2-2001072 Consideration on fixed MCC for SNPN vivo discussion R2-1916097

R2-2001155 UE-initiated change of NPN UE configuration Lenovo, Motorola Mobility discussion NG\_RAN\_PRN-Core

R2-2001169 Network indexing for UAC and Connection Control Intel Corporation discussion Rel-16 NG\_RAN\_PRN-Core

R2-2001378 Considerations on SI Validity Checking Huawei, HiSilicon discussion Rel-16 NG\_RAN\_PRN

R2-2001585 Discussion on human-readable network name China Telecom, Huawei, HiSilicon discussion Rel-16 NG\_RAN\_PRN-Core

R2-2001587 Discussion on the deployment for CAG China Telecom, Huawei, HiSilicon discussion Rel-16 NG\_RAN\_PRN-Core

## 6.19 Other NR Rel-16 WIs/SIs

This agenda item is to be used for LSs and documents relating to Rel-16 NR but for which there is no existing RAN WI/SI (e.g. LSs from CT/SA requesting RAN2 action) or for which there is no allocated RAN2 time (e.g. some RAN4 led WIs with no RAN2 time but might require introduction of UE capability signalling).

Time budget: 0.5 TU

R2-2002214 LS on suspend indication to the NAS (C1-201040; contact: Samsung) CT1 LS in Rel-16 5G\_CIoT To:RAN2

By Web Conf – Proposed Noted

NTN – Cc RAN2

[R2-2000099](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000099.zip) LS to RAN3 for TPs endorsed in RAN1 (R1-1913506; contact: Thales) RAN1 LS in Rel-16 FS\_NR\_NTN\_solutions To:RAN3 Cc:RAN2

* Noted

[R2-2000029](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000029.zip) Reply LS on LS on dependencies on AS design for mobility management aspects of NTN in 5GS / LS on system level design assumptions for satellite in 5GS (R3-197699; contact: Qualcomm) RAN3 LS in Rel-16 FS\_NR\_NTN\_solutions, FS\_5GSAT\_ARCH To:SA2 Cc:RAN2, CT1

* Noted

Other – Cc RAN2

R2-2000030 Reply LS on energy efficiency (R3-197745; contact: Orange) RAN3 LS in Rel-16 FS\_LTE\_NR\_data\_collect To:SA5 Cc:RAN2, SA

* Noted

R2-2000047 LS on Local NR positioning in NG-RAN (RP-193262; contact: Nokia) RAN LS in Rel-16 FS\_NR\_local\_pos To:SA2 Cc:SA, RAN2, RAN3

* Noted

R2-2000080 LS on analysis of GSMA GST attributes (S5-197853; contact: China Mobile) SA5 LS in Rel-16 MA5SLA To:SA2, RAN3, I£TF Cc:SA, SA1, SA6, RAN2, GSMA 5GJA, ETSI ISG ZSM

* Noted

QoE

[R2-2000090](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000090.zip) Reply on QoE Measurement Collection (S4-200241; contact: Ericsson) SA4 LS in To:SA5, CT1, RAN2 Cc:RAN3

* Noted

R2-2000076 LS on Reply on QoE Measurement Collection (S5-197543; contact: Ericsson) SA5 LS in Rel-16 QOED To:SA4 Cc:CT1, RAN2, RAN3

* Noted

RRM Policy

[R2-2000077](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000077.zip) Reply on radio resource management policy (S5-197637; contact: Ericsson) SA5 LS in Rel-16 eNRM To:RAN3, RAN2

* Noted

General:

DISCUSSION on LSes.

- DT think there should be another LS on UP integrity protection.

- MCC: Have not received yet.

- Chair: This seems potentially important so if we can’t treat today we can treat by email

- Huawei are ok to note the QoE LSes, but think there may be papers later. Chair confirms that that is ok. Nokia think we might need a WI to do some work. Ericsson think that we have discussed and conclude to do nothing.

By Web Conf

UL TX Switching – NR-FR1

[R2-2000043](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000043.zip) LS on UE capabilities and RRC signalling on Tx switching period delay (R4-1916083; contact: Apple) RAN4 LS in Rel-16 NR\_RF\_FR1 To:RAN2 Cc:RAN1

* Noted

[R2-2000019](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000019.zip) Reply LS on Tx switching between two uplink carriers (R1-1913585; contact: China Telecom) RAN1 LS in Rel-16 NR\_RF\_FR1 To:RAN4 Cc:RAN2

* Noted

R2-2002124 LS on FDD band capability signalling for uplink sharing (R4-1916180; contact: Nokia) RAN4 LS in Rel-16 NR\_FDD\_bands\_varduplex To:RAN2

[R2-2001580](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001580.zip) Discussion on support of UL Tx swithing ChinaTelecom, CMCC, ChinaUnicom, Orange, Huawei, HiSilicon, ZTE,  CATT, Vivo discussion Rel-16 NR\_RF\_FR1

* Noted

[R2-2000861](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000861.zip) Introduction of UL Tx switching for UL MIMO in FR1 Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_RF\_FR1

* Noted

[R2-2000870](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000870.zip) RRC signalling for Tx switching for UL MIMO Nokia, Nokia Shanghai Bell CR Rel-16 38.331 15.8.0 1459 - B NR\_RF\_FR1

=> Revised in R2-2002060

[R2-2002060](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002060.zip) RRC signalling for Tx switching for UL MIMO Nokia, Nokia Shanghai Bell CR Rel-16 38.331 15.8.0 1459 1 B NR\_RF\_FR1

[R2-2000871](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000871.zip) UE capabilities for Tx switching for UL MIMO Nokia, Nokia Shanghai Bell CR Rel-16 38.306 15.8.0 0241 - B NR\_RF\_FR1

[R2-2001581](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001581.zip) 38306CR UE capability of supporting UL Tx switching ChinaTelecom,Huawei,HiSilicon,CMCC,ZTE, ChinaUnicom CR Rel-16 38.306 15.8.0 0256 - B NR\_RF\_FR1

* Postponed (email next meeting)

[R2-2001582](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001582.zip) 38331CR UE capability and RRC configuration of supporting UL Tx switching ChinaTelecom,Huawei,HiSilicon,CMCC,ZTE, ChinaUnicom CR Rel-16 38.331 15.8.0 1495 - B NR\_RF\_FR1

* Postponed (email next meeting)

DISCUSSION on docs and CRs above

- Nokia think the CT 306 CR is missing some parts, and think the config for ENDC and UL mimo parts are missing.

- Huawei think R4 has not limited the UC to only UL mimo and think CT version should be the starting point.

- MTK has question on the UE cap, and wonder if we really need another full BC list. Ericsson think maybe we can do it simpler.

- Intel think we may have difficulty to converge now, and R4 are still discussing. Suggest an email discussion to next meeting.

- QC agrees that R4 are still discussing, and think we cannot agree on CRs at this meeting. Oppo agrees, but still think some principles can be discussed.

- Nokia think there was a Way Forward agreed in R4 tht is not referenced in all papers.

* [Post-109e][R16 Other] UL TX Switching – NR-FR1 (China Telecom)

Scope: Progress CRs as far as possible taking into account progress in R4 and R1.

Intended outcome: Report, and if possible agreeable CRs

Deadline: Next Meeting

By Email – Discussion

NR HST

[R2-2000040](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000040.zip) LS on the UE capability and network assistance signalling for Rel-16 NR HST RRM (R4-1915855; contact: China Mobile) RAN4 LS in Rel-16 NR\_HST To:RAN2

* Noted

R2-2001656 LS on the UE capability and network assistance signalling for Rel-16 NR HST demodulation (R4-1915916; contact: CMCC) RAN4 LS in Rel-16 NR\_HST To:RAN2

* Noted

[R2-2000919](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000919.zip) Discussion on signalling for R16 NR HST CMCC discussion Rel-16

=> Revised in R2-2002084

R2-2002084 Discussion on signalling for R16 NR HST CMCC, CATT discussion Rel-16

* Noted
* [AT109e][050][R16 Other WISI] NR HST (CMCC)

Scope: Treat documents above

Intended outcome: Focus first on LS and discussion doc. Achieve initial agreements, agree what we shall do. Treatment of CRs expected next meeting.

CLOSED

Agreements [AT109e][050][R16 Other WISI]

* Introduce network assistant signalling in the IE ServingCellConfigCommon and IE ServingCellConfigCommonSIB to enable the enhanced RRM requirements for Rel-16 NR HST.
* Introduce network assistant signalling in the IE ServingCellConfigCommon and IE ServingCellConfigCommonSIB to enable the enhanced UE demodulation requirements for HST-SFN deployment with joint transmission scheme for Rel-16
* Introduce new UE capability for NR HST to indicate whether UE is capable of supporting the enhanced RRM requirements.
* Introduce new UE capability for NR HST to indicate whether UE is capable of the enhanced demodulation processing for HST-SFN joint transmission scheme with velocity up to 500km/h.

R2-2002262 Report of [AT109e][050][R16 Other WISI] NR HST CMCC (rapporteur) discussion Rel-16 NR\_HST

R2-2000920 38.331 CR on introduction of RRC parameters and UE capabilities for Rel-16 NR HST CMCC, Huawei, HiSilicon CR Rel-16 38.331 15.8.0 1464 - B NR\_HST

=> Revised in R2-2002085

R2-2002085 38.331 CR on introduction of RRC parameters and UE capabilities for Rel-16 NR HST CMCC, Huawei, HiSilicon, CATT CR Rel-16 38.331 15.8.0 1464 1 B NR\_HST

R2-2000921 38.306 CR on introduction of UE capabilities for Rel-16 NR HST CMCC, Huawei, HiSilicon CR Rel-16 38.306 15.8.0 0242 - B NR\_HST

=> Revised in R2-2002086

R2-2002086 38.306 CR on introduction of UE capabilities for Rel-16 NR HST CMCC, Huawei, HiSilicon, CATT CR Rel-16 38.306 15.8.0 0242 1 B NR\_HST

Recommended bit rate

[R2-2000438](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000438.zip) Recommended Bit Rate/Query for FLUS and MTSI Qualcomm Incorporated discussion Rel-16 E\_FLUS

[R2-2000439](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000439.zip) Recommended Bit Rate/Query for FLUS and MTSI Qualcomm Incorporated CR Rel-16 36.321 15.8.0 1464 - B E\_FLUS

=> Revised in R2-2002178

R2-2002178 Recommended Bit Rate/Query for FLUS and MTSI Qualcomm Incorporated CR Rel-16 36.321 15.8.0 1464 1 B E\_FLUS

* [AT109e][051][R16 Other WISI] Agreed

[R2-2000440](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000440.zip) Recommended Bit Rate/Query for FLUS and MTSI Qualcomm Incorporated CR Rel-16 38.321 15.8.0 0688 - B E\_FLUS

=> Revised in R2-2002179

R2-2002179 Recommended Bit Rate/Query for FLUS and MTSI Qualcomm Incorporated CR Rel-16 38.321 15.8.0 0688 1 B E\_FLUS

* [AT109e][051][R16 Other WISI] Agreed

R2-2002176 Recommended Bit Rate/Query for FLUS and MTSI Qualcomm Incorporated CR Rel-16 36.331 15.8.0 4230 - B E\_FLUS

* [AT109e][051][R16 Other WISI] Agreed

R2-2002177 Recommended Bit Rate/Query for FLUS and MTSI Qualcomm Incorporated CR Rel-16 38.331 15.8.0 1502 - B E\_FLUS

* [AT109e][051][R16 Other WISI] Agreed

R2-2002180 Recommended Bit Rate/Query for FLUS and MTSI Qualcomm Incorporated CR Rel-16 36.306 15.8.0 1743 - B E\_FLUS

* [AT109e][051][R16 Other WISI] Agreed

R2-2002181 Recommended Bit Rate/Query for FLUS and MTSI Qualcomm Incorporated CR Rel-16 38.306 15.8.0 0260 - B E\_FLUS

* [AT109e][051][R16 Other WISI] Agreed
* [AT109e][051][R16 Other WISI] Rec bitrate FLUS and MTSI (QC)

Scope: Treat documents above, feel free to split into phases.

CLOSED

UL sharing vardup FDD

[R2-2000864](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000864.zip) Support of UL sharing for variable-duplex FDD bands Nokia, Nokia Shanghai Bell CR Rel-16 38.306 15.8.0 0239 - B NR\_FDD\_bands\_varduplex

* [AT109e][052][R16 Other WISI] UL sharing for variable-duplex FDD bands (Nokia)

Scope: Treat documents above

CLOSED

* [AT109e][052][R16 Other WISI] Postpone to next meeting (if still different interpretations of R4 agreement, send LS to R4 from next meeting)

Not to be Treated

NTN

[R2-2000054](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000054.zip) LS OUT on Location of UEs and associated key issues (S2-1912560; contact: Thales) SA2 LS in Rel-16 FS\_5GSAT\_ARCH To:RAN2, RAN3, SA3-LI

[R2-2000846](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000846.zip) draft response to SA2 LS on Location of UEs and associated key issues THALES LS out Rel-16 To:SA2 Cc:RAN3, SA3-LI

- [AT109e][000] Nicholas Chauberre: Would it be possible to treat this LS and draft response via an email discussion so that a response can be agreed before the end of this RAN2#109e meeting. This would allow SA2 WG to finalise during its april meeting the on going study FS\_5GSAT\_ARCH and the related Technical Report 23.737 “Study on architecture aspects for using satellite access in 5G ?

- [AT109e][000] Chair: Dear Nicholas and all NTN fans, In the LS R2 is asked to review feasibility of SA2 solutions, meaning that R2 people need to familiarize themselves with these solutions, and make conclusions based on the outcome of the RAN SI on NTN. Looking at your proposed reply I think this is not possible/reasonable during R2 109e meeting, and this is the reason why I proposed to Not Treat/postpone. Email discussion to next meeting seems to me a possibly reasonable way to treat. Could that be a possibility? Any other comments?

Online Mar 26:

- Chair wonder if we can treat this, e.g. by email to next meeting.

- Nokia think this is for Rel-17 and would prefer to not send anything from this meeting. QC also think this is not urgent and think SA2 can look at the TR.

- Chair: no support expressed to reply before we start R17 work (but companies may have not been prepared for this discussion)

- Chair: to be concluded in [AT109e][000] whether we’d attempt to do anything by email to next meeting.

MPE – NR-FR2

[R2-2000046](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000046.zip) LS on MPE enhancements (R4-1916183; contact: Qualcomm) RAN4 LS in Rel-16 NR\_RF\_FR2\_req\_enh To:RAN2

[R2-2000178](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000178.zip) L2 aspects of MPE mitigation InterDigital discussion Rel-16 NR\_RF\_FR2\_req\_enh

[R2-2001089](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001089.zip) Initial view on introduction of the MPE related enhancements Apple discussion Rel-16 NR\_RF\_FR2\_req\_enh-Core

ECN

[R2-2000059](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000059.zip) LS on the support for ECN in 5GS (S2-1912765; contact: Qualcomm) SA2 LS in Rel-15 5GS\_Ph1 To:RAN2, SA4 Cc:RAN3, CT1

DISCUSSION

- [109e][000] Ericsson (Mats): I’d like to flag an LS in agenda item 6.19. Ref R2-2000059.

- [109e][000] Chair: Can you briefly explain. My reasoning: It seems SA2 think we should consider removing ECN from our TS. In my understanding, we (Access Stratum) refer to the IETF mechanism ECN in Stage-2 mainly to avoid inventing AS mechanisms that would replace ECN. In system-level and codec-group TSes, at least for LTE I guess they also specify how it is used in more detail. In my understanding, we (R2) have no proposals on the table now addressing this problem area, so I thought it was not urgent for us. Will SA2 or SA4 be helped by a quick reply from us?

- [109e][000] Ericsson (Mats): I checked your minutes again and if “not to be treated” implies the LS is postponed and will be treated at the next meeting, that is okay for me. I agree there does not seem to be any urgency, but I want to make sure we do not simply note the LS and not reply anything ever.

- [109e][000] Chair: Yes “Not to be treated” just applies for this meeting. And an non-treated LS will not even be Noted, it will be input to the next meeting automatically by MCC.

[R2-2000091](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000091.zip) Reply LS on Support for ECN in 5GS (S4-200298; contact: Qualcomm) SA4 LS in Rel-15 5GS\_Ph1 To:SA2 Cc:RAN2, RAN3, CT1

Temporary Boost

[R2-2000574](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000574.zip) LS on Temporary Boost Nokia LS out Rel-16 To:SA4 Cc:RAN3, SA2 Late

[R2-2000573](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000573.zip) Temporary Boost Nokia, Nokia Shanghai Bell discussion Rel-16 Late

Withdrawn

R2-2000218 CR to 36.331 on introducing autonomous gap in Rel-16 ZTE Corporation,Sanechips,CATT,OPPO CR Rel-16 36.331 15.8.0 4188 - B NR\_RRM\_enh-Core Withdrawn

R2-2000219 CR to 36.306 on introducing autonomous gap in Rel-16 ZTE Corporation,Sanechips,CATT,OPPO CR Rel-16 36.306 15.7.0 1728 - B NR\_RRM\_enh-Core Withdrawn

R2-2001088 On the introduction of P-bit into the single entry PHR MAC CE Apple discussion Rel-16 NR\_RF\_FR2\_req\_enh-Core

R2-2000862 RRC signalling for Tx switching for UL MIMO Nokia, Nokia Shanghai Bell discussion Rel-16 38.331 NR\_RF\_FR1 Withdrawn

R2-2000863 UE capabilities for Tx switching for UL MIMO Nokia, Nokia Shanghai Bell discussion Rel-16 38.306 NR\_RF\_FR1 Withdrawn

## 6.20 NR TEI16 enhancements

Small Technical Enhancements to NR. 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](file:///C:\Data\3GPP\TSGR\TSGR_84\docs\RP-191602.zip) endorsed at RAN#84. Please submit to 6.20.x.

NOTE that proponent companies are responsible to ensure that correct CRs are provided in all groups for proposals that have impact in >1 working group.

