3GPP TSG-RAN WG2 Meeting #127bis [R2-240xxxx](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-240xxxx.zip)

Hefei, China, Oct 14th – 18th, 2024

Source: RAN2 Chair (InterDigital)

Title: Agenda

# 1 Opening of the meeting

## 1.1 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

1/ To avoid email system overload, please don’t attach files and documents to emails e.g. for offline email discussions, but instead use files placed on the meeting server instead. Inbox/Drafts folder is used for meeting offline discussions.

## 1.3 Other

|  |
| --- |
| 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 chair 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.

# 2 General

## 2.1 Approval of the agenda

[R2-2407901](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407901.zip) Agenda for RAN2#127bis Chairman agenda

* The Agenda is approved

## 2.2 Approval of the report of the previous meeting

[R2-2407902](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407902.zip) RAN2#127 Meeting Report MCC report

=> Revised in [R2-2409202](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409202.zip)

[R2-2409202](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409202.zip) RAN2#127 Meeting Report MCC report

=> Revised in R2-2409210

* The meeting Report is approved

## 2.3 Reporting from other meetings

## 2.4 Instructions

CRs

* Use latest CR template version 12.3 for all CRs submitted to RAN2 meeting

Rel-17 maintenance CRs

* Only essential/critical corrections are expected
* Editorial and clarification corrections should be sent to be reviewed and approved by spec rapporteurs prior to submission.
* Editorials corrections should be collected and submitted by spec rapporteurs.

Rel-18 CR Handling

- CR editors / Rapporteurs are to gather miscellaneous and non-controversial issues, if any, for their respective specification prior to submission deadline. Other companies are expected to give inputs to these CRs and not have contributions on such issues.

- The organizational AIs for each WIs are reserved for rapporteurs only. CR rapporteurs are expected to submit only 1 CR per spec.

- Companies can submit CRs or contributions with TPs (if indicated in agenda (e.g. R18 mobility, SL)) for corrections of Rel-18 items with clear cover page describing the issues. CRs covering similar issues may be merged together. Editorials and clarifications should be provided to the CR editors/rapporteurs and NOT be included in the individual CRs/contributions.

- RRC ASN.1 changes should be drafted in BC way.

- Inter-op analysis on Rel-18 CR cover pages is now required for each CR. Companies are expected to identify inter-op analysis/impact in their CRs/tdoc for each proposed change. CRs rapporteurs when merging should highlight the changes that have interoperability issues.

Rel-18 UE capabilities

- EUTRA UE capabilities corrections are covered by separate CRs

- RAN1/RAN4 NR UE capabilities (new) and corrections are covered in Rel-18 common MegaCRs (38306 and 38331) covering all rel-18 WIs (end outcome).

- UE capabilities in LPP 37355 and SLPP 38355 are covered in the main CRs for the Positioning WI.

During the work on NR UE caps:

- In a Common Rel-18 Agenda Item (AI): RAN1 and RAN4 feature corrections are handled jointly under a common AI, with some explicit exceptions. Running UE cap MegaCRs are maintained for the parts handled in the common AI.

- In WI-specific Rel-18 Agenda Items: RAN2 features/corrections are handled per WI and only a draft CR per WI is expected and will be agreed individually.

Tdoc limitations

Tdoc limitations doesn’t apply to Rapporteur Input, i.e.

- Assigned summary rapporteur input of the summary.

- Email / offline discussions outcomes by discussion rapporteur,

- Limit of 1 WI/SI rapporteurs input for WI planning. The work plan is not expected to be updated/submitted every meeting, unless needed. It can include progress of other WG groups in the same Tdoc (i.e. separate Tdocs on other WG agreements are not required).

- TS rapporteur input for TS maintenance.

- Contact Company of a LSin that triggers RAN2 action may submit one tdoc to facilitate the LS reply. This only applies to one of the contact companies in case there are several (default the first).

Tdoc limitations doesn’t apply to Input created at the meeting, revisions, assigned documents etc.

Tdoc limitations doesn’t apply to shadow / mirror CRs (Cat A), or In-Principle Agreed CRs.

Tdoc limitations applies to all other submitted tdocs (e.g. discussion tdoc and CR tdoc are counted as two).

Tdoc request/submission for RAN2#127bis deadlines:

* Tdoc Submission deadline: Oct. 4th, 1000 UTC

## 2.5 Others

[R2-2407903](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407903.zip) RAN2 Handbook MCC discussion

* Noted

R2-2409400 IRIS² - The New EU Programme Providing Secure Communications Via Satellites ESA discussion

[CB]

R2-2409411 LS on Invitation to Join a Basketball Game (R3-245824; contact: ZTE) RAN3 LS in Rel-19 TEI19 To:RAN2

[CB]

Email discussions

* [AT127bis][000][Organizational] Schedule Updates

Intended outcome: To be used to announce schedule updates.

* + - All schedule changes will be announced on this email discussion
    - All schedule updates will be uploaded to the server and attached to this organizational email.
    - Juha will be sending out the coordinated inputs in the mornings (if needed), lunch, and evening post meeting. Urgent announcements may be sent from session chairs.
    - Coordinate with Juha for Offline room as soon as you know you have an offline number to avoid last minute scheduling. If room are not available and you plan to use the coffee area (please let Juha know) so he can put it in the schedule as well. Announce your offline time and location on the reflector using your offline number (i.e. AT meeting email discussion).
* [AT127bis][001][Organizational] General announcements and Minutes (Diana)

Intended outcome: Email discussion used to make general announcements and/or share minutes being uploaded.

Deadline: 10-18-24

# 3 Incoming liaisons

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

# 4 EUTRA Rel-17 and earlier

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

## 4.1 EUTRA corrections Rel-17 and earlier

(NB\_IOTenh4\_LTE\_eMTC6-Core; leading WG: RAN1; REL-17; WID: [RP-211340](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_92e/Docs/RP-211340.zip))

(UPIP\_EN-DC\_UE; leading WG: RAN3; REL-17; WID: [RP‑213669](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_94e/Docs/RP-213669.zip))

(LTE TEI17)

Essential corrections to LTE Rel-17 topics not covered by other agenda items.

(NB\_IOTenh3-Core; leading WG: RAN1; REL-16; started: Jun 18; Completed: June 20; WID: [RP-200293](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_87e/Docs/RP-200293.zip)); REL-15 and Earlier NB-IoT WIs are in scope but not listed explicitly (long list).

(LTE\_eMTC5-Core; LTE\_eMTC5-Core; leading WG: RAN1; REL-16; started: Jun 18; Completed: June 20; WID: [RP-192875](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_86/Docs/RP-192875.zip);), REL-15 and Earlier eMTC WIs are in scope but not listed explicitly (long list).

(LTE\_feMob-Core; leading WG: RAN2; REL-16; started: Jun 18; Completed: June 20; WID: [RP-190921](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_84/Docs/RP-190921.zip));

(LTE\_terr\_bcast-Core, LTE\_DL\_MIMO\_EE-Core, LTE\_high\_speed\_enh2-Core; LTE TEI16 Non-positioning);

(LTE\_NBIOT\_eMTC\_NTN; leading WG: RAN1; REL-17; WID: [RP-211601](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_92e/Docs/RP-211601.zip))

REL-16 and Earlier EUTRA WIs are in scope but not listed explicitly (long list), Except V2X and Sidelink WIs and Positioning WIs, which are addressed by AIs below.

NOTE that LTE corrections related to NR WIs or Joint NR LTE WIs should be submitted to NR AIs below.

NOTE that LTE corrections which are the same as an NR correction should be submitted to the respective NR AI (so the NR CR and LTE CR can be treated together).

This Agenda Item is treated in the Maintenance Breakout session (Corrections for LTE\_NBIOT\_eMTC\_NTN might be treated in the NTN breakout session)

[R2-2408568](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408568.zip) Correction to NR Beam Reporting in LTE RRC Apple, CR Rel-15 36.331 15.23.0 5055 - F NR\_newRAT-Core

=> Revised in [R2-2409195](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409195.zip)

[R2-2409195](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409195.zip) Correction to NR Beam Reporting in LTE RRC Apple, ZTE Corporation CR Rel-15 36.331 15.23.0 5055 1 F NR\_newRAT-Core

[R2-2408569](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408569.zip) Correction to NR Beam Reporting in LTE RRC Apple, CR Rel-16 36.331 16.17.0 5056 - A NR\_newRAT-Core

=> Revised in [R2-2409196](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409196.zip)

[R2-2409196](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409196.zip) Correction to NR Beam Reporting in LTE RRC Apple, ZTE Corporation CR Rel-16 36.331 16.17.0 5056 1 A NR\_newRAT-Core

[R2-2408570](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408570.zip) Correction to NR Beam Reporting in LTE RRC Apple, CR Rel-17 36.331 17.10.0 5057 - A NR\_newRAT-Core

=> Revised in [R2-2409197](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409197.zip)

[R2-2409197](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409197.zip) Correction to NR Beam Reporting in LTE RRC Apple, ZTE Corporation CR Rel-17 36.331 17.10.0 5057 1 A NR\_newRAT-Core

[R2-2408571](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408571.zip) Correction to NR Beam Reporting in LTE RRC Apple, ZTE Corporation CR Rel-18 36.331 18.3.1 5058 - A NR\_newRAT-Core

=> Revised in [R2-2409198](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409198.zip)

[R2-2409198](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409198.zip) Correction to NR Beam Reporting in LTE RRC Apple, ZTE Corporation CR Rel-18 36.331 18.3.1 5058 1 A NR\_newRAT-Core

[R2-2408669](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408669.zip) UE capability constraints for Qoffsettemp Nokia Poland discussion TEI12

[R2-2409129](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409129.zip) Correction on eutra-CGI-Reporting-ENDC and utra-GERAN-CGI-Reporting-ENDC Huawei, HiSilicon CR Rel-15 36.306 15.12.0 1895 - F NR\_newRAT-Core

[R2-2409130](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409130.zip) Correction on eutra-CGI-Reporting-ENDC and utra-GERAN-CGI-Reporting-ENDC Huawei, HiSilicon CR Rel-16 36.306 16.13.0 1896 - A NR\_newRAT-Core

[R2-2409131](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409131.zip) Correction on eutra-CGI-Reporting-ENDC and utra-GERAN-CGI-Reporting-ENDC Huawei, HiSilicon CR Rel-17 36.306 17.7.0 1897 - A NR\_newRAT-Core

[R2-2409132](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409132.zip) Correction on eutra-CGI-Reporting-ENDC and utra-GERAN-CGI-Reporting-ENDC Huawei, HiSilicon CR Rel-18 36.306 18.3.0 1898 - A NR\_newRAT-Core

[R2-2409133](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409133.zip) Correction on eutra-CGI-Reporting-NRDC and NR-CGI-Reporting-NRDC Huawei, HiSilicon CR Rel-15 38.306 15.26.0 1192 - F NR\_newRAT-Core

[R2-2409134](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409134.zip) Correction on eutra-CGI-Reporting-NRDC and NR-CGI-Reporting-NRDC Huawei, HiSilicon CR Rel-16 38.306 16.18.0 1193 - A NR\_newRAT-Core

[R2-2409135](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409135.zip) Correction on eutra-CGI-Reporting-NRDC and NR-CGI-Reporting-NRDC Huawei, HiSilicon CR Rel-17 38.306 17.10.0 1194 - A NR\_newRAT-Core

[R2-2409136](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409136.zip) Correction on eutra-CGI-Reporting-NRDC and NR-CGI-Reporting-NRDC Huawei, HiSilicon CR Rel-18 38.306 18.3.0 1195 - A NR\_newRAT-Core

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

REL-15 and Earlier WIs related to V2x and Sidelink are in scope but not listed explicitly (long list).

This Agenda Item is treated in the V2X and Sidelink Breakout session

Tdoc Limitation: 1 tdocs

## 4.3 Positioning corrections Rel-16 and earlier

(LTE\_NavIC-Core, LTE TEI16 Positioning), REL-15 and Earlier WIs related to positioning are in scope but not listed explicitly (long list).

Tdoc Limitation: 1 tdoc

[R2-2408774](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408774.zip) Correction to the need code of AssistanceDataSIBelement Huawei, HiSilicon CR Rel-15 37.355 15.3.0 0521 - F LCS\_LTE\_acc\_enh-Core

[R2-2408775](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408775.zip) Correction to the need code of AssistanceDataSIBelement Huawei, HiSilicon CR Rel-16 37.355 16.13.0 0522 - A LCS\_LTE\_acc\_enh-Core

[R2-2408776](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408776.zip) Correction to the need code of AssistanceDataSIBelement Huawei, HiSilicon CR Rel-17 37.355 17.8.0 0523 - A LCS\_LTE\_acc\_enh-Core

[R2-2408777](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408777.zip) Correction to the need code in AssistanceDataSIBelement-r18 Huawei, HiSilicon CR Rel-18 37.355 18.3.0 0524 - A LCS\_LTE\_acc\_enh-Core

# 5 NR Rel-15 and Rel-16

Essential corrections only.

Tdoc Limitation: 2 tdocs in total for all sub agenda items NOTE: some agenda items have additional Tdoc limits.

In case a correction need to be reflected in both NR TS and LTE TS, the corrections should be submitted under one single AI (so the NR and LTE correction can be treated together), the sub-Ais below this

## 5.1 Common

Includes the following WIs and input that doesn’t fit elsewhere.

(NR\_newRAT-Core; leading WG: RAN1; REL-15; started: Mar. 17; closed: Jun. 19: WID: [RP-191971](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_85/Docs/RP-191971.zip))

(NR\_IAB-Core; leading WG: RAN2; REL-16; started: Dec 18; target Aug 20; WID: [RP-200840](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_88e/Docs/RP-200840.zip))

(NR\_unlic-Core; leading WG: RAN1; REL-16; started: Dec 18; Closed June 20; WID: [RP-192926](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_86/Docs/RP-192926.zip)).

(NR\_IIOT-Core; leading WG: RAN2; REL-16; started: Mar 19; Completed: Jun 20; WID: [RP-200797](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_88e/Docs/RP-200797.zip))

(NR\_UE\_pow\_sav-Core; leading WG: RAN1; REL-16; started: Mar 19; Completed Jun 20; WID: [RP-200494](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_87e/Docs/RP-200494.zip)).

(NR\_2step\_RACH-Core; leading WG: RAN1; REL-16; started: Dec 18; Completed: June 20; WID: [RP-200085](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_87e/Docs/RP-200085.zip)).

(SRVCC\_NR\_to\_UMTS-Core; leading WG: RAN2; REL-16; started: Dec 18; Completed; Mar 20; WID: [RP-190713](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_83/Docs/RP-190713.zip))

(RACS-RAN-Core, leading WG: RAN2; REL-16; started: Mar 19; completed: Jun 20; WID: [RP-191088](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_84/Docs/RP-191088.zip))

(NG\_RAN\_PRN-Core; leading WG: RAN3; REL-16; started: Mar 19; completed: June 20; WID: [RP-200122](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_87e/Docs/RP-200122.zip))

(NR\_eMIMO-Core, leading WG: RAN1; REL-16; started: Jun 18; target; Aug 20; WID: [RP-200474😉](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_87e/Docs/RP-200474.zip)

(NR\_CLI\_RIM; leading WG: RAN1; REL-16; started: Dec 18; Completed: Jun 20; WID: [RP-191997](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_85/Docs/RP-191997.zip);)

(NR\_L1enh\_URLLC-Core, leading WG: RAN1; REL-16; Completed: June 20; WID: [RP-191584](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_84/Docs/RP-191584.zip))

(LTE\_NR\_DC\_CA\_enh-Core; leading WG: RAN2; REL-16; started: Jun 18; Target Aug 20; WI [RP-200791](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_88e/Docs/RP-200791.zip))

(NR\_Mob\_enh-Core; leading WG: RAN2; REL-16; started: Jun 18; Completed June 20; WID: [RP-192277](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_85/Docs/RP-192277.zip)).

(NR\_SON\_MDT-Core; leading WG: RAN3; REL-16; started: Jun 19; Completed June 20; WID: [RP-191776](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_85/Docs/RP-191776.zip))

(NR\_HST, NR\_RRM\_enh-Core, NR\_RF\_FR1, NR\_RF\_FR2\_req\_enh, NR\_n66\_BW, LTE\_NR\_B41\_Bn41\_PC29dBm-Core, NR\_CSIRS\_L3meas,)

(NR TEI16)

LTE mob enh corrections that are common with NR mobility enhancements should be submitted to this AI.

### 5.1.1 Stage 2 and Organisational

Incoming LSs, etc. You should discuss your stage 2 CRs with the specification rapporteurs before submission. Includes impact to 38.300, 36.300, 37.340

[R2-2407918](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407918.zip) LS on higher layer parameters for DCI format 2\_3 (R1-2407534; contact: CATT) RAN1 LS in Rel-16 NR\_newRAT-Core, TEI16 To:RAN2

[R2-2408234](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408234.zip) Gap requirement for CSI-RS based measurements and inter-RAT measurements Huawei, HiSilicon, ZTE Corporation, Ericsson, Samsung, CATT, Apple, Nokia, Nokia Shanghai Bell, LG Electronics Inc., OPPO CR Rel-16 38.300 16.17.0 0906 - F NR\_newRAT-Core

[R2-2408235](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408235.zip) Gap requirement for CSI-RS based measurements and inter-RAT measurements Huawei, HiSilicon, ZTE Corporation, Ericsson, Samsung, CATT, Apple, Nokia, Nokia Shanghai Bell, LG Electronics Inc., OPPO CR Rel-17 38.300 17.10.0 0907 - A NR\_newRAT-Core

[R2-2408236](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408236.zip) Gap requirement for CSI-RS based measurements and inter-RAT measurements Huawei, HiSilicon, ZTE Corporation, Ericsson, Samsung, CATT, Apple, Nokia, Nokia Shanghai Bell, LG Electronics Inc., OPPO CR Rel-18 38.300 18.3.0 0908 - A NR\_newRAT-Core

[R2-2408644](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408644.zip) Maximum number of configured CCs Nokia, Nokia Shanghai Bell CR Rel-15 38.300 15.18.0 0914 - F NR\_newRAT-Core

### 5.1.2 User Plane corrections

User Plane corrections will be handled in the User Plane break out session

#### 5.1.2.1 MAC

[R2-2408348](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408348.zip) Correction on Random Access Preamble group B for 2-step RA and 4-step RA ASUSTeK CR Rel-16 38.321 16.17.0 1932 - F NR\_newRAT-Core, NR\_2step\_RACH-Core

- LG, ZTE, and Ericsson doesn’t think this CR is needed, there is no ambiguity. Qualcomm thinks we can leave the spec as it is.

* The CR is not pursued

[R2-2408349](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408349.zip) Correction on Random Access Preamble group B for 2-step RA and 4-step RA ASUSTeK CR Rel-17 38.321 17.10.0 1933 - A NR\_newRAT-Core, NR\_2step\_RACH-Core

[R2-2408350](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408350.zip) Correction on Random Access Preamble group B for 2-step RA and 4-step RA ASUSTeK CR Rel-18 38.321 18.3.0 1934 - A NR\_newRAT-Core, NR\_2step\_RACH-Core

[R2-2409079](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409079.zip) Correction to available UL-SCH resources in SR triggering Samsung (Rapporteur), Ericsson, Spreadtrum CR Rel-16 38.321 16.17.0 1962 - F NR\_2step\_RACH-Core

- Qualcomm thinks this is an optimization for Rel-16 specification. Lenovo, Mediatek and Nokia also thinks that there is no confusion.

- CATT, Sharp, Vivo and LG supports this clarification and we can change it without implementation issue.

- Ericsson thinks that there may be a chance that this is not followed and it would delay the SR.

* The CR is in principle agreed

[R2-2409080](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409080.zip) Correction to available UL-SCH resources in SR triggering Samsung (Rapporteur), Ericsson, Spreadtrum CR Rel-17 38.321 17.10.0 1963 - A NR\_2step\_RACH-Core

[R2-2409081](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409081.zip) Correction to available UL-SCH resources in SR triggering Samsung (Rapporteur), Ericsson, Spreadtrum CR Rel-18 38.321 18.3.0 1964 - A NR\_2step\_RACH-Core

#### 5.1.2.2 RLC PDCP SDAP BAP

[R2-2408266](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408266.zip) Correction on BH RLC channel and RLC channel Xiaomi, Apple CR Rel-16 38.322 16.3.0 0058 - F NR\_IAB\_enh-Core

- Nokia doesn’t agree with removal of this as we are also referring to this in 38.300.

- Qualcomm doesn’t agree with the change as it is clearly defined in 300 that BH is on top of RLC. ZTE also thinks this is not needed as it is aligned with stage 2 figured.

* The CR is not pursued

[R2-2408267](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408267.zip) Correction on BH RLC channel and RLC channel Xiaomi, Apple CR Rel-17 38.322 17.4.0 0059 - A NR\_IAB\_enh-Core

[R2-2408268](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408268.zip) Correction on BH RLC channel and RLC channel Xiaomi, Apple CR Rel-18 38.322 18.1.0 0060 - A NR\_IAB\_enh-Core

[R2-2408989](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408989.zip) Miscellaneous corrections on BAP for IAB Huawei, HiSilicon (Rapporteur) CR Rel-16 38.340 16.5.0 0037 - F NR\_IAB-Core

- ZTE Thinks that the change on flow control is already covered 5.3.5.12 so it is a duplication. Samsung and Nokia also doesn’t think this is needed.

- Nokia indicates that in 21.905 Ipv4 ad v6 are already defined so not needed

* Flow control changes in 5.3.1 are not need and definitions of IPv4 and 6 are not needed
* The remaining changes are purely editorial and should be Cat D for Rel-18. Rel-18 CR can be discussed in next meeting
* The CR is not pursued

[R2-2408990](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408990.zip) Miscellaneous corrections on BAP for IAB Huawei, HiSilicon (Rapporteur) CR Rel-17 38.340 17.5.0 0038 - A NR\_IAB-Core, NR\_IAB\_enh-Core

[R2-2408991](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408991.zip) Miscellaneous corrections on BAP for IAB Huawei, HiSilicon (Rapporteur) CR Rel-18 38.340 18.1.0 0039 - A NR\_IAB-Core, NR\_IAB\_enh-Core, NR\_mobile\_IAB-Core

#### 5.1.2.3 Other

User plane related corrections that should be handled in User plane break out session.

### 5.1.3 Control Plane corrections

#### 5.1.3.1 NR RRC

Corrections to 38331, and related change to other TS if applicable, e.g. 36331, Stage-2 etc.

[R2-2408200](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408200.zip) Correction on IE SRS-CarrierSwitching CATT, Vivo, China Telecom, China Unicom, Nokia, ZTE Corporation, CMCC CR Rel-15 38.331 15.27.0 4893 1 F NR\_newRAT-Core [R2-2406841](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2406841.zip)

[R2-2408201](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408201.zip) Correction on IE SRS-CarrierSwitching CATT, Vivo, China Telecom, China Unicom, Nokia, ZTE Corporation CR Rel-16 38.331 16.18.0 4894 1 A NR\_newRAT-Core [R2-2406842](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2406842.zip)

* Revised in [R2-2409206](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409206.zip)

[R2-2409206](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409206.zip) Correction on IE SRS-CarrierSwitching CATT, Vivo, China Telecom, China Unicom, Nokia, ZTE Corporation CR Rel-16 38.331 16.18.0 4894 2 A NR\_newRAT-Core [R2-2406842](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2406842.zip)

[R2-2408202](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408202.zip) Correction on IE SRS-CarrierSwitching CATT, Vivo, China Telecom, China Unicom, Nokia, ZTE Corporation CR Rel-17 38.331 17.10.0 4895 1 A NR\_newRAT-Core [R2-2406843](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2406843.zip)

[R2-2408203](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408203.zip) Correction on IE SRS-CarrierSwitching CATT, Vivo, China Telecom, China Unicom, Nokia, ZTE Corporation CR Rel-18 38.331 18.3.0 4896 1 A NR\_newRAT-Core [R2-2406844](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2406844.zip)

[R2-2408204](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408204.zip) DRAFT Reply LS on higher layer parameters for DCI format 2\_3 CATT LS out Rel-15 NR\_newRAT-Core To:RAN1

[R2-2408245](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408245.zip) Minor Corrections on TS38.331 vivo CR Rel-15 38.331 15.27.0 4989 - F NR\_newRAT-Core

[R2-2408246](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408246.zip) Minor Corrections on TS38.331 vivo CR Rel-16 38.331 16.18.0 4990 - A NR\_newRAT-Core

[R2-2408247](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408247.zip) Minor Corrections on TS38.331 vivo CR Rel-17 38.331 17.10.0 4991 - A NR\_newRAT-Core

[R2-2408248](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408248.zip) Minor Corrections on TS38.331 vivo CR Rel-18 38.331 18.3.0 4992 - A NR\_newRAT-Core

[R2-2408809](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408809.zip) Correction to Ocn description in measurement event Ericsson CR Rel-15 38.331 15.27.0 5033 - F NR\_newRAT-Core

[R2-2408810](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408810.zip) Correction to Ocn description in measurement event Ericsson CR Rel-16 38.331 16.18.0 5034 - A NR\_newRAT-Core

[R2-2408811](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408811.zip) Correction to Ocn description in measurement event Ericsson CR Rel-17 38.331 17.10.0 5035 - A NR\_newRAT-Core

[R2-2408812](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408812.zip) Correction to Ocn description in measurement event Ericsson CR Rel-18 38.331 18.3.0 5036 - A NR\_newRAT-Core

[R2-2408844](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408844.zip) Correction on IE perRAInfoList for CEF report Huawei, HiSilicon CR Rel-16 38.331 16.18.0 5043 - F NR\_SON\_MDT-Core

[R2-2408845](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408845.zip) Correction on IE perRAInfoList for CEF report and SCGFailureInformation Huawei, HiSilicon CR Rel-17 38.331 17.10.0 5044 - A NR\_SON\_MDT-Core

[R2-2408846](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408846.zip) Correction on IE perRAInfoList for CEF report and SCGFailureInformation Huawei, HiSilicon CR Rel-18 38.331 18.3.0 5045 - A NR\_SON\_MDT-Core

[R2-2408888](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408888.zip) RRC correction on field descriptions of PUSCH-ServingCellConfig Philips International B.V. CR Rel-15 38.331 15.27.0 5053 - F NR\_newRAT-Core

[R2-2408889](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408889.zip) RRC correction on field descriptions of PUSCH-ServingCellConfig Philips International B.V. CR Rel-16 38.331 16.18.0 5054 - A NR\_newRAT-Core

[R2-2408890](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408890.zip) RRC correction on field descriptions of PUSCH-ServingCellConfig Philips International B.V. CR Rel-17 38.331 17.10.0 5055 - A NR\_newRAT-Core

[R2-2408891](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408891.zip) RRC correction on field descriptions of PUSCH-ServingCellConfig Philips International B.V. CR Rel-18 38.331 18.3.0 5056 - A NR\_newRAT-Core

#### 5.1.3.2 UE capabilities

UE cap corrections 38306, 38331

[R2-2408469](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408469.zip) Corrections on parallelTx capabilities for inter-band and intra-band Huawei, HiSilicon, Ericsson, Nokia, Nokia Shanghai Bell CR Rel-15 38.306 15.26.0 1170 - F NR\_newRAT-Core

[R2-2408470](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408470.zip) Corrections on parallelTx capabilities for inter-band and intra-band Huawei, HiSilicon, Ericsson, Nokia, Nokia Shanghai Bell CR Rel-16 38.306 16.18.0 1171 - A NR\_newRAT-Core

[R2-2408471](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408471.zip) Corrections on parallelTx capabilities for inter-band and intra-band Huawei, HiSilicon, Ericsson, Nokia, Nokia Shanghai Bell CR Rel-17 38.306 17.10.0 1172 - A NR\_newRAT-Core

[R2-2408472](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408472.zip) Corrections on parallelTx capabilities for inter-band and intra-band Huawei, HiSilicon, Ericsson, Nokia, Nokia Shanghai Bell CR Rel-18 38.306 18.3.0 1173 - A NR\_newRAT-Core

[R2-2408514](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408514.zip) Clarification on NR PDCP capability ZTE Corporation discussion Rel-15 NR\_newRAT-Core

[R2-2408515](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408515.zip) Correction on NR PDCP capability ZTE Corporation CR Rel-15 38.306 15.26.0 1178 - F NR\_newRAT-Core

[R2-2408516](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408516.zip) Correction on NR PDCP capability ZTE Corporation CR Rel-16 38.306 16.18.0 1179 - A NR\_newRAT-Core

[R2-2408517](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408517.zip) Correction on NR PDCP capability ZTE Corporation CR Rel-17 38.306 17.10.0 1180 - A NR\_newRAT-Core

[R2-2408518](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408518.zip) Correction on NR PDCP capability ZTE Corporation CR Rel-18 38.306 18.3.0 1181 - A NR\_newRAT-Core

[R2-2408898](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408898.zip) Clarification on inter-band handover enhancements capabilities Qualcomm Inc. CR Rel-16 38.306 16.18.0 1186 - F NR\_Mob\_enh-Core

[R2-2408899](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408899.zip) Clarification on inter-band handover enhancements capabilities Qualcomm Inc. CR Rel-17 38.306 17.10.0 1187 - A NR\_Mob\_enh-Core, NR\_NTN\_solutions-Core

[R2-2408900](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408900.zip) Clarification on inter-band handover enhancements capabilities Qualcomm Inc. CR Rel-18 38.306 18.3.0 1188 - A NR\_NTN\_enh-Core, NR\_ATG-Core, NR\_Mob\_Ph4-Core, Netw\_Energy\_NR-Core

[R2-2408911](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408911.zip) Missing NR-DC parameters branches and DCI format 2\_3 Ericsson discussion

#### 5.1.3.3 Other

This agenda item addresses the idle and inactive behaviour specified in 38.304 or 36.304, LTE-specific changes for the applicable WIs, Other parts not covered elsewhere.

[R2-2409034](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409034.zip) Correction to Relaxed measurement LG Electronics, Nokia, Samsung, Ericsson CR Rel-16 38.304 16.10.0 0412 1 F NR\_UE\_pow\_sav-Core [R2-2407341](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407341.zip)

[R2-2409036](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409036.zip) Correction to Relaxed measurement LG Electronics, Nokia, Samsung, Ericsson CR Rel-17 38.304 17.9.0 0413 1 A NR\_UE\_pow\_sav-Core [R2-2407341](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407341.zip)

[R2-2409037](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409037.zip) Correction to Relaxed measurement LG Electronics, Nokia, Samsung, Ericsson CR Rel-18 38.304 18.3.0 0414 1 A NR\_UE\_pow\_sav-Core [R2-2407363](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407363.zip)

## 5.2 NR V2X

(5G\_V2X\_NRSL-Core; leading WG: RAN1; REL-16; started: Mar 19; target; Aug 20; WID: [RP-200129](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_87e/Docs/RP-200129.zip)).

CR rapporteurs will take care of miscellaneous CRs to collect small changes. Please first contact / coordinate with CR rapporteur company for small changes (e.g. non-controversial clarification/correction, editorial correction, etc.).

Tdoc Limitation: 1 tdocs

[R2-2408541](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408541.zip) Discussion on intra-UE prioritization ZTE Corporation, Nokia discussion Rel-16 5G\_V2X\_NRSL-Core

[R2-2408585](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408585.zip) Corrections on UE behaviour upon reception of RRCReconfigCompleteSL Apple CR Rel-16 38.331 16.18.0 5019 - F 5G\_V2X\_NRSL-Core

[R2-2408586](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408586.zip) Corrections on UE behaviour upon reception of RRCReconfigCompleteSL Apple CR Rel-17 38.331 17.10.0 5020 - F 5G\_V2X\_NRSL-Core, NR\_SL\_relay-Core

[R2-2408587](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408587.zip) Corrections on UE behaviour upon reception of RRCReconfigCompleteSL Apple CR Rel-18 38.331 18.3.0 5021 - F 5G\_V2X\_NRSL-Core, NR\_SL\_relay-Core, NR\_SL\_relay\_enh-Core, NR\_SL\_enh2

[R2-2408913](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408913.zip) RRC correction on sl-X-Overhead field description of SL-ResourcePool Philips International B.V. CR Rel-16 38.331 16.18.0 5058 - F 5G\_V2X\_NRSL-Core

[R2-2408914](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408914.zip) RRC correction on sl-X-Overhead field description of SL-ResourcePool Philips International B.V. CR Rel-17 38.331 17.10.0 5059 - A 5G\_V2X\_NRSL-Core

[R2-2408915](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408915.zip) RRC correction on sl-X-Overhead field description of SL-ResourcePool Philips International B.V. CR Rel-18 38.331 18.3.0 5060 - A 5G\_V2X\_NRSL-Core

## 5.3 NR Positioning Support

(NR\_newRAT-Core; leading WG: RAN1; REL-15; started: Mar. 17; closed: Jun. 19: WID: [RP-191971](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_85/Docs/RP-191971.zip))

(NR\_pos-Core; leading WG: RAN1; REL-16; started: Mar 19; target; Jun 20; WID: [RP-200218](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_87e/Docs/RP-200218.zip)).

(NR TEI16 Positioning)

Stage 2 corrections shall be discussed with the specification rapporteur (Sven Fischer sfischer@qti.qualcomm.com) before submission. Stage 2 CRs not discussed with the specification rapporteur will not be treated.

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[R2-2408213](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408213.zip) Correction on GNSS-AlmanacSupport and GNSS-UTC-ModelSupport in A-GNSS positioning ZTE Corporation CR Rel-16 37.355 16.13.0 0516 - F NR\_pos-Core

[R2-2408214](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408214.zip) Correction on GNSS-AlmanacSupport and GNSS-UTC-ModelSupport in A-GNSS positioning ZTE Corporation CR Rel-17 37.355 17.8.0 0517 - A NR\_pos-Core

[R2-2408215](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408215.zip) Correction on GNSS-AlmanacSupport and GNSS-UTC-ModelSupport in A-GNSS positioning ZTE Corporation CR Rel-18 37.355 18.3.0 0518 - A NR\_pos-Core

# 6 NR Rel-17

Essential corrections only. Editorial/clarifications should be sent to be reviewed and approved by spec rapporteurs prior to submission. Editorials should only be submitted by spec rapporteurs.

## 6.1 Common

(NR\_MG\_enh-Core; leading WG: RAN4; REL-17; WID: [RP-211591](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_92e/Docs/RP-211591.zip))

(NR\_UDC\_enh-Core; leading WG: RAN2; REL-17; WID: [RP-211203](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_92e/Docs/RP-211203.zip))

(NG\_RAN\_PRN\_enh-Core; leading WG: RAN3; REL-17; WID: [RP-202363](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_90e/Docs/RP-202363.zip))

(NR\_IAB\_enh-Core; leading WG: RAN2; REL-17; WID: [RP-211548](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_92e/Docs/RP-211548.zip))

(NR\_UE\_pow\_sav\_enh-Core; leading WG: RAN2; REL-17; WID: [RP-212630](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_93e/Docs/RP-212630.zip))

(LTE\_NR\_DC\_enh2-Core; leading WG: RAN2; REL-17; WID: [RP-201040](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_88e/Docs/RP-201040.zip))

(LTE\_NR\_MUSIM-Core; leading WG: RAN2; REL-17; WID: [RP-212610](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_93e/Docs/RP-212610.zip))

(NR\_Slice -Core; leading WG: RAN2; REL-17; WID: [RP-212534](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_93e/Docs/RP-212534.zip))

(NR\_QoE-Core; leading WG: RAN3; REL-17; WID: [RP-211406](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_92e/Docs/RP-211406.zip))

(NR\_ext\_to\_71GHz-Core; leading WG: RAN1; REL-17; WID: [RP-212637](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_93e/Docs/RP-212637.zip))

(NR\_cov\_enh-Core; leading WG: RAN1; REL-17; WID: [RP-211566](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_92e/Docs/RP-211566.zip)): non-RACH-indication parts

(NR\_redcap-Core; leading WG: RAN1; REL-17; WID: [RP-211574](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_92e/Docs/RP-211574.zip))

(NR\_feMIMO-Core; leading WG: RAN1; REL-17; WID: [RP-212535](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_93e/Docs/RP-212535.zip))

(NR\_SmallData\_INACTIVE-Core, leading WG: RAN2; REL-17; WID: [RP-212594](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_93e/Docs/RP-212594.zip))

(NR\_IIOT\_URLLC\_enh-Core; leading WG: RAN2; REL-17; WID: [RP-210854](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_91e/Docs/RP-210854.zip))

(NR\_MBS-Core; leading WG: RAN2; REL-17; WID: [RP-201038](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_88e/Docs/RP-201038.zip))

(NR\_ENDC\_SON\_MDT\_enh-Core; leading WG: RAN3; REL-17; WID: [RP-201281](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_88e/Docs/RP-201281.zip))

(NR\_NTN\_solutions-Core; leading WG: RAN2; REL-17; WID: [RP-211557](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_92e/Docs/RP-211557.zip))

PRACH partitioning items

(NR TEI17)

Includes Rel-17 Work Items without specific R2 Agenda Item, e.g. RAN1 and RAN4 led items, SA2 and CT1 led items (was previously “Rel-17 Other”)

Includes aspects that does not fit under the more specific AIs, e.g. multi-WI aspects.

Corrections for NR\_NTN\_solutions-Core might be treated in the NTN breakout session.

Tdoc limitation: 3 Tdocs

### 6.1.1 Stage 2 and Organisational

Incoming LSs, etc. You should discuss your stage 2 CRs with the specification rapporteurs before submission. Includes impact to 38.300, 37.340, (36.300 if applicable)

[R2-2407913](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407913.zip) LS response on power control parameters for unified TCI state framework (R1-2407424; contact: Ericsson) RAN1 LS in Rel-17 NR\_FeMIMO-Core To:RAN2

[R2-2407929](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407929.zip) Reply to LS on IE supportedBandwidthCombinationSetIntraENDC and IE intraBandENDC-Support (R4-2412923; contact: Google) RAN4 LS in Rel-17 TEI17 To:RAN2

[R2-2408366](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408366.zip) Correction on location based measurements in NR NTN CATT, Nokia, Nokia Shanghai Bell CR Rel-17 38.300 17.10.0 0909 - F NR\_NTN\_solutions-Core

[R2-2408367](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408367.zip) Correction on location based measurements in NR NTN CATT, Nokia, Nokia Shanghai Bell CR Rel-18 38.300 18.3.0 0910 - A NR\_NTN\_solutions-Core

[R2-2408853](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408853.zip) Enhanced channel raster for (e)RedCap UE Ericsson discussion Rel-17 NR\_redcap-Core

### 6.1.2 User Plane corrections

User Plane Related aspects will be handled in the User Plane break out session. (exception: TEI new proposals if any).

[R2-2408179](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408179.zip) Discussion on Type-3 PHR for mTRP PUSCH Repetition CATT discussion Rel-17 NR\_FeMIMO-Core

*Proposal 1: Introduce a new UE capability to indicate whether UE supports reporting type-1 PH value only, when the serving cell is configured with multiple TRP PUSCH repetition and the MAC entity this serving cell belongs to is configured with twoPHRMode.*

*Proposal 2: Besides the new UE capability, RAN2 to introduce a new RRC parameter to control whether UE reports two Type-1 PH values only, based on the indicated UE capability.*

*Proposal 3: The TP in Annex A for Rel-17 TS 38.331/38.321/38.306 and TP in Annex B for Rel-18 TS 38.331/38.321/38.306 are adopted.*

Discussions

- LG and Mediate doesn’t think that new RRC parameter is needed as the network can know.

- Nokia, Qualcomm, Vivo, Ericsson supports CATTs view, without RRC indication it would be a problematic scenario. Qualcomm thinks that after the UE reports capability it would be important for the UE to know whether the network has new or old implementation.

- ZTE, Samsung agrees with LG.

- Huawei asks how the network configures the features or not without RRC parameter.

- LG thinks the UE behaviour is the same in both cases but the RRC parameter is not essential.

* [AT127bis][005][UP] Type-3 PHR for mTRP PUSCH (LG/CATT)

Intended outcome: Way forward (RRC parameter or not). No Tdoc expected

Deadline: 10-17-24

**Agreements**

1. RAN2 introduce new per UE capability indicating UE support report type-1 PH value only
2. RAN2 does not introduce new RRC parameter to control whether UE report type-1 PH value only.

[R2-2409043](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409043.zip) Correction on PHR for mTRP PUSCH repetition (R17) LG Electronics Inc., MediaTek Inc. CR Rel-17 38.321 17.10.0 1892 3 F NR\_FeMIMO-Core [R2-2407768](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407768.zip)

* The CR is in principle agreed

[R2-2409044](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409044.zip) Correction on PHR for mTRP PUSCH repetition (R17) LG Electronics Inc., MediaTek Inc. CR Rel-17 38.331 17.10.0 5068 - F NR\_FeMIMO-Core

* The CR is in principle agreed

[R2-2409045](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409045.zip) Correction on PHR for mTRP PUSCH repetition (R17) LG Electronics Inc., MediaTek Inc. CR Rel-17 38.306 17.10.0 1190 - F NR\_FeMIMO-Core

* The CR is in principle agreed

[R2-2409046](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409046.zip) Correction on PHR for mTRP PUSCH repetition LG Electronics Inc., MediaTek Inc. CR Rel-18 38.321 18.3.0 1893 2 A NR\_FeMIMO-Core [R2-2407566](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407566.zip)

[R2-2409047](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409047.zip) Correction on PHR for mTRP PUSCH repetition LG Electronics Inc., MediaTek Inc. CR Rel-18 38.331 18.3.0 5069 - A NR\_FeMIMO-Core

[R2-2409048](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409048.zip) Correction on PHR for mTRP PUSCH repetition LG Electronics Inc., MediaTek Inc. CR Rel-18 38.306 18.3.0 1191 - A NR\_FeMIMO-Core

[R2-2408467](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408467.zip) Correction on HARQ process Samsung, Ericsson, Nokia, LG Electronics Inc., Qualcomm Incorporated, Apple, ZTE, CATT CR Rel-17 38.321 17.10.0 1937 - F NR\_NTN\_solutions-Core, NR\_MBS-Core

* The CR is in principle agreed

[R2-2408468](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408468.zip) Correction on HARQ process Samsung, Ericsson, Nokia, LG Electronics Inc., Qualcomm Incorporated, Apple, ZTE, CATT CR Rel-18 38.321 18.3.0 1938 - A NR\_NTN\_solutions-Core, NR\_MBS-Core

[R2-2408813](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408813.zip) Correction on use of recommended of IAB-MT beam indication Ericsson, Samsung CR Rel-17 38.321 17.10.0 1901 1 F NR\_IAB\_enh-Core [R2-2407171](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407171.zip)

- ZTE thinks that this part of sentence is not needed “based on the observed interference level at the IAB-node from the parent node transmissions” as it is not inline with RAN1. Samsung indicates that this was the understanding from their RAN1.

- Qualcomm and LG support removal of the restriction

- Huawei thinks that this is just a wording improvement.