Time budget: 1 TU

Tdoc Limitation: No Limitation for Operators, 6 tdocs for others. NOTE for TEI, the tdoc limitation applies to new proposals, not to open proposals since previous meeting(s)

R2 109e: For TEI16, no treatment of new proposals, nor open proposals not covered by email discussions. Email discussions [108#xx] will be treated. In-principle agreed CRs will be treated. Could consider to start email discussions to next meeting, e.g. based on new incoming LSes.

* [AT109e][053][TEI16] IPA CRs (Chairman)

Scope: Approval of in-principle agreed CRs for AI 6.20.x

CLOSED

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

Including outcome of the email discussion [108#58][TEI16] NeedForGap Signaling (MTK)

Including outcome of the email discussion [108#59][TEI16] DL segmentation CRs (Ericsson)

Including outcome of the email discussion [108#60][TEI16] DRX coord (Huawei)

#### 6.20.1.0 In-principle-agreed CRs

CRs in-principle agreed at previous meeting(s) need to be submitted at this meeting. They need to be updated to be based on the lastest version of the specification.

By Email

Second SMTC

R2-2000302 Introduction of a second SMTC per frequency carrier in idle/inactive Orange, AT&T, Vodafone, Telecom Italia S.p.A., CMCC, NTT Docomo Inc., Samsung, Ericsson CR Rel-16 38.331 15.8.0 1218 3 B TEI16 R2-1914660

- [AT109e][053][TEI16] Orange (Marcin): In summary of change we added the sentence agreed during RAN2#108: “A legacy UE in Idle/RRC\_Inactive mode may underestimate signal strength with SMTC2/longer periodicity because the UE will attempt to measure non-existing transmission.”

- [AT109e][053][TEI16] Chair Feb 27: No Comments last 24h

* [AT109e][053][TEI16] Agreed

R2-2000303 Introduction of a second SMTC for inter-RAT cell reselection Orange, AT&T, Vodafone, Telecom Italia S.p.A., CMCC, NTT Docomo Inc., Samsung, Ericsson CR Rel-16 36.331 15.8.0 4114 2 B TEI16 R2-1914661

- [AT109e][053][TEI16] Orange (Marcin): • In summary of change we added the sentence agreed during RAN2#108: “A legacy UE in Idle/RRC\_Inactive mode may underestimate signal strength with SMTC2/longer periodicity because the UE will attempt to measure non-existing transmission.” Corrections in IE names for errors found during RRC merge.

- [AT109e][053][TEI16] Chair Feb 27: No Comments last 24h

* [AT109e][053][TEI16] Agreed

EPS Voice Fallback

* R2-2000580 and R2-2000581 treated with R2-2000582 below in [AT109e][074][TEI16] instead

NAS handling error of nas-Container for security key derivation

R2-2002104 NAS handling error of nas-Container for security key derivation   Intel Corporation  CR  Rel-16 38.331 15.8.0  1149    2   F   TEI16, NR\_newRAT-Core Late

- [AT109e][053][TEI16] Intel (Sudeep): The only change from the IPA is for R2-2002105 (LTE CR), where a copy paste error on impacted architecture in the cover page is corrected.

- [AT109e][053][TEI16] Chair Feb 27: No Comments last 24h

* [AT109e][053][TEI16] Agreed

R2-2002105 NAS handling error of nas-Container for security key derivation   Intel Corporation  CR   Rel-16 36.331 15.8.0  4099    2  F   TEI16, NR\_newRAT-Core, LTE\_5GCN\_connect-Core Late

- [AT109e][053][TEI16] Intel (Sudeep): The only change from the IPA is for R2-2002105 (LTE CR), where a copy paste error on impacted architecture in the cover page is corrected.

- [AT109e][053][TEI16] Chair Feb 27: No Comments last 24h

* [AT109e][053][TEI16] Agreed

Misc

R2-2000155 Inclusion of 90MHz UE Bandwidth VODAFONE CR Rel-16 38.306 15.8.0 0223 - C NR\_newRAT-Core

=> Revised in R2-2002133

R2-2002133 Inclusion of 90MHz UE Bandwidth VODAFONE CR Rel-16 38.306 15.8.0 0223 1 C NR\_newRAT-Core

* [AT109e][053][TEI16] Agreed

R2-2000687 Correction on usage of access category 2 for UAC for RNA update MediaTek Inc. CR Rel-16 38.331 15.8.0 1141 2 F NR\_newRAT-Core, TEI16 R2-1911696

- [AT109e][053][TEI16] Chair Feb 27: No Comments last 24h

* [AT109e][053][TEI16] Agreed

R2-2001383 Support of releasing UL configuration Huawei, HiSilicon, CMCC, China Telecom, MediaTek Inc., Vodafone, Orange, vivo, OPPO, Spreadtrum Communications, China Unicom CR Rel-16 38.331 15.8.0 1168 3 F NR\_newRAT-Core R2-1914671

- [AT109e][053][TEI16] Huawei (Yang): Regarding the below IPA CR, the only change is to adapt the coversheet to indicate the latest spec version and revision number

- [AT109e][053][TEI16] Chair Feb 27: No Comments last 24h

* [AT109e][053][TEI16] Agreed

PRACH prioritization parameters for MPS and MCS

R2-2002102 PRACH prioritization parameters for MPS and MCS Perspecta Labs, ECD, AT&T, FirstNet, T-Mobile, Sprint, Verizon, Qualcomm, Ericsson CR Rel-16 38.331 15.8.0 1361 1 B NR\_newRAT-Core, TEI16 R2-1915006 Late

- [AT109e][053][TEI16] Perspecta Labs (Achilles): no changes other than those needed to comply with the resubmission: proposed normative text is now vs latest specs v15.8.0. Cover page label update

- [AT109e][053][TEI16] Chair Feb 27: No Comments last 24h

* [AT109e][053][TEI16] Agreed

R2-2002103 PRACH prioritization parameters for MPS and MCS Perspecta Labs, ECD, AT&T, FirstNet, T-Mobile, Sprint, Verizon, Qualcomm, Ericsson CR Rel-16 38.321 15.8.0 0675 1 B NR\_newRAT-Core, TEI16 R2-1915007 Late

- [AT109e][053][TEI16] Perspecta Labs (Achilles): no changes other than those needed to comply with the resubmission: proposed normative text is now vs latest specs v15.8.0. Cover page label update

- [AT109e][053][TEI16] Chair Feb 27: No Comments last 24h

* [AT109e][053][TEI16] Agreed

maxUplinkDutyCycle for inter-band EN-DC PC2 UE

R2-2002107 CR on capability of maxUplinkDutyCycle for inter-band EN-DC PC2 UE CMCC CR Rel-16 38.306 15.8.0 0145 1 F ENDC\_UE\_PC2\_TDD\_TDD R2-1909449 Late

- [AT109e][053][TEI16] Huawei (Ningyu) updated to latest version of TS and add corresponding CR for each other in cover sheet.

- [AT109e][053][TEI16] Chair Feb 27: No Comments last 24h

* [AT109e][053][TEI16] Agreed

R2-2002106 CR on capability of maxUplinkDutyCycle for inter-band EN-DC PC2 UE CMCC CR Rel-16 38.331 15.8.0 1152 2 F ENDC\_UE\_PC2\_TDD\_TDD R2-1911786 Late

- [AT109e][053][TEI16] Huawei (Ningyu) updated to latest version of TS and add corresponding CR for each other in cover sheet.

- [AT109e][053][TEI16] Lenovo (Hyung-Nam) Capability name between 331/306 is not aligned. 331 uses the name “maxUplinkDutyCycle-interBandENDC-TDD” whereas 306 uses the name “maxUplinkDutyCycle-interBandENDC-TDD-PC2”.

- [AT109e][053][TEI16] Huawei (Ningyu) Thank you Hyung-Nam for pointing out that error and sorry for my mistake. I change the IE from "maxUplinkDutyCycle-interBandENDC-TDD-r16" to "maxUplinkDutyCycle-interBandENDC-TDD-PC2-r16" for 331CR IE.

* Revised

[R2-2002130](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002130.zip) CR on capability of maxUplinkDutyCycle for inter-band EN-DC PC2 UE CMCC CR Rel-16 38.331 15.8.0 1152 3 F ENDC\_UE\_PC2\_TDD\_TDD

- [AT109e][053][TEI16] Chair Feb 27: No Comments last 24h, can be agreed, please provide revision

* [AT109e][053][TEI16] Feb 28: Agreed

#### 6.20.1.1 Open / ongoing proposals

By Web Conf

Need for Gap Signalling – email discussion

[R2-2000716](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000716.zip) Report of [108#58][TEI16] NeedForGap Signaling (MTK) MediaTek Inc. discussion

[R2-2001445](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001445.zip) Discussion on FFS issue in NR SA NeedForGap Signalling Nokia,Nokia Shanghai Bell discussion Rel-16 TEI16

[R2-2000717](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000717.zip) Introduction of NeedForGap capability for NR measurement - 36.331 MediaTek Inc. CR Rel-16 36.331 15.8.0 4197 - B NR\_newRAT-Core, TEI16 Revised

R2-2002108 Introduction of NeedForGap capability for NR measurement - 36.331 MediaTek Inc. CR Rel-16 36.331 15.8.0 4197 2 B NR\_newRAT-Core, TEI16 Revised

[R2-2000718](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000718.zip) Introduction of NeedForGap capability for NR measurement - 36.306 MediaTek Inc. CR Rel-16 36.306 15.7.0 1730 - B NR\_newRAT-Core, TEI16

DISCUSSION LTE PART

- Intel think we should not rush, and think is it important to get it right.

- Nokia agree to go the static way for LTE. For NR part there are many open issues.

- Huawei support these CRs.

- ZTE think static is the way to go for LTE and are ok with the CRs, but think.

- QC think it would be good to check until June.

- Docomo think the current CRs are good, but could wait until June for final approve

* CRs above agreed in principle (agreement Q2), can update details if needed.

R2-2000719 Introduction of NeedForGap capability for NR measurement - 38.300 MediaTek Inc. CR Rel-16 38.300 16.0.0 0191 - B NR\_newRAT-Core, TEI16

[R2-2000720](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000720.zip) Introduction of NeedForGap capability for NR measurement - 38.331 MediaTek Inc. CR Rel-16 38.331 15.8.0 1453 - B NR\_newRAT-Core, TEI16

=> Revised in R2-2002309

R2-2002309 Introduction of NeedForGap capability for NR measurement - 38.331 MediaTek Inc. CR Rel-16 38.331 15.8.0 1453 1 B NR\_newRAT-Core, TEI16

R2-2000721 Introduction of NeedForGap capability for NR measurement - 38.306 MediaTek Inc. CR Rel-16 38.306 15.8.0 0238 - B NR\_newRAT-Core, TEI16

DISCUSSION

- MTK think the main controversy is condition to and in which message to signal, and also the contents of the signalling.

- Oppo think semistatic would be better for LTE as well. MTK and Huawei confirm dynamic is already agreed.

P5 in 0716 above:

- Intel are ok with Resume. For reconfig complete Intel think this could be simpler, i.e. only after change. ZTE agrees with Intel.

- Nokia think resume and reconfig complete are ok, and think the need for gap report can be requested by the network as well.

- Docomo think that NeedForGap signalling may bring problems e.g. message size at cell edge, so support that network can control.

- Huawei think there was some case missing. Intel think is changed is sufficient and cover all cases. Samsung agrees with Intel. QC also agrees that this should be general, and think the proposed FFS is not needed.

- Vivo think that if RRC reconfig includes handover it is ok.

- Ericsson would like to check what is meant by “is changed”. Chair think we can check CRs later.

- Samsung think that the UE is configured for this and upon configuration the UE will report.

- Intel also think that network can request.

- ZTE would like to use the work endabled instead of configured.

* The use of dynamic Need for gaps is configured by RRC.
* The UE includes the *NeedForGap* signalling In RRC Resume Complete, The UE always includes it.
* The UE includes the *NeedForGap* signalling In RRC Reconfiguration Complete, The UE includes the signalling if NeedForGap is changed.
* FFS if there are additional conditions (e.g. additional network control) and/or additional trigger (network request).
* [AT109e][080][TEI16] NeedForGap capability (MTK)

Scope: Progress this based on agreements and papers above

Intended outcome: issues resolution, solution agreements, work on CRs (for next meeting)

Deadline: Mar 4

[R2-2002308](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002308.zip) Report of [AT109e][080][TEI16] NeedForGap capability (MTK) MediaTek discussion Rel-16 NR\_newRAT-Core, TEI16

* Noted

- [AT109e][080][TEI16] Chairman: if this feature shall progress, we need to converge the discussion, and the discussion need to be small, this is TEi16. In addition to P1 which seems to have full support I strongly suggest that we agree the simplification/scope reducing proposals that seems to have significant support P3 and P5, and leave the other two FFS.

Agreements and FFSs [AT109e][080][TEI16]:

* In dynamic need for gap reporting, the network could deconfigure the feature temporarily in order to prevent UE from sending the information. The UE shall report the NeedForGap information if the feature is enabled by the network from disable (i.e. the UE reports the information no matter the capability is changed or not).
* In Rel-16, the reporting of additional NeedForGap information based on the potential band combinations is not supported. The UE reports the NeedForGap information based on resultant configuration (current configured band combination).
* In Rel-16, the reporting of measurement gap requirement information with granularity of frequency range (e.g. FR1 and/or FR2) is not supported.
* It is FFS whether to introduce a target band filter configuration for dynamic need for gap reporting. If agreed, the UE only reports the NeedForGap information for the corresponding target bands provided by the network.
* It is FFS whether to report NeedForGap information for intra-frequency measurement. If agreed, the intra-frequency NeedForGpp information should be reported by separate IE (different from the one for inter-frequency measurement).

R2-2001480 LS on NeedForGap capability MediaTek Inc. LS out Rel-16 NR\_newRAT-Core, TEI16

To:RAN4

R2-2001648 Introduction of NeedForGap capability for NR measurement - 36.331 MediaTek Inc. CR Rel-16 36.331 15.8.0 4197 1 B NR\_newRAT-Core, TEI16 R2-2000717

EPS Voice Fallback – was in-principle-agreed

R2-2000580 Introduction of voice fallback indication Qualcomm Incorporated, T-Mobile USA, Verizon, China Telecom, Softbank, Ericsson CR Rel-16 38.331 15.8.0 1312 2 C TEI16 R2-1915033

- [AT109e][053][TEI16] QC (Masato): Revision 2: Added need code to voiceFallbackIndication. Changed the inter-operability analysis for the case the UE is implemented according to the CR and the network is not. Editorial changes, e.g. to replace spaces by tabs.

R2-2002326 Introduction of voice fallback indication Qualcomm Incorporated, T-Mobile USA, Verizon, China Telecom, Softbank, Ericsson CR Rel-16 38.331 15.8.0 1312 3 C TEI16

* Agreed

R2-2000581 Introduction of voice fallback indication Qualcomm Incorporated, T-Mobile USA, Verizon, China Telecom, Softbank, Ericsson CR Rel-16 36.331 15.8.0 4136 2 C TEI16 R2-1915034

- [AT109e][053][TEI16] QC (Masato): Revision 2: UE behaviour previously described in NOTE was changed to procedural text in 5.3.3.2 and 5.3.3.3. Editorial changes.

* Agreed

EPS Voice Fallback – additional

[R2-2000582](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000582.zip) Introdution of EPS voice fallback enhancement Qualcomm Incorporated CR Rel-16 38.306 15.8.0 0233 - C TEI16

- Huawei wonder why this is optional wo signalling.

- QC think the assumption is that the UE can just ignore indication from the network so the network can always signal.

- Huawei think this shall be with signalling.

- TMO think we can agree this CR and there is no reason to have signalling

- Intel wonders if there is a problem with having a signalled UE capability. QC think it would work.

- LG also think it would be safer to signal this.

- Samsung wonders if we need any differentiation? QC think not as this is a higher layer function.

* Will have a signalled capability, update this CR and the agreed in principle RRC CR.

R2-2002327 Introdution of EPS voice fallback enhancement Qualcomm Incorporated CR Rel-16 38.306 15.8.0 0233 1 C TEI16

* Agreed
* [AT109e][074][TEI16] EPS Voice Fallback (QC)

Scope: Add signalled Cabaility

Intended outcome: Agreed CRs (all three CRs together), based on R2-2000580, R2-2000581, R2-2000582

CLOSED

DRX coordination – emal discussion

[R2-2001380](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001380.zip) Report of [108#60][TEI16] DRX coordination Huawei, HiSilicon discussion Rel-16 TEI16

* noted

[R2-2001381](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001381.zip) CR to 38.331 on DRX coordination Huawei, HiSilicon CR Rel-16 38.331 15.8.0 1489 - C TEI16

* agreed

NR – ENDC handover – CR agreed in principle last meeting

[R2-2002077](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002077.zip) Stage 2 CR for Inter-RAT HO between NR to EN-DC in Rel-16 China Telecom, NTT DOCOMO, Huawei, Ericsson, ZTE, OPPO, Mediatek, VIVO, CATT CR Rel-16 37.340 15.8.0 0185 - B TEI16 R2-1916586 Late

- CT indicate there was no change

* agreed

[R2-2001448](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001448.zip) Discussion on support of inter-RAT HO from SA to EN-DC Nokia, Nokia Shanghai Bell discussion Rel-16 TEI16

DISCUSSION

- QC support P1, and think this is very efficient, but think it can be further enhanced to increase applicability. LG are interested in P1 but think it is not essential for R16. Apple agrees with LG. Docomo as well, but think fast MCG recovery is also applicable, so better to discuss in later release.

- Intel think this is not essential for now.

- Apple support P2

- Ericsson think P1 is not essential, and think that P2 can be resolved by network impl.

- Huawei think these are not critical, and think P2 brings the need for more change.

- MTK also don’t think this is essential

- Chair: There is some interest but most companies don’t want this in R16.