* Remove the second sentence “based on the observed interference level at the IAB-node from the parent node transmissions”
* The CR is agreed in principle with the removal above in R2-2409219

R2-2409219 Correction on use of recommended of IAB-MT beam indication Ericsson, Samsung CR Rel-17 38.321 17.10.0 1901 2 F NR\_IAB\_enh-Core

=> Agreed in principle

[R2-2408814](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408814.zip) Correction on use of recommended of IAB-MT beam indication. Ericsson, Samsung CR Rel-18 38.321 18.3.0 1902 1 A NR\_IAB\_enh-Core [R2-2407172](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407172.zip)

[R2-2408827](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408827.zip) Corrections to validity of configured uplink grant for SDT Samsung CR Rel-17 38.321 17.10.0 1956 - F NR\_SmallData\_INACTIVE-Core

*Alternate 1:*

*Specifed that configured uplink grant is invalid for case 1 and case 2.*

*Alternate 2:*

*Remove the part which specifies configured uplink grant is invalid for case 3. With this only the case(s) where configured uplink grant is valid are specified*

- Huawei supports alt2.

- LG thinks both options are not correct and this else statement should be an independent statement. Ericsson agrees with LG.

* The last else part should be in an independent paragraph
* The CR is revised in R2-2409220

R2-2409220 Corrections to validity of configured uplink grant for SDT Samsung CR Rel-17 38.321 17.10.0 1956 1 F NR\_SmallData\_INACTIVE-Core

* [AT127bis][006][UP] UL grant for SDT (Samsung)

Intended outcome: Agree in principle to revised CR by email

Deadline: 10-17-24

[CB]

[R2-2409120](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409120.zip) Correction on drx HARQ RTT timer in NTN LG Electronics Inc. CR Rel-17 38.321 17.10.0 1965 - F NR\_NTN\_solutions-Core

=> Withdrawn

[R2-2409121](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409121.zip) Correction on drx HARQ RTT timer in NTN LG Electronics Inc. CR Rel-18 38.321 18.3.0 1966 - A NR\_NTN\_solutions-Core

[R2-2409123](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409123.zip) Correction on drx HARQ RTT timer in NTN LG Electronics Inc. CR Rel-17 38.321 17.10.0 1967 - F NR\_NTN\_solutions-Core

- Vivo, Qualcomm explains that we agree to not further clarify. LG thinks that there is a difference between NTN and TN.

- Qualcomm and Huawei think that these changes were for URLLC.

- Sharp asks if one shot feedback is supported for NTN, as that would be the only reason to align. LG understands that there were no restrictions but if there is we should say that this is only for TN.

- Ericsson explains that this was for NR-U and there was an agreement that this is applicable to outside of NR-U. Ericsson supports fixing this.

- Qualcomm thinks that to support one shot we would need to support a number of other things that RAN1 should discuss and we shouldn’t make such decisions in RAN2.

* Check if one shot feedback is supported for NTN
* The CR is postponed

### 6.1.3 Control Plane corrections

[R2-2408023](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408023.zip) Clarification on the maximum number of SI for Msg3-based on-demand SI request Xiaomi discussion Rel-17 TEI17

[R2-2408024](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408024.zip) Option 1 for clarifying the maximum number of SI for Msg3-based on-demand SI request (Rel-17) Xiaomi CR Rel-17 38.331 17.10.0 4979 - F TEI17

[R2-2408025](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408025.zip) Option 1 for clarifying the maximum number of SI for Msg3-based on-demand SI request (Rel-18) Xiaomi CR Rel-18 38.331 18.3.0 4980 - A TEI18

[R2-2408026](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408026.zip) Option 2 for clarifying the maximum number of SI for Msg3-based on-demand SI request (Rel-17) Xiaomi CR Rel-17 38.331 17.10.0 4981 - F TEI17

[R2-2408027](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408027.zip) Option 2 for clarifying the maximum number of SI for Msg3-based on-demand SI request (Rel-18) Xiaomi CR Rel-18 38.331 18.3.0 4982 - A TEI18

[R2-2408503](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408503.zip) Clarification of MeasurementTimingConfiguration use Vodafone, Ericsson discussion Rel-18

[R2-2408506](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408506.zip) Clarification of MeasurementTimingConfiguration use Vodafone, Ericsson CR Rel-18 38.331 18.3.0 5016 - D TEI18

#### 6.1.3.1 NR RRC

Corrections to 38331, and related change to other TS if applicable, except UE caps.

[R2-2407970](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407970.zip) Further discussion on RAN4 LS [R2-2406225](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2406225.zip) for Rel-17 NR NTN CATT discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2408231](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408231.zip) Corrections to NR NTN (R17) Huawei, HiSilicon CR Rel-17 38.331 17.10.0 4987 - F NR\_NTN\_solutions-Core

=> Withdrawn

[R2-2408232](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408232.zip) Corrections to NR NTN (R18) Huawei, HiSilicon CR Rel-18 38.331 18.3.0 4988 - A NR\_NTN\_solutions-Core

=> Withdrawn

[R2-2408323](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408323.zip) Correction to unified TCI signalling MediaTek Inc. CR Rel-17 38.331 17.10.0 4997 - F NR\_FeMIMO-Core

[R2-2408324](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408324.zip) Correction to unified TCI signalling MediaTek Inc. CR Rel-18 38.331 18.3.0 4998 - A NR\_FeMIMO-Core

[R2-2408651](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408651.zip) Corrections on measurement gap configruation ZTE Corporation, Sanechips CR Rel-17 38.331 17.10.0 5024 - F NR\_NTN\_solutions-Core, NR\_redcap-Core

[R2-2408652](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408652.zip) Corrections on measurement gap configruation ZTE Corporation, Sanechips CR Rel-18 38.331 18.3.0 5025 - A NR\_NTN\_solutions-Core, NR\_redcap-Core

[R2-2408653](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408653.zip) Corrections to mobility history information ZTE Corporation, Sanechips discussion Rel-18 NR\_ENDC\_SON\_MDT\_enh-Core

[R2-2408730](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408730.zip) Correction for CFRA configuration due to PRACH partitioning Huawei, HiSilicon, ZTE Corporation, Ericsson, Mediatek CR Rel-17 38.331 17.10.0 4899 1 F NR\_redcap-Core, NR\_slice-Core [R2-2406927](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2406927.zip)

[R2-2408731](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408731.zip) Correction for CFRA configuration due to PRACH partitioning Huawei, HiSilicon, ZTE Corporation, Ericsson, Mediatek CR Rel-18 38.331 18.3.0 4900 1 A NR\_redcap-Core, NR\_redcap\_enh-Core, NR\_slice-Core [R2-2406928](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2406928.zip)

[R2-2408821](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408821.zip) Correction and clarifications on MHI in DC Ericsson CR Rel-17 38.331 17.10.0 5039 - F NR\_ENDC\_SON\_MDT\_enh-Core

[R2-2408822](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408822.zip) Correction and clarifications on MHI in DC Ericsson CR Rel-18 38.331 18.3.0 5040 - A NR\_ENDC\_SON\_MDT\_enh2-Core

[R2-2408851](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408851.zip) Definition of IE AdditionalPCIIndex Ericsson CR Rel-17 38.331 17.10.0 5046 - F NR\_FeMIMO-Core

[R2-2408852](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408852.zip) Definition of IE AdditionalPCIIndex Ericsson CR Rel-18 38.331 18.3.0 5047 - A NR\_FeMIMO-Core, TEI18

[R2-2409010](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409010.zip) Correction on storing time spent with no PSCell when entering any cell selection state Samsung CR Rel-17 38.331 17.10.0 5066 - F NR\_ENDC\_SON\_MDT\_enh-Core

[R2-2409012](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409012.zip) Correction on storing time spent with no PSCell when entering any cell selection state Samsung CR Rel-18 38.331 18.3.0 5067 - A NR\_ENDC\_SON\_MDT\_enh-Core

[R2-2409090](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409090.zip) Corrections to NR NTN (R17) Huawei, HiSilicon, CMCC CR Rel-17 38.331 17.10.0 5075 - F NR\_NTN\_solutions-Core

[R2-2409091](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409091.zip) Corrections to NR NTN (R18) Huawei, HiSilicon, CMCC CR Rel-18 38.331 18.3.0 5076 - A NR\_NTN\_solutions-Core

[R2-2409102](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409102.zip) Correction on the RLM and BFD relaxation Google CR Rel-17 38.331 17.10.0 5078 - F NR\_UE\_pow\_sav\_enh-Core

[R2-2409104](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409104.zip) Correction on the RLM and BFD relaxation Google CR Rel-18 38.331 18.3.0 5079 - F NR\_UE\_pow\_sav\_enh-Core

[R2-2409124](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409124.zip) Miscellaneous non-controversial corrections Set XXIII Ericsson CR Rel-17 38.331 17.10.0 5082 - F NR\_newRAT-Core, TEI17 Late

[R2-2409125](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409125.zip) Miscellaneous non-controversial corrections Set XXIII Ericsson CR Rel-18 38.331 18.3.0 5083 - F NR\_newRAT-Core, TEI18 Late

#### 6.1.3.2 UE capabilities

UE cap corrections 38306, 38331.

[R2-2408371](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408371.zip) Network signalling of maximum number of UL segments Qualcomm Incorporated, AT&T discussion Rel-17 TEI17

[R2-2408372](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408372.zip) Introduction of network signalling of maximum number of UL segments Qualcomm Incorporated CR Rel-17 38.331 17.10.0 5004 - F TEI17

[R2-2408373](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408373.zip) Introduction of network signalling of maximum number of UL segments Qualcomm Incorporated CR Rel-17 38.306 17.10.0 1168 - F TEI17

[R2-2408476](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408476.zip) Correction on UE capabilities for TCI state indication Huawei, HiSilicon CR Rel-17 38.331 17.10.0 5014 - F NR\_FeMIMO-Core

[R2-2408477](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408477.zip) Correction on UE capabilities for TCI state indication Huawei, HiSilicon CR Rel-18 38.331 18.3.0 5015 - A NR\_FeMIMO-Core

[R2-2408478](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408478.zip) Correction on UE capabilities for TCI state indication Huawei, HiSilicon CR Rel-17 38.306 17.10.0 1175 - F NR\_FeMIMO-Core

[R2-2408479](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408479.zip) Correction on UE capabilities for TCI state indication Huawei, HiSilicon CR Rel-18 38.306 18.3.0 1176 - A NR\_FeMIMO-Core

#### 6.1.3.3 Other

Including idle and inactive behaviour specified in 38.304 or 36.304.

[R2-2408743](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408743.zip) Correction on emergency call back when eDRX is configured in RRC\_INACTIVE Nokia CR Rel-17 38.304 17.9.0 0416 - F NR\_redcap-Core

[R2-2408744](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408744.zip) Correction on emergency call back when eDRX is configured in RRC\_INACTIVE Nokia CR Rel-18 38.304 18.3.0 0417 - A NR\_redcap-Core

## 6.2 NR Sidelink relay

(NR\_SL\_Relay-Core; leading WG: RAN2; REL-17; WID: [RP-212601](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_93e/Docs/RP-212601.zip))

Tdoc Limitation: 1 tdoc

[R2-2407996](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407996.zip) Clarification on the L2 U2N Remote UE Measurement CATT CR Rel-17 38.331 17.10.0 4977 - F NR\_SL\_relay-Core

[R2-2407997](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407997.zip) Clarification on the L2 U2N Remote UE Measurement CATT CR Rel-18 38.331 18.3.0 4978 - A NR\_SL\_relay-Core

[R2-2408269](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408269.zip) Correction on PC5/Uu RLC channel and RLC channel Xiaomi, Apple, Nokia, OPPO CR Rel-17 38.322 17.4.0 0061 - F NR\_SL\_relay\_enh-Core

[R2-2408270](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408270.zip) Correction on PC5/Uu RLC channel and RLC channel Xiaomi, Apple, Nokia, OPPO CR Rel-18 38.322 18.1.0 0062 - A NR\_SL\_relay\_enh-Core

[R2-2408663](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408663.zip) Clarification on definition of PC5 and Uu Relay RLC channel Huawei, HiSilicon CR Rel-17 38.300 17.10.0 0915 - F NR\_SL\_relay-Core

[R2-2408664](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408664.zip) Clarification on definition of PC5 and Uu Relay RLC channel Huawei, HiSilicon CR Rel-18 38.300 18.3.0 0916 - A NR\_SL\_relay-Core

[R2-2408877](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408877.zip) Correction on the SL Relay Measurement Ericsson CR Rel-17 38.331 17.10.0 5049 - F NR\_SL\_relay-Core

[R2-2408878](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408878.zip) Correction on the SL Relay Measurement Ericsson CR Rel-18 38.331 18.3.0 5050 - A NR\_SL\_relay-Core

[R2-2408886](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408886.zip) RRC correction on NR sidelink discovery Philips International B.V. CR Rel-17 38.331 17.10.0 5051 - F NR\_SL\_relay-Core

[R2-2408887](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408887.zip) RRC correction on NR sidelink discovery Philips International B.V. CR Rel-18 38.331 18.3.0 5052 - A NR\_SL\_relay-Core

[R2-2409054](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409054.zip) Correction on field description of reportOnLeave for U2N Relay OPPO CR Rel-17 38.331 17.10.0 5070 - F NR\_SL\_relay-Core

[R2-2409117](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409117.zip) Correction on field description of reportOnLeave for U2N Relay OPPO CR Rel-18 38.331 18.3.0 5080 - A NR\_SL\_relay-Core

## 6.4 NR positioning enhancements

(NR\_pos\_enh-Core; leading WG: RAN1; REL-17; WID: [RP-210903](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_91e/Docs/RP-210903.zip))

Tdoc Limitation: 1 tdoc

[R2-2408778](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408778.zip) Correction to MAC for R17 POS Huawei, HiSilicon CR Rel-17 38.321 17.10.0 1948 - F NR\_pos\_enh-Core

[R2-2408779](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408779.zip) Correction to MAC for R17 POS Huawei, HiSilicon CR Rel-18 38.321 18.3.0 1949 - A NR\_pos\_enh-Core

[R2-2409078](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409078.zip) Corrections related to posSIB segmentation Ericsson CR Rel-17 37.355 17.8.0 0525 - F NR\_pos\_enh-Core

[R2-2409083](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409083.zip) Corrections related to posSIB segmentation Ericsson CR Rel-18 37.355 18.3.0 0526 - A NR\_pos\_enh-Core

=> Withdrawn

[R2-2409175](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409175.zip) Corrections related to posSIB segmentation Ericsson CR Rel-18 37.355 18.3.0 0527 - A NR\_pos\_enh-Core

=> Revised in [R2-2409177](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409177.zip)

[R2-2409177](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409177.zip) Corrections related to posSIB segmentation Ericsson CR Rel-18 37.355 18.3.0 0527 1 A NR\_pos\_enh-Core [R2-2409175](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409175.zip)

## 6.6 NR Sidelink enhancements

(NR\_SL\_enh-Core; leading WG: RAN1; REL-17; WID: [RP-202846](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_90e/Docs/RP-202846.zip))

Tdoc Limitation: 1 tdoc

CR rapporteurs will take care of miscellaneous CRs to collect small changes. Please first contact / coordinate with CR rapporteur company for small changes (e.g. non-controversial clarification/correction, editorial correction, etc.).

[R2-2408361](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408361.zip) Misc RRC corrections for SL enhancements Huawei, HiSilicon CR Rel-17 38.331 17.10.0 5001 - F NR\_SL\_enh-Core

[R2-2408362](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408362.zip) Misc RRC corrections for SL enhancements Huawei, HiSilicon CR Rel-18 38.331 18.3.0 5002 - A NR\_SL\_enh-Core

[R2-2408539](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408539.zip) Correction on unit of SL DRX timer ZTE Corporation CR Rel-17 38.321 17.10.0 1940 - F NR\_SL\_enh-Core

[R2-2408540](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408540.zip) Correction on unit of SL DRX timer ZTE Corporation CR Rel-18 38.321 18.3.0 1941 - A NR\_SL\_enh-Core

[R2-2408639](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408639.zip) Discussion on MAC correction for IUC's resource selection LG, OPPO, Ericsson discussion NR\_SL\_enh-Core

=> Withdrawn

[R2-2408642](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408642.zip) Discussion on MAC correction for IUC's resource selection LG, OPPO, Ericsson discussion NR\_SL\_enh-Core

[R2-2408680](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408680.zip) Correction to MAC on random resource selection for sidelink Ericsson CR Rel-17 38.321 17.10.0 1944 - F NR\_SL\_enh-Core

[R2-2408681](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408681.zip) Correction to MAC on random resource selection for sidelink Ericsson CR Rel-18 38.321 18.3.0 1945 - A NR\_SL\_enh-Core

# 7 Rel-18

## 7.0 Common

Rel-18 WIs not covered under an explicit AI in 7.x. Multi-WI Rel-18 items, e.g. cross-WI-issues not handled under another WI. UE capabilities.

### 7.0.1 UE Capabilities

Multi-WI handling of Rel-18 feature lists and UE capability Mega CRs.

**LS on UE features list**

[R2-2407909](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407909.zip) LS on Rel-18 RAN1 UE features list for NR after RAN1#118 (R1-2407387; contact: NTT DOCOMO, AT&T) RAN1 LS in Rel-18 NR\_MIMO\_evo\_DL\_UL, NR\_pos\_enh2, Netw\_Energy\_NR, NR\_netcon\_repeater, NR\_NTN\_enh, NR\_Mob\_enh2, NR\_SL\_enh2, NR\_redcap\_enh, NR\_MC\_enh, NR\_XR\_enh, NR\_FR1\_lessthan\_5MHz\_BW, NR\_DSS\_enh, NR\_BWP\_wor, NR\_cov\_enh2, TEI18 To:RAN2 Cc:RAN4

* Noted

[R2-2407932](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407932.zip) LS on RAN4 UE feature list for Rel-18 (version 6) (R4-2414459; contact: CMCC) RAN4 LS in Rel-18 NR\_ENDC\_RF\_FR1\_enh2, NR\_channel\_raster\_enh, NR\_FR2\_multiRX\_DL, NR\_RRM\_enh3, NR\_MG\_enh2, NonCol\_intraB\_ENDC\_NR\_CA, NR\_HST\_FR2\_enh, NR\_ATG, NR\_demod\_enh3, NR\_pos\_enh2, NR\_MC\_enh, NR\_Mob\_enh2, NR\_NTN\_enh, NR\_cov\_enh2, Netw\_Energy\_NR, 4Rx\_low\_NR\_band\_handheld\_3Tx\_NR\_CA\_ENDC, NR\_SL\_enh2 To:RAN2 Cc:RAN1

* Noted

**Discussion Documents**

[R2-2408738](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408738.zip) Guideline on implementing xDD/FRx-differentation in per UE capability Huawei, HiSilicon discussion Rel-18 NR\_newRAT-Core

*Proposal#1: To avoid further implementing UE capabilities with xDD/FRx differentiation into the ASN.1 going forward, it is proposed to document the following RAN2 agreement:*

* From Rel-17 onwards, at least for new capabilities, if a UE capability requires at least FRx or at least xDD differentiation, it is defined with both FRx and xDD differentiation in per band signaling, i.e. no new UE capabilities will be defined in the FRX and XDD capability signaling branches.*

- Nokia would be ok to capture some of this agreements in informative annex. Ericsson thinks that we should capture in spec as we did agree before in minutes. Samsung also thinks we should capture it as it was ignored. ZTE thinks that we should anyways update the UE capability with this rule otherwise it doesn’t make a difference. Huawei thinks that if it was formally documented somewhere companies would at least follow it in the future.

*Proposal#2: If Proposal#1 is agreed, RAN2 to add the following guideline text based on the RAN2 agreement in RAN2#116bis-e to an informative annex (e.g. in A.1 and A.2) or as a note in Clause 4.2.1 after NOTE 2 in the paragraph on xDD/FRx differentiation in TS38.306:*

*From Rel-17 and onwards, at least for new capabilities, if a UE capability in a RAN1/RAN2/RAN4 feature list requires at least FRx or at least xDD differentiation, it is defined with both FRx and xDD differentiation in per band signaling (under BandNR in RF-Parameters) in the ASN.1 in TS38.331, i.e. no new UE capabilities will be defined in the FRX and XDD capability signaling branches. In TS38.306, such UE capabilties should be added to BandNR parameters in clause 4.2.7.2 with the following consistency check ‘UE shall set the capability value consistently for all FDD-FR1 bands, all TDD-FR1 bands, all TDD-F*[*R2-1*](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-1.zip) *bands and all TDD-F*[*R2-2*](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2.zip) *bands respectively.’ to indicate that it is per UE signalling with xDD/FRx differentiation.*

- Apple, Huawei, Samsung thinks it should be captured in 306. Samsung thinks that there are already notes in 306 describing how to handle the differentiation.

- Nokia, Qualcomm and Ericsson thinks that it should be captured in 331. Apple explains that UE implementation look at 306. Qualcomm thinks it makes sense that 331 defines the branch that the UE cannot use. Ericsson thinks that even if we document in 306 the 331 should still mention that the branch will not be used.

Agreements

* We will document the following RAN2 agreement: From Rel-17 onwards, at least for new capabilities, if a UE capability requires at least FRx or at least xDD differentiation, it is defined with both FRx and xDD differentiation in per band signaling, i.e. no new UE capabilities will be defined in the FRX and XDD capability signaling branches
* This will be document in a NOTE 38.306 and 38.331 to mention when a branch is not used. NOTE FFS
* [AT127bis][003][UE cap CR] TP to include in Mega CR (Huawei)

Intended outcome: Endorse TP to include in Mega CR by email

Deadline: 10-17-24

R2-2409386 Guidelines on implementing FRx/xDD differentiation in per UE capability Huawei, HiSilicon draftCR Rel-18 38.306 18.3.0 F NR\_newRAT-Core, TEI18

R2-2409387 Guidelines on implementing FRx/xDD differentiation in per UE capability Huawei, HiSilicon draftCR Rel-18 38.331 18.3.0 F NR\_newRAT-Core, TEI18

[CB]

[R2-2408761](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408761.zip) Regarding missing capability for DPC Ericsson discussion Rel-18 NR\_cov\_enh2-Core

* Withdrawn

### 7.0.2 Rel-18 corrections

*Essential corrections only. For smaller corrections please contact CR editor / Rapporteur directly. Coordinate with rapporteurs and chair if input above limit is required*

*Tdoc limitation: 5*

#### 7.0.2.1 RACH-less HO

*Corrections to generalized RACH-less HO procedure, including NTN, mIAB, and overlapping sections of the LTM cell switch procedure*

**Rapporteur’s input**

[R2-2408796](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408796.zip) Rapporteur CR for RACH-less LTM and RACH-less HO [RACH-lessHO] Huawei, HiSilicon CR Rel-18 38.321 18.3.0 1952 - F TEI18, NR\_Mob\_enh2-Core, NR\_NTN\_enh-Core, NR\_mobile\_IAB-Core

- Samsung supports the CR but there are a few other instances that refer to initial transmission.

- Qualcomm asks if a blind transmission would be a first transmission. Huawei is not sure what is blind transmission is referring to and this is referring to the first transmission of the bundle.

* Review the specification to see if there are other instances to be changed
* The CR is postponed

**Other corrections**

*Clarification of support for inter-gNB HO*

[R2-2408233](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408233.zip) Correction to RACH-less HO [RACH-lessHO] Huawei, HiSilicon, CATT, Apple, CMCC, Nokia, Nokia Shanghai Bell CR Rel-18 38.300 18.3.0 0905 - F NR\_mobile\_IAB-Core, NR\_NTN\_enh-Core, TEI18

- Samsung doesn’t think it should be removed as it applies to all UEs and we agreed that only the intra-gNB case could be supported in this release. There is an alternative to make the change only in NTN.

- CATT thinks that simplest is to remove it and it can be up to gNB implementation when this is used.

- Ericsson doesn’t agree as it would have RAN3 impacts and even questions if it is supported in NTN. Samsung explains that it was agreed for NTN.

- Huawei is concerned that current text doesn’t work for mIAB. Samsung explains that this text is for all UEs.

- Apple supports this CR as for mIAB and NTN this is supported. Qualcomm thinks that we can clarify this in NTN.

- LG has same understanding as Ericsson.

- Huawei thinks perhaps one compromise is to put in brackets (except for mIAB).

* Need to check if it is supported for NTN
* The CR is postponed

*Configured UL grant selection*

[R2-2409159](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409159.zip) Correction on RACH-less handover fallback [RACH-lessHO] Huawei, HiSilicon, Samsung CR Rel-18 38.321 18.3.0 1972 - F NR\_mobile\_IAB-Core, NR\_NTN\_enh-Core, TEI18

- Vivo doesn’t think we need to follow the SDT behaviour as the UE is in INACTIVE state, in this case the UE is in connected.

=> The CR is revised

[R2-2409406](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409406.zip) Correction on RACH-less handover fallback [RACH-lessHO] Huawei, HiSilicon, Samsung, Qualcomm, CATT CR Rel-18 38.321 18.3.0 1972 1 F NR\_mobile\_IAB-Core, NR\_NTN\_enh-Core, TEI18

- Qualcomm thinks we should revert to the old version and use the new cover page.

* RAN2 understanding is that for RACH-less HO the UE fallback to RACH after all SSBs associated with RACH-less configuration have been checked and no SSB is above the threshold.
* This is the same behaviour for RACH-less and CG-SDT
* The CR is postponed

#### 7.0.2.2 NR network-controlled repeaters

(NR\_NetConRepeater; leading WG: RAN1; REL-18; WID: [RP-230175](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_99/Docs/RP-230175.zip))

#### 7.0.2.3 NR support for UAV

(NR\_UAV -Core; leading WG: RAN2; REL-18; WID: [RP-230782](https://www.3gpp.org/ftp/TSG_RAN/TSG_RAN/TSGR_99/Docs/RP-230782.zip) and LTE WID: [RP-230783](https://www.3gpp.org/ftp/TSG_RAN/TSG_RAN/TSGR_99/Docs/RP-230783.zip) )

[R2-2408404](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408404.zip) Correction on handling for simulMultiTriggerSingleMeasReport ZTE CR Rel-18 38.331 18.3.0 5007 - F NR\_UAV-Core

- LG supports.

- Samsung has a different understanding and even without this CR the implementation already achieves what this CRs wants to do.

- Huawei thinks that this situation wouldn’t happen in practice, and UE implementation wouldn’t trigger multiple reports, for example if 4 thresholds are passed the UE would trigger only report. ZTE thinks that there are multiple triggers that can make this happen, for example different TTT. Samsung explains that even without this CR nothing is wrong as the UE won’t be able to report if it removes the measID. Qualcomm agrees with Samsung.

* The CR is not pursued

#### 7.0.2.4 Mobile Terminated Small Data Transmission

(NR\_NR\_MT\_SDT-Core; leading WG: RAN2; REL-18; WID: [RP-222993](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_98e/Docs/RP-222993.zip))

**Rapporteur input**

[R2-2408797](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408797.zip) Rapporteur CR for MT-SDT and CG-SDT enhancements [CG-SDTenh] Huawei, HiSilicon CR Rel-18 38.304 18.3.0 0419 - F TEI18, NR\_MT\_SDT-Core

=> Revised in [R2-2409032](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409032.zip)

[R2-2409032](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409032.zip) Rapporteur CR for MT-SDT and CG-SDT enhancement [CG-SDTenh] Huawei, HiSilicon CR Rel-18 38.321 18.3.0 1960 - F TEI18, NR\_MT\_SDT-Core [R2-2408797](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408797.zip)

* The CR is in principle agreed

**Other corrections**

*MT-SDT capability reporting for NR-NTN*

[R2-2408020](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408020.zip) Correction on SDT Capability for NR-NTN Case vivo, ZTE Corporation draftCR Rel-18 38.306 18.3.0 F NR\_MT\_SDT-Core

* For MT-SDT, a UE can include this feature only if the UE indicates the support of *mt-CG-SDT-r18 and mt-SDT-r18/mt-SDT-NTN-r18,*
* Review and update interoperability
* Add NTN WI
* The changes are agreed and CR will be submitted next meeting with the updated cover page and possible inter-operability issue
* The CR is postponed

[R2-2408230](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408230.zip) Impacts on RAN2 for supporting of partial context transfer for co-existence of SDT and Multicast in RRC\_INACTIVE SHARP Corporation discussion [R2-2406660](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2406660.zip)

*Proposal 1 For UE configured to receive multicast in RRC\_INACTIVE, SDT without UE context relocation procedure should not be applied during SDT procedure.*

*Proposal 2 Send an LS to RAN3.*

Moved from 7.0.2.11

- Ericsson, LG thinks that the network is well aware of this situation and can handle it. No CR is needed. Vivo shares same understanding, in inactive HARQ is not allowed and the network doesn’t expects any feedback. No change is needed.

- Qualcomm thinks that we may need to check something with RAN3.

* No specification change needed, it is expected that network implementation can handle this
* Noted

#### 7.0.2.5 IDC enhancements for NR and MR-DC

(NR\_IDC\_enh-Core; leading WG: RAN2; REL-18; WID: [RP-221281](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_96/Docs/RP-221281.zip))

Corrections. For smaller corrections please contact CR editor / Rapporteur directly.

[R2-2408937](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408937.zip) Correction on the idc-TDM-AssistanceConfig Huawei, HiSilicon, Xiaomi, Nokia, Intel Corporation, Ericsson, Apple, Samsung CR Rel-18 38.331 18.3.0 5062 - F NR\_IDC\_enh-Core

* The CR is in principle agreed (NBC)

#### 7.0.2.6 Mobile IAB (Integrated Access and Backhaul) for NR

( NR\_mobile\_IAB -Core; leading WG: RAN3; REL-18; WID: [RP-232669](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_101/Docs/RP-232669.zip))

#### 7.0.2.7 Timing Resiliency and URLLC Enh

(NR\_TRS\_URLLC; leading WG: RAN3; REL-18; WID: [RP-230754](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_99/Docs/RP-230754.zip))

[R2-2408271](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408271.zip) Addition of URLLC related UE capability for the clock information mechanism Huawei, Hisilicon CR Rel-18 38.306 18.3.0 1167 - F TRS\_URLLC-NR-Core

=> moved from 7.25.3

- Vivo is not sure about linking these capabilities. If there is anything needed it can be done in CT spec.

- Nokia thinks it is confusing as we don’t have an AS capability. The UE only needs to check SIB9 and no dependencies on other capabilities.

- Apple doesn’t think this is need

- Huawei thinks that it needs to check the dedicated signalling.

* The CR is not pursued

#### 7.0.2.8 Enhanced support of reduced capability NR devices

(NR\_redcap\_enh-Core; leading WG: RAN1; REL-18; WID: [RP-232671](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_101/Docs/RP-232671.zip))

**Miscellaneous CRs**

Corrections for initial DL BWP and early indication capabilities

[R2-2408028](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408028.zip) Corrections on capabilities for eRedCap Huawei, HiSilicon, LG Electronics Inc., Intel Corporation CR Rel-18 38.306 18.3.0 1166 - F NR\_redcap\_enh-Core

- Vivo is concerned that this wording may cause some issues. Mediatek is not sure the change is correct, it should be MSGA 2step RACH.

- LG supports the CR

* The intention of CR is agreeable, work offline for wording
* [AT127bis][007][RedCap] 306 CR (Huawei)

Intended outcome: agreable CR by email

Deadline: 10-17-24

=> Revised in R2-2409395

R2-2409395 Corrections on capabilities for eRedCap Huawei, HiSilicon, LG Electronics Inc., Intel Corporation CR Rel-18 38.306 18.3.0 1166 1 F NR\_redcap\_enh-Core

[CB]

*eRedCap field description*

[R2-2408127](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408127.zip) Correction on eRedCap UE fallback to use RedCap resource vivo, Guangdong Genius draftCR Rel-18 38.331 18.3.0 NR\_redcap\_enh-Core

- LG thinks this is not needed, if there is not RACH partitioning there would be no prioritization. Vivo thinks thit is clear in MAC but not in RRC.

- Ericsson thinks that this is clear for redcap, so if we do it now for eredcap we have to come back for redcap so it will be confusing. Vivo explains that we now captured something in RRC that wasn’t there before.

- Xiaomi thinks that there is nothing wrong with not adding this.

* The CR is not pursued

*Alignment of Redcap and eRedCap definitions*

[R2-2408969](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408969.zip) Clarification on the definition of eRedCap UEs Ericsson, Sequans Communications CR Rel-18 38.331 18.3.0 5064 - F NR\_redcap\_enh-Core

* The CR is postponed and will be treated together with the cleanup exercise for (e)Redcap in 7.0.2.11

#### 7.0.2.9 Further NR coverage enhancements

(NR\_cov\_enh2-Core; leading WG: RAN1; REL-18; WID: [RP-221858](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_96/Docs/RP-221858.zip))

**Rapporteur input**

[R2-2408509](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408509.zip) Clarification on CFRA with MSG1 repetition for (e)RedCap in RRC Huawei, HiSilicon (CE RRC Rapporteur) CR Rel-18 38.331 18.3.0 5017 - D NR\_cov\_enh2-Core, NR\_redcap-Core, NR\_redcap\_enh-Core

- ZTE thinks that the original formulation is better and doesn’t think this is not needed. Huawei thinks that this is not used in the MAC. ZTE thinks that this is needed to understands which type of UEs.

- LG thinks that the intention is to specify all the different types of UEs, non redcap and redcap.

* The CR is not pursued

**Other corrections**

CE-only BWP

[R2-2408272](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408272.zip) Correction on CE-only BWP(R17) Huawei, Hisilicon CR Rel-17 38.331 17.10.0 4995 - F NR\_cov\_enh-Core, NR\_cov\_enh2-Core

- ZTE thinks this change is not needed. LG also doesn’t think this is needed

* The CR is not pursued

[R2-2408273](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408273.zip) Correction on CE-only BWP(R18) Huawei, Hisilicon CR Rel-18 38.331 18.3.0 4996 - A NR\_cov\_enh-Core, NR\_cov\_enh2-Core

*DPC field in PHR MAC CE*

[R2-2408972](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408972.zip) Clarifications on DPC field in PHR MAC CE Samsung CR Rel-18 38.321 18.3.0 1957 - F NR\_cov\_enh2-Core

* The CR is in principle agreed

#### 7.0.2.10 Network energy savings for NR

(Netw\_Energy\_NR-Core; leading WG: RAN1; REL-18; WID: [RP-223540](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_98e/Docs/RP-223540.zip))

**Rapporteur input**

[R2-2408443](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408443.zip) Network energy savings for NR rapporteur RRC CR Huawei, HiSilicon CR Rel-18 38.331 18.3.0 5011 - F Netw\_Energy\_NR-Core

* The CR is in principle agreed

**Other corrections**

Neighbour cell measurements on the carrier of SSB-less SCell

[R2-2408340](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408340.zip) Discussion on servingCellMO Huawei, HiSilicon, Apple discussion Rel-18 Netw\_Energy\_NR-Core

*Proposal 1: Down-select from the following options:*

*• Option 1: servingCellMO cannot be configured for inter-band SSB-less SCell;*

*• Option 2-1: servingCellMO can be configured for inter-band SSB-less SCell for CSI-RS measurements only, but ssbFrequency is not configured in the servingCellMO;*

*• Option 2-2: servingCellMO (and its ssbFrequency) can be configured for inter-band SSB-less SCell, for CSI-RS measurements only.*

- Huawei prefers optin 2-1

- Qualcomm asks what scenario we are addressing. Huawei explain serving cell doesn’t provide SSB but neighbor cells provides it.

*Proposal 2: Irrespective of which option to select, if neighbor cell SSB-based measurements are configured, they are configured in a separate MO and regarded as inter-frequency measurements.*

*Proposal 3: Send an LS to RAN4 once decision is made on Proposal 1 and Proposal 2.*

*Proposal 4: Discuss whether to apply the changes to intra-band SSB-less SCell as well (from R15).*

*Proposal 5: Approve the TP in the Annex.*

* [AT127bis][008][NES] SSB-less Scell (Huawei)

Intended outcome: understand scenario and which option to chose to address it

Deadline: 10-17-24

R2-2409392 Report of [AT127bis][008][NES] SSB-less Scell (Huawei) Huawei, HiSilicon discussion Rel-18 Netw\_Energy\_NR-Core

[CB]

*Clarifications to CSI-ReportSubConfig and cellDTX-DRX-L1activation field description*

[R2-2408387](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408387.zip) Correction on CSI-ReportSubConfig field descriptions for NES Ericsson CR Rel-18 38.331 18.3.0 5005 - F Netw\_Energy\_NR-Core

* The CR will be merged with rapporteur CR in [R2-2408443](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408443.zip)

[R2-2408910](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408910.zip) Conditions for L1 configuration for cell DTXDRX Ericsson CR Rel-18 38.331 18.3.0 5057 - F Netw\_Energy\_NR-Core

- Huawei doesn’t think this is really needed and its clear in the description of paramters.

* The CR is not pursued

#### 7.0.2.11 Others

Including Multi-WI Rel-18 items, e.g. cross-WI-issues not handled under another WI

**Other Corrections**

HARQ Feedback for MBS in NTN

[R2-2408157](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408157.zip) Discussion on HARQ feedback for MBS in NTN OPPO discussion Rel-18 NR\_NTN\_enh-Core, NR\_MBS\_enh-Core

*Proposal 1 MBS in NTN should enable PUCCH resource to be shared among different UEs for NACK-only based HARQ feedback.*

*Proposal 2 RAN2 sends a LS to RAN1 to inform them RAN2’s viewpoint on P1 and ask them to check whether shared PUCCH resource for NACK-only based HARQ feedback can be supported in NTN based on the current spec.*

- Vivo and LG thinks that this is for connected UE and the network should know the timing information so there is no issue. LG also thinks that there is no HARQ feedback transmission.

- Huawei indicates that RAN1 discussed for Rel-17 and agreed that nothing is needed.

- Nokia agrees with proposal 1 but no LS is needed as this will be sorted by network implementation.

- Qualcomm thinks that this can be captured in chair notes.

- CATT doesn’t like to capture anything as this came from RAN1 and it would be confusing as it seems RAN2 agreed to some new features.

* No specification changes are needed and can be handled by network implementation
* Noted

[R2-2408158](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408158.zip) Draft LS on HARQ feedback for MBS in NTN OPPO LS out Rel-18 NR\_NTN\_enh-Core, NR\_MBS\_enh-Core To:RAN1

* Not treated

*Band selection procedure*

[R2-2408519](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408519.zip) Clarification on band selection procedure ZTE Corporation discussion Rel-18 NR\_newRAT-Core, NR\_redcap-Core, NR\_redcap\_enh-Core, NR\_XR\_enh-Core

*Proposal 1: RAN2 confirm that in MBFI cell, the UE first selects a band and then determines whether the cell is barred according to the selected band and UE’s capabilities for the selected band.*

*Proposal 2: RAN2 confirm the band selection procedure in MBFI cell as follow:*

*• UE always selects the first band that UE supports and for which the UE supports at least one of the additionalSpectrumEmission values in nr-NS-PmaxList, if present; For (e)RedCap UEs in FDD, if the halfDuplexRedCapAllowed is not present, the UE selects the first band for which the UE supports full-duplex FDD operation (as specified in TS 38.331 section 5.2.2.4.2);*

*Proposal 3: RAN2 confirm the barring checking procedure in MBFI cell as follow:*

*• The cell is barred if cellBarred2RxXR is present and the UE is 2Rx XR on the selected band;*

*• The cell is barred if the UE does not support any channel bandwidth that fulfills the requirements in section 5.2.2.4.2 for the selected band;*

*• The cell is barred if frequencyShift7p5khz is present and the UE does not support 7.5kHz frequency shift for the selected band.*

*Proposal 4: Agree the RRC CR in [3].*

*Discussion*

- Qualcomm, Nokia, LG, Ericsson think that overlapping bands the restrictions should be the same as it is the same physical frequency. Huawei agrees with Qualcomm, and is not sure what the problem would be from the network point of view. Also not sure if the UE selects the band that is barred. ZTE explains a scenario where there is a problem and RRC reconfiguration failure may happen.

- Apple agrees with Qualcomm that technically there is no issue. We don’t want to change the UE procedures right now.

- Vivo thinks that this is a correct behavior from UE side.

- Ericsson further points out that this is the same text as Rel-15 so it is not new

- ZTE explains after a short offline that the problem is if the devices support different capabilities for overlapping bands. So companies should check if such scenarios would occur.

* The discussion is postponed
* Noted

[R2-2408636](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408636.zip) Correction on band selection procedure ZTE Corporation CR Rel-18 38.331 18.3.0 5023 - F NR\_newRAT-Core, NR\_redcap-Core, NR\_redcap\_enh-Core, NR\_XR\_enh-Core

* Not treated

*Feature coexistence with (e)RedCap*

[R2-2408815](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408815.zip) Coexistence of LTM with (e)RedCap Ericsson CR Rel-18 38.306 18.3.0 1184 - F NR\_Mob\_enh2-Core, NR\_redcap\_enh-Core

- Vivo, Apple and LG think that it should be supported by nature.

- Vivo thinks we should clarify that SCG LTM is not supported by (e)REDCAP. LG thinks that it is already clear in 306 that eREDCAP doesn’t support SCG.

- Nokia, Mediatek supports capturing this CR and we shouldn’t support LTM

- Ericsson and Mediatek think companies need to go and further check.

- Vivo explains that there are quite a few procedures in the MAC that supports LTM and (e)Redcap

* Check whether everything works for LTM and (e)RedCap as is with no further optimization
* Postpone discussion to next meet
* Noted

[R2-2408816](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408816.zip) Coexistence of NCR, LTM and CPAC with (e)RedCap Ericsson CR Rel-18 38.300 18.3.0 0918 - F NR\_Mob\_enh2-Core, NR\_netcon\_repeater, NR\_redcap\_enh-Core

- Nokia thinks that we should clean up both 306 and 300. LG thinks that if 306 is clear on what capabilities are supported there should be no need to capture things again in 300 and have to come back to every meeting.

- Samsung explains that some of these changes come from Rel-17 so we may need to start from Rel-17.

* NCR can be clarified in spec to align with agreement from last meeting
* Remove CPC and CPA and try a general clean up of 300 and 306 for (e)RedCAp. Bring CRs to next meeting
* The CR is postponed

## 7.1 Void

## 7.2 Expanded and improved NR positioning

(NR\_pos\_enh2; leading WG: RAN1; REL-18; WID: [RP-232670](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_101/Docs/RP-232670.zip))

Time budget: 0 TU

Tdoc Limitation: 2 tdocs

### 7.2.1 Organizational

Including incoming LSs and rapporteur inputs.

[R2-2407904](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407904.zip) Reply on LS on the maximum number of devices supported in SLPP (C1-245040; contact: vivo) CT1 LS in Rel-18 NR\_pos\_enh2, Ranging\_SL To:RAN2 Cc:CT4, SA2

[R2-2407908](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407908.zip) LS on a RRC parameter needed for the sequence generation of PSCCH DMRS for a dedicated SL PRS resource pool (R1-2407377; contact: Qualcomm) RAN1 LS in Rel-18 NR\_pos\_enh2-Core To:RAN2

[R2-2407911](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407911.zip) Reply LS on synchronization source change at the transmitting anchor UE in SL positioning (R1-2407401; contact: Ericsson) RAN1 LS in Rel-18 NR\_pos\_enh2-Core To:RAN4 Cc:RAN2

[R2-2407928](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407928.zip) LS on synchronization source change at the transmitting anchor UE in SL positioning (R4-2410352; contact: Ericsson) RAN4 LS in Rel-18 NR\_pos\_enh2-Core To:RAN1, RAN2

[R2-2407935](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407935.zip) Reply on Clarifications of Relative Velocity (S2-2409386; contact: Nokia) SA2 LS in Rel-18 Ranging\_SL To:RAN2

[R2-2407981](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407981.zip) Discussion on reply LS on the maximum number of devices supported in SLPP vivo discussion Rel-18 FS\_NR\_pos\_enh2

[R2-2408939](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408939.zip) draft LS reply on synchronization source change at the transmitting anchor UE in SL positioning Ericsson LS out Rel-18 NR\_pos\_enh-Core To:RAN4

### 7.2.2 Stage 2

Impact to 38.300, 37.340, and 38.305. Minor and editorial issues should be coordinated with the appropriate spec rapporteur and merged into a miscellaneous CR. Larger issues can be discussed based on contributions/individual CRs.