* Noted

[R2-2001131](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001131.zip) Support of inter-RAT handover from NR to EN-DC in TS 36.331 China Telecom, Huawei, ZTE, CATT, VIVO, Qualcomm draftCR Rel-16 36.331 15.8.0 TEI16

=> Revised in R2-2002336

R2-2002336 Support of inter-RAT handover from NR to EN-DC in TS 36.331 China Telecom, Huawei, ZTE, CATT, VIVO, Qualcomm CR Rel-16 36.331 15.8.0 4232 - B TEI16

* [AT109e][075][TEI16] Agreed

[R2-2001132](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001132.zip) Support of inter-RAT handover from NR to EN-DC in TS 38.331 China Telecom, Huawei, ZTE, CATT, VIVO, Qualcomm draftCR Rel-16 38.331 15.8.0 TEI16

=> Revised in R2-2002337

R2-2002337 Support of inter-RAT handover from NR to EN-DC in TS 38.331 China Telecom, Huawei, ZTE, CATT, VIVO, Qualcomm CR Rel-16 38.331 15.8.0 1505 - B TEI16

* [AT109e][075][TEI16] Agreed

R2-2001130 Introduction of UE capability indicator of supporting inter-RAT handover from NR to EN-DC in 36.306. China Telecom, Huawei, ZTE, CATT, VIVO, Qualcomm draftCR Rel-16 36.306 15.7.0 TEI16

=> Revised in R2-2002339

R2-2002339 Introduction of UE capability indicator of supporting inter-RAT handover from NR to EN-DC in 36.306. China Telecom, Huawei, ZTE, CATT, VIVO, Qualcomm CR Rel-16 36.306 15.7.0 1745 - B TEI16

* [AT109e][075][TEI16] Agreed

R2-2001133 Introduction of UE capability indicator of supporting inter-RAT handover from NR to EN-DC in 38.306 China Telecom, Huawei, ZTE, CATT, VIVO, Qualcomm draftCR Rel-16

=> Revised in R2-2002338

R2-2002338 Introduction of UE capability indicator of supporting inter-RAT handover from NR to EN-DC in 38.306 China Telecom, Huawei, ZTE, CATT, VIVO, Qualcomm CR Rel-16 38.306 15.8.0 0261 - B TEI16

* [AT109e][075][TEI16] Agreed

DISCUSSION (On line)

- Oppo wonder why we need UE cap 38306. CT think this is needed to configure NR measurements for target SN. Samsung are also wondering this.

- Nokia agree to have this cap in 38306, so the target node can decide which to include in the config.

- ZTE think that if we need to do enhancement we need to consider the Nokia P2 above.

- Samsung wonder then if we really need the 38306 capability?

- Vivo think yes. Ericsson think the capability is useful.

* [AT109e][075][TEI16] NR – ENDC handover (China Telecom)

Scope: Progress Stage-3 CRs, Decide finally whether 38306 capability is needed.

Intended outcome: Agreed CRs (if not 100% agreement, decide action by email)

CLOSED

R2-2002340 Summary of offline discussion [AT109e][075][TEI16] China Telecom discussion Rel-16 TEI16

* [AT109e][075][TEI16] Noted
* [AT109e][075][TEI16] nr-HO-ToEN-DC-r16 capability in the UE-NR-Capability is needed

By Email

DL RRC Segmentation – outcome of Email Discussion

R2-2000931 Introduction of DL RRC segmentation Ericsson CR Rel-16 36.300 16.0.0 1266 - B TEI16

R2-2000934 Introduction of DL RRC segmentation Ericsson CR Rel-16 38.300 16.0.0 0196 - B TEI16

- [AT109e][054][TEI16] Ericsson (Mattias) These Stage-2 CRs are no longer needed. The CRs below will refer to RACS Stage-2 instead.

R2-2000932 Introduction of DL RRC segmentation Ericsson CR Rel-16 36.306 15.7.0 1732 - B TEI16

=> Revised in R2-2002158

R2-2002158 Introduction of DL RRC segmentation Ericsson CR Rel-16 36.306 15.7.0 1732 1 B TEI16

R2-2000933 Introduction of DL RRC segmentation Ericsson CR Rel-16 36.331 15.8.0 4200 - B TEI16

=> Revised in R2-2002159

R2-2002159 Introduction of DL RRC segmentation Ericsson CR Rel-16 36.331 15.8.0 4200 1 B TEI16

R2-2000935 Introduction of DL RRC segmentation Ericsson CR Rel-16 38.306 15.8.0 0243 - B TEI16

=> Revised in R2-2002160

R2-2002160 Introduction of DL RRC segmentation Ericsson CR Rel-16 38.306 15.8.0 0243 1 B TEI16

R2-2000936 Introduction of DL RRC segmentation Ericsson CR Rel-16 38.331 15.8.0 1465 - B TEI16

=> Revised in R2-2002161

R2-2002161 Introduction of DL RRC segmentation Ericsson CR Rel-16 38.331 15.8.0 1465 1 B TEI16

* [AT109e][054][TEI16] DL RRC segmentation (Ericsson)

Scope: DL RRC Segmentation, tdocs above

Intended outcome: Agreed CRs

Deadline: Feb 27 1200 CET

Autonomous Gap – LS request from R4

R2-2000434 LS on CGI reading with autonomous gaps (R4-1914782; contact: ZTE) RAN4 LS in Rel-16 NR\_RRM\_enh-Core To:RAN2

* Noted

[R2-2000169](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000169.zip) Autonomous gap support for CGI reading vivo, CMCC, NTT DOCOMO, CATT, Ericsson, Huawei, HiSilicon, Intel, Mediatek, Nokia, Qualcomm incorporated, ZTE Corporation, Sanechips CR Rel-16 36.331 15.8.0 4187 - B TEI16

=> Revised in R2-2002144

R2-2002144 Autonomous gap support for CGI reading vivo, CMCC, NTT DOCOMO, CATT, Ericsson, Huawei, HiSilicon, Intel, Mediatek, Nokia, Qualcomm incorporated, ZTE Corporation, Sanechips CR Rel-16 36.331 15.8.0 4187 1 B TEI16

=> Revised in R2-2002255

R2-2002255 Autonomous gap support for CGI reading vivo, CMCC, NTT DOCOMO, CATT, Ericsson, Huawei, HiSilicon, Intel, Mediatek, Nokia, Qualcomm incorporated, ZTE Corporation, Sanechips CR Rel-16 36.331 15.8.0 4187 2 B TEI16

* [AT109e][055][TEI16] agreed

[R2-2000216](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000216.zip) CR to 38.331 on introducing autonomous gap in Rel-16 ZTE Coporation, Sanechips, CATT, OPPO, CMCC, MediaTek Inc, Vivo, Ericsson, Qualcomm Incorporated, Intel, Nokia, Huawei, HiSilicon, China Telecom, China Unicom, NTT DOCOMO CR Rel-16 38.331 15.8.0 1434 - B NR\_RRM\_enh-Core

=> Revised in R2-2002146

[R2-2002146](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002146.zip) CR to 38.331 on introducing autonomous gap in Rel-16 ZTE Coporation, Sanechips, CATT, OPPO, CMCC, MediaTek Inc, Vivo, Ericsson, Qualcomm Incorporated, Intel, Nokia, Huawei, HiSilicon, China Telecom, China Unicom, NTT DOCOMO CR Rel-16 38.331 15.8.0 1434 1 B NR\_RRM\_enh-Core

=> Revised in R2-2002278

[R2-2002278](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002278.zip) CR to 38.331 on introducing autonomous gap in Rel-16 ZTE Coporation, Sanechips, CATT, OPPO, CMCC, MediaTek Inc, Vivo, Ericsson, Qualcomm Incorporated, Intel, Nokia, Huawei, HiSilicon, China Telecom, China Unicom, NTT DOCOMO CR Rel-16 38.331 15.8.0 1434 2 B NR\_RRM\_enh-Core

* [AT109e][055][TEI16] Agreed

[R2-2000171](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000171.zip) Autonomous gap support for CGI reading vivo, CMCC, NTT DOCOMO, CATT, Ericsson, Huawei, HiSilicon, Intel, MediaTek, Nokia, Qualcomm incorporated, ZTE Corporation, Sanechips CR Rel-16 36.306 15.7.0 1727 - B TEI16

=> Revised in R2-2002145

R2-2002145 Autonomous gap support for CGI reading vivo, CMCC, NTT DOCOMO, CATT, Ericsson, Huawei, HiSilicon, Intel, MediaTek, Nokia, Qualcomm incorporated, ZTE Corporation, Sanechips CR Rel-16 36.306 15.7.0 1727 1 B TEI16

* [AT109e][055][TEI16] Agreed

R2-2000217 CR to 38.306 on introducing autonomous gap in Rel-16 ZTE Coporation, Sanechips, CATT, OPPO, CMCC, MediaTek Inc, Vivo, Ericsson, Qualcomm Incorporated, Intel, Nokia, Huawei, HiSilicon, China Telecom, China Unicom, NTT DOCOMO CR Rel-16 38.306 15.8.0 0226 - B NR\_RRM\_enh-Core Revised

[R2-2001638](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001638.zip) CR to 38.306 on introducing autonomous gap in Rel-16 ZTE Coporation, Sanechips, CATT, OPPO, CMCC, MediaTek Inc, Vivo, Ericsson, Qualcomm Incorporated, Intel, Nokia, Huawei, HiSilicon, China Telecom, China Unicom, NTT DOCOMO CR Rel-16 38.306 15.8.0 0226 1 B NR\_RRM\_enh-Core R2-2000217

=> Revised in R2-2002147

R2-2002147 CR to 38.306 on introducing autonomous gap in Rel-16 ZTE Coporation, Sanechips, CATT, OPPO, CMCC, MediaTek Inc, Vivo, Ericsson, Qualcomm Incorporated, Intel, Nokia, Huawei, HiSilicon, China Telecom, China Unicom, NTT DOCOMO CR Rel-16 38.306 15.8.0 0226 2 B NR\_RRM\_enh-Core

* [AT109e][055][TEI16] Agreed
* [AT109e][055][TEI16] Autonomous Gaps (vivo, ZTE)

Scope: Autonomous gaps, tdocs above

CLOSED

[R2-2002219](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002219.zip) Reply LS on CGI reading with autonomous gaps ZTE Corporation LS out Rel-16 NR\_RRM\_Enh\_Core To:RAN4

* [AT109e][055][TEI16] Approved

IDC

R2-2000362 Introduction of NR IDC solution vivo, Nokia, Nokia Shanghai Bell, Spreadtrum, ZTE Corporation, Sanechips, Huawei, HiSilicon, Fujitsu, NTT DOCOMO INC., NEC, Xiaomi Communications, Qualcomm Inc, CATT, InterDigital, China Telecom, Ericsson CR Rel-16 38.331 15.8.0 1443 - F TEI16

=> Revised in R2-2002175

R2-2002175 Introduction of NR IDC solution vivo, Nokia, Nokia Shanghai Bell, Spreadtrum, ZTE Corporation, Sanechips, Huawei, HiSilicon, Fujitsu, NTT DOCOMO INC., NEC, Xiaomi Communications, Qualcomm Inc, CATT, InterDigital, China Telecom, Ericsson CR Rel-16 38.331 15.8.0 1443 1 F TEI16

* [AT109e][056][TEI16] Agreed

R2-2000363 UE capability for IDC vivo, Nokia, Nokia Shanghai Bell, Spreadtrum, ZTE Corporation, Sanechips, Huawei, HiSilicon, Fujitsu, NTT DOCOMO INC., NEC, Xiaomi Communications, Qualcomm Inc, CATT, InterDigital, China Telecom, Ericsson CR Rel-16 38.306 15.8.0 0229 - F TEI16

* [AT109e][056][TEI16] Agreed

R2-2000575 Introduction of NR IDC Solution Nokia, CATT, Ericsson, Huawei, InterDigital, NEC, NTT DOCOMO INC., Nokia Shanghai Bell, Qualcomm, vivo, ZTE CR Rel-16 38.300 16.0.0 0190 - B TEI16

* [AT109e][056][TEI16] Agreed
* [AT109e][056][TEI16] IDC (vivo)

Scope: IDC, tdocs above

Intended outcome: Agreed CRs

CLOSED

Multiple LTE CRS rate matching patterns

[R2-2000865](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000865.zip) Introduction of multiple LTE CRS rate matching patterns Nokia, Nokia Shanghai Bell, Ericsson CR Rel-16 38.331 15.8.0 1458 - B TEI16

R2-2000866 Introduction of multiple LTE CRS rate matching patterns Nokia, Nokia Shanghai Bell, Ericsson CR Rel-16 38.306 15.8.0 0240 - B TEI16

- QC think we should treat this as requested by R1

- Nokia think this is related to eMIMO

- ZTE are generally ok, but wonder if there is a conflict with legacy config, in servingcellcommon, Nokia think this is a valid comment.

- QC think that in R1 LS they are already asking for 6 patterns, also in the scope of TEI.

- Nokia think these CRs is for single TRP and there may be different capabilities. QC think that configuration could be one single solution, and capabilities is different.

* Postpone (see what is needed in Q2, on top of eMIMO CRs)

Not To Be Treated

5G indicator

R2-2000048 LS on 5G indicator (RP-193265; contact: Intel) RAN LS in Rel-16 NR\_newRAT-Core, TEI16 To:RAN2 Cc:SA, CT, GSMA

3 tdocs Moved from 5.4:

R2-2000156 Completing the Solution for the 5G Indicator VODAFONE discussion

R2-2001199 Introduction of bandlist for ENDC for 5G indicator HUAWEI, British Telecom, HiSilicon CR Rel-16 36.331 15.8.0 4214 - C NR\_newRAT-Core

=> Revised in R2-2002098

R2-2002098 Introduction of bandlist for ENDC for 5G indicator HUAWEI, British Telecom, HiSilicon CR Rel-16 36.331 15.8.0 4214 1 C NR\_newRAT-Core

R2-2001576 Support of 5G indicator in EN-DC Samsung Electronics Co., Ltd discussion Rel-16 TEI16

Overheating

[R2-2001325](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001325.zip) 36.331 CR for addressing overheating issue in (NG)EN-DC (comeback from RAN2#108) Huawei, Huawei Device, Apple, CATT CR Rel-16 36.331 15.8.0 4176 1 F TEI16 R2-1915260

[R2-2001326](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001326.zip) 38.331 CR for addressing overheating issue in (NG)EN-DC (comeback from RAN2#108) Huawei, Huawei Device, Apple, CATT CR Rel-16 38.331 15.8.0 1413 1 F TEI16 R2-1915261

Cell Reselection ENDC

R2-2001575 Further discussion on EN-DC cell reselection Samsung Electronics Co., Ltd discussion Rel-16 TEI16

R2-2000914 CR on alternative cell reselection priorities in 38.304 CMCC, Ericsson CR Rel-16 38.304 15.6.0 0146 - B TEI

R2-2000915 CR on alternative cell reselection priorities in 38.331 CMCC, Ericsson CR Rel-16 38.331 15.8.0 1463 - B TEI

R2-2002037 CR on alternative cell reselection priorities in 36.304 CMCC, Ericsson, SoftBank CR Rel-16 36.304 15.5.0 0782 - B TEI16 Late

R2-2002038 CR on alternative cell reselection priorities in 36.331 CMCC, Ericsson, SoftBank CR Rel-16 36.331 15.8.0 4229 - B TEI16 Late

eDSS

R2-2000133 Introduction of enhanced support for dynamic spectrum sharing Ericsson CR Rel-16 38.331 15.8.0 1426 - B TEI16

R2-2000134 Introduction of enhanced support for dynamic spectrum sharing Ericsson CR Rel-16 38.306 15.8.0 0221 - B TEI16

Misc

[R2-2001009](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001009.zip) Missing reportAddNeighMeas in periodic measurement reporting Nokia, Nokia Shanghai Bell CR Rel-16 38.331 15.8.0 1290 1 F TEI16 R2-1913159

Treated in positioning parallel session

Introduction of B1C

R2-2000238 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 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

=> Revised in R2-2002121

R2-2002121 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 1 B TEI16

R2-2000240 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

Withdrawn

R2-2000168 Autonomous gap support for CGI reading vivo, CMCC, Ericsson CR Rel-16 38.331 15.8.0 1431 - B TEI16 Withdrawn

R2-2000170 Autonomous gap support for CGI reading vivo, CMCC, Ericsson CR Rel-16 38.306 15.8.0 0224 - B TEI16 Withdrawn

#### 6.20.1.3 New proposals

User Plane Integrity protection

LATE LS:

[R2-2002136](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002136.zip) Mandatory User Plane Integrity for 5G (FSAG Doc 79\_002; contact: DT) GSMA LS in To:SA, RAN, CT, RAN2, SA3, CT1, SA2

[R2-2000906](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000906.zip) Discussion on the flexible configuration of Maximum Data Rate Enumeration for UP Integrity Protection CMCC, Huawei, Hisilicon discussion Rel-16 R2-1915201

R2-2000604 Maximum Data Rate Enumeration for UP Integrity Protection Apple, ZTE Corporation, Sanechips discussion Rel-16 TEI16 R2-1915444

R2-2000605 Draft LS on Maximum Data Rate Enumeration for UP Integrity Protection Apple discussion Rel-16 TEI16 R2-1915445

- [AT109e][000] Chair: On specific operator request, Plan for UP integrity protection: no decisions at this meeting: a round of comments by email for next meeting, to pave the way for planning for next meeting.

- [AT109e][000] Chair: Note that the LS in R2-2002136 refers to some material where quite bold claims are made. R2 will not attempt to make any threat conclusions above AS layers.

- [AT109e][000] DT: Expect this will be discussed and RP and SP.

- [AT109e][000] Docomo, Huawei, QC: should wait until Plenaries have converged.

* [Post109e][TEI16] Enhanced capability for UP Integrity Protection (DT)

This email discussion is expected to start after RP#87e and scope may be updated then.

Scope: Enhanced capability for UP Integrity Protection. Gather comments on interest, feasibility, and possible solution direction, blocking aspects if any, considering R2-2002136, R2-2000906, R2-2000605.

Intended outcome: Report.