This agenda item may be handled at lower priority.

[R2-2408216](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408216.zip) Correction on assistance data transfer in SL positioning for stage-2 ZTE Corporation CR Rel-18 38.305 18.3.0 0175 - F NR\_pos\_enh2

[R2-2408721](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408721.zip) DRX and PRS alignment for positioning Sony, Ericsson, Intel Corporation CR Rel-18 38.305 18.3.0 0176 - F NR\_pos\_enh2-Core

[R2-2409161](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409161.zip) Correction of Pre-configuration SRS activation Ericsson CR Rel-18 38.305 18.3.0 0177 - F NR\_pos\_enh2-Core

### 7.2.3 SLPP corrections

Impact to 38.355. Minor and editorial issues should be coordinated with the spec rapporteur and merged into a miscellaneous CR. Larger issues can be discussed based on contributions/individual CRs.

[R2-2407944](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407944.zip) Corrections of location time stamp, RSTD and RTOA report CATT CR Rel-18 38.355 18.3.0 0008 - F NR\_pos\_enh2-Core

[R2-2408513](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408513.zip) Missing additional measurements for SL-TDOA and SL-TOA Qualcomm Incorporated CR Rel-18 38.355 18.3.0 0009 - F NR\_pos\_enh2-Core

[R2-2408790](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408790.zip) Correction on SLPP Huawei, HiSilicon CR Rel-18 38.355 18.3.0 0010 - F NR\_pos\_enh2

[R2-2408973](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408973.zip) Miscellaneous corrections to SLPP specification Intel Corporation draftCR Rel-18 38.355 18.3.0 F NR\_pos\_enh2-Core

### 7.2.4 LPP corrections

Impact to 37.355. Minor and editorial issues should be coordinated with the running CR rapporteur and merged into a miscellaneous CR. Larger issues can be discussed based on contributions/individual CRs.

[R2-2408217](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408217.zip) Correction on remaining issues in LPP ZTE Corporation CR Rel-18 37.355 18.3.0 0520 - F NR\_pos\_enh2

### 7.2.5 RRC corrections

Impact to 38.331 and 38.306. Minor and editorial issues should be coordinated with the running CR rapporteur and merged into a miscellaneous CR. Larger issues can be discussed based on contributions/individual CRs.

[R2-2407945](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407945.zip) Correction of SL CBR Range and level parameters and activation of srs-PosRRC-InactiveValidityAreaNonPreConfig CATT CR Rel-18 38.331 18.3.0 4975 - F NR\_pos\_enh2-Core

[R2-2408250](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408250.zip) Discussion on RRC miscellaneous issues for sidelink positioning vivo discussion

[R2-2408789](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408789.zip) Correction for positioning SRS CA in RRC\_INACTIVE Huawei, HiSilicon CR Rel-18 38.331 18.3.0 5031 - F NR\_pos\_enh2

[R2-2408864](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408864.zip) RRC correction on NR sidelink positioning Philips International B.V. CR Rel-18 38.331 18.3.0 4940 1 F NR\_pos\_enh2-Core [R2-2407273](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407273.zip)

[R2-2408935](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408935.zip) Miscellaneous RRC Positioning Correction Ericsson CR Rel-18 38.331 18.3.0 5061 - F NR\_pos\_enh2-Core

[R2-2408940](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408940.zip) Sidelink Positioning Postponed issues for RRC Ericsson discussion Rel-18 38.331 NR\_pos\_enh2-Core

### 7.2.6 MAC corrections

Impact to 38.321. Minor and editorial issues should be coordinated with the running CR rapporteur and merged into a miscellaneous CR. Larger issues can be discussed based on contributions/individual CRs.

[R2-2408351](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408351.zip) Correction on prioritization between SR and SL-PRS transmission ASUSTeK CR Rel-18 38.321 18.3.0 1935 - F NR\_pos\_enh2

[R2-2408787](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408787.zip) Rapporteur CR to MAC spec for R18 Positioning Huawei, HiSilicon CR Rel-18 38.321 18.3.0 1951 - F NR\_pos\_enh2

[R2-2409158](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409158.zip) Correction of misplaced else condition of SL Positioning clause Ericsson CR Rel-18 38.321 18.3.0 1971 - F NR\_pos\_enh2-Core

### 7.2.7 Corrections to other specifications

Impact to any specifications not identified above.

[R2-2408788](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408788.zip) Rapporteur CR to IDLE mode procedure for R18 Positioning Huawei, HiSilicon CR Rel-18 38.304 18.3.0 0418 - F NR\_pos\_enh2

[R2-2408885](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408885.zip) Correction on NR sidelink operation for positioning/ranging Philips International B.V. CR Rel-18 38.304 18.3.0 0420 - F NR\_pos\_enh2-Core

## 7.3 Void

### 7.3.1 Organizational

LS, workplan, email discussion etc

Spec rapporteurs are expected to submit additional contribution on open issues to conclude WI by December

### 7.3.2 Other

## 7.4 Further NR mobility enhancements

(NR\_Mob\_enh2-Core; leading WG: RAN2; REL-18; WID:RP-233970)

Time budget: 0 TU)

Tdoc Limitation: 2 tdocs.

### 7.4.1 Organizational

Including incoming LSs and rapporteur inputs.

[R2-2407915](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407915.zip) LS on missing RRC parameters for early UL sync PRACH transmission for LTM (R1-2407447; contact: Fujitsu) RAN1 LS in Rel-19 NR\_Mob\_enh2-Core To:RAN2

[R2-2407924](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407924.zip) LS on Early TA acquisition for the inter-DU scenario (R3-244793; contact: Google) RAN3 LS in Rel-18 NR\_Mob\_enh2-Core To:RAN2 Cc:RAN1

[R2-2408432](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408432.zip) Discussion for Replying LS on inter-DU Early TA acquisition and Preamble Resources for PDCCH order in LTM Google discussion Rel-18 NR\_Mob\_enh2-Core

[R2-2408433](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408433.zip) [Draft] Reply LS on Early TA acquisition for the inter-DU scenario Google LS out Rel-18 NR\_Mob\_enh2-Core To:RAN3 Cc:RAN1

### 7.4.2 Control plane corrections

Including stage 2 and control plane (e.g. RRC) corrections. Minor and editorial issues should be coordinated with the CR rapporteur and merged into the miscellaneous CR. A contribution can include multiple TPs. Note RRC CR rapporteur’s summary and suggestion (based on the submitted contributions) may be provided. Agreed changes may be merged into a single or multiple CRs containing similar issues.

[R2-2407993](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407993.zip) Issue on the power control parameters after LTM cell switch CATT discussion Rel-18 NR\_Mob\_enh2-Core

[R2-2407994](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407994.zip) Miscellaneous corrections for SCPAC CATT discussion Rel-18 NR\_Mob\_enh2-Core

[R2-2408126](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408126.zip) Correction on s-Measure for L1 measurement vivo draftCR Rel-18 38.331 18.3.0 NR\_Mob\_enh2-Core

[R2-2408258](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408258.zip) Discussion and corrections on RRC and UE capability for LTM MediaTek Inc. discussion Rel-18 NR\_Mob\_enh2-Core

[R2-2408325](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408325.zip) Correction to LTM fast RRC processing MediaTek Inc. CR Rel-18 38.331 18.3.0 4999 - F NR\_Mob\_enh2-Core

=> Withdrawn

[R2-2408436](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408436.zip) Remaining issues for Rel18 Mobility Enhancements Samsung discussion

[R2-2408452](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408452.zip) Misc state 2 corrections for LTM mobility Vodafone, Ericsson CR Rel-18 38.300 18.3.0 0911 - F NR\_Mob\_enh2-Core

[R2-2408522](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408522.zip) Corrections for mobility enhancements in stage-2 ZTE Corporation, Ericsson CR Rel-18 37.340 18.3.0 0404 - F NR\_Mob\_enh2-Core

[R2-2408523](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408523.zip) Further discussion on RAN3 LS on intra-SN SCPAC in MN format ZTE Corporation, CATT, Ericsson discussion Rel-18 NR\_Mob\_enh2-Core

[R2-2408632](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408632.zip) TP for Stage 2 coexistence case Lenovo discussion Rel-18 38.300 NR\_Mob\_enh2-Core

[R2-2408678](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408678.zip) Clarification on conditional, DAPS and LTM candidate configurations in LTM configuration Google CR Rel-18 38.331 18.3.0 5028 - F NR\_Mob\_enh-Core, NR\_Mob\_enh2-Core

=> Withdrawn

[R2-2408751](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408751.zip) SCPAC Corrections Nokia discussion

[R2-2408756](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408756.zip) Clarification on LTM capabilities Google CR Rel-18 38.306 18.3.0 1183 - F NR\_redcap-Core, NR\_Mob\_enh2-Core, NR\_redcap\_enh-Core

=> Withdrawn

[R2-2408818](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408818.zip) Misc RRC corrections for feMob Ericsson (Rapporteur) CR Rel-18 38.331 18.3.0 5037 - F NR\_Mob\_Ph4-Core Late

[R2-2408819](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408819.zip) RRC corrections for feMob Ericsson CR Rel-18 38.331 18.3.0 5038 - F NR\_Mob\_Ph4-Core

[R2-2408820](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408820.zip) Summary of RRC proposals for feMob Ericsson (Rapporteur) discussion Rel-18 NR\_Mob\_Ph4-Core Late

[R2-2408945](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408945.zip) Miscellaneous Rel-18 LTM Aspects and Corrections Nokia discussion Rel-18 NR\_Mob\_enh2-Core

[R2-2409137](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409137.zip) LTM UE capabilities for inter-frequency L1 measurements Huawei, HiSilicon discussion Rel-18 NR\_Mob\_enh2-Core

### 7.4.3 User plane corrections

Including user plane (e.g. MAC) corrections. Minor and editorial issues should be coordinated with the CR rapporteur and merged into the miscellaneous CR. A contribution can include multiple TPs. Note MAC CR rapporteur’s summary and suggestion (based on the submitted contributions) may be provided. Agreed changes may be merged into a single or multiple CRs containing similar issues.

[R2-2408262](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408262.zip) Correction on BWP switching during PRACH triggered for LTM candidate cells MediaTek Inc. CR Rel-18 38.321 18.3.0 1931 - F NR\_Mob\_enh2-Core

[R2-2408297](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408297.zip) MAC corrections for LTM Samsung Electronics Co., Ltd discussion Rel-18 NR\_Mob\_enh2-Core

[R2-2408755](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408755.zip) Clarification to 38.321 on LTM Cell Switch UP Aspect ZTE Corporation CR Rel-18 38.321 18.3.0 1947 - F NR\_Mob\_enh2-Core

[R2-2408784](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408784.zip) Clarification on random access procedure initialization for early UL synchronization Google CR Rel-18 38.321 18.3.0 1950 - F NR\_Mob\_enh2-Core

[R2-2408817](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408817.zip) MAC corrections for feMob Ericsson CR Rel-18 38.321 18.3.0 1955 - F NR\_Mob\_Ph4-Core

[R2-2408875](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408875.zip) Coexistence of UE C-DRX and RACH-less LTM Rakuten Mobile, Inc discussion Rel-18

[R2-2409138](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409138.zip) Miscellaneous corrections for LTM Huawei, HiSilicon CR Rel-18 38.321 18.3.0 1968 - F NR\_Mob\_enh2-Core

[R2-2409139](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409139.zip) Correction to LTM MAC CE based CFRA with MSG1 repetition Huawei, HiSilicon CR Rel-18 38.321 18.3.0 1969 - F NR\_Mob\_enh2-Core, NR\_redcap-Core, NR\_cov\_enh2-Core, NR\_redcap\_enh-Core

[R2-2409140](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409140.zip) MAC CR rapporteur summary Huawei, HiSilicon discussion Rel-18 NR\_Mob\_enh2-Core Late

## 7.5 XR Enhancements for NR

(NR\_XR\_enh-Core; leading WG: RAN2; REL-18; WID: [RP-230786](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_99/Docs/RP-230786.zip))

Time budget: 0 TU

Tdoc Limitation: 2 Tdocs

### 7.5.1 Organizational

Including LSs, any rapporteur inputs

### 7.5.2 Control plane corrections

Including RRC and UE capabilties

[R2-2408729](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408729.zip) Clarification for UE capability on UL traffic information Huawei, HiSilicon CR Rel-18 38.306 18.3.0 1182 - F NR\_XR\_enh-Core

- Oppo, Qualcomm supports the CR

- Samsung, LG and Xiaomi doesn’t support the CR as it is just an example. The mean of such as is aligned with at least. Huawei thinks that it is clearer by saying including at least to help RAN5 colleagues when they specify test cases

* The CR is agreed in principle

### 7.5.3 User plane corrections

Including MAC, RLC and PDCP

**Stage 2**

[R2-2408676](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408676.zip) stage 2 Correction on additional buffer size table NEC, Nokia (Rapporteur) CR Rel-18 38.300 18.3.0 0917 - F NR\_XR\_enh-Core

- LG and Futurewei don’t think the “to be reported” should be introduced.

* Modify the wording to “When the new table is configured for an LCG, it is used whenever the amount of the buffered data of that LCG to be reported is within the range of the new table, otherwise the regular table is used.”
* The CR is in principle agreed with the change above in R2-2409381

R2-2409381 stage 2 Correction on additional buffer size table NEC, Nokia (Rapporteur) CR Rel-18 38.300 18.3.0 0917 1 F NR\_XR\_enh-Core

=> Agreed in principle

[R2-2408919](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408919.zip) Corrections to Stage-2 for XR awareness Ericsson CR Rel-18 38.300 18.3.0 0921 - F NR\_XR\_enh-Core

- Nokia, Huawei, ZTE doesn’t thinks second change is needed for stage 2. First change it shouldn’t be RAN2 specification that describe this

- Samsung thinks that first change is technically correct but better to bring to RAN3 to confirm it.

- CATT thinks that first change is technically correct. Nokia thinks that we should follow the term of reference which means if RAN3 wants to make this change then it should come from RAN3.

* The CR is not pursued

**DRX\_SFN\_COUNTER**

[R2-2408534](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408534.zip) Initialization of DRX\_SFN\_COUNTER at handover ZTE Corporation, Sanechips discussion

*Proposal: RAN2 to agree one of the following options:*

*• Option 1: In case of handover, the UE uses the target cell SFN as reference for initializing the DRX\_SFN\_COUNTER and if there is still any ambiguity left (e.g. CHO/LTM cases), the handling is left to network implementation.*

*• Option 2: No changes are done and everything is left to network implementation*

[R2-2409014](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409014.zip) Remaining issue on SFN COUNTER initiation for HO Nokia, Nokia Shanghai Bell discussion Rel-18 NR\_XR\_enh-Core

Proposal 1: “set DRX\_SFN\_COUNTER to 0” is added to MAC reset upon transmission of RRCReconfigurationComplete for reconfiguration

*Discussions*

*• Option 1: In case of handover, the UE uses the target cell SFN as reference for initializing the DRX\_SFN\_COUNTER and if there is still any ambiguity left (e.g. CHO/LTM cases), the handling is left to network implementation.*

* *Option 2: No changes are done and everything is left to network implementation*
* *Option 3:* “set DRX\_SFN\_COUNTER to 0” is added to MAC reset upon transmission of RRCReconfigurationComplete for reconfiguration

- Vivo agrees with option 1.

- Samsung is not sure why we need a note for 1. Option 3 would solve the problem completely.

- Lenovo thinks we should leave it to network as there is no solution that solves all the issues.

- Qualcomm agrees with ZTE analysis and setting the counter doesn’t solve all the problem, it is simpler to go with option 2. LG agrees.

* No changes are done and everything is left to network implementation

CRs

[R2-2408528](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408528.zip) Correction to DRX\_SFN\_COUNTER for handover case ZTE Corporation, Sanechips CR Rel-18 38.321 18.3.0 1894 1 F NR\_XR\_enh-Core [R2-2406918](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2406918.zip)

[R2-2409015](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409015.zip) Correction on DRX\_SFN\_COUNTER initiation at HO Nokia, Nokia Shanghai Bell CR Rel-18 38.321 18.3.0 1958 - F NR\_XR\_enh-Core

[R2-2408917](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408917.zip) DRX SFN counter initialization Ericsson discussion Rel-18 NR\_XR\_enh-Core

Proposal 1 Leave the DRX\_SFN\_COUNTER initialization for network implementation.

**MAC corrections**

[R2-2408798](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408798.zip) Correction to multi-PUSCH configured grant. Huawei, HiSilicon CR Rel-18 38.321 18.3.0 1953 - F NR\_XR\_enh-Core

* Update change in 5.8.2 to include new subclause 5.4.1
* Update definition to refer to 38.214 spec and corresponding section
* The CR is postponed and will be updated and treated next meeting

**RLC/PDCP corrections**

[R2-2408987](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408987.zip) Corrections for delay-critical indication from PDCP to RLC Samsung discussion Rel-18 NR\_XR\_enh-Core

Proposal 1: Inclusively consider providing delay-critical indication from PDCP to RLC for the case when a PDCP Data PDU containing a delay-critical PDCP SDU is being submitted to lower layers. Adopt TP 1.

- Nokia, Qualcomm, InterDigital think these type of details should be left to UE implementation.

* This change is not agreeable
* Noted

[R2-2408481](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408481.zip) Correction for stored SDUs handling when a t-Reordering expires Samsung CR Rel-18 38.323 18.3.0 0142 - F NR\_XR\_enh-Core

* The CR is in principle agreed

[R2-2408003](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408003.zip) Clarification on the SN Gap Report CATT discussion Rel-18 NR\_XR\_enh-Core

*Proposal 1: Suggest RAN2 to discuss when setting the PDCP SN gap report whether it should clarify the discarded PDCP SDUs only refer to the PDCP SDU(s) which has not been submitted by RLC to lower layers.*

- LG and Ericsson think that it is already clear in the three conditions for triggering SN gap reporting

- Vivo doesn’t think the CR is correct but the issue is correct and the wording in existing spec may need some clarification. Samsung thinks the last change is not correct

* The CR is postponed

## 7.6 IoT NTN enhancements

(IoT\_NTN\_enh-Core; leading WG: RAN1; REL-18; WID: [RP-223519](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_98e/Docs/RP-223519.zip))

Time budget: 0 TU

Tdoc Limitation: 1 tdocs

### 7.6.1 Organizational

LSs, rapporteur inputs.

Editorials/clarifications should not be included in any tdoc but sent to the WI spec rapporteurs, who can submit a rapporteur CR as part of this AI.

Rapporteur inputs do not count towards the tdoc limitation.

[R2-2407910](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407910.zip) LS on Rel-18 RAN1 UE features list for LTE after RAN1#118 (R1-2407390; contact: NTT DOCOMO, AT&T) RAN1 LS in Rel-18 IoT\_NTN\_enh To:RAN2 Cc:RAN4

[R2-2408342](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408342.zip) Miscellaneous corrections to TS 36.331 for IoT NTN Huawei, HiSilicon CR Rel-18 36.331 18.3.0 5054 - F IoT\_NTN\_enh-Core

[R2-2408901](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408901.zip) Applicability of optional UE Capabilities without signalling for NB-IoT Qualcomm Inc. CR Rel-18 36.306 18.3.0 1894 - F IoT\_NTN\_enh-Core

[R2-2409178](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409178.zip) IoT NTN Stage 2 correction Ericsson (Rapporteur) CR Rel-18 36.300 18.3.0 1409 - F IoT\_NTN\_enh-Core

### 7.6.2 Corrections

Corrections for all specifications.

[R2-2407967](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407967.zip) Corrections on location based measurements and need code for IoT NTN CATT CR Rel-18 36.331 18.3.1 5052 - F IoT\_NTN\_enh-Core

[R2-2408010](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408010.zip) Corrections on CHO and measurement Huawei, HiSilicon CR Rel-18 36.300 18.3.0 1407 - F IoT\_NTN\_enh-Core

[R2-2408011](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408011.zip) Correction on UE Location Information Reporting in IoT-NTN vivo, Ericsson CR Rel-18 36.300 18.3.0 1408 - F IoT\_NTN\_enh-Core

[R2-2408336](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408336.zip) SIB33 related RRC corrections for IoT NT ZTE Corporation, Sanechips CR Rel-18 36.331 18.3.1 5053 - F IoT\_NTN\_enh-Core

[R2-2408588](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408588.zip) Discussion on satelliteId Apple discussion Rel-18 IoT\_NTN\_enh-Core

[R2-2408589](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408589.zip) Correction on satelliteId in SIB3/SIB5 Apple CR Rel-18 36.331 18.3.1 5059 - F IoT\_NTN\_enh-Core

[R2-2408648](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408648.zip) Enabling SystemInformationBlockType33 for NB-IoT NTN Google CR Rel-18 36.331 18.3.1 5060 - F IoT\_NTN\_enh-Core

[R2-2408801](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408801.zip) Various corrections for IoT NTN Rel-18 Samsung discussion Rel-18 IoT\_NTN\_enh-Core

[R2-2408830](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408830.zip) UE capabilities update for GNSS position fix in IoT NTN Nokia, Nokia Shanghai Bell CR Rel-18 36.306 18.3.0 1893 - F IoT\_NTN\_enh-Core

[R2-2409185](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409185.zip) IoT NTN UE capabilities correction for GNSS and HARQ enhancements Ericsson CR Rel-18 36.306 18.3.0 1899 - F IoT\_NTN\_enh-Core

## 7.7 NR NTN enhancements

(NR\_NTN\_enh-Core; leading WG: RAN1; REL-18; WID: [RP-232669](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_101/Docs/RP-232669.zip))

Time budget: 0 TU

Tdoc Limitation: 1 tdocs

### 7.7.1 Organizational

LSs, rapporteur inputs.