Deadline: Next Meeting

Not to be Treated

Misc

R2-2001327 On the enhancement of SRS carrier switching capability Huawei, HiSilicon discussion Rel-16 TEI16 R2-1915262

R2-2001328 On the over-cold issue Huawei, HiSilicon discussion Rel-16 TEI16

R2-2001238 Transfer of unicast RS observations with GNSS integer ambiguity level information Ericsson discussion Rel-16

R2-2001256 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

R2-2001292 Allow fallback band combinations when reporting SRS-TxSwitch capability Qualcomm Incorporated CR Rel-16 38.306 15.8.0 0253 - C TEI16

R2-2001293 Discussion of the PUCCH & SRS Resource Release Qualcomm Incorporated discussion Rel-16 TEI16

R2-2000139 CR to 38.331 on missing freqBandIndicator in NR redirection Qualcomm Incorporated CR Rel-16 38.331 15.8.0 1467 - F TEI16

R2-2000244 CR to 36.331 on missing freqBandIndicator in NR redirection Qualcomm Incorporated CR Rel-16 36.331 15.8.0 4202 - F TEI16

R2-2000324 additional SSB-ToMeasure for smtc2-LP OPPO, ZTE discussion Rel-16 TEI16

R2-2001041 On combined RRC procedures Nokia, Nokia Shanghai Bell, Ericsson discussion Rel-16 TEI16 R2-1914651

R2-2001042 RRC processing delays for combined procedures Nokia, Nokia Shanghai Bell, Ericsson CR Rel-16 38.331 15.8.0 1288 2 F TEI16 R2-1914652

R2-2001120 On inter-frequencyand inter-RAT measurement priority handling Ericsson CR Rel-16 36.331 15.8.0 4204 - B TEI

R2-2001121 On inter-frequencyand inter-RAT measurement priority handling Ericsson CR Rel-16 38.331 15.8.0 1473 - B TEI

R2-2001122 Measurement priority handling in NR Ericsson discussion

R2-2000230 SRB only connection enhancement for PDU session change CATT,Huawei, HiSilicon discussion Rel-16 38.331

R2-2000231 SRB only connection ehancement option 1 CATT,Huawei, HiSilicon draftCR Rel-15 38.331 15.8.0 F TEI16

R2-2000232 SRB only connection ehancement option 2 CATT draftCR Rel-15 38.331 15.8.0 F TEI16

R2-2000598 0-PDCCH RRC Connections for Certain Application Types Apple discussion Rel-16 TEI16

R2-2000686 Mobility state related information inheritance after inter-RAT cell reselection Huawei, HiSilicon, China Unicom discussion Rel-16 TEI16

R2-2000768 Additional UE capability filtering to limit the total number of carriers in NR Samsung discussion Rel-16 TEI16 R2-1915249

R2-2001188 On the support of NG-based (i.e. via CN) handover based using CGI report Huawei, HiSilicon discussion Rel-15 NR\_newRAT-Core R2-1914673

R2-2001447 Signaling of delta configuration for SCG in NR SA to EN-DC inter-system handover Qualcomm Incorporated discussion

Not available:

R2-2000108 LTE / NR Spectrum sharing in Band 40/n40 for LTE-NR Reliance Jio discussion Rel-16 Withdrawn

### 6.20.2 RAN2 led TEI16 enhancements - User plane related

#### 6.20.2.0 In-principle-agreed CRs

CRs in-principle agreed at previous meeting(s) need to be submitted at this meeting. They need to be updated to be based on the lastest version of the specification.

By Email

[R2-2001467](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001467.zip) Correction on autonomous RACH retransmission for SRS switching Huawei, HiSilicon CR Rel-16 38.321 15.8.0 0696 - F TEI16

- [AT109e][053][TEI16] Chair Feb 27: No Comments last 24h

* [AT109e][053][TEI16] Agreed

Withdrawn

R2-2000974 Correction on autonomous RACH retransmission for SRS switching Huawei, HiSilicon discussion Rel-16 TEI16 Late

#### 6.20.2.1 Open / ongoing proposals

Not to be Treated

Secondary DRX – waiting for LS reply

[R2-2000345](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000345.zip) Introduction of secondary DRX group Ericsson, Qualcomm, Samsung, Deutsche Telekom, Verizon discussion Rel-16 NR\_newRAT-Core

[R2-2000407](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000407.zip) Further considerations on secondary DRX group OPPO discussion Rel-16 TEI16

[R2-2001433](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001433.zip) Supporting WUS in multiple DRX groups Samsung discussion Late

R2-2000346 Introduction of secondary DRX group CR 38.306 Ericsson, Qualcomm, Samsung, Deutsche Telekom, Verizon CR Rel-16 38.306 15.8.0 0228 - C TEI16, NR\_newRAT-Core

R2-2000347 Introduction of secondary DRX group CR 38.321 Ericsson, Qualcomm, Samsung, Deutsche Telekom, Verizon CR Rel-16 38.321 15.8.0 0686 - C TEI16, NR\_newRAT-Core

R2-2000348 Introduction of secondary DRX group CR 38.331 Ericsson, Qualcomm, Samsung, Deutsche Telekom, Verizon CR Rel-16 38.331 15.8.0 1439 - C TEI16, NR\_newRAT-Core

LCP mapping

[R2-2000576](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000576.zip) LCP Mapping Restrictions Nokia, Ericsson, Fujitsu, Nokia Shanghai Bell discussion Rel-16 TEI16 R2-1909118

R2-2000577 Dynamic LCP Mapping Restrictions Nokia, Nokia Shanghai Bell CR Rel-16 38.321 15.8.0 0689 - B TEI16

Withdrawn:

R2-2000779 SR\_COUNTER initialization due to RRC reconfiguration Fujitsu discussion Rel-16 TEI16 R2-1915003 Withdrawn

#### 6.20.2.3 New proposals

Not to be treated

R2-2000120 MAC upgrade for SR dropping in PHY CATT, Qualcomm Inc. discussion TEI16 R2-1914420

R2-2000121 Correction on the drx-HARQ-RTT-TimerDL CATT draftCR Rel-16 38.321 15.8.0 TEI16

R2-2000406 Cell restriction for CA duplication OPPO discussion Rel-16 TEI16

R2-2000578 QoS Flow Handling Nokia, Nokia Shanghai Bell discussion Rel-16 TEI16 R2-1914602

R2-2000579 MDBV Enforcement Nokia, InterDigital, Nokia Shanghai Bell discussion Rel-16 TEI16 R2-1914603

R2-2000594 Preamble Selection for RACH Procedure Apple discussion Rel-16 TEI16 R2-1915937

R2-2000723 PDCP security issue about duplicate detection Samsung, LG Electronics Inc., Nokia, Nokia Shanghai Bell, LG Uplus discussion Rel-16 38.323 TEI16 R2-1914884

R2-2000724 CR on PDCP security issue Samsung, LG Electronics Inc., Nokia, Nokia Shanghai Bell, LG Uplus CR Rel-16 38.323 15.6.0 0032 3 F TEI16 R2-1914887

R2-2000725 Unnecessary deciphering for duplicated PDUs Samsung discussion TEI16 R2-1915066

R2-2000758 Enhancement on BSR format for the one LCG case Huawei, HiSilicon CR Rel-16 38.321 15.8.0 0690 - F TEI16

R2-2000832 RNTI ambiguity for CFRA and CBRA of 4-Step RACH Sony discussion Rel-16 TEI16 R2-1915242

[R2-2000854](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000854.zip) CFRA resource handling for BFR upon TAT expiry Nokia, Nokia Shanghai Bell, Apple, ASUSTek discussion Rel-16 TEI16

[R2-2001015](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001015.zip) Updates to reestablishment procedure ZTE Corporation, Sanechips, Intel Corporation, CATT CR Rel-16 38.331 15.8.0 1143 4 C TEI16 R2-1914788

R2-2001285 ON Duration adaptation LG Electronics Inc., LG Uplus, Vivo discussion Rel-16 TEI16 R2-1914903

R2-2001299 Handling of bwp-InactivityTimer upon BWP switching LG Electronics Deutschland discussion Rel-16 TEI16 R2-1916113

R2-2001307 Adaptation of QoS Flow to DRB Mapping for MDBV Enforcement Futurewei discussion Rel-16 TEI16

[R2-2001355](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001355.zip) Stopping ra-ResponseWindow for contention-free BFR Huawei, HiSilicon, China Unicom discussion Rel-16 TEI16

R2-2001554 Retransmission of an RLC SDU with a poll after discard procedure LG Electronics Inc., Ericsson, NTT Docomo, LG Uplus, Sharp discussion Rel-16 TEI16 R2-1913818

[R2-2001644](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001644.zip) SR\_COUNTER initialization due to RRC reconfiguration Fujitsu, LG Electronics Inc. discussion Rel-16 TEI16 R2-1915003

### 6.20.3 TEI16 enhancements led by other WGs

Documents submitted to this agenda item will only be treated after a decision on the TEI has been made by another group and an LS informing RAN2 of their decision has been received. Tdoc limitation does not apply.

By Email – To be noted

LS in Cc RAN2

[R2-2000050](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000050.zip) Reply LS on enhanced access control for IMS signalling (S1-193595; contact: NTT Docomo) SA1 LS in Rel-16 TEI16 To:CT1 Cc:RAN2, SA

* Noted

#### 6.20.3.0 In-principle-agreed CRs

CRs in-principle agreed at previous meeting(s) need to be submitted at this meeting. They need to be updated to be based on the lastest version of the specification.

By Email

R2-2000360 Correction on beamSwitchTiming values of 224 and 336 vivo, Huawei, Hisilicon CR Rel-16 38.306 15.8.0 0214 1 F TEI16 R2-1914687

- [AT109e][053][TEI16] Vivo (chenli): Apart from updating to the newest version of TS, I just updated the cover sheet to add the information on the corresponding RAN1 CR, “TS 38.214 CR 0060”

- [AT109e][053][TEI16] Chair Feb 27: no comments last 24h

* [At109e][053][TEI16] Agreed

R2-2001379 CR to 38.331 on CSI-RS inter-node message Huawei, HiSilicon CR Rel-16 38.331 15.8.0 1354 1 C TEI16 R2-1914669

- [AT109e][053][TEI16] Huawei (lili): Apart from updating to the newest version of TS, I made a small editorial change to the following CR: the IE name was changed from “CSI-RS-Config-IEs” to “CSI-RS-Config-v16xx-IEs”

- [AT109e][053][TEI16] Lenovo (Hyung-Nam): I have problems how CSI-RS resources have been included in the MeasurementTimingConfiguration. To me it should be as follows <part excluded>

- [AT109e][053][TEI16]Thanks Hyung-Nam for spotting the issue. I have revised the CR accordingly (Note that I removed the “OPTIONAL” of csi-RS-Config-r16)

* Revised

- [AT109e][053][TEI16] Chair Feb 27: no comments last 24h, can be agreed, please provide revision (rev 2)

R2-2002184 CR to 38.331 on CSI-RS inter-node message Huawei, HiSilicon CR Rel-16 38.331 15.8.0 1354 2 C TEI16

* [At109e][053][TEI16] Agreed

#### 6.20.3.1 Open / ongoing proposals

By Web Conf

CSI-RS capabilities under-reporting

[R2-2000093](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000093.zip) LS on Discussion over UE capabilities of FG2-36/2-40/2-41/2-43 (R1-1913295; contact: Huawei) RAN1 LS in Rel-15 NR\_newRAT-Core To:RAN2

* Noted

[R2-2000683](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000683.zip) Solution for under-reporting CSI-RS capabilities NTT DOCOMO, INC. discussion Rel-16 NR\_newRAT-Core, TEI16 R2-1916277

* Noted

4 Moved from 5.4.3:

R2-2001315 Discussion on under-reporting CSI-RS capabilities Huawei, HiSilicon, China Unicom, CMCC discussion Rel-15 NR\_newRAT-Core Revised

[R2-2001486](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001486.zip) Discussion on under-reporting CSI-RS capabilities Huawei, HiSilicon, China Unicom, CMCC, China Telecom discussion Rel-15 NR\_newRAT-Core R2-2001315

* Noted

DISCUSSION on the two tdocs above

- Huawei want to do this for R15.

- QC has the same understanding as docomo, but think we need to negotiate no of triplets to signal. QC think we shouldn’t do the Huawei P2. Ericsson are also aligned with the docomo proposal and also don’t like the Huawei P2. Intel agrees as well, and think there are maintenance concerns with Huawei proposal.

- Samsung think that cap size is still something to focus on, and request response can be used for several scenario and wonders if this is possible for this case. Docomo are open but think we should not use this for so many things.

- CT think that for P2 we can use a new parameter, and think it would be ok to do this for R15.

- Huawei think their solution can work without P2, and wonder why we can’t just introduce acc to R1 proposal. CMCC think we should just follow R1 LS and think we need this for Rel-15

- Docomo think the Huawei proposal becomes complex, esp with legacy signalling.

* [AT109e][076][TEI16] Under-reporting CSI-RS capabilities (Docomo)

Scope: Progress the solution and CR, use solution in R2-2000683, R2-2000688, R2-2000689 as baseline. If progress is good, determine the need for, scope of an LS

CLOSED (discussion on Reply LS continued by post meeting email)

R2-2001316 CR on CSI UE capabilities parameters (38.331) Huawei, HiSilicon, China Unicom, CMCC CR Rel-15 38.331 15.8.0 1412 1 F NR\_newRAT-Core R2-1915903

R2-2001317 CR on CSI UE capabilities parameters (38.306) Huawei, HiSilicon, China Unicom, CMCC CR Rel-15 38.306 15.8.0 0213 1 F NR\_newRAT-Core R2-1915904

R2-2000688 Extension of CSI-RS capabilities per codebook type NTT DOCOMO, INC. CR Rel-16 38.331 15.8.0 1451 - C NR\_newRAT-Core, TEI16

R2-2000689 Extension of CSI-RS capabilities per codebook type NTT DOCOMO, INC. CR Rel-16 38.306 15.8.0 0237 - C NR\_newRAT-Core, TEI16

* CRs are postponed

R2-2000690 [DRAFT] Reply LS on CSI-RS capabilities (FG 2-33/36/40/41/43) NTT DOCOMO, INC. LS out Rel-16 NR\_newRAT-Core, TEI16 To:RAN1

* Will have an LS out
* [Post109e][TEI16] Reply LS on CSI-RS capabilities (FG 2-33/36/40/41/43) (NTT DOCOMO, INC)

Scope: Reply LS out to R1, based on discussion [AT109e][076][TEI16]

Intended outcome: Approved LS out

Deadline: March 12, 2020

By Email – Discussion

LS in

[R2-2000014](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000014.zip) LS on NR Rel-16 TEI (R1-1913580; contact: NTT Docomo) RAN1 LS in Rel-16 TEI16 To:RAN2, RAN4 Cc:RAN

* Noted

Additional RACH configurations

R2-2001352 Introduction of additional RACH configurations for TDD FR1 NTT DOCOMO, INC. CR Rel-16 38.331 15.8.0 1486 - B NR\_newRAT-Core, TEI16

* [AT109e][057][TEI16] Chair: RAN1 has explicitly decided this to be a mandatory feature without capability signalling, which is somewhat unusual. Only one company has expressed concerns, but can allow further discussion. The provided CR seems to implement what was asked for.
* [AT109e][057][TEI16] Agreed, Can still discuss during Q2 the need for/introduction of a signalled capability for this feature.
* [AT109e][057][TEI16] Additional RACH config (NTT Docomo)

Scope: tdoc above

Intended outcome: Agreed CRs

CLOSED

Downgraded configuration SRS antenna switching

[R2-2001275](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001275.zip) Downgrading configuration of SRS for antenna switching Intel Corporation discussion Rel-16 TEI16

* [AT109e][058][TEI16] Noted

[R2-2002273](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002273.zip) Summary of [AT109e][058][TEI16] Downgraded configuration SRS antenna switching (Intel OPPO) Rapporteur

* [AT109e][058][TEI16] Noted

R2-2000198 Introduction of downgraded configurations for SRS antenna switching OPPO CR Rel-16 38.331 15.8.0 1433 - B NR\_newRAT-Core

=> Revised in R2-2002066

[R2-2002066](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002066.zip) Introduction of downgraded configurations for SRS antenna switching OPPO, Intel CR Rel-16 38.331 15.8.0 1433 1 B NR\_newRAT-Core

[R2-2002260](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002260.zip) Introduction of downgraded configurations for SRS antenna switching OPPO, Intel CR Rel-16 38.331 15.8.0 1433 2 B NR\_newRAT-Core

* [AT109e][058][TEI16] Agreed

R2-2002067 Introduction of downgraded configurations for SRS antenna switching OPPO CR Rel-16 38.306 15.8.0 0258 - B TEI16 Late

R2-2002261 Introduction of downgraded configurations for SRS antenna switching OPPO, Intel CR Rel-16 38.306 15.8.0 0258 1 B TEI16 Late

* [AT109e][058][TEI16] Agreed

[R2-2001273](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001273.zip) Downgrading configuration of SRS for antenna switching - Alt. 1 Intel Corporation CR Rel-16 38.331 15.8.0 1480 - C TEI16

R2-2001274 Downgrading configuration of SRS for antenna switching - Alt. 1 Intel Corporation CR Rel-16 38.306 15.8.0 0251 - C TEI16

R2-2001276 Downgrading configuration of SRS for antenna switching - Alt. 2 Intel Corporation CR Rel-16 38.331 15.8.0 1481 - C TEI16

R2-2001277 Downgrading configuration of SRS for antenna switching - Alt. 2 Intel Corporation CR Rel-16 38.306 15.8.0 0252 - C TEI16

* [AT109e][058][TEI16] Downgraded configuration SRS antenna switching (Intel Oppo)

Scope: tdocs above

Intended outcome: Agreed CRs

CLOSED

[R2-2002273](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002273.zip) Summary of [AT109e][058][TEI16] Downgraded configuration SRS antenna switching (Intel OPPO) OPPO (Rapporteur) discussion Rel-16 TEI16

* [AT109e][058][TEI16] Noted

One-slot periodic TRS configuration

R2-2000911 Introduction of one-slot periodic TRS configuration for FR1 under a certain condition in TS38.306 CMCC draftCR Rel-16 38.306 15.8.0 B TEI

R2-2000912 Introduction of one-slot periodic TRS configuration for FR1 under a certain condition in TS38.331 CMCC draftCR Rel-16 38.331 15.8.0 B TEI

- [AT109e][059][TEI16] CMCC (Ningyu) As email discussion rappporteur, I would suggest we postpone the CRs and wait for RAN1's conclusion.