Editorials/clarifications should not be included in any tdoc but sent to the WI spec rapporteurs, who can submit a rapporteur CR as part of this AI.

Rapporteur inputs do not count towards the tdoc limitation.

[R2-2407912](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407912.zip) LS on F[R2-NTN](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-NTN.zip) inclusion to specifications (R1-2407406; contact: vivo) RAN1 LS in Rel-18 NR\_NTN\_enh-Core To:RAN2, RAN4

[R2-2408012](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408012.zip) Remaining Issues on F[R2-NTN](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-NTN.zip) Support vivo discussion Rel-18 NR\_NTN\_enh-Core

[R2-2409186](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409186.zip) Clarification of reference location within the MO for NR NTN Rel-18 Ericsson CR Rel-18 38.331 18.3.0 5085 - F NR\_NTN\_enh-Core

### 7.7.2 Corrections

Corrections for all specifications.

[R2-2407968](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407968.zip) Correction on coexistence between CHO and satellite switching with re-synchronization CATT CR Rel-18 38.300 18.3.0 0903 - F NR\_NTN\_enh-Core

[R2-2408013](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408013.zip) Correction on RACH-less HO in NR-NTN vivo, THALES CR Rel-18 38.300 18.3.0 0904 - F NR\_NTN\_enh-Core

[R2-2408341](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408341.zip) Correction to satellite switch with resync Huawei, HiSilicon CR Rel-18 38.331 18.3.0 5000 - F NR\_NTN\_enh-Core

=> Revised in [R2-2409204](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409204.zip)

[R2-2409204](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409204.zip) Correction to satellite switch with resync Huawei, HiSilicon CR Rel-18 38.331 18.3.0 5000 1 F NR\_NTN\_enh-Core

[R2-2408414](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408414.zip) Correction on nr-NTN-MeasAndReport NEC Corporation. CR Rel-18 37.355 18.3.0 0519 - F NR\_NTN\_enh-Core

[R2-2408567](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408567.zip) Clarification on TN to NTN mobility Apple, Qualcomm Incorporated discussion Rel-18 NR\_NTN\_enh-Core

[R2-2408654](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408654.zip) Miscellaneous corrections on NTN in FR2 bands ZTE Corporation, Sanechips CR Rel-18 38.331 18.3.0 5026 - F NR\_NTN\_enh-Core

[R2-2408943](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408943.zip) Correction to DL-DataToUL-ACK for NTN Nokia CR Rel-18 38.331 18.3.0 5063 - F NR\_NTN\_enh-Core

[R2-2408944](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408944.zip) F[R2-related](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-related.zip) Release 18 NTN Issues Nokia discussion Rel-18 NR\_NTN\_enh-Core

[R2-2409027](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409027.zip) Miscellaneous corrections to NR NTN Samsung CR Rel-18 38.300 18.3.0 0922 - F NR\_NTN\_enh-Core

[R2-2409056](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409056.zip) Correction on skipping TN measurements SHARP Corporation draftCR Rel-18 38.304 18.3.0 F NR\_NTN\_enh-Core

[R2-2409187](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409187.zip) Remaining open issues Ericsson discussion Rel-18 NR\_NTN\_enh-Core

## 7.8 Void

## 7.9 Enhanced NR Sidelink Relay

(NR\_SL\_relay\_enh-Core; leading WG: RAN2; REL-18; WID: [RP-223501](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_98e/Docs/RP-223501.zip))

Time budget: 0TU

Tdoc Limitation: 2 tdocs

### 7.9.1 Organizational

Including incoming LSs and rapporteur inputs.

### 7.9.2 Stage 2 corrections

Impact to 38.300. Minor and editorial issues should be coordinated with the running CR rapporteur and merged into a miscellaneous CR. Larger issues can be discussed based on contributions/individual CRs.

[R2-2408603](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408603.zip) Miscellaneous corrections for SL relay ZTE Corporation, Sanechips CR Rel-18 38.300 18.3.0 0912 - F NR\_SL\_relay\_enh-Core

[R2-2408611](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408611.zip) draft\_(Rel-18)\_[R2-38](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-38.zip).300 relay stage 2 CR\_rapp LG Electronics Inc. CR Rel-18 38.300 18.3.0 0913 - F NR\_SL\_relay\_enh-Core

=> Withdrawn

[R2-2408861](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408861.zip) Correction on NR SL Multi-path relay operation Philips International B.V. CR Rel-18 38.300 18.3.0 0888 1 F NR\_SL\_relay\_enh-Core [R2-2407267](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407267.zip)

[R2-2408879](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408879.zip) U2U Relays, Local ID Assignment Ericsson discussion Rel-18

[R2-2409094](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409094.zip) draft\_(Rel-18)\_[R2-38](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-38.zip).300 relay stage 2 CR\_rapp LG Electronics Inc. draftCR Rel-18 38.300 18.3.0 F NR\_SL\_relay\_enh-Core

### 7.9.3 Control plane corrections (including UE capabilities)

Impact to 38.331, 38.304, and 38.306. Minor and editorial issues should be coordinated with the appropriate running CR rapporteur and merged into a miscellaneous CR. Larger issues can be discussed based on contributions/individual CRs.

[R2-2408256](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408256.zip) Miscellaneous CR for Rel-18 SL relay enhancement Huawei, HiSilicon CR Rel-18 38.331 18.3.0 4994 - F NR\_SL\_relay\_enh-Core

[R2-2408584](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408584.zip) Corrections on RRC SRAP configuration for L2 U2U Apple CR Rel-18 38.331 18.3.0 5018 - F NR\_SL\_relay\_enh-Core

[R2-2408604](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408604.zip) Corrections for U2U relay measurements ZTE Corporation, Sanechips CR Rel-18 38.331 18.3.0 5022 - F NR\_SL\_relay\_enh-Core

[R2-2408862](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408862.zip) RRC correction on NR SL U2U relay operation Philips International B.V. CR Rel-18 38.331 18.3.0 5048 - F NR\_SL\_relay\_enh-Core

[R2-2409068](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409068.zip) Correction on sl-SFN-DFN-Offset or sl-PagingInfo-RemoteUE release Google CR Rel-18 38.331 18.3.0 5073 - F NR\_SL\_relay\_enh-Core

[R2-2409118](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409118.zip) Clarification for ul-DataSplitThreshold setting in multi-path relay OPPO CR Rel-18 38.331 18.3.0 5081 - F NR\_SL\_relay\_enh-Core

### 7.9.4 User plane corrections (including SRAP)

Impact to 38.351, 38.321, 38.322, and 38.323. Minor and editorial issues should be coordinated with the appropriate running CR rapporteur and merged into a miscellaneous CR. Larger issues can be discussed based on contributions/individual CRs.

[R2-2408374](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408374.zip) Corrections on security for L2 U2U relay vivo CR Rel-18 38.323 18.3.0 0141 - F NR\_SL\_relay\_enh-Core

[R2-2408662](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408662.zip) Correction to error handling for U2U operation Huawei, HiSilicon CR Rel-18 38.351 18.2.0 0037 - F NR\_SL\_relay\_enh-Core

[R2-2408880](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408880.zip) PC5/Uu Relay RLC Channel Definition Ericsson discussion Rel-18

[R2-2408936](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408936.zip) Discussion on RLC channel Definition alignment across the specs Huawei, HiSilicon discussion Rel-18 NR\_SL\_relay\_enh-Core

## 7.10 Void

## 7.11 Enhancements of NR Multicast and Broadcast Services

(NR\_MBS\_enh-Core; leading WG: RAN2; REL-18; WID: [RP-231829](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_101/Docs/RP-231829.zip))

Time budget: 0 TU

Tdoc Limitation: 1 tdoc

### 7.11.1 Organizational

LS in, rapporteur input

[R2-2408113](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408113.zip) Rapporteur correction on the terminology of multicast MCCH Huawei, HiSilicon, Samsung CR Rel-18 38.331 18.3.0 4985 - F NR\_MBS\_enh-Core

### 7.11.2 Corrections

Corrections for all specifications

[R2-2407995](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407995.zip) Correction on Multicast MCCH Information Acquisition CATT,CBN CR Rel-18 38.331 18.3.0 4983 - F NR\_MBS\_enh-Core

[R2-2408112](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408112.zip) Correction on multicast reception in RRC\_INACTIVE upon paging Huawei, HiSilicon, Nokia, CATT, Ericsson, Samsung, Apple, ZTE CR Rel-18 38.331 18.3.0 4984 - F NR\_MBS\_enh-Core

[R2-2408242](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408242.zip) Miscellaneous correction on eMBS SHARP Corporation draftCR Rel-18 38.331 18.3.0 F NR\_MBS\_enh-Core

[R2-2408407](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408407.zip) Conflicts between legacy and enhanced group paging ZTE Corporation, Sanechips discussion Rel-18 NR\_MBS\_enh-Core

[R2-2408757](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408757.zip) Corrections for MII Samsung discussion Rel-18

[R2-2409057](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409057.zip) Validity of PTM configuration in RRCRelease Ericsson CR Rel-18 38.331 18.3.0 5072 - F NR\_MBS\_enh-Core

[R2-2409085](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409085.zip) Details of multicast reception in RRC\_INACTIVE Nokia discussion Rel-18 NR\_MBS\_enh-Core

## 7.12 Void

## 7.13 Further enhancement of data collection for SON MDT in NR and EN-DC

(NR\_ENDC\_SON\_MDT\_enh2-Core; leading WG: RAN3; REL-18; WID: [RP-221825](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_96/Docs/RP-221825.zip))

Includes LS in’s related to AI/ML for NG-RAN

Time budget: 0 TU

Tdoc Limitation: 1 tdocs

### 7.13.1 Organizational

Ls in and Rapporteur input. WI/Spec Rapporteur(s) are invited to provide updated open issues lists that need to be handled.

[R2-2408842](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_127b\\Docs\\R2-2408842.zip) Miscellaneous corrections on R18 SONMDT for 36.331 Huawei, HiSilicon CR Rel-18 36.331 18.3.1 5063 - F NR\_ENDC\_SON\_MDT\_enh2-Core

### 7.13.2 Corrections

[R2-2408197](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408197.zip) Miscellaneous corrections for Rel-18 SON/MDT CATT CR Rel-18 38.331 18.3.0 4986 - F NR\_ENDC\_SON\_MDT\_enh2-Core

[R2-2408434](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408434.zip) Corrections on SPR determination Samsung CR Rel-18 38.331 18.3.0 5008 - F NR\_ENDC\_SON\_MDT\_enh2-Core

[R2-2408440](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408440.zip) Correction on UE behavior of setting failedPSCellId NTTDOCOMO, INC. CR Rel-17 38.331 17.10.0 5009 - F NR\_ENDC\_SON\_MDT\_enh-Core

[R2-2408441](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408441.zip) Correction on UE behavior of setting failedPSCellId NTTDOCOMO, INC. CR Rel-18 38.331 18.3.0 5010 - A NR\_ENDC\_SON\_MDT\_enh-Core

[R2-2408457](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408457.zip) Correction on SPR content determination Google CR Rel-18 38.331 18.3.0 5012 - F NR\_ENDC\_SON\_MDT\_enh2-Core

[R2-2408823](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408823.zip) Removing Editor’s note on Fast MCG Recovery Failure Cause Ericsson CR Rel-18 38.331 18.3.0 5041 - F NR\_ENDC\_SON\_MDT\_enh2-Core

[R2-2408843](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408843.zip) Correction on setting CAPC related parameters in SCGFailureInformation message Huawei, HiSilicon CR Rel-18 38.331 18.3.0 5042 - F NR\_ENDC\_SON\_MDT\_enh2-Core

## 7.14 Enhancement on NR QoE management and optimizations for diverse services

(NR\_QoE\_enh-Core; leading WG: RAN3; REL-18; WID: [RP-223488](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_98e/Docs/RP-223488.zip))

Time budget: 0 TU

Tdoc Limitation: 1 tdoc

### 7.14.1 Organizational

LSs and rapporteur inputs

[R2-2407923](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407923.zip) LS on MBS Communication Service Type (R3-244789; contact: Ericsson) RAN3 LS in Rel-18 NR\_QoE\_enh-Core To:SA4 Cc:SA5, RAN2

[R2-2408745](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408745.zip) Correction of Enhancement on NR QoE management and optimizations for diverse services Ericsson CR Rel-18 38.331 18.3.0 5030 - F NR\_QoE\_enh-Core

### 7.14.2 Corrections

*Corrections to all specifications.*

[R2-2408658](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408658.zip) Consideration on QoE configuration release during inter-RAT mobility ZTE Corporation, Sanechips discussion Rel-18 NR\_QoE\_enh-Core

[R2-2408746](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408746.zip) Discussion on IRAT handover from LTE Ericsson, Nokia, Nokia Shanghai Bell discussion Rel-18 NR\_QoE\_enh-Core

[R2-2408833](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408833.zip) Correction on QoE measurements release at successful handover from LTE/5GC to NR Nokia, Nokia Shanghai Bell, Ericsson CR Rel-18 36.331 18.3.1 5062 - F NR\_QoE\_enh-Core

[R2-2408841](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408841.zip) Correction on priority-based QoE measurements in TS 38.300 Huawei, HiSilicon CR Rel-18 38.300 18.3.0 0919 - F NR\_QoE\_enh-Core

## 7.15 NR Sidelink evolution

(NR\_SL\_enh2; leading WG: RAN1; REL-18; WID: [RP-230077](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_99/Docs/RP-230077.zip))

Time budget: 0 TU

Tdoc Limitation: 1 tdocs

### 7.15.1 Organizational

Including incoming LSs and rapporteur inputs.

### 7.15.2 Corrections

Including corrections to all specifications.Minor and editorial issues should be coordinated with the CR rapporteur and merged into the miscellaneous CR. A contribution can include multiple TPs. Note RRC and MAC CR rapporteurs’ summary and suggestion (based on the submitted contributions) may be provided. Agreed changes may be merged into a single or multiple CRs containing similar issues.

[R2-2407969](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407969.zip) Correction on selection of resources for MCSt CATT, CICTCI CR Rel-18 38.321 18.3.0 1930 - F NR\_SL\_enh2

[R2-2407972](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407972.zip) Co-configuration of random/partial-sensing resource selection and Co-Ex OPPO CR Rel-18 38.331 18.3.0 4976 - F NR\_SL\_enh2

[R2-2408105](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408105.zip) Discussion on MCSt correction vivo discussion Rel-18 NR\_SL\_enh2

[R2-2408252](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408252.zip) TP for SL enhancemen in TS 38.321 NEC Corporation discussion Rel-18

[R2-2408363](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408363.zip) Correction on carrier selection for SL evolution Huawei, HiSilicon, LG Electronics Inc. CR Rel-18 38.321 18.3.0 1936 - F NR\_SL\_enh2-Core

[R2-2408538](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408538.zip) Clarification on single and multiple carrier selection ZTE Corporation discussion Rel-18 38.470 NR\_SL\_enh2

[R2-2408637](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408637.zip) Correction on Co-channel coexistence for LTE sidelink and NR sidelink LG Electronics Inc. CR Rel-18 38.321 18.3.0 1942 - F NR\_SL\_enh2

[R2-2408638](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408638.zip) Correction on MCSt LG Electronics Inc. CR Rel-18 38.321 18.3.0 1943 - F NR\_SL\_enh2

[R2-2408643](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408643.zip) Discussion on MAC correction for resource selection of MCSt LG Electronics Inc. discussion NR\_SL\_enh2

[R2-2408686](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408686.zip) Correction to MAC on LCH carrier mapping for sidelink Ericsson CR Rel-18 38.321 18.3.0 1946 - F NR\_SL\_enh2

## 7.16 Void

## 7.17 Dual Transmission/Reception (Tx/Rx) Multi-SIM for NR

(NR\_DualTxRx\_MUSIM-Core; leading WG: RAN2; REL-18; WID: [RP-233071](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_100/Docs/RP-231461.zip))

Time budget: 0 TU

Tdoc Limitation: 1 tdocs

### 7.17.1 Organizational

Incoming LS, Rapporteur input, etc..

Corrections to TS 38.300.

[R2-2408854](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408854.zip) Clarification of UE capability restrictions in MUSIM Ericsson CR Rel-18 38.300 18.3.0 0920 - F NR\_DualTxRx\_MUSIM-Core

### 7.17.2 Corrections

[R2-2408029](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408029.zip) Clarification for the initiation of the MUSIM proactive UAI after HO/CHO Huawei, HiSilicon discussion Rel-18 NR\_DualTxRx\_MUSIM-Core

[R2-2408403](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408403.zip) Correction to the musim-AffectedBandsList and musim-AvoidedBandsList ZTE Corporation CR Rel-18 38.331 18.3.0 5006 - F NR\_DualTxRx\_MUSIM-Core

## 7.18 Void

## 7.19 Void

## 7.20 NR MIMO evolution

(NR\_MIMO\_evo\_DL\_UL-Core; leading WG: RAN1; REL-18; WID: [RP-233028](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_98e/Docs/RP-223276.zip))

Time budget: 0TU

Tdoc Limitation: 1 tdoc

[R2-2408510](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408510.zip) Clarification to the k value in STx2P PHR MAC CE Huawei, HiSilicon CR Rel-18 38.321 18.3.0 1939 - F NR\_MIMO\_evo\_DL\_UL-Core

=> Withdrawn

### 7.20.1 Organizational

Incoming LS, Rapporteur input, etc..

Stage 2 corrections.

### 7.20.2 Corrections

[R2-2408180](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408180.zip) Correction on simultaneousU-TCI-UpdateListx CATT, Nokia discussion Rel-18 NR\_MIMO\_evo\_DL\_UL-Core

[R2-2408352](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408352.zip) Discussion on supporting 8Tx in MAC specification ASUSTeK discussion Rel-18 NR\_MIMO\_evo\_DL\_UL-Core

[R2-2408748](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408748.zip) Considerations on Remaining UP Issues for R18 MIMO ZTE Corporation discussion Rel-18 NR\_MIMO\_evo\_DL\_UL-Core

[R2-2408912](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408912.zip) Correction to SRS resources for UL full power transmission mode 2 Ericsson CR Rel-18 38.306 18.3.0 1189 - F NR\_MIMO\_evo\_DL\_UL-Core

[R2-2409024](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409024.zip) Correction on multi-entry PHR for MIMO STx2P multi-panel scheme Samsung CR Rel-18 38.321 18.3.0 1959 - F NR\_MIMO\_evo\_DL\_UL-Core

[R2-2409092](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409092.zip) Remaining issue on STx2P PHR LG Electronics Inc. discussion Rel-18 NR\_MIMO\_evo\_DL\_UL-Core

[R2-2409141](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409141.zip) Clarification on the k values in the STx2P PHR MAC CE Huawei, HiSilicon CR Rel-18 38.321 18.3.0 1970 - F NR\_MIMO\_evo\_DL\_UL-Core

## 7.21 Void

## 7.22 Void

## 7.23 Void

## 7.24 TEI18

Specific items may be allocated to a breakout session for treatment. Essential corrections only. No new proposals will be treated.

Time budget: 1 TU

Tdoc limitation: 2

### 7.24.1 TEI proposals by Other Groups

Items initiated by other groups that is/has been communicated by LS, where the other group indicate this is TEI18. (Specific other-group-WIs should use the R18 Other Agenda Item below).

[R2-2407905](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407905.zip) Reply LS on Mitigation of Downgrade attacks (C1-245048; contact: vivo) CT1 LS in Rel-18 TEI18 To:SA3 Cc:RAN2

* Noted

[R2-2407971](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407971.zip) Discussion on LS R4-2410693 OPPO discussion Rel-18 TEI18

Proposal 1 R2 reply R4 that the current UE capability can already support the UE supporting both contiguous and non-contiguous cases, so no need to introduce new UE capability.

* Noted

[R2-2408401](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408401.zip) Consideration on the intra-band EN-DC Channel Spacing ZTE Corporation discussion Rel-18 TEI18

Proposal 3a: Not to support the UE to report different requirements for DL and UL for the nominal spacing case (i.e. DL non-contiguous requirements and UL with contiguous requirements and vice visa) if there is no practical use case.

* Noted

[R2-2408473](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408473.zip) Discussion on intra-band EN-DC channel spacing Huawei, HiSilicon discussion Rel-18 TEI18

Proposal 1: Introduce new capability to indicate support of intra-band non-contiguous (NG)EN-DC with nominal channel spacing.

Proposal 2: The new capability is in per-BC level, which is only applicable for the DL and/or UL intra-band EN-DC component(s) with “non-contiguous” indicated in the existing capability in the BC. The UE indicating support of the new capability shall indicate support of “non-contiguous” in at least one among intrabandENDC-Support/intrabandENDC-SupportUL/intrabandENDC-Support-DL-v1790/ intrabandENDC-Support-UL-v1790.

Discussion

- Qualcomm, and CATT, has same understanding as Huawei that we are introducing a third type of UE and we need to distinguish those. Oppo asks if we need to indicate support for contiguous and non contiguous. Qualcomm explains that it doesn’t support both.

**Agreements**

* Introduce new capability to indicate support of intra-band non-contiguous (NG)EN-DC with nominal channel spacing.
* Not to support the UE to report different requirements for DL and UL for the nominal spacing case (i.e. DL non-contiguous requirements and UL with contiguous requirements and vice visa)

[R2-2408474](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408474.zip) Introduction of new capability for intra-band EN-DC channel spacing [Intra-Band\_EN-DC\_Channelspacing] Huawei, HiSilicon CR Rel-18 38.331 18.3.0 5013 - B TEI18

[R2-2408475](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408475.zip) Introduction of new capability for intra-band EN-DC channel spacing [Intra-Band\_EN-DC\_Channelspacing] Huawei, HiSilicon CR Rel-18 38.306 18.3.0 1174 - B TEI18

* [AT127bis][010][TEI18] Channel spacing (Huawei)

Intended outcome: Agree in principle to CRs by email

Deadline: 10-17-24

[R2-2409399](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408475.zip) Introduction of new capability for intra-band EN-DC channel spacing [Intra-Band\_EN-DC\_Channelspacing] Huawei, HiSilicon CR Rel-18 38.306 18.3.0 1174 1 B TEI18

[CB]

### 7.24.2 TEI proposals by RAN2

Items initiated in RAN2 for NR and LTE.

No contributions should be submitted under 7.24.2. They should be submitted under 7.24.x

No new Cat. B proposals expected for this meeting

#### 7.24.2.1 2Rx XR

Contributions on signaling support for ‘2Rx non-REDCAP XR devices’ as per RP-234015. Co-source contributions are highly encouraged.

[R2-2408733](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408733.zip) Correction for cell barring for 2Rx XR UE [2Rx\_XR\_Device] Huawei, HiSilicon, Xiaomi, Ericsson, LGE, ZTE Corporation CR Rel-18 38.331 18.3.0 4851 1 F TEI18 [R2-2405646](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2405646.zip)

- ZTE wants to confirm the understanding that this doesn’t impact the band selection procedure, the UE first selects the band and then it does it. Huawei doesn’t have the same understanding as ZTE but this CR doesn’t change the band selection.

- Nokia thinks that there is no impact to band selection

* Understanding is that this CR doesn’t impact band selection
* The CR is in principle agreed

[R2-2408881](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408881.zip) Correction on 2RxXR and Aerial UEs Ericsson discussion Rel-18

- Huawei is not sure we need to the 38.306.

* We will not support flying 2RX devices
* Bring CR for 38.331 to next meeting. No changes to 38.306
* Noted

#### 7.24.2.2 Other RAN2 TEI-18

Contributions should focus only critical issues/corrections for already agreed TEI-18 topics. Co-sourcing of such proposals is encouraged. Contributions on items that were explicitly downprioritized from Rel-18 WIs should not be brought as TEI18. No new Cat. B proposals expected for this meeting

**CG-SDT**

[R2-2408732](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408732.zip) Correction for Paging monitoring during SDT [CG-SDT-Enh] Huawei, HiSilicon CR Rel-18 38.331 18.3.0 4901 1 F TEI18 [R2-2406930](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2406930.zip)

- LG asks if the same text is not applied to PWS

- Huawei and ZTE think we can add these text to PWS separately.

* Update the CR to include the text in PWS and bring to next meeting. The existing changes are all agreable
* The CR is postponed

**Emergency calls**

[R2-2407922](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407922.zip) Reply LS on Support of Emergency Calls for (e)Redcap UEs in barred cells (R3-244788; contact: Nokia) RAN3 LS in Rel-18 TEI18 To:RAN2

* Noted

[R2-2408661](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408661.zip) SIB1 processing correction for (e)RedCap and 2Rx XR UEs [EM\_Call\_Exemption] Nokia CR Rel-18 38.331 18.3.0 5027 - F NR\_redcap-Core, TEI18, NR\_redcap\_enh-Core

- Samsung thinks that the CR is not needed and these is clear in 304. Nokia thinks that this is not clear in 38.331 and there is no way to indicate to upper layers that emergency calls are possible.

- Qualcomm understands the intention but we started this work with the hope to do this all in 38.304 and first we should do the cleanup work with 304 first. Ericsson also agrees with Qualcomm.

**Cell Barring**

[R2-2408293](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408293.zip) Discussion on the cell barring across R18 features Huawei, HiSilicon, Samsung discussion Rel-18 TEI18, NR\_NTN\_solutions-Core, NR\_redcap-Core, NR\_redcap\_enh-Core, NR\_IAB\_enh-Core, Netw\_Energy\_NR-Core, NR\_netcon\_repeater-Core

[R2-2408368](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408368.zip) Discussion on cell barring and associated behaviour Qualcomm Incorporated, Ericsson discussion Rel-18 TEI18

Discussion

- LG supports the approach from Qualcomm to remove the duplication and if we don’t do it now then we will issues in the future. Huawei thinks that we do the cleanup and alignment one time this meeting and we don’t do it again. The concern is that if we remove something from the legacy text we may create issues.

- Vivo agrees with Huawei’s intention at this late stage to check the misalignments. We can do the removal of duplication in the next generation. Nokia also thinks it is a bit late to do these changes.

- CATT agrees with Huawei’s proposal.

- Qualcomm would like to ensure that we stop getting alignment proposals. Huawei explains that we need to do this only in Rel-18 and we shouldn’t do any more.

- ZTE thinks we need to clarify that there will be no functional behaviour changes.

- ZTE appreciates the Qualcomm’s approach but it has to be done very carefully.

- Vodafone thinks it is a bit dangerous.

* We do an offline check to see if there is any alignment necessary/cleanup necessary and determine whether anything is necessary to do.
* [AT127bis][009][Cell Barring] behaviour (Qualcomm)

Intended outcome: face to face offline to discuss the different technical aspects from Huawei and Qualcom’s paper and then move this to a post meeting email discussion.

Deadline: 10-17-24

[CB]

R2-2409410 Summary of offline discussion [AT127bis][009][Cell Barring] behaviour (Qualcomm) Qualcomm Incorporated discussion

* Noted

**Agreement**

1 For Rel-18, remove detailed description on IFRI from 38.331, and keep only pointers to 38.304

2 At least for Rel-18, adopt the approach proposed in R2-2408293 (Huawei, HiSilicon, Samsung), as baseline for further work.

3 Descriptions in 38.304 on NCR-MT / IAB-MT are kept as NOTEs.

4 For the interaction between 38.331 and 38.304 regarding barring exemption, RAN2 will check if anything needs to be done after clean-up CRs are stable.

5 Qualcomm will bring the CR next meeting

[R2-2408369](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408369.zip) Clarifications on cell barring and cell reservation Qualcomm Incorporated, Ericsson CR Rel-18 38.331 18.3.0 5003 - F TEI18

[R2-2408370](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408370.zip) Clarifications on cell barring and cell reservation Qualcomm Incorporated, Ericsson CR Rel-18 38.304 18.3.0 0415 - F TEI18

[R2-2408128](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408128.zip) Correction on barring exemption for (e)Redcap and XR 2RX UEs vivo, Guangdong Genius, Apple draftCR Rel-18 38.331 18.3.0 TEI18

**Others**

[R2-2408462](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408462.zip) Coexistence issue for NES and NCR LG Uplus, SK Telecom, Telecom Italia, NTT Docomo, China Unicom, ETRI discussion

*Proposal 1: It is proposed to specify the operation of NCR access link according to DTX/DRX of the serving gNB.*

- Qualcomm would like to confirm the setup.

- LGU is concerned that the NCR is not aware that the gNB is turned off. Qualcomm thinks that MT should support NES so there is no problem. Ericsson also thinks that this is already supported.

- Huawei, Nokia, CATT think we can confirm that NCR MT supports NES.

- Samsung points out that it seems that LGU plus wants to also support this for the access link not just the MT and not so sure this is supported.

- Ericsson explains that it is already there.

*Proposal 2: It is proposed to specify the mobility mechanism of a NCR MT, where the NCR MT maintain the connection with the serving gNB while the serving gNB is on the DTX/DRX mode.*

* Noted
* RAN2 confirms that NCR MT can supports NES

To be treated in MBS breakout session

[R2-2408408](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408408.zip) Search space configuration for RedCap UE’s MBS broadcast reception ZTE Corporation, Sanechips discussion Rel-18 TEI18

## 7.25 R18 Other

Specific items may be allocated to a breakout session for treatment.

Impacts from Other RAN WGs and TSGs that has no separate TU budget in RAN2. LS ins for Rel-18 specific WIs/SIs that has no RAN WI.

Clarification CRs should be discussed with spec rapporteurs of the topic prior to submission.

Time budget: 1 TU

Tdoc Limitation: -

### 7.25.1 RAN4 led items

**NR\_FR1\_lessthan\_5MHz\_BW-Core**

[R2-2408249](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408249.zip) Corrections on the Need Code vivo CR Rel-18 38.331 18.3.0 4993 - F NR\_FR1\_lessthan\_5MHz\_BW-Core

- Qualcomm thinks that it is already clear. If absent then legacy applies. Ericsson also thought that this was quite obvious. Samsung asks if we need procedure text that if absent legacy applies. Qualcomm explains that legacy is mandatory so it is always present. For the new field we just said that it would override legacy and this is how we have captured things in the past. Ericsson thinks that it is ok to make this change. Qualcomm thinks that there is a guideline already

* The change is agreable and can be included merged in the 38.331 CR from ZTE

[R2-2408399](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408399.zip) Consideration on Supporting 3M Channel Bandwidth ZTE Corporation discussion Rel-18 NR\_FR1\_lessthan\_5MHz\_BW-Core

* Option 1: Only consider the single CC case and add the exceptional description to Note of the field description of the channelBWs-DL/UL;*

* Option 2: Introduce new per FSPC level capability or extend the supportedMinBandwidthDL/UL to include 3M.*

- Samsung and Qualcomm would prefer option 2, but since it is not agreable we can go with option 1. Tmobile thinks that option 2 is the way to go and it should be done in a clean way.

- Samsung and ZTE are a bit concerned as we don’t know what RAN4 is going to agree so it is risky to go with option 2.

* Noted

[R2-2408400](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408400.zip) Clarification on the Channel Bandwidth for the 3M ZTE Corporation CR Rel-18 38.306 18.3.0 1169 - F NR\_FR1\_lessthan\_5MHz\_BW-Core

- Ericsson thinks that this makes some sense and we made the wrong decision for Rel-18 so we have to be careful for R19,

* Continue in offline discussion

[R2-2409397](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409397.zip) Report of [AT127bis][011][less5MHz] 331 CR (ZTE) ZTE discussion Rel-18 NR\_FR1\_lessthan\_5MHz\_BW-Core

* Noted

Agreements

1: For 3M channel bandwidth, both the CA/DC and single CC case would be considered from the Rel18.

* [POST127bis][011][less5MHz] 331 CR (ZTE)

Intended outcome:

To discuss at least the below detail issues:

Issue 1: Whether and how to indicate supporting 3M with the FSPC level?

 Method 1: Extend the supportedBandwidthDL/UL

 Method 2: Add an indication for a 3M bandwidth (e.g. similar to the channelBW-90mhz)

 Method 3: The 3M would be determined based on the BCS of each BC for the CA/DC, for the single CC, it would be determined by the support3MHz-ChannelBW-Asymmetric-r18/ support3MHz-ChannelBW-Symmetric-r18, For the BCS5, extend the supportedMinBandwidthDL/UL-r17 to include 3 MHz

Issue 2: Whether to indicate the 3M in the channelBWs-DL/UL?

Issue 3: Whether to dummy the support3MHz-ChannelBW-Asymmetric-r18/ support3MHz-ChannelBW-Symmetric-r18?

Deadline: long

[R2-2409055](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409055.zip) Correction on carrier bandwidth configuration for less than 5MHz Huawei, HiSilicon CR Rel-18 38.331 18.3.0 5071 - F NR\_FR1\_lessthan\_5MHz\_BW

[CB Thursday]

=> Revised in R2-2409217

R2-2409217 Correction on carrier bandwidth configuration for less than 5MHz Huawei, HiSilicon CR Rel-18 38.331 18.3.0 5071 1 F NR\_FR1\_lessthan\_5MHz\_BW

[R2-2409171](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409171.zip) Clarification on capability for inter-frequency configuration for less than 5MHz Huawei, HiSilicon CR Rel-18 38.306 18.3.0 1196 - F NR\_FR1\_lessthan\_5MHz\_BW

- Qualcomm thinks that this text can go as a NOTE in the text. Ericsson thinks we can clean the text a bit

=> Revised in R202409385

* [AT127bis][012][less5MHz] 306 CR (Huawei)

Intended outcome: update and agree in principle to CR

Deadline: 10-17-24

[R2-2409385](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409385.zip) Clarification on capability for inter-frequency configuration for less than 5MHz Huawei, HiSilicon CR Rel-18 38.306 18.3.0 1196 1 F NR\_FR1\_lessthan\_5MHz\_Bw

* The CR is postponed

[R2-2409391](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409391.zip) [DRAFT] LS on carrierBandwidth configuration for less-than-5MHz carriers Huawei, HiSilicon LS out Rel-18 NR\_FR1\_lessthan\_5MHz\_BW To:RAN1, RAN4

* Delete RAN1 from the question. Action to RAN4 to respond and RAN1 to take this into account and provide feedback if any.
* The LS is approved with the change above R2-2409409

R2-2409409 LS on carrierBandwidth configuration for less-than-5MHz carriers RAN2 LS out Rel-18 NR\_FR1\_lessthan\_5MHz\_BW To:RAN1, RAN4

=> Approved

**ATG**

[R2-2408388](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408388.zip) On ATG timing advance reporting procedure Ericsson discussion Rel-18 NR\_ATG-Core

[R2-2408444](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408444.zip) Clarification of offsetThresholdTA-r18 for NR ATG Huawei, HiSilicon, CMCC, CATT, Nokia, Nokia Shanghai Bell CR Rel-18 38.331 18.3.0 4882 1 F NR\_ATG-Core [R2-2406604](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2406604.zip)

[R2-2408807](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408807.zip) Clarification on Timing Advance Report MAC CE for ATG Samsung, Qualcomm, Huawei, HiSilicon, CMCC, CATT CR Rel-18 38.321 18.3.0 1954 - F NR\_ATG-Core

* The CR is in principle agreed

[R2-2408808](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408808.zip) Correction on SCS applied for ATG offsetThreshold Samsung CR Rel-18 38.331 18.3.0 5032 - F NR\_ATG-Core

[R2-2409069](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409069.zip) Clarification on the unit of offsetThresholdTA-r18 for ATG ZTE Corporation CR Rel-18 38.331 18.3.0 5074 - F NR\_ATG-Core

[R2-2409070](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409070.zip) Clarification on Timing Advance filed in the Timing Advance Report MAC CE ZTE Corporation CR Rel-18 38.321 18.3.0 1961 - F NR\_ATG-Core

* [AT127bis][013][ATG] CRs (Samsung)

Intended outcome: Review CRs and identify agreable changes and if any should be merged

Deadline: 10-17-24

[R2-2409408](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409408.zip) Report of [AT127bis][013][ATG] CRs (Samsung) Samsung discussion Rel-19 NR\_ATG-Core

- Qualcomm, ZTE, Ericsson is concerned that the network cannot guarantee that BWP switch doesn’t happen during configuration with option 1.

**-** Huawei is concerned that the option 2 is NBC. ZTE doesn’t think it is NBC it is a clarification of behavior and option 1 is also NBC. LG also thinks that it is NBC.

**-** Nokia, LG, and CATT prefer option 1.

**-** Huawei explains that option 1 gives configurability that we lose with option 2.

**NR\_BWP**

[R2-2408480](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408480.zip) Correction on BWP operation without bandwidth restriction Huawei, HiSilicon CR Rel-18 38.306 18.3.0 1177 - F NR\_BWP\_wor

- Ericsson thinks that if we update we should revisit the “may not” wording

* The CR is postponed

**NR\_HST\_FR2\_enh**

[R2-2408840](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408840.zip) Correction to TS 38.306 for HST FR2 Huawei, HiSilicon CR Rel-18 38.306 18.3.0 1185 - F NR\_HST\_FR2\_enh

- ZTE and Nokia doesn’t think this clarification is not needed, we don’t need to collect each details.

- Ericsson doesn’t think this is needed

* The CR is not purposed

**NR\_MG\_enh2-Core**

[R2-2408975](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408975.zip) Discussion on early implementation of R18 measurement gap enhancements Nokia, Nokia Shanghai Bell discussion Rel-18 NR\_MG\_enh2-Core

* Noted

[R2-2408976](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408976.zip) Supporting R17 early implementation of R18 measurement gap enhancements Nokia, Nokia Shanghai Bell, Ericsson, ZTE Corporation, BT Plc., Telecom Italia, CATT CR Rel-18 36.331 18.3.1 5064 - F NR\_MG\_enh2-Core

* The CR is in principle agreed

[R2-2408977](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408977.zip) Supporting R17 early implementation of R18 measurement gap enhancements Nokia, Nokia Shanghai Bell, Ericsson, ZTE Corporation, BT Plc., Telecom Italia, CATT CR Rel-18 38.331 18.3.0 5065 - F NR\_MG\_enh2-Core

* Revise:
* Row containing CR 4063: add “Early implementation also includes the corresponding capability of R2-2311897 (within CR 4510 of RP-233940).” and delete “UE supporting early implementation of CR 4063 shall also support…”
* Delete row containing CR 4510.
* Update summary of changes in the CR cover sheet based on above.

[R2-2407930](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407930.zip) LS on measurements without gap (R4-2413936; contact: Nokia) RAN4 LS in Rel-16 NR\_RRM\_enh-Core To:RAN2

* Noted

[R2-2408212](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408212.zip) Discussion on early implementation of UE capability on measurements gap enhancement (LS R4-2413936) CATT discussion Rel-16 NR\_RRM\_enh-Core

* RAN2 confirms that the early implementation of Rel-18 feature nr-NeedForInterruptionReport-r18 or interRAT-NeedForInterruptionNR-r18 from Rel-17 will not cause interoperability issues.
* [AT127bis][014][MRMG] Way forward (Nokia)

Intended outcome: Agreable way forward and CR

Deadline: 10-17-24

[R2-2409398](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409398.zip) Offline 014 on early implementation of R18 measurement gap enhancements Nokia (Rapporteur) discussion Rel-18 NR\_MG\_enh2-Core

* Noted

### 7.25.2 RAN1 led items

E.g. UL Tx Switching, MC enhancements, DSS

[R2-2407916](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407916.zip) Reply LS on UL Tx switching (R1-2407505; contact: NTT DOCOMO) RAN1 LS in Rel-18 NR\_MC\_enh-Core To:RAN2 Cc:RAN4

* Noted

[R2-2408665](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408665.zip) Addition of UE capability for 1T-1T switching (TS38.331CR) Huawei, HiSilicon, NTT DOCOMO, INC. draftCR Rel-18 38.331 18.3.0 F NR\_MC\_enh-Core

* Not treated

[R2-2408666](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408666.zip) Addition of UE capability for 1T-1T switching (TS38.306CR) Huawei, HiSilicon, NTT DOCOMO, INC. draftCR Rel-18 38.306 18.3.0 F NR\_MC\_enh-Core

* Not treated

[R2-2409072](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409072.zip) Miscellaneous corrections on UE capability for multi-cell scheduling NTT DOCOMO INC. draftCR Rel-18 38.306 18.3.0 F NR\_MC\_enh-Core

* Not treated

[R2-2409099](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409099.zip) Discussion on the applicable BWP for certain RRC parameters for DCI format 0\_3/1\_3 Samsung discussion Rel-18 NR\_MC\_enh-Core

* Noted

[R2-2409100](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409100.zip) Correction on the applicable BWP for certain RRC parameters for DCI format 0\_3/1\_3 Samsung CR Rel-18 38.331 18.3.0 5077 - F NR\_MC\_enh-Core

* The CR is postponed
* [AT127bis][015][UL TX switching] UE capability (NTT docomo)

Intended outcome: Agreable CRs

Deadline: 10-17-24

[R2-2409403](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409403.zip) Correction on UE capability for multi-carrier enhancements NTT DOCOMO, INC. CR Rel-18 38.306 18.3.0 1199 - F NR\_MC\_enh-Core

* The CR is in principle agreed

[R2-2409404](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409404.zip) Correction on UE capability for multi-carrier enhancements NTT DOCOMO, INC. CR Rel-18 38.331 18.3.0 5095 - F NR\_MC\_enh-Core

* The CR is in principle agreed

### 7.25.3 Other

RAN3, SA2, SA3, CT1 led items and others, e.g. eNPN, Slicing, NTN self evaluation issues, etc.