* Postponed
* [AT109e][059][TEI16] One-slot periodic TRS configuration (CMCC)

CLOSED

Withdrawn:

R2-2000361 Correction on beamSwitchTiming values of 224 and 336 vivo CR Rel-16 38.331 15.8.0 1442 - F TEI16 Withdrawn

## 6.21 On demand SI in connected

On demand SI reception in RRC\_CONNECTED may be relevant to several Rel-16 WIs (e.g. V2X, positioning, IIoT, etc). This agenda item is for the discussion of the generic procedure for on demand SI in RRC\_CONNECTED; WI specific details of the SI content should be discussed within the appropriate AI for that WI.

Tdoc Limitation: 1 tdoc

Including outcome of the email discussion [108#61][R16] on-demand SI procedure in RRC\_CONNECTED (Ericsson)

To be scheduled depending on progress of other items.

[R2-2000875](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000875.zip) Summary of [108#61][R16] On-demand SI procedure in RRC\_CONNECTED\_summary Ericsson discussion Rel-16 NR\_unlic-Core, 5G\_V2X\_NRSL-Core, NR\_IIOT-Core

DISCUSSION

- Samsung point out that we agreed this is applicable to R16 SIBs and possible future SIBs, and only SIB9 if needed for IIOT.

- CATT think P4 should be postponed

- P2: Nokia wonder if there would be additional work to support SIB9, and would like to clarify this. Chair think that if unicast provisioning if for enhanced accuracy then maybe this need to be considered. Ericsson think that IIOT may use DL Information Transfer Msg.

- P2: MTK think this is ok, and think SIB9 should be included for other purpose than IIOT, e.g. positioning.

- Intel are ok with the P2 proposal as is. P3 formulation seems to be strange, why would spare bits not be considered. Huawei agree with Intel.

- Oppo think that the mechanism could allow also SIB1-8 to be requested, as this may be required in the future. Apple agrees that all SIBs should be possible.

- Samsung think SIB9 is also problematic.

- P4: Ericsson clarifies that this could be a bit in RRC reconfiguration, or possibly a SIB bit (seems to be preferred in the positioning session). Ericsson think the feature is optional for the network. SS think the current mechanism for on-demand in idle/inactive can be used.

- P4: CATT think this is only for SIB9. For R16 this should be mandatory if network support on-demand for Idle/Inactive. Ericsson think that for some cases e.g. V2X the network may want to provide some SIBs only in connected, not in Idle/Inactive. Samsung think this case is not valid.

- P4: Lenovo support this. Intel as well, and think it is not just for SIB9. Apple as well. LG support this as well, otherwise the UE will request unnecessarily from network that do not support.

- P4: Nokia think indeed this proposal can be tied to SIB9.

P5

- ZTE think this shall be left for UE implementation and need no further discussion. CATT agrees.

- MTK think that the network should always respond. Would there be networks that do not have this capability?

- LG think a prohibit timer would be useful. Vivo think this is useful for congestion case. Lenovo think there might be a case.

- Samsung assume that the UE know if the network has this capability, and there is two delivery mechanisms, dedicated and if the UE has common seach space, broadcast delivery is possible, and think this does not need to be specified. Intel agrees. CATT agrees as well. NEC also agrees.

- Apple also think the network shall always reply

- Chair proposes: The UE knows whether the network has capability for this feature (e.g. based on existing indication or FFS new indication), and it is assumed that the network always replies to a UE request. Ericsson think that the network can choose to ignore the UE, e.g. at high load.

- Intel think the network should always reply, and the only abnormal case when network doesn’t reply is if the network loses the message.

- Nokia think we don't need to standardize much for this.

- Huawei would be ok either way,

- Ericsson strongly think a prohibit timer would be needed. Samsung think we didn’t introduce a prohibit timer in R15.

- Intel wonder what “UE implementation” would mean? The procedure would normally always be successful.

- Apple think that anyway modification period would be a normal condition in the UE.

- Ericsson think there already is a method for the network to reject access in Idle/inactive mode, but not for connected. For V2X there may be cases with very frequent requests.

* In Rel-16 the UE is not allowed to request from SIB1 to SIB8 on-demand (FFS whether SIB9 is allowed is pending).
* The list of requested SIBs provided by the UE contains only SIBs that are allowed to be requested on-demand, ASN.1 extension possibility is expected as usual.
* FFS if an explicit network indication is specified in order to inform the UE whether the on-demand SIB request in RRC\_CONNECTED is supported.
* The UE knows whether the network has capability for this feature (e.g. based on existing indication or FFS new indication)

[R2-2001670](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001670.zip) Feature summary for on-demand SIB in CONNECTED Ericsson (Rapporteur) discussion Rel-16

- Ericsson indicate that this doesn’t impact the stage-2 CR

* [AT109e][082][OdSIBconn] on-demand SIB in CONNECTED Functionality (Ericsson)

Scope: Treat and progress based on R2-2001670

CLOSED

Agreements [AT109e][082][OdSIBconn]

* The UE in RRC\_CONNECTED shall not request on-demand the SIB specified in the DCCA WI for early measurements.
* The UE should trigger the on-demand SIB request only after checking if the required SIBs are mapped to a SI message as per *si-SchedulingInfo* in SIB1.   
  a)       If a CSS is configured in an active BWP, the on-demand request is triggered only for those SIBs with a *si-BroadcastStatus*is set to *notBroadcasting*.   
  b)       if no CSS is configured for an active BWP, then the on-demand request is done regardless of the *si-BroadcastStatus* since the UE cannot check the broadcast channel.
* If the UE does not have a valid stored version of a SIB, the same principles described in P4 are applied.
* RAN2 to confirm that upon receiving RRC reconfiguration message which includes *reconfigurationWithSync* in *spCellConfig* of an MCG and *dedicatedSIB1-Delivery*, SI request may be initiated after MAC of MCG completes the random access procedure towards the target SpCell.
* *DedicatedSIBRequest-r16* is not included in the the HandoverPreparationInformation.
* [Post109e][OdSIBconn] Open Issues (Ericsson)

Scope: Address Open issues of On demand System Information in Connected

Intended outcome: Report, and agreeable CR

Deadline: Next meeting

[R2-2000876](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000876.zip) Running CR on 38.331 for on-demand SIB(s) in CONNECTED Ericsson CR Rel-16 38.331 15.8.0 1462 - B NR\_unlic-Core, 5G\_V2X\_NRSL-Core, NR\_IIOT-Core

- Ericsson explains that there are some FFSes, and the explicit indication is included now.

- Chair: Need to Exclude non-agreed parts.

=> Revised in R2-2002228

R2-2002228 Running CR on 38.331 for on-demand SIB(s) in CONNECTED Ericsson CR Rel-16 38.331 15.8.0 1462 1 B NR\_unlic-Core, 5G\_V2X\_NRSL-Core, NR\_IIOT-Core

[R2-2000877](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000877.zip) Running CR on 38.300 for on-demand SIB(s) in CONNECTED Ericsson CR Rel-16 38.300 16.0.0 0194 - B NR\_unlic-Core, 5G\_V2X\_NRSL-Core, NR\_IIOT-Core

- Ericsson explains this CR seems to be ok, not many comments.

- NEC point out that this CR should be based on R16 version

* Endorsed (small things can be fixed)

=> Revised in R2-2002229

R2-2002229 Running CR on 38.300 for on-demand SIB(s) in CONNECTED Ericsson CR Rel-16 38.300 16.0.0 0194 1 B NR\_unlic-Core, 5G\_V2X\_NRSL-Core, NR\_IIOT-Core

* [AT109e][083][OdSIBconn] on-demand SIB in CONNECTED CRs (Ericsson)

Scope: Treat and progress based on R2-2001670, Need to coordinate with NR pos CR to avoid clashes.

Intended outcome: agreed CRs 38300 38331

Deadline: MAR 4, 5, 6 (see schedule)

R2-2002227 On-demand SIB in CONNECTED Functionality Ericsson discussion Rel-16 NR\_unlic-Core, 5G\_V2X\_NRSL-Core, NR\_IIOT-Core

=> Revised in R2-2002343

R2-2002343 On-demand SIB in CONNECTED Functionality Ericsson discussion Rel-16 NR\_unlic-Core, 5G\_V2X\_NRSL-Core, NR\_IIOT-Core

[R2-2000878](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000878.zip) Open issues list for on-demand SIB Ericsson discussion Rel-16 NR\_unlic-Core, 5G\_V2X\_NRSL-Core, NR\_IIOT-Core

R2-2000228 Remaining Issues of On Demand SI Procedure in RRC Connected Samsung Electronics Co., Ltd discussion Rel-16 NR\_2step\_RACH-Core

R2-2000478 Remaining open issues on on-demand request in Connected mode Intel discussion Rel-16 TEI16

R2-2000500 On-demand SI support for EN-DC SCG vivo discussion

R2-2000607 Discussion on open issues in On Demand SI Apple discussion Rel-16 NR\_newRAT-Core

R2-2000667 Remaining issues on on-demand SI in connected ZTE Corporation, Sanechips discussion Rel-16

R2-2000972 Discussion on SI request enhancement for Connected UEs Huawei, HiSilicon discussion Rel-16

R2-2001154 Discussion on open issues of on-demand SI procedure in connected Lenovo, Motorola Mobility discussion Rel-16 TEI16

R2-2001522 Resolving open issues for on-demand SI LG Electronics France discussion

## 6.22 Physical layer enhancements for NR ultra-reliable and low latency case (URLLC)

(NR\_L1enh\_URLLC-Core; leading WG: RAN1; REL-16; target; Mar 20; WID: [RP-1915](file:///C:\Data\3GPP\TSGR\TSGR_84\docs\RP-191563.zip)84). Treated together with IIOT, AI 6.7. UL intra-UE prioritization and enhanced UL CG transmission should be discussed and addressed under RAN2 IIOT WI (do not submit under this AI), while the other objectives should be discussed under RAN2 eURLLC WI. This AI.

Time budget: 1 TU, will be treated together with IIOT.

Tdoc Limitation: 3 tdocs (for AI 6.22, or for 6.7 in addition to the tdoc limitation listed for 6.7)

### 6.22.1 Organizational

Running CRs etc

Including outcome of the email discussion [108#112][URLLC] RRC running CR (Huawei)

LSin

[R2-2000020](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000020.zip) Response LS on LCP Restriction for Dynamic Grant (R1-1913591; contact: Qualcomm) RAN1 LS in Rel-16 NR\_L1enh\_URLLC-Core To:RAN2

* Noted wo pres

By Email

RRC CR – email disc 108#112

Input status – CR need to be endorsed.

[R2-2001356](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001356.zip) Report of [108#112][URLLC] RRC running CR Huawei, HiSilicon discussion Rel-16 NR\_L1enh\_URLLC-Core

R2-2001357 Running 38.331 CR for NR\_L1enh\_URLLC Huawei, HiSilicon CR Rel-16 38.331 15.8.0 1487 - B NR\_L1enh\_URLLC-Core

- Part 1 of the email discussion is to endorse the CR.

* [AT109e][060][URLLC] The running CR in R2-2001357 is endorsed.

=> Revised in R2-2002313

R2-2002313 Running 38.331 CR for NR\_L1enh\_URLLC Huawei, HiSilicon CR Rel-16 38.331 15.8.0 1487 1 B NR\_L1enh\_URLLC-Core

* [AT109e][060][URLLC] RRC CR (Huawei)

Intended outcome: Address CR Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed CRs.

Deadlines: Mar 4, 5, 6 (see the schedule).

MAC CR

Input Status – Endorsed R2#108

R2-2001358 Running 38.321 CR for NR\_L1enh\_URLLC Huawei, HiSilicon CR Rel-16 38.321 15.8.0 0695 - B NR\_L1enh\_URLLC-Core

=> Revised in R2-2002314

R2-2002314 Running 38.321 CR for NR\_L1enh\_URLLC Huawei, HiSilicon CR Rel-16 38.321 15.8.0 0695 1 B NR\_L1enh\_URLLC-Core

* [AT109e][061][URLLC] MAC CR (Huawei)

Intended outcome: Address CR Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed CRs.

Deadlines: Mar 4, 5, 6 (see the schedule).

Stage-2 38300 CR

Input Status – nothing agreed yet

R2-2001359 Running 38.300 CR for NR\_L1enh\_URLLC Huawei, HiSilicon CR Rel-16 38.300 16.0.0 0200 - B NR\_L1enh\_URLLC-Core

=> Revised in R2-2002315

R2-2002315 Running 38.300 CR for NR\_L1enh\_URLLC Huawei, HiSilicon CR Rel-16 38.300 16.0.0 0200 1 B NR\_L1enh\_URLLC-Core

[Chair] note that ambition level for stage-2 can be low.

* [AT109e][062][URLLC] Stage-2 38300 CR (Huawei)

Intended outcome: Address CR Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed CRs.

Deadlines: Mar 4, 5, 6 (see the schedule).

### 6.22.2 Control Plane

By Web Conf

Moved from 6.4, V2X Uu is treated with URLLC

[R2-2000032](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000032.zip) Reply LS on Enhancements to QoS Handling for V2X Communication Over Uu Reference Point (R3-197775; contact: Nokia) RAN3 LS in Rel-16 eV2XARC To:SA2 Cc:RAN2

* Noted

[R2-2000571](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000571.zip) Notification for Alternative QoS profiles Nokia, Nokia Shanghai Bell discussion Rel-16 5G\_V2X\_NRSL-Core

- Ericsson agrees with Nokia, but the LS should be slightly modified and say this shall be used only when needed.

- QC think this is not R2 scope. Huawei agrees.

- Chair wonder if the issue is overhead. Nokia think yes and a problem is that notifications are sent also in bad coverage.

- Vodafone indeed think that this QoS negotiation can happen in bad coverage.

* Noted

[R2-2000572](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000572.zip) Reply LS on Enhancements to QoS Handling for V2X Communication Over Uu Reference Point Nokia LS out Rel-16 5G\_V2X\_NRSL-Core To:SA2 Cc:RAN3

Not to be treated

R2-2001360 Discussion on UE feature list for URLLC Huawei, HiSilicon discussion Rel-16 NR\_L1enh\_URLLC-Core

### 6.22.3 User Plane

By Email

L2 parameter ranges

[R2-2000780](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000780.zip) PDCP discard timer with 0.5ms Fujitsu discussion Rel-16 NR\_L1enh\_URLLC-Core

[R2-2000800](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000800.zip) PDCP discard timers Ericsson discussion NR\_L1enh\_URLLC-Core

[R2-2001332](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001332.zip) New values for RLC and PDCP timers- Open issue and capabilities Qualcomm Incorporated discussion

[R2-2001361](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001361.zip) On Layer 2 parameter values to support delay critical GBR QoS flows Huawei, HiSilicon discussion Rel-16 NR\_L1enh\_URLLC-Core

* [AT109e][063][URLLC] L2 Parameters (Huawei)

Intended outcome: Treat the R2-2000780, R2-2000800, R2-2001332, R2-2001361, resolve issues, if any. Find OIs, if any.

CLOSED

[R2-2002140](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2002140.zip) Summary of [AT109e][063][URLLC] L2 Parameters etc (Huawei) Huawei, HiSilicon (email disc rapporteur)

* [AT109e][063][URLLC] Noted

Agreements [AT109e][063][URLLC]

* In Rel-16 NR, allow the value of 0.5 ms for the PDCP discard timer in URLLC WI.
* In Rel-16 NR, do not introduce additional values of bucket size duration in URLLC WI.
* In Rel-16 NR, do not introduce additional values of logical channel priority in URLLC WI.
* In Rel-16 NR, additional values of PDCP discard timer is optional with a separate UE capability signalling.
* In Rel-16 NR, additional values of RLC T-StatusProhibit timer is optional with a separate UE capability signalling.
* In Rel-16 NR, additional values of RLC T-PollRetransmit timer is optional with a separate UE capability signalling.

MAC CE

[R2-2000799](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2000799.zip) on MAC CE design for eURLLC Ericsson discussion NR\_L1enh\_URLLC-Core

* noted
* [AT109e][064][URLLC] MAC CEs (Ericsson)

Intended outcome: Treat R2-2000799, resolve issues, if any. Find OIs, if any.

CLOSED

R2-2002295 Summary on [AT109e][064][URLLC] MAC CEs (Ericsson) Ericsson discussion Rel-16 NR\_L1enh\_URLLC-Core

* [AT109e][064][URLLC] noted

Agreements [AT109e][064][URLLC]

* Re-use one reserved bit in Rel-15 Aperiodic CSI Trigger State Subselection MAC CE to indicate one of the two lists for CSI aperiodic trigger state.
* Both PUCCH spatial relation lists can be in-use simultaneously in Rel-16, and Rel-15 MAC CE cannot distinguish which list the MAC CE refers to.
* Wait for RAN1 inputs on the maximum number of PUCCH resource per BWP when two HARQ-ACK codebooks are configured.
* RAN2 to jointly design PUCCH spatial relation activation/de-activation MAC CE for Rel-16 eURLLC WI and Rel-16 eMIMO WI, if both are identified to be needed.

By Web Conf

[R2-2001485](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001485.zip) Enhancement to PHR timeline with URLLC Qualcomm Inc discussion Rel-16

- MTK think the scenario existed already in R15, why didn’t we do that then.

- LG think there is no problem to resolve in MAC and this is just an optimization.

- Lenovo also think this is not needed

- Apple support this proposal.

Chair: not sufficient support.

* noted

Not to be treated

[R2-2001567](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001567.zip) Enhancements of SR cancellation for URLLC traffic LG Electronics Inc. discussion Rel-16 NR\_L1enh\_URLLC-Core R2-1915923

R2-2001362 On handling of URLLC traffic during measurement gaps in uplink Huawei, HiSilicon discussion Rel-16 NR\_L1enh\_URLLC-Core

# 7 Rel-16 LTE Work Items

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

## 7.1 Additional MTC enhancements for LTE

(LTE\_eMTC5-Core; leading WG: RAN1; REL-16; started: Jun 18; target; Mar 20; WID: [RP-191356](file:///C:\Data\3GPP\TSGR\TSGR_84\docs\RP-191356.zip))

Time budget: 2.5 TU

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

Some sub-items in 7.1 and 7.2 may be treated jointly.

### 7.1.1 Organisational

Including incoming LSs, rapporteur inputs, running CRs

R2-2000092 Reply LS on assistance indication for WUS (C1-199008; contact: Huawei) CT1 LS in Rel-16 NB\_IOTenh3-Core, LTE\_eMTC5-Core To:CT1 Cc:SA2, RAN2, RAN3

R2-2000094 Reply LS on direct indication of ETWS/CMAS (R1-1913367; contact: Futurewei) RAN1 LS in Rel-16 LTE\_eMTC5-Core To:RAN2

R2-2000305 Introduction of additional enhancements for eMTC Qualcomm Incorporated CR Rel-16 38.300 16.0.0 0175 3 B LTE\_eMTC5-Core R2-1916363

R2-2000387 RAN2 agreements for Rel-16 additional enhancements for NB-IoT and MTC Document Rapporteur (BlackBerry) WI summary Rel-16 LTE\_eMTC5-Core, NB\_IOTenh3-Core

R2-2000433 Introduction of Rel-16 eMTC enhancements Qualcomm Incorporated CR Rel-16 36.331 15.8.0 4191 - B LTE\_eMTC5-Core R2-1916364

R2-2000501 Addressing Editor's Notes in 36.302 running CR for eMTC ZTE Corporation, Sanechips discussion Rel-16 36.302 LTE\_eMTC5-Core

R2-2000558 Rapporteur Summary :Discussion on cell selection for non-BL UE Nokia, Nokia Shanghai Bell discussion

R2-2000976 Running CR on 36.321 for eMTC Ericsson CR Rel-16 36.321 15.8.0 1465 - B LTE\_eMTC5-Core

R2-2001065 Introduction of additional enhancements for eMTC Huawei, HiSilicon CR Rel-16 36.306 15.7.0 1735 - B LTE\_eMTC5-Core

R2-2001066 Open issues on the 36.306 running CR for eMTC Huawei, HiSilicon discussion Rel-16 LTE\_eMTC5-Core

R2-2001097 Introduction of Rel-16 eMTC enhancements Intel Corporation CR Rel-16 36.300 16.0.0 1267 - B LTE\_eMTC5-Core

R2-2001167 Introduction of additional enhancements for eMTC in TS36.304 Nokia Solutions & Networks (I) CR Rel-16 36.304 15.5.0 0781 - B LTE\_eMTC5-Core

R2-2001213 Running 36.302 CR for R16 eMTC ZTE Corporation, Sanechips draftCR Rel-16 36.302 15.2.0 LTE\_eMTC5-Core Late

R2-2001470 Report from eMTC/NB-IoT RRC CR coordination telco Ericsson discussion Rel-16 LTE\_eMTC5-Core, NB\_IOTenh3-Core

### 7.1.2 Mobile-terminated (MT) early data transmission (EDT)

MT Early Data transmission for MTC and NB-IoT is treated jointly under this AI.

This agenda item may utilize a summary document to facilitate treatment of topics during the e-meeting (decision to be made based on the submitted tdocs). This may lead to postponing some items to the next meeting. A web conference may be used for handling some of the discussions in this AI.

R2-2000179 Cat. M2/NB2 indication in UERadioPagingInformation Qualcomm Incorporated discussion Rel-16 LTE\_eMTC5-Core, NB\_IOTenh4\_LTE\_eMTC6-Core

R2-2000397 Support of MT-EDT CIoT EPS optimisation (for CP and UP) BlackBerry UK Limited discussion Rel-16 LTE\_eMTC5-Core, NB\_IOTenh3-Core

R2-2001197 Remaining FFSs for MT-EDT ZTE Corporation, Sanechips discussion Rel-16 LTE\_eMTC5-Core, NB\_IOTenh3-Core

### 7.1.3 UE-group wake-up signal (WUS)

UE-group wake-up signal (WUS) for MTC is treated jointly with NB-IoT under AI 7.2.3. Do not use this AI for any item that can be discussed jointly.

### 7.1.4 Transmission in preconfigured resources

Transmission in preconfigured resources for MTC is treated jointly with NB-IoT under AI 7.2.4. Do not use this AI for any item that can be discussed jointly.

### 7.1.5 Scheduling multiple DL/UL transport blocks

Scheduling multiple DL/UL transport blocks with or without DCI for SC-PTM and unicast

Scheduling multiple DL/UL transport blocks for MTC and NB-IoT is treated jointly under this AI.

This agenda item may utilize a summary document to facilitate treatment of topics during the e-meeting (decision to be made based on the submitted tdocs). This may lead to postponing some items to the next meeting. A web conference may be used for handling some of the discussions in this AI.

R2-2000395 HARQ RTT Timers in Rel-16 NB-IoT BlackBerry UK Limited discussion Rel-16 NB\_IOTenh3-Core

R2-2000644 Signalling aspect of multiple TBs scheduling for NB-IoT Huawei, HiSilicon discussion Rel-16 NB\_IOTenh3-Core, LTE\_eMTC5-Core

R2-2000977 Scheduling enhancements for LTE-M and NB-IoT Ericsson discussion NB\_IOTenh3-Core, LTE\_eMTC5-Core

### 7.1.6 Quality report in Msg3

Including outcome of the email discussion [108#72][eMTC] To finalize the 2 bit Quality report (Qualcomm)

A web conference or an offline discussion may be used for handling the outcome of the email discussion in this AI.

R2-2000309 Report of Email Discussion 108#72 To finalize the 2 bit Quality report Qualcomm Incorporated report

R2-2000310 Text proposal for 2-bit downlink channel quality reporting in MSG3 for eMTC Qualcomm Incorporated discussion Rel-16 LTE\_eMTC5-Core

R2-2001069 Remaining issue of DL quality report Huawei, HiSilicon discussion Rel-16 LTE\_eMTC5-Core

R2-2001235 Quality Report in eMTC Remaining Issues Ericsson discussion Rel-16

### 7.1.7 MPDCCH performance improvement using CRS

This agenda item may utilize a summary document to facilitate treatment of topics during the e-meeting (decision to be made based on the submitted tdocs). This may lead to postponing some items to the next meeting. A web conference may be used for handling some of the discussions in this AI.

R2-2000978 Stage-3 details for MPDCCH performance improvement Ericsson discussion LTE\_eMTC5-Core

### 7.1.8 Improvements for non-BL UEs

CE mode A and B improvements for non-BL UEs among “enhancements to idle mode mobility”, “UE demodulation performance requirements for 2 RX antennas and full duplex FDD”, “Dual layer DL reception”, “Feedback based on CSI-RS”, “ETWS/CMAS in connected mode”

No documents should be submitted to AI 7.1.8. Please submit the documents to AI 7.1.8.x

R2-2000979 S-Criterion interpretation for non-BL UEs Ericsson discussion LTE\_eMTC5-Core

R2-2001067 Enhancements to idle mode mobility for non-BL UEs Huawei, HiSilicon discussion Rel-16 LTE\_eMTC5-Core

#### 7.1.8.1 Idle Mode Mobility

This agenda item may utilize a summary document to facilitate treatment of topics during the e-meeting (decision to be made based on submitted tdocs). This may lead to postponing some items to the next meeting. A web conference may be used for handling some of the discussions in this AI.

R2-2000251 Clarification to idle mode mobility for non-BL UEs THALES discussion

R2-2001098 Non-BL UE in normal and enhanced coverage Intel Corporation discussion Rel-16 LTE\_eMTC5-Core

#### 7.1.8.2 ETWS/CMAS in connected mode

This agenda item may utilize a summary document to facilitate treatment of topics during the e-meeting (decision to be made based on submitted tdocs). This may lead to postponing some items to the next meeting. A web conference may be used for handling some of the discussions in this AI.

### 7.1.9 Stand-alone deployment

Enable the use of LTE control channel region for DL transmission (MPDCCH/PDSCH) to BL/CE UEs

This agenda item may utilize a summary document to facilitate treatment of topics during the e-meeting (decision to be made based on the submitted tdocs). This may lead to postponing some items to the next meeting. A web conference may be used for handling some of the discussions in this AI.

R2-2000980 Cell Reselection improvement for LTE-M Standalone cells Ericsson discussion LTE\_eMTC5-Core R2-1915401

R2-2001070 Remaining issue on standalone deployment Huawei, HiSilicon discussion Rel-16 LTE\_eMTC5-Core

R2-2001127 Remaining details for standalone LTE-M deployment Ericsson discussion LTE\_eMTC5-Core Late

### 7.1.10 Mobility Enhancements

Improving the DL RSRP and, RSRQ measurement accuracy, through use of RSS, relaxation of RRM measurements for serving cell for UEs using WUS for at least low mobility UEs

Including outcome of the email discussion [108#73][eMTC] TPs for RSS (Ericsson)

A web conference or an offline discussion may be used for handling the outcome of the email discussion in this AI.

R2-2001242 Summary of [108#73] [eMTC] TPs for RSS (Ericsson) Ericsson discussion Rel-16

### 7.1.11 Coexistence with NR

Study NR and LTE specifications to identify possible issues related to coexistence of MTC with NR

This AI may not be treated during the e-meeting (decision to be made based on the submitted tdocs).

R2-2000981 LTE-M coexistence with NR Ericsson discussion LTE\_eMTC5-Core

R2-2001068 Coexistence with NR for eMTC Huawei, HiSilicon discussion Rel-16 LTE\_eMTC5-Core

R2-2002024 Summary of Coexistence with NR ZTE discussion Rel-16 LTE\_eMTC5-Core, NB\_IOTenh3-Core

### 7.1.12 Connection to 5GC (eDRX, EDT, UP optimisation, RRC\_INACTIVE and other MTC specific topics)

Support of eDRX in CM-IDLE, UP optimisation, and EDT for MTC and NB-IoT are treated jointly under this AI.

No documents should be submitted to AI 7.1.12. Please submit the documents to AI 7.1.12.x

R2-2000311 Text proposal for 36.306 to align Cat M definition with LTE-M indicator Qualcomm Incorporated discussion Rel-16 LTE\_eMTC5-Core

R2-2000982 Report of [108#19] when to resume DRBs in UP optimization for 5GC Ericsson discussion NB\_IOTenh3-Core, LTE\_eMTC5-Core

R2-2002014 Summary of contributions for connection to 5GC (AI 7.1.12) Huawei discussion Rel-16 NB\_IOTenh3-Core, LTE\_eMTC5-Core

#### 7.1.12.1 Paging in RRC\_INACTIVE

This agenda item may utilize a summary document to facilitate treatment of topics during the e-meeting (decision to be made based on the submitted tdocs). This may lead to postponing some items to the next meeting. A web conference of an offline discussion may be used for handling some of the discussions in this AI.

R2-2000538 Page monitoring in RRC\_INACTIVE state with short eDRX Qualcomm India Pvt Ltd discussion Rel-16 LTE\_eMTC5-Core

R2-2000645 Discussion on paging of RRC\_INACTIVE for eMTC connected to 5GC Huawei, HiSilicon, Ericsson discussion Rel-16 LTE\_eMTC5-Core

R2-2001211 FFSs for supporting short eDRX in RRC\_INACTIVE for eMTC in 5GC ZTE Corporation, Sanechips discussion Rel-16 LTE\_eMTC5-Core

#### 7.1.12.2 DRB resume in UP optimization

Including outcome of the email discussion [108#19][eMTC NB-IoT] When to resume DRBs in UP optimization for 5GC (Ericsson)

A web conference or an offline discussion may be used for handling the outcome of the email discussion in this AI.

R2-2000646 SRBs and DRBs handling for NB-IoT and eMTC connected to 5GC Huawei, HiSilicon discussion Rel-16 NB\_IOTenh3-Core, LTE\_eMTC5-Core

#### 7.1.12.3 Other

This AI may not be treated during the e-meeting (decision to be made based on the submitted tdocs).

R2-2000536 Early UE capability retrieval enhancements for eMTC/5GC Qualcomm India Pvt Ltd discussion Rel-16 LTE\_eMTC5-Core

R2-2000539 UAC information change indication for eMTC UE connected to 5GC Qualcomm Incorporated discussion Rel-16 LTE\_eMTC5-Core, NB\_IOTenh3-Core R2-1914801

R2-2000648 Access barring for eMTC connected to 5GC Huawei, HiSilicon discussion Rel-16 LTE\_eMTC5-Core

### 7.1.13 Other

This AI may not be treated during the e-meeting (decision to be made based on the submitted tdocs).

R2-2000515 CE Mode Threshold Adjustments for non-BL and BL UE NTT DOCOMO INC. discussion Rel-16 R2-1914474

R2-2001396 Draft Reply LS on category M devices and NR LG Electronics UK discussion Rel-16

## 7.2 Additional enhancements for NB-IoT

(NB\_IOTenh3-Core; leading WG: RAN1; REL-16; started: Jun 18; target; Mar 20; WID: RP-192313)

Time budget: 2.5 TU

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

Some sub-items in 7.1 and 7.2 may be treated jointly.

### 7.2.1 Organisational

Including incoming LSs, draft TS, rapporteur inputs, etc

R2-2000058 Reply LS on Rel-16 NB-IoT enhancements (S2-1912763; contact: Huawei) SA2 LS in Rel-16 NB\_IOTenh3 To:RAN, CT, RAN2, CT1, RAN3 Cc:SA

R2-2000068 Reply LS on assistance indication for WUS (S2-2001578; contact: Huawei) SA2 LS in Rel-16 NB\_IOTenh3-Core, LTE\_eMTC5-Core To:CT1, RAN2, RAN3

R2-2000088 Reply LS on assistance indication for WUS (S2-2001732; contact: Huawei) SA2 LS in Rel-16 NB\_IOTenh3-Core, LTE\_eMTC5-Core To:CT1, RAN2, RAN3

R2-2000304 Introduction of additional enhancements for NB-IoT Qualcomm Incorporated CR Rel-16 38.300 16.0.0 0176 3 B NB\_IOTenh3-Core R2-1916570

R2-2000394 Introduction of Rel-16 additional enhancements NB-IoT: running 36.306 CR BlackBerry UK Limited draftCR Rel-16 36.306 15.7.0 B LTE\_eMTC5-Core, NB\_IOTenh3-Core Withdrawn

R2-2000619 Introduction of additional enhancements for NB-IoT in TS 36.300 Huawei CR Rel-16 36.300 16.0.0 1259 - B NB\_IOTenh3-Core

R2-2000620 Introduction of additional enhancements for NB-IoT in TS 36.331 Huawei CR Rel-16 36.331 15.8.0 4192 - B NB\_IOTenh3-Core

R2-2000621 Introduction of additional enhancements for NB-IoT in TS 36.302 Huawei CR Rel-16 36.302 15.2.0 1202 - B NB\_IOTenh3-Core

R2-2000622 UE capabilities, TDD/FDD differentiation and 5GC applicability for NB-IoT Huawei, HiSilicon discussion Rel-16 NB\_IOTenh3-Core

R2-2000647 Miscellaneous for NB-IoT and eMTC RRC CRs Huawei, HiSilicon discussion Rel-16 NB\_IOTenh3-Core, LTE\_eMTC5-Core

R2-2000930 Introduction of Rel-16 additional enhancements NB-IoT in TS 36.306 BlackBerry UK Limited CR Rel-16 36.306 15.7.0 1731 - B LTE\_eMTC5-Core, NB\_IOTenh3-Core

R2-2000983 Running CR on 36.321 for NB-IoT Ericsson CR Rel-16 36.321 15.8.0 1466 - B NB\_IOTenh3-Core

R2-2001161 Introduction of additional enhancements for NB-IoT in Rel-16 in TS36.304 Nokia Solutions & Networks (I) draftCR Rel-16 36.304 15.5.0 B NB\_IOTenh4\_LTE\_eMTC6-Core

### 7.2.2 Mobile-terminated (MT) early data transmission (EDT)

Mobile-terminated Early Data transmission for NB-IoT is treated jointly with MTC under AI 7.1.2. Do not use this AI for any item that can be discussed jointly.

### 7.2.3 UE-group wake-up signal (WUS)

UE group wake Up signal for MTC and NB-IoT is treated jointly under this Agenda Item.

Including outcome of the email discussion [108#94][NB-IoT/eMTC R16] Finalise the WUS signalling (Qualcomm)

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponing of some items to next meeting. A web conference will be used for handling some of the discussions in this AI.

R2-2000306 Report of Email Discussion 108#94 Finalise the WUS signalling Qualcomm Incorporated report Rel-16 NB\_IOTenh3-Core

R2-2000307 Text proposal for WUS description in TS 36.304 Qualcomm Incorporated discussion

R2-2000308 Summary of WUS contributions to RAN2#109e. Qualcomm Incorporated report Late

R2-2000639 Remaining issues for Rel-16 GWUS Huawei, HiSilicon discussion Rel-16 NB\_IOTenh3-Core, LTE\_eMTC5-Core

R2-2000828 UE-group wake-up signal for MTC/NB-IoT Sony discussion Rel-16 NB\_IOTenh3-Core R2-1915235 Withdrawn

R2-2001024 Paging probability based UE grouping Lenovo, Motorola Mobility discussion Rel-16

R2-2001025 WUS grouping for mobile UE Lenovo, Motorola Mobility discussion Rel-16

R2-2001026 Consideration on WUS configuration Lenovo, Motorola Mobility discussion Rel-16

R2-2001203 Consideration on mobility for WUS ZTE Corporation, Sanechips discussion Rel-16 LTE\_eMTC5-Core, NB\_IOTenh3-Core

R2-2001210 Formula for mapping UE to WUS group ZTE Corporation, Sanechips discussion Rel-16 LTE\_eMTC5-Core, NB\_IOTenh3-Core R2-1915638

R2-2001472 Group WUS Ericsson discussion Rel-16 LTE\_eMTC5-Core, NB\_IOTenh3-Core R2-1915801

### 7.2.4 Transmission in preconfigured resources

Including support for transmission in preconfigured resources in idle and/or connected mode based on SC-FDMA waveform for UEs with a valid timing advance.

Transmission in preconfigured resources for MTC and NB-IoT is treated jointly under this Agenda Item.

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponing of some items to next meeting. A web conference will be used for handling some of the discussions in this AI.

R2-2000250 Remaining clarifications on PUR configuration THALES discussion

R2-2000435 T300 applicability for PUR Qualcomm Incorporated discussion Rel-16 LTE\_eMTC5-Core, NB\_IOTenh3-Core

R2-2000443 TA validation based on serving cell RSRP change (related to RAN4 LSes) Sierra Wireless, S.A. discussion Rel-16 R2-1916427

R2-2000559 Security Aspects of D-PUR for control plane solution Nokia, Nokia Shanghai Bell discussion Rel-16

R2-2000640 Handling of D-PUR configuration for CP solution Huawei, HiSilicon discussion Rel-16 NB\_IOTenh3-Core, LTE\_eMTC5-Core R2-1915312

R2-2000641 [Draft] LS on handling of D-PUR configuration for the CP solution Huawei LS out Rel-16 NB\_IOTenh3-Core, LTE\_eMTC5-Core To:RAN WG3

R2-2000642 RRC-MAC-PHY interactions for PUR Huawei, HiSilicon discussion Rel-16 NB\_IOTenh3-Core, LTE\_eMTC5-Core

R2-2000643 Signalling aspect of PUR configuration Huawei, HiSilicon discussion Rel-16 NB\_IOTenh3-Core, LTE\_eMTC5-Core

R2-2000695 Remaining FFSes on RRC-MAC interaction for PUR Qualcomm Incorporated discussion Rel-16 LTE\_eMTC5-Core, NB\_IOTenh3-Core

R2-2000984 PUR periodicity and UE multiplexing Ericsson discussion NB\_IOTenh3-Core, LTE\_eMTC5-Core

R2-2000985 RRC-MAC interaction details and other FFSs for PUR in running MAC CR Ericsson discussion NB\_IOTenh3-Core, LTE\_eMTC5-Core

R2-2001198 D-PUR reconfiguration and release for CP solution ZTE Corporation, Sanechips discussion Rel-16 LTE\_eMTC5-Core, NB\_IOTenh3-Core R2-1914717

R2-2001200 MAC-RRC coordination for TA validation and some FFS for D-PUR ZTE Corporation, Sanechips discussion Rel-16 LTE\_eMTC5-Core, NB\_IOTenh3-Core

R2-2001201 Remaining FFSs for D-PUR in 36.331 ZTE Corporation, Sanechips discussion Rel-16 LTE\_eMTC5-Core, NB\_IOTenh3-Core

R2-2001202 Remaining FFSs for D-PUR in 36.321 ZTE Corporation, Sanechips discussion Rel-16 LTE\_eMTC5-Core, NB\_IOTenh3-Core

R2-2001394 Clarification for the condition of PUR configuration request procedure LG Electronics UK discussion Rel-16

R2-2001395 Handling application response for D-PUR transmission LG Electronics UK discussion Rel-16

R2-2001397 Discussion on delivery of D-PUR configuration request LG Electronics UK discussion Rel-16 R2-1915951

R2-2001398 Paging response usign D-PUR LG Electronics UK discussion Rel-16 R2-1915952

R2-2001399 Discussion on preconfigured shared uplink resource transmission LG Electronics UK discussion Rel-16 R2-1915053

R2-2001516 Further Pre-configured UL Resources Design Considerations Sierra Wireless, S.A. discussion Rel-16

R2-2001601 Handling D-PUR configuration in RRC\_CONNECTED state ASUSTeK discussion Rel-16 36.331 NB\_IOTenh3-Core

R2-2001602 Remaining issues of D-PUR TA timer ASUSTeK discussion Rel-16 NB\_IOTenh3-Core

R2-2002021 Summary of Other RRC-MAC-PHY interactions Qualcomm Incorporated discussion Rel-16 LTE\_eMTC5-Core, NB\_IOTenh3-Core

### 7.2.5 Scheduling multiple DL/UL transport blocks

Including scheduling multiple DL/UL transport blocks with or without DCI for SC-PTM and unicast

Scheduling multiple DL/UL transport blocks for NB-IoT is treated jointly with MTC under AI 7.1.5. Do not use this AI for any item that can be discussed jointly.

### 7.2.6 Network management tool enhancement

Including SON support for ANR, Random access performance and RLF report

Including outcome of the email discussion [108#95][NB-IoT] Finalise SON ANR and RLF (Huawei)

This agenda item may utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponing of some items to next meeting. A web conference may be used for handling some of the discussions in this AI.

R2-2000623 Summary of [108#95][NB-IoT] Finalise SON ANR and RLF Huawei report Rel-16 NB\_IOTenh3-Core

R2-2001027 Remaining issues on ANR reporting Lenovo, Motorola Mobility discussion Rel-16

### 7.2.7 Improved multi-carrier operation

Including support of Msg3 quality reporting for non-anchor access.

Including signalling to indicate on a non-anchor carrier for paging a set of subframes which will contain NRS even when no paging NPDCCH is transmitted.

This agenda item may utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponing of some items to next meeting. A web conference may be used for handling some of the discussions in this AI.

R2-2000624 NRS presence on non-anchor paging carrier Huawei, HiSilicon discussion Rel-16 NB\_IOTenh3-Core

### 7.2.8 Inter-RAT cell selection

Including power efficient NB-IoT mechanism which would assist idle mode inter-RAT cell selection for NB-IoT to and from LTE, LTE-MTC and GERAN

This agenda item may utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponing of some items to next meeting. A web conference may be used for handling some of the discussions in this AI.

### 7.2.9 Coexistence with NR

Study NR and LTE specifications to identify possible issues related to coexistence of NB-IoT with NR

This agenda item may utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponing of some items to next meeting. A web conference may be used for handling some of the discussions in this AI.

R2-2000625 Coexistence with NR for NB-IoT Huawei, HiSilicon discussion Rel-16 NB\_IOTenh3-Core

R2-2000986 NB-IoT coexistence with NR Ericsson discussion NB\_IOTenh3-Core

R2-2001215 RAN2 impacts of coexistence between NB-IoT and NR ZTE Corporation, Sanechips discussion Rel-16 LTE\_eMTC5-Core, NB\_IOTenh3-Core Late

### 7.2.10 Connection to 5GC (Other common aspects, NB-IoT specific aspects)

Common aspects for MTC and NB-IoT not listed in 7.1.12 are treated jointly under this AI.

Including outcome of the email discussion [108#96][NB-IoT/eMTC R16] Finalise details on RAI (Ericsson)

Including outcome of the email discussion [108#97][NB-IoT / eMTC] Consider how to minimize ping-pong between CN types in RRC\_IDLE/RRC\_INACTIVE. (Qualcomm)

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponing of some items to next meeting. A web conference will be used for handling some of the discussions in this AI.

R2-2000517 Remaining FFSs for connection to 5GC ZTE Corporation, Sanechips discussion Rel-16 LTE\_eMTC5-Core, NB\_IOTenh3-Core

R2-2000540 Email discussion report [108#97] for how to minimize ping-pong between CN types in RRC\_IDLE/RRC\_INACTIVE Qualcomm India Pvt Ltd discussion Rel-16 LTE\_eMTC5-Core, NB\_IOTenh3-Core

R2-2000830 Mobility enhancements for Connectivity to 5GC for MTC and NB-IoT Sony discussion Rel-16 NB\_IOTenh3-Core R2-1915237 Withdrawn

R2-2001014 UE redirection to a specific CN type and ping-pong behavior Sony Europe B.V. discussion NB\_IOTenh3-Core

R2-2001474 Report - Email discussion [108#96][NB-IoT/eMTC R16] Finalise details on RAI Ericsson discussion Rel-16 LTE\_eMTC5-Core, NB\_IOTenh3-Core

R2-2001478 AS RAI and optimization of release in EDT Ericsson discussion LTE\_eMTC5-Core, NB\_IOTenh3-Core Late

R2-2002015 Summary of contributions for connection to 5GC (AI 7.2.10) Huawei discussion Rel-16 NB\_IOTenh3-Core, LTE\_eMTC5-Core

### 7.2.11 UE specific DRX

Specify support of UE specific DRX and consider expanding the current DRX range

Including outcome of the email discussion [108#98][NB-IoT] UE specific DRX (Huawei)

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponing of some items to next meeting. A web conference will be used for handling some of the discussions in this AI.

R2-2000626 Report of email discussion [108#98][NB-IoT] UE specific DRX Huawei report Rel-16 NB\_IOTenh3-Core Late

R2-2000627 [Draft] Reply LS to Reply LS on Rel-16 NB-IoT enhancements Huawei LS out Rel-16 NB\_IOTenh3-Core To:TSG RAN, TSG CT, SA2 WG2, CT WG1, RAN WG3 Cc:TSG SA Late

R2-2000628 TP for Introduction of UE specific DRX for NB-IoT in 36.300 Huawei discussion Rel-16 36.300 NB\_IOTenh3-Core Late

R2-2000629 TP Introduction of UE specific DRX for NB-IoT in 36.304 Huawei discussion Rel-16 36.304 NB\_IOTenh3-Core Late

R2-2000630 TP for Introduction of UE specific DRX for NB-IoT in 36.306 Huawei discussion Rel-16 36.306 NB\_IOTenh3-Core Late

R2-2000631 TP for Introduction of UE specific DRX for NB-IoT in 36.331 Huawei discussion Rel-16 36.331 NB\_IOTenh3-Core Late

R2-2000836 Details on UE Specific DRX cycle Sony discussion Rel-16 NB\_IOTenh3-Core

R2-2001629 NB-IoT UE Specific DRX - NB-IoT UE specific DRX – Options 1/2 and Fast Paging Escalation Sequans Communications discussion Rel-16 NB\_IOTenh3-Core

R2-2001630 NB-IoT UE Specific DRX - Efficiency Issues Sequans Communications discussion Rel-16 NB\_IOTenh3-Core R2-1916236

### 7.2.12 Other

Others

## 7.3 Even further mobility enhancement in E-UTRAN

(LTE\_feMob-Core; leading WG: RAN2; REL-16; started: Jun 18; target; Mar 20; WID: [RP-190921](file:///C:\Data\3GPP\TSGR\TSGR_84\docs\RP-190921.zip))

Tdoc Limitation: see 6.9 above.

No documents should be submitted to 6.9.

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponement of some items to next meeting. A web conference may be used for this agenda.

A web conference may be used for handling some of the discussions in this WID.

### 7.3.1 Organizational

Including incoming LSs and rapporteur inputs (if any)

*Including outcome of email discussion [108#63][LTE Mob] Running Stage-2 CR (China Telecom)*

*Including DAPS part of the outcome of email discussion [108#66][LTE NR Mob] Open issues for LTE and NR mobility (Intel)*

Including LTE part of the outcome of email discussion [108#45][LTE NR Mob] UE feature list for LTE and NR mobility (Intel).

A web conference is planned for this agenda item.

R2-2000024 Reply LS on uplink TDM pattern for LTE DAPS based enhanced make-before-break HO (R1-1913686; contact: Intel) RAN1 LS in Rel-16 LTE\_feMob-Core To:RAN2 Cc:RAN3, RAN4

R2-2000334 Running CR for Introduction of Even futher Mobility enhancement in E-UTRAN Ericsson draftCR Rel-16 36.331 15.8.0 LTE\_feMob-Core Withdrawn

R2-2001129 Introduction of Even futher Mobility enhancement in E-UTRAN Ericsson India Private Limited CR Rel-16 36.331 15.8.0 4205 - B LTE\_feMob-Core

R2-2001579 Running 36300 CR for LTE feMob ChinaTelecom draftCR Rel-16 36.300 16.0.0 B LTE\_feMob Withdrawn

R2-2001653 36300 CR for LTE feMob ChinaTelecom CR Rel-16 36.300 16.0.0 1270 - B LTE\_feMob

### 7.3.2 Reduction in user data interruption for dual active protocol stack (DAPS) handover

DAPS handovers for LTE and NR are treated jointly in under this AI.

No documents should be submitted to 7.3.2. Please submit to 7.3.2.x.

#### 7.3.2.1 User plane aspects of DAPS HO

No documents should be submitted to 7.3.2.1. Please submit to 7.3.2.1.x.

##### 7.3.2.1.1 PDCP/RLC aspects of DAPS HO

DAPS impacts to PDCP/RLC for LTE and NR are treated jointly under this AI. SDAP-specific aspects should be submitted to 6.9.2.

*Including the outcome of email discussion [108#64][LTE NR Mob] Running CRs for LTE and NR PDCP on mobility (Huawei)*

*Including details on when/whether PDCP status reporting is triggered during DAPS procedure.*

*Note: Handling of EHC with DAPS to be done when the IioT WID has progressed more.*

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponement of some items to next meeting. A web conference may be used for some topics in this agenda item.

R2-2000124 PDCP status reporting in target cell at DAPS handover Ericsson discussion Rel-16 NR\_Mob\_enh-Core

R2-2000128 Switch of UL data during DAPS handover with 2-step RA or RACH-less access Ericsson discussion Rel-16 NR\_Mob\_enh-Core

R2-2000378 Release of the source ROHC upon the source link release vivo discussion Rel-16 LTE\_feMob-Core

R2-2000379 PDCP status report for RLC UM vivo discussion Rel-16 LTE\_feMob-Core

R2-2000383 Header compression after PDCP reordering vivo discussion Rel-16 LTE\_feMob-Core

R2-2000384 Issue on the uplink duplicated PDCP SDUs vivo discussion Rel-16 LTE\_feMob-Core

R2-2000465 Remaining issues on PDCP status report for DAPS Intel Corporation discussion Rel-16 LTE\_feMob-Core, NR\_Mob\_enh-Core

R2-2000694 PDCP Status Report for DAPS Handover ETRI discussion Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core

R2-2000707 Resetting UL PDCP SN for RLC UM in DAPS NEC discussion Rel-16 LTE\_feMob-Core

R2-2000708 PDCP anchor relocation in DAPS NEC discussion Rel-16 LTE\_feMob-Core

R2-2000727 Running CR for 38.323 on supporting DAPS handover Huawei, HiSilicon, Mediatek Inc. draftCR Rel-16 38.323 15.6.0 B LTE\_feMob-Core Withdrawn

R2-2000728 Running CR for 36.323 on supporting DAPS handover Huawei, HiSilicon, Mediatek Inc. draftCR Rel-16 36.323 15.5.0 B LTE\_feMob-Core Withdrawn

R2-2000729 Discussion on ROHC failure issue Huawei, HiSilicon discussion Rel-16 LTE\_feMob-Core

R2-2000730 Draft CR for 38.323 based on email discussion#66 output Huawei, HiSilicon draftCR Rel-16 38.323 15.6.0 B LTE\_feMob-Core

R2-2000731 Draft CR for 36.323 based on email discussion#66 output Huawei, HiSilicon draftCR Rel-16 36.323 15.5.0 B LTE\_feMob-Core

R2-2000732 Draft CR for 38.323 on ROHC failure issue Huawei, HiSilicon draftCR Rel-16 38.323 15.6.0 B LTE\_feMob-Core

R2-2000738 Leftover issues on DAPS PDCP Samsung discussion LTE\_feMob

R2-2000896 UDC Impacts of DAPS CATT discussion Rel-16 LTE\_feMob-Core

R2-2001425 Discussion of PDCP status report and UL switching for DAPS HO CMCC. discussion Rel-16 LTE\_feMob-Core

R2-2001503 Need of discard indication LG Electronics Inc. discussion NR\_Mob\_enh-Core, LTE\_feMob-Core

R2-2001504 Discussion on consecutive ROHC failure during DAPS HO LG Electronics Inc. discussion NR\_Mob\_enh-Core, LTE\_feMob-Core

R2-2001505 Handling of stroed PDCP PDUs for DAPS LG Electronics Inc. discussion NR\_Mob\_enh-Core, LTE\_feMob-Core

R2-2001507 Discussion on PDCP status report LG Electronics Inc. discussion NR\_Mob\_enh-Core, LTE\_feMob-Core

R2-2001583 DAPS configuration related issues for disscussion China Telecom discussion Rel-16 LTE\_feMob-Core

R2-2001639 Discussion on status reporting for UM DRB upon DAPS handover SHARP Corporation discussion Rel-16 LTE\_feMob-Core

R2-2001646 Running CR for 38.323 on supporting DAPS handover Huawei, HiSilicon, Mediatek Inc. CR Rel-16 38.323 15.6.0 0042 - B LTE\_feMob-Core

R2-2001647 Running CR for 36.323 on supporting DAPS handover Huawei, HiSilicon, Mediatek Inc. CR Rel-16 36.323 15.5.0 0279 - B LTE\_feMob-Core

##### 7.3.2.1.2 MAC and UL transmission aspects of DAPS HO

*Including the outcome of email discussion [108#65][LTE NR Mob] Running MAC CRs for LTE and NR (vivo)*

*Note: Handling the FFS on Msg.B details to be done when the 2-step RACH has progressed more.*

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponement of some items to next meeting. A web conference may be used for some topics in this agenda item.

R2-2000371 Running 36.321 CR for LTE feMob vivo (rapporteur) CR Rel-16 36.321 15.8.0 1463 - B LTE\_feMob-Core

R2-2000372 Running 38.321 CR for NR mobility enh. vivo (rapporteur) CR Rel-16 38.321 15.8.0 0687 - B NR\_Mob\_enh-Core

R2-2000373 Report of EmailDisc-65 on MAC open issues for mobility enh. vivo (rapporteur) discussion Rel-16 NR\_Mob\_enh-Core

R2-2000736 The source MAC LCP procedure for DAPS handover Samsung discussion LTE\_feMob

##### 7.3.2.1.3 Summary documents for UP aspects of DAPS HO

Summary documents for Ais 7.3.2.1.1 and 7.3.2.1.2 are treated under this AI.

Summary document of 7.3.2.1.1 to be provided by NN.

Summary document of 7.3.2.1.2 to be provided by NN.

R2-2001532 Summary document for PDCP/RLC aspects of DAPS HO LG Electronics Inc. discussion NR\_Mob\_enh-Core, LTE\_feMob-Core Late

#### 7.3.2.2 Control plane aspects of DAPS HO

*No documents should be submitted to 7.3.2.2. Please submit to 7.3.2.2.x.*

##### 7.3.2.2.1 RRC procedures during DAPS HO

*Including outcome of email discussion [108#35][LTE Mob] Running RRC CR (Ericsson)*

*Including any remaining RRC configuration and procedural details, e.g. fallback to source cell when target cell fails, handling of source/target RRC configuration during DAPS.*

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponement of some items to next meeting. A web conference may be used for some topics in this agenda item.

R2-2000125 Open issues at fallback to source cell at DAPS handover Ericsson discussion Rel-16 NR\_Mob\_enh-Core

R2-2000127 RRC signalling of DAPS handover per DRB Ericsson discussion Rel-16 NR\_Mob\_enh-Core

R2-2000129 Subsequent RRC procedures after DAPS handover Ericsson discussion Rel-16 NR\_Mob\_enh-Core

R2-2000313 Security Key Handling for DAPS Handover MediaTek Inc. discussion

R2-2000380 Failure handling of the non-DAPS DRB vivo discussion Rel-16 LTE\_feMob-Core R2-1914704

R2-2000381 Clarification on stopping the source link failure vivo discussion Rel-16 LTE\_feMob-Core

R2-2000382 Single or two RRC messages for DAPS handover vivo discussion Rel-16 LTE\_feMob-Core

R2-2000467 Remaining issues on RLM after RACH for DAPS Intel Corporation discussion Rel-16 LTE\_feMob-Core, NR\_Mob\_enh-Core

R2-2000656 Non-DAPS DRB handling upon DAPS HO failure OPPO discussion Rel-16 LTE\_feMob-Core

R2-2000657 Source RLF handling during DAPS HO OPPO discussion Rel-16 LTE\_feMob-Core

R2-2000733 Discussion on fallback to source cell Huawei, HiSilicon discussion Rel-16 LTE\_feMob-Core

R2-2000898 Remaining RRC configuration details for DAPS CATT discussion Rel-16 LTE\_feMob-Core

R2-2001506 Handling of DAPS HO failure LG Electronics Inc. discussion NR\_Mob\_enh-Core, LTE\_feMob-Core

R2-2001640 State variables of SRB PDCP for the target in NR SHARP Corporation discussion Rel-16 LTE\_feMob-Core

R2-2001641 Clarification of implementation order of Reconfiguration with sync and AS Security key update procedures SHARP Corporation discussion Rel-16 LTE\_feMob-Core

R2-2001642 Non-DAPS DRB handling at DAPS handover failure SHARP Corporation discussion Rel-16 LTE\_feMob-Core

##### 7.3.2.2.2 UE capabilities for DAPS HO

*Including UE capability coordination and remaining details of UE capability definitions .*

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponement of some items to next meeting. A web conference may be used for some topics in this agenda item.

R2-2000123 Capability coordination for DAPS handover Ericsson discussion Rel-16 NR\_Mob\_enh-Core

R2-2000537 UE capability co-ordination signalling aspects for DAPS HO Qualcomm Inc, Google Inc, Apple Inc, MediaTek Inc, Charter Communications discussion Rel-16 LTE\_feMob-Core R2-1914804

R2-2000654 Discussion on UE capabilities for DAPS HO OPPO discussion Rel-16 LTE\_feMob-Core R2-1915162

R2-2000655 Further considerations on capability coordination OPPO discussion Rel-16 LTE\_feMob-Core R2-1915155

R2-2000734 Discussion on SCell handling during DAPS HO Huawei, HiSilicon discussion Rel-16 LTE\_feMob-Core

R2-2000735 Discussion on UE capability coordination for DAPS HO Huawei, HiSilicon discussion Rel-16 LTE\_feMob-Core

R2-2000759 Remaining issues on capability coordination for DAPS NEC discussion Rel-16 LTE\_feMob-Core

R2-2000897 Further Discussion on Capability Coordination for DAPS CATT discussion Rel-16 LTE\_feMob-Core

R2-2001153 UE capability handling for DAPS Nokia Italy discussion Rel-16

R2-2001164 Capability coordination for DAPS Samsung Telecommunications discussion Rel-16 LTE\_feMob-Core Late

R2-2001261 Remaining issues on UE capability coordination for DAPS HO ZTE Corporation, Sanechips discussion Rel-16 LTE\_feMob-Core

R2-2001539 Handling Excess of UE Capability in DAPS HO LG Electronics Inc. discussion Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core R2-1916210

##### 7.3.2.2.3 Summary documents for CP aspects of DAPS HO

Summary documents for AIs 7.3.2.2.1 and 7.3.2.2.2 should be submitted under this AI.

Summary document of 7.3.2.2.1 to be provided by NN.

Summary document of 7.3.2.2.2 to be provided by NN.

#### 7.3.2.3 Other aspects of DAPS HO

*Including any other open aspects of DAPS HO not covered by the other agenda items (for both LTE and NR).*

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponement of some items to next meeting. No web conference is planned for this agenda item.

Summary document of 7.3.2.3 to be provided by NN.

### 7.3.3 Conditional handover

*Contributions on conditional handover for LTE and NR are treated jointly in under 6.9.3. Do not use this AI for any item that can be discussed jointly.*

R2-2001649 Discussion on the target to configure CHO Google Inc. discussion

R2-2001650 Autonomous release of CHO Google Inc. discussion

## 7.4 Further performance enhancement for LTE in high speed scenario

(LTE\_high\_speed\_enh2-Core; leading WG: RAN4; REL-16; started: Jun 18; target; Sep 19; WID: RP-181482)

Time budget: 0 TU. Final CR agreements.

Only final CR update is expected for this AI and the CR agreement will be treated only over email. No web conference is planned for this agenda item.

## 7.5 Other LTE Rel-16 WIs

This agenda item is to be used for LSs and documents relating to Rel-16 LTE but for which there is no existing RAN WI/SI (e.g. LSs from CT/SA requesting RAN2 action) or for which there is no allocated RAN2 time.

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponement of some items to next meeting. A web conference may be used for some topics in this agenda item.

Summary document of 7.5 to be provided by NN.

R2-2000180 Introduction of RLOS support indicator and RLOS request indicator Qualcomm Incorporated CR Rel-16 36.331 15.8.0 4049 2 B PARLOS R2-1911503

## 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

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponement of some items to next meeting. A web conference may be used for some topics in this agenda item.

Summary document of 7.6 to be provided by NN.

R2-2000006 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 Sensor Provide Location Information Elements Correction Polaris Wireless CR Rel-16 37.355 15.0.0 0002 - F TEI16

R2-2000188 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 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 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

=> Revised in R2-2002191

R2-2002191 Broadcast of TBS assistance data NextNav, AT&T, FirstNet, Polaris Wireless CR Rel-16 37.355 15.0.0 0249 1 C LCS\_LTE\_acc\_enh-Core, TEI16

R2-2000987 Early security re-activation at RRC Connection Resume Ericsson, Qualcomm Inc., LG Electronics Inc., Sierra Wireless, Turkcell CR Rel-16 36.331 15.8.0 4167 1 B TEI16 R2-1915796

R2-2000988 Early security re-activation at RRC Connection Resume Ericsson, Qualcomm Inc., LG Electronics Inc., Sierra Wireless, Turkcell CR Rel-16 36.306 15.7.0 1723 1 B TEI16 R2-1915797

R2-2001165 Whether to continue R15 general principle to limit UE capability size Samsung Telecommunications discussion Rel-16 TEI16

R2-2001408 Introduction of wideband PRG size Huawei, HiSilicon CR Rel-16 36.306 15.7.0 1741 - B TEI16

R2-2001409 Introduction of wideband PRG size Huawei, HiSilicon CR Rel-16 36.331 15.8.0 4220 - B TEI16

R2-2001410 UDC reconfiguration for RRC connection re-establishment case Huawei, HiSilicon CR Rel-16 36.331 15.8.0 4221 - C 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.

R2-2000153 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

=> Revised in R2-2001952

R2-2001952 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 6 B LCS\_NAVIC, LCS\_NAVIC-Core

=> Revised in R2-2002238

R2-2002238 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 7 B LCS\_NAVIC, LCS\_NAVIC-Core

R2-2000157 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

=> Revised in R2-2001953

R2-2001953 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 5 B LCS\_NAVIC

=> Revised in R2-2002239

R2-2002239 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 6 B LCS\_NAVIC

R2-2000158 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

=> Revised in R2-2001954

R2-2001954 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 4 B LCS\_NAVIC

=> Revised in R2-2002240

R2-2002240 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 5 B LCS\_NAVIC

## 7.8 DL MIMO efficiency enhancements for LTE

(LTE\_DL\_MIMO\_EE-Core; leading WG: RAN1; REL-16;target; March-20; WID: RP-182901)

Time budget: 0.5 TU

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

R2-2001031 Power headroom reporting for additional SRS Lenovo, Motorola Mobility discussion Rel-16

R2-2001079 Introduction of Additional SRS Ericsson CR Rel-16 36.321 15.8.0 1461 1 B LTE\_DL\_MIMO\_EE-Core R2-1915644

R2-2001405 Introduction of DL MIMO efficiency enhancement Huawei, HiSilicon CR Rel-16 36.306 15.7.0 1740 - B LTE\_DL\_MIMO\_EE-Core

R2-2001406 Introduction of DL MIMO efficiency enhancement Huawei, HiSilicon CR Rel-16 36.331 15.8.0 4219 - B LTE\_DL\_MIMO\_EE-Core

## 7.9 LTE-based 5G Terrestrial Broadcast

(LTE\_terr\_bcast-Core; leading WG: RAN1; REL-16; target; March-20; WID: RP-182924)

Time budget: 0.5 TU.

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

R2-2000436 Introduction of LTE-based 5G terrestrial broadcast Qualcomm Incorporated CR Rel-16 36.331 15.8.0 4190 - B LTE\_terr\_bcast-Core

R2-2000437 Introduction of LTE-based 5G terrestrial broadcast Qualcomm Incorporated CR Rel-16 36.306 15.7.0 1729 - B LTE\_terr\_bcast-Core

R2-2001407 Discussion on handling of MBSFN configuration for new numerologies Huawei, HiSilicon discussion Rel-16 LTE\_terr\_bcast-Core

# 8 Breakout session reports

No documents shall be submitted to this AI or its sub-AIs. It is only for at-meeting-generated contents.

Final Breakout session reports will be treated / approved by email only. NOTE that review of session reports need to take place during the meeting. Major comments at the end of the meeting may not be resolved.

### 8.1 Session on LTE legacy, LTE TEI16 and NR/LTE Rel-16 Mobility

R2-2001661 Report from session on LTE legacy, LTE TEI16 and NR/LTE Rel-16 Mobility Vice Chairman (Nokia) report

### 8.2 Session on SRVCC, CLI, PRN, eMIMO, RACS

R2-2001662 Report from Break-Out Session on SRVCC, CLI, PRN, eMIMO, RACS Vice Chairman (ZTE) report

### 8.3 Session on eMTC

[R2-2001663](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001663.zip) Report eMTC breakout session Session chair (Ericsson) report

Comebacks

[AT109e][403][eMTC] Update 36.300 running CR (Intel)

[R2-2001868](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_109_e/Docs/R2-2001868.zip) Introduction of Rel-16 eMTC enhancements Intel Corporation CR Rel-16 36.300 16.0.0 1267 1 B LTE\_eMTC5-Core

[AT109e][404][eMTC] Update 36.302 running CR (ZTE)

[R2-2001869](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_109_e/Docs/R2-2001869.zip) Running 36.302 CR for R16 eMTC ZTE Corporation, Sanechips CR Rel-16 36.302 15.2.0 LTE\_eMTC5-Core

[AT109e][405][eMTC] Update 36.304 running CR (Nokia)

[R2-2001870](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_109_e/Docs/R2-2001870.zip) Introduction of additional enhancements for eMTC in TS36.304 Nokia Solutions & Networks (I) CR Rel-16 36.304 15.5.0 0781 1 B LTE\_eMTC5-Core

[AT109e][406][eMTC] Update 36.306 running CR (Huawei)

[R2-2001871](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_109_e/Docs/R2-2001871.zip) Introduction of additional enhancements for eMTC Huawei, HiSilicon CR Rel-16 36.306 15.7.0 1735 1 B LTE\_eMTC5-Core

[AT109e][407][eMTC] Update 36.321 running CR (Ericsson)

[R2-2001872](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_109_e/Docs/R2-2001872.zip) Running CR on 36.321 for eMTC Ericsson CR Rel-16 36.321 15.8.0 1465 1 B LTE\_eMTC5-Core

[AT109e][408][eMTC] Update 36.331 running CR (Qualcomm)

[R2-2001873](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_109_e/Docs/R2-2000433.zip) Introduction of Rel-16 eMTC enhancements Qualcomm Incorporated CR Rel-16 36.331 15.8.0 4191 1 B LTE\_eMTC5-Core

[AT109e][409][eMTC] Update 38.300 running CR (Qualcomm)

[R2-2001874](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_109_e/Docs/R2-2001874.zip) Introduction of additional enhancements for eMTC Qualcomm Incorporated CR Rel-16 38.300 16.0.0 0175 4 B LTE\_eMTC5-Core

### 8.4 Session on NR-U, Power Savings, NTN and 2-step RACH

R2-2001664 Session minutes for NR-U, Power Savings, NTN and 2-step RACH Session chair (InterDigital) report

### 8.5 Session on Rel-15 and 16 LTE and NR positioning

[R2-2001665](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001665.zip) Report from session on Rel-15 and 16 LTE and NR positioning Session chair (MediaTek) report

### 8.6 Session on SON/MDT

R2-2001666 Report from SOM/MDT session Session chair (CMCC) report

### 8.7 Session on NB-IoT

[R2-2001667](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001667.zip) Report NB-IoT breakout session Session chair (Huawei) report

* revised in R2-2001814

[R2-2001814](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001814.zip) Report NB-IoT breakout session Session chair (Huawei) report

Comebacks

[AT109e][302][NBIOT R13] Handling of UE Radio Capability for Paging in NB-IoT and eMTC (Huawei)

R2-2001809 Handling of UE Radio Capability for Paging in NB-IoT and eMTC Huawei, HiSilicon CR Rel-13 36.300 13.13.0 1260 1 F NB\_IOT-Core, LTE\_MTCe2\_L1-Core

R2-2001810 Handling of UE Radio Capability for Paging in NB-IoT and eMTC Huawei, HiSilicon CR Rel-14 36.300 14.11.0 1261 1 A NB\_IOT-Core, LTE\_MTCe2\_L1-Core, NB\_IOTenh-Core

R2-2001811 Handling of UE Radio Capability for Paging in NB-IoT and eMTC Huawei, HiSilicon CR Rel-15 36.300 15.8.0 1262 1 A NB\_IOT-Core, LTE\_MTCe2\_L1-Core, NB\_IOTenh-Core

R2-2001812 Handling of UE Radio Capability for Paging in NB-IoT and eMTC Huawei, HiSilicon CR Rel-16 36.300 16.0.0 1263 - A NB\_IOT-Core, LTE\_MTCe2\_L1-Core, NB\_IOTenh-Core

[AT109e][311][NBIOT] R16 36.331 CR (Huawei)

R2-2001782 Introduction of additional enhancements for NB-IoT in TS 36.331 Huawei CR Rel-16 36.331 15.8.0 4192 1 B NB\_IOTenh3-Core

[AT109e][312][NBIOT] R16 38.300 CR (Qualcomm)

R2-2001783 Introduction of additional enhancements for NB-IoT Qualcomm Incorporated CR Rel-16 38.300 16.0.0 0176 4 B NB\_IOTenh3-Core R2-1916570

[AT109e][313][NBIOT] R16 36.300 CR (Huawei)

R2-2001784 Introduction of additional enhancements for NB-IoT in TS 36.300 Huawei CR Rel-16 36.300 16.0.0 1259 1 B NB\_IOTenh3-Core

[AT109e][314][NBIOT] R16 36.302 CR (Huawei)

R2-2001785 Introduction of additional enhancements for NB-IoT in TS 36.302 Huawei CR Rel-16 36.302 15.2.0

[AT109e][315][NBIOT] R16 36.306 CR (Blackberry)

R2-2001786 Introduction of Rel-16 additional enhancements NB-IoT in TS 36.306 BlackBerry UK Limited CR Rel-16 36.306 15.7.0 1731 1 B LTE\_eMTC5-Core, NB\_IOTenh3-Core

[AT109e][316][NBIOT] R16 36.321 CR (Ericsson)

R2-2001787 Running CR on 36.321 for NB-IoT Ericsson CR Rel-16 36.321 15.8.0 1466 1 B NB\_IOTenh3-Core

[AT109e][317][NBIOT] R16 36.30**4** CR (Nokia)

R2-2001788 Introduction of additional enhancements for NB-IoT Nokia CR Rel-16 36.304 15.5.0 0783 1 B NB\_IOTenh3\_ Core Late

[AT109e][318][NBIOT] Reply LS to Reply LS on Rel-16 NB-IoT enhancements (Huawei)

R2-2001795 draft Reply LS on Rel-16 NB-IoT enhancements Huawei

### 8.8 Session on LTE V2X and NR V2X

[R2-2001668](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001668.zip) Report from session on LTE V2X and NR V2X Session chair (Samsung) report

Comebacks

[Short] [Email discussion #701]: Offline discussion #711 (to agree 38.300/36.300/37.340 CRs) is placed into email approval (R2-2002264/R2-2002263/R2-2002265, LG)

[Short] [Email discussion #702]: Offline discussion #703 (to agree 38.331/36.331 CRs) is placed into email approval (R2-2001966/R2-2001967, Huawei)

[Short] [Email discussion #703]: Offline discussion #705 (to agree 38.321/36.321 CRs) is placed into email approval ([R2-2001969](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001969.zip)/R2-2001970, LG)

[Short] [Email discussion #704]: To agree 38.322 CR (R2-2002311, Ericsson)

[Short] [Email discussion #705]: To agree 38.323 CR (R2-2002234, CATT)

[Short] [Email discussion #706]: To agree 37.324 CR (R2-2002319, Vivo)

[Short] [Email discussion #707]: To agree 38.304/36.304 CRs (R2-2002317/R2-2002318, ZTE)

[Short] [Email discussion #708]: To approve LS to SA3 on NR V2X security issues ([R2-2001980](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109_e\Docs\R2-2001980.zip), CATT)