# 8 Rel-19

## 8.0 General

This AI is reserved for Rel-19 LSs from other WGs. No contributions are expected on these LSs for this meeting, except related to SA5 LS S5-245138

[R2-2407937](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407937.zip) LS on Clarification regarding definition of 5G NR femto ownership (S3-243518; contact: Nokia) SA3 LS in Rel-19 FS\_5G\_Femto\_Sec To:SA2 Cc:RAN2, RAN3

* Noted

[R2-2407943](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407943.zip) LS on Number of UEs in RRC\_INACTIVE state with data transmission (S5-245138; contact: China Telecom) SA5 LS in Rel-19 PM\_KPI\_5G\_Ph4 To:RAN2 Cc:RAN3

* Noted

[R2-2408205](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408205.zip) Discussion on the number of SDT UEs in RRC\_INACTIVE state (LS S5-245138) CATT discussion Rel-19 PM\_KPI\_5G\_Ph4

*Proposal: in the reply LS to SA5, RAN2 indicates the following understandings:*

*Understanding 1: gNB is aware of the number of UEs in RRC\_INACTIVE state within an RNA, but it doesn’t know the number of UEs in RRC\_INACTIVE state within an specific cell.*

*Understanding 2: gNB cannot exactly know the number of SDT UEs in RRC\_INACTIVE state with data transmission for a specific cell, since a UE may move to another cell within a RNA after a SDT procedure without reporting to network.*

[R2-2408537](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408537.zip) Number of UEs in RRC\_INACTIVE with data transmission ZTE Corporation, Sanechips LS out Rel-18 To:SA5

*Proposal: Reply to SA5 that:*

*SDT procedure is initiated by sending RRCResumeRequest. For MO-SDT, SDT procedure is initiated with either a transmission over RACH resource configured for SDT or over Type 1 CG resources. Thus, for MO-SDT, the network knows the SDT cause either by the RACH resource used for sending the RRCResumeRequest or by the reception of RRCResumeRequest via the type 1 CG resource configured for SDT. When MT-SDT is initiated by the UE, a resume cause indicating MT-SDT is included in the RRCResumeRequest. Thus, it is possible for the network to keep track of the number of UEs in a given cell that have SDT ongoing (both for MO-ST and MT-SDT) at any given point in time in the cell.*

[R2-2408734](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408734.zip) Discussion on the LS from SA5 on the number of UEs in RRC\_INACTIVE state with data transmission Huawei, HiSilicon, China Telecom discussion Rel-19 PM\_KPI\_5G\_Ph4

*Proposal 1: RAN2 should reply to SA5 that it is possible for RAN2 to define a set of metrics for the number of UEs in RRC\_INACTIVE state with data transmission, similar to the ones defined for RRC\_CONNECTED UEs in section 4.2.1.3 of TS 38.314.*

*Proposal 2: RAN2 should ask for a clarification from SA5 on whether all the metrics as defined for RRC\_CONNECTED UEs are needed, e.g. per UL/DL, per DRB etc.*

*Proposal 3: RAN2 to discuss whether to handle the definition of the metrics requested by SA5 as part of TEI19 or as part of (updated) SON/MDT WID.*

[R2-2408762](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408762.zip) Regarding LS from SA5 on Number of UEs in RRC\_INACTIVE state with data transmission Ericsson discussion Rel-19 PM\_KPI\_5G\_Ph4

*Proposal 1 RAN2 to send a reply-LS to SA5 with CC to RAN3; stating; “RAN2 think it would be possible to specify for the RAN to indicate the number of users which are sent to RRC\_INACTIVE with SDT configuration for a specific cell but would like to point out that UEs might not remain in the cell, and thus it is not expected as a good indication of cell load.”*

Discussions

- ZTE, Huawei, Ericsson points out that we are referring to ongoing SDT but NOT configured. CATT thinks it is configured SDT.

- Nokia is not clear whether it is active SDT or configured. It doesn’t seem the information on active SDT is not very useful for load balancing purposes. Huawei explains that it may useful as it is average over time.

- LG thinks either way (configured or ongoing) are not very useful and good measure for cell load status.

- Qualcomm thinks that we can provide answers for both cases (if configure or if ongoing)

- ZTE thinks that if it is configured that it is just the number of inactive UEs which we have.

- China telecom confirms that from SA5 this is related to ongoing SDT.

- Nokia doesn’t think that there are some scenarios where the network doesn’t knows that there is ongoing (e.g. if the UE has reselected to another cell). Huawei thinks that we have those situations in connected too (e.g. RLF) but we use those estimations anyways.

- Qualcomm thinks that there is no RAN2 work here so there is no need for us to respond. Xiaomi points out that we may need to modify 304 so it is RAN2 work.

- LG would like to clarify that we will not specify anything. ZTE thinks that we just need to respond that we can count.

* RAN2 assumes that we are referring to “ongoing” SDT procedure and the network knows the number of UEs in a cell performing “ongoing” SDT. Mention cases where the UE may stop ongoing SDT but network doesn’t know.
* [AT127bis][004][LS to SA5] Response LS (Huawei)

Intended outcome: Approve LS by email

Deadline: 10-17-24

## 8.1 AI/ML for NR air interface

(NR\_AIML\_air-Core; leading WG: RAN1; REL-19; WID: [RP-242399](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_105/Docs/RP-242399.zip))

Time budget: 2.5 TU

Tdoc Limitation: 4 tdocs

### 8.1.1 Organizational

LS, Rapporteur input, including workplan, etc.

[R2-2407933](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407933.zip) LS on AIML data collection (RP-242389; contact: InterDigital) RAN LS in Rel-19 NR\_AIML\_air To:SA, SA2, SA3, SA5 Cc:RAN1, RAN2, RAN3

* Noted

[R2-2407941](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407941.zip) LS reply on improved KPIs involving end-to-end data volume transfer time analytics (S5-244658; contact: Ericsson) SA5 LS in Rel-18 NR\_AIML\_NGRAN-Core To:RAN3 Cc:SA2, CT3, CT4, RAN2

* Noted

[R2-2407942](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407942.zip) LS reply on terminology definitions for AI-ML in NG-RAN (S5-244660; contact: NEC, Intel) SA5 LS in Rel-18 AIML\_MGT To:RAN2, RAN3 Cc:RAN, RAN1, SA, SA2, SA6

- Qualcomm indicates that we have conflicting terminology between RAN1 and SA5. Huawei doesn’t think that there is a problem, we should focus on technical specs. Ericsson agrees and when we write the running CRs we can determine if we need to use the terminologies.

* Noted

[R2-2409164](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409164.zip) Work plan for Rel.19 AI/ML for NR air interface Ericsson Work Plan

* Noted

### 8.1.2 Functionality based LCM

Contributions should focus on general understanding of LCM procedure (except for data collection and model transfer/delivery), what is required to enable the UE to perform different steps of the LCM procedure, what is the granularity of functionality, dependencies with RAN1 and what is needed from RAN1 to progress in RAN2

Contributions should be submitted in 8.1.2.x and aspects related to data collections should be submitted in data collection section

Two-sided model discussions are out of scope of this AI

Model identification is out of scope of this AI and will not be discussed in RAN2#128 given further RAN1 progress is required.

#### 8.1.2.1 LCM for NW-sided model for Beam Management use case

LCM related to NW-sided model for beam management use case only

No contributions expected for this meeting, waiting for further RAN1 progress

#### 8.1.2.2 LCM for UE-sided model for Beam Management use case

Including functionality identification, additional conditions and further reporting of applicable functionalities. Contributions should focus on issues not dependent on RAN1 (i.e. on questions we sent to RAN1) and issues we haven’t yet discussed (e.g. necessary signalling/protocols to configure the UE for training, etc)

##### **Signaling of functionality applicability report**

[R2-2408076](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408076.zip) Discussion on LCM for UE-sided model for BM CMCC discussion Rel-19 NR\_AIML\_air-Core

*Proposal 1: RRCReconfiguraitonComplete message is used for the reactive reporting of applicable functionalities in step 4.*

*Proposal 2: The proactive and reactive approach can be coexist, the proactive reporting (i.e. UAI framework) is used when the applicable functionalities changes, and the reactive reporting (i.e. RRCReconfiguration message) is used as response to the network configuration immediately.*

* Noted

[R2-2408735](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408735.zip) Discussion on LCM for UE-sided model for Beam Management use case Huawei, HiSilicon discussion Rel-19 NR\_AIML\_air-Core

*Observation 1: UAI can be used to support both proactive and reactive applicable functionality reporting.*

*Observation 2: Usage of RRCReconfigurationComplete message for applicable functionality reporting does not improve the continuity of AIML feature.*

*Proposal 3: Applicable functionality reporting via RRCReconfigurationComplete is not supported.*

* Noted

*Discussions*

- Nokia thinks that we can support both approaches but the UE should respond with reconfiguration complete within a certain time so it is not delayed. Interdigital thinks that we need to follow the RRC processing delay.

- Oppo, Interdigital, Ericsson, LG thinks both reactive and proactive needs to be supported. This can be done with UAI but it shouldn’t preclude doing it with RRCReconfigurationComplete as early reporting can be beneficial. Ericsson thinks that RRCReconfigcomplete is very useful after the network sends the inference configuration regardless of whether it is step3 or 5.

- Qualcomm thinks it may be useful if the UE supports certain functionality in a cell, but it shouldn’t be made mandatory to determine the applicable functionality and report in RRCReconfiguration complete.

- CATT also supports the CMCC proposal.

- Xiaomi thinks that UAI would allow us to have a unified framework. ZTE thinks we should go with UAI as a baseline and see if there are any requirement for RRCReconfiguration complete.

- Lenovo also thins we should support both as it is possible that the functionality is not applicable so the UE should be able to tell the network it is not applicable.

- Vivo thinks that we should go for a unified solution with UAI.

- NEC supports both but wonders if we need to have subsequent reporting.

- Apple thinks we should support both.

- Huawei thinks that we didn’t agree that we can provide in step3 so there is no need to reply to inference configuration. Apple thinks that whether we can provide inference in step3 is still under discussion, but the key difference is that the UE would have to respond within a time to the rrcreconfiguration message but UAI is up to UE implementation.

- Samsung thinks we can design UAI to be triggered within a certain time, but don’t see a big benefit to add it.

- BT would like a unified solution meaning not have different capabilities.

- CMCC thinks it is important to support RRCReconfiguation as UAI is up to UE implemntations, in some case we need the response from the network. Also we would end up with two messages, on complete and then another UAI. NTT docomo agrees with RRCReconfiguration but one concern with the time to decide applicability, if it is too long it is difficult to operate for network.

- Mediatek thinks UAI should be baseline, but there are use cases to have an immediate response.

- Oppo wonders if we should consider other complete message, such as Resume and Seutp complete. Nokia thinks that this depends whether we retain the applicable functionality between active inactive, etc.

- Samsung is concerned to design different solutions so the response should look the same in both cases. Huawei thinks that one way to align is to design UAI and then include UAI as a container in the Reconfiguration. Ericsson thinks that we should be careful depending on how much we have to signal and it depends on the content of the applicability.

* UAI is supported and RRCReconfigurationComplete message can be used to report applicable functionality. We should aim to align the design on how the applicable functionality are signaled. FFS on the applicability reporting content.
* FFS if inference configuration can be signalled in step3.

##### **Regarding non-applicable functionalities**

[R2-2409166](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409166.zip) Discussion on LCM for UE-side model for BM NTT DOCOMO, INC. discussion Rel-19

*Proposal 3: For the Step 4 of LCM for UE-side model, UE can report following information;*

*・Applicable functionalities (if exist)*

*・Non-applicable functionalities (if NW request explicitly)*

* Noted

[R2-2408563](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408563.zip) Remaining issues on LCM procedure of UE-sided model for AI/ML based beam management Apple discussion Rel-19 NR\_AIML\_air-Core

*Observation 7: When the UE is performing inference operation configured/activated by NW in Step 6, it is possible that the on-going functionality may become non-applicable due to insufficient memory or insufficient battery for inference operation. The followed UE behaviour is not clear (e.g. whether inference can be stopped).*

*Proposal 8: RAN2 specify the UE behaviour on how to handle the functionality which is performing inference operation but becomes non-applicable (e.g. due to insufficient memory or battery to continue inference).*

* Noted

[R2-2408312](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408312.zip) LCM for UE sided model in beam management Lenovo discussion Rel-19

*Proposal 5 UE can send UAI indicating a UE sided AI functionality becomes non-applicable at any time without restriction (e.g., prohibit timer).*

*Proposal 6 UE can be configured with a prohibit timer that after UE reports via UAI that a UE sided AI functionality becomes non-applicable, UE will not send another UAI message for the same UE-sided AI functionality again within a time period*

* Noted

Discussions

*What to report:*

*- applicable*

*- non-applicable functionality (If NW requests)*

- LG doesn’t think that non-applicable functionality is necessary for initial reporting, but after step5 it is necessary as per apple’s proposal

- Samsung, ZTE asks what is the benefit of reporting non-applicable functionality. Samsung doesn’t see the motivation but maybe later after progress for data reporting for training there may be benefit. Interdigital thinks that the main motivation is to report it when it no longer becomes applicable. There should be a possibility to report non-applicability and the reason, i.e. no model or applicable ID.

- Apple thinks that if it becomes non-applicable it will cause degradation on the network side so it should be reported.

- Huawei thinks we are mixing two things, it is when to report and what to report. Huawei thinks that we should report when something becomes non-applicable but how it is done it can be done simply but indicating what is applicable (and not reporting the one that stopped being applicable)

- Ericsosn thinks it should be reported and it can be explicit too.

- NEC thinks that we already agreed that we would report when an applicable functionality has changed. Samsung agrees.

- MEdiatek wonders how the UE determines how a model becomes non-applicable. Apple explains that we agreed that this is based on the NW signaled additional conditions and it is clear it is up to implementation.

- Nokia thinks that we need to consider whether we are referring an active applicable functionality.

- Asustek thinks that we need to consider the case where there is no applicable functionality left, so sending applicable functionalities in this case won’t work.

* UE can report to the network when an applicable AI functionality becomes non-applicable. FFS how this is signaled (e.g. explicitly/implicitly). Consider different scenarios, whether it is regarding an active functionality)

##### **Activation/Deactivation/Fallback:**

[R2-2408553](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408553.zip) LCM for UE-side Beam Management Nokia discussion Rel-19 NR\_AIML\_air-Core

*Proposal 2: A deactivated functionality is an AI/ML functionality for which the UE has received a radio configuration via a CSI-ReportConfig, but which is neither configured to perform inference nor to report its outputs to the NW.*

*Proposal 3: Functionality fallback to non-AI/ML means deactivating one AI/ML-enabled functionality and activating a non-AI/ML feature of the same type, e.g., Beam Management.*

*Proposal 4: Functionality switching means simultaneously deactivating one AI/ML-enabled functionality and activating another of the same type, e.g., Beam Management.*

* Noted

[R2-2408921](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408921.zip) Remaining details of applicable functionality reporting InterDigital discussion Rel-19 NR\_AIML\_air-Core

*Proposal 1: Upon AI/ML functionality deactivation, UE falls back to legacy (i.e., non-AI/ML) operation as baseline.*

* Noted

*Discussion*

- Nokia thinks that the UE needs a configuration and no assumption that there is a fallback configuration. Interdigital explains that the intention is that for legacy the UE is provided with a configuration, so the UE would use that. Nokia thinks that we need to define what fallback.

- Huawei thinks that we should first recognize that we have periodic, aperiodic and semi-persistent. Activation means different things for different cases. We don’t need to define a fallback.

- Apple has similar views as InterDigital, we have an FFS on the definition on de-activation, de-activation means fallback or functionality switching. Functionality switching would depend whether the UE can be configured with multiple functionality for the same use cases. Ericsson thinks that the UE should have a configuration to fall back as until the network reconfigures there will be ambiguity.

- Vivo thinks that we need to define what is fallback.

- NEC wonders if there is any difference between fallback or switching.

- ZTE agrees with Interdigital’s proposal but we need to discuss whether the UE would fallback on it’s own or only upon network indication.

- Samsung, Qulacomm thinks that it is not clear what is the meaning of fallback.

* [AT127bis][017][AI PHY] Definitions (Nokia)

Intended outcome: agreable definitions/scenarios related for activation/deactivation/fallback (face to face offline)

Deadline: 10-17-24

[R2-2409393](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409393.zip) [017] Report of Offline Discussion on LCM Definitions Nokia report Rel-19 NR\_AIML\_air-Core

*Proposal 1: For the purpose of discussion of AI/ML BM LCM operations, existing procedures and terminologies from the CSI Framework should be used, including those defined for aperiodic, semipersistent on PUCCH, semipersistent on PUSCH, and periodic reporting configurations (as/if defined in RAN1 pending response LS from RAN1).*

- Apple thinks that we are already using this terminology so not sure we need this proposal. ZTE agrees with Apple and we have sent an LS to RAN1 about this.

- Samsung thinks that this is ok but anyways RAN1 is discussing the reply LS and majority consensus is that we can just use configuration.

- Vivo thinks that RAN1 is still discussing semipersistent so we can remove it. Oppo explains that RAN1 is discussing this and this P1 is going further than RAN1.

Proposal 2: RAN2 will not define terminology specific to the activation or deactivation for AI/ML models.

- Apple is not sure what this proposal means.

- Nokia explains that we can talk about procedures that use configurations.

- Huawei and Qualcomm agrees to both proposals and it’s important we start using RAN1 terminology. ZTE agrees with this proposal so RAN2 can stop discussing this.

- Samsung thinks that this is a strong statement and we should just postpone this definition.

* *For the purpose of discussion of AI/ML BM LCM operations, existing procedures and terminologies from the CSI Framework should be used, including those defined for aperiodic, semipersistent on PUCCH, semipersistent on PUSCH, and periodic reporting configurations (as/if defined in RAN1 pending response LS from RAN1).*
* For now, RAN2 will not define terminology specific to the activation or deactivation for AI/ML models. Can come back to this discussion later.

[R2-2409103](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409103.zip) LCM for UE-side models for beam management Ericsson discussion

*Proposal 6 The network can provide inference and/or performance monitoring configuration(s) in Step 3.*

*Proposal 7 The network can provide a fallback configuration in Step 3.*

*Proposal 12 The UE activates an AI/ML functionality upon reception of an AI/ML inference configuration received either in Step 3 or Step 5, if determined to be applicable.*

* Wait for RAN1
* Noted

##### **Data Collection and model training**

[R2-2408037](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408037.zip) Discussion on LCM for UE-sided model for BM China Telecom discussion Rel-19 NR\_AIML\_air-Core

*Proposal 1: For BM case, there are two options for initiating the data collection procedure for UE-sided model training:*

*Option1: the UE can send UAI message to trigger the network to configure data collection for UE-sided model training.*

*Option2: the network initiates the data collection procedure for UE-sided model training via RRCReconfiguration message.*

Proposal 2: The network can configure Set A and Set B resources for UE-sided model training for each BM (sub)use case in relation with associated ID(s) to the UE via RRCReconfiguration message, details of design need RAN1’s further input, e.g. whether the associated ID is a global ID or a cell-specific ID.

* Noted

[R2-2408963](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408963.zip) Disuccsion on LCM for UE-sided model for beam management Samsung discussion Rel-19 NR\_AIML\_air-Core

*Proposal 3: RAN2 focus on NW assisted data collection for training but make it optional for UE.*

*Proposal 4: RAN2 discuss the following potential signaling options to initiate for data collection for training procedure; 1) UE capability, 2) UE request and 3) implicit initiation.*

*Proposal 6: RAN2 wait for RAN1 input to decide structure of configuration for data collection for training.*

*Proposal 7: RAN2 discuss the need of UE response if NW configures configuration for data collection for training without getting explicit UE request.*

* Noted

Discussion

- Mediatek thinks that this is related to which solution we adopt for data collection, for example 1a the UE would trigger it.

- Oppo thinks that we need to wait for RAN1 for P2. Wonders what is the motivation to not leave this is up to UE implementation. Samsung thinks that the UE needs a configuration to start. Oppo thinks that the OTT server can request the configuration. Qualcomm thinks that it needs to be from the UE as it has the best information.

- Xiaomi thinks that this is related to which node performs the training. Qualcomm thinks that it is very clear that the model is trained on the UE side.

- Interdigital thinks that UE requesting to perform data collection should be as a baseline and we should clarify that the assumption is that the UE side training is done on the server, not the UE itself.

- Apple is not sure what is the motivation. Interdigital thinks that even for solution 1a there is no other way to start without requesting. Qualcomm explains is that we need RS configuration and ID. The UE doesn’t know how they are correlated and without this information you can’t do the training.

- Huawei doesn’t see the motivation, the network can configure the UE based on UE capability. The UE shouldn’t request as the network may not be interested in that type of inference.

- ZTE thinks that we have two solutions, UE requests and NW denies, or the NW can provide several configurations and the UE decides.

- Ericsson thinks that e can keep both options available and we can discuss later on the details.

- Nokia thinks that the network should control the initiation of data collection, as it is not scalabe for a lot of UEs to initiate data collection. Ericsson agrees that the network should not be expected to provide these configurations all the time, there should be a way for the network to control the request.

- Mediatek thinks that UE request with network control should be the baseline.

- Apple thinks that the network can provide configuration but the UE doesn’t need to start

* Data collection initiation and configuration for data collection is under network control. FFS how the NW determines whether data collection should be initiated (e.g. via UE requests (UE directly or UE server)

**Agreements for BM**

1. UAI is supported and RRCReconfigurationComplete message can be used to report applicable functionality. We should aim to align the design on how the applicable functionality are signaled. FFS on the applicability reporting content.
2. FFS if inference configuration can be signalled in step3.
3. UE can report to the network when an applicable AI functionality becomes non-applicable. FFS how this is signaled (e.g. explicitly/implicitly). Consider different scenarios, whether it is regarding an active functionality)
4. Data collection initiation and configuration for data collection is under network control. FFS how the NW determines whether data collection should be initiated (e.g. via UE requests (UE directly or UE server)
5. For the purpose of discussion of AI/ML BM LCM operations, existing procedures and terminologies from the CSI Framework should be used, including those defined for aperiodic, semipersistent on PUCCH, semipersistent on PUSCH, and periodic reporting configurations (as/if defined in RAN1 pending response LS from RAN1).
6. For now, RAN2 will not define terminology specific to the activation or deactivation for AI/ML models. Can come back to this discussion later.

##### **Performance monitoring**

[R2-2408390](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408390.zip) On LCM for UE-sided Models for Beam Management Qualcomm Incorporated discussion Rel-19

*Proposal 10: Wait for RAN1 progress before discussing signaling for reporting performance monitoring.*

[R2-2408141](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408141.zip) Discussion on LCM for UE-sided Model for Beam Management Use Case Fujitsu discussion Rel-19 NR\_AIML\_air-Core

*Proposal 1 RAN2 starts at least the following discussions while waiting for further RAN1 input.*

*Mechanism to trigger the performance monitoring procedure.*

*Potential signaling to complete the performance monitoring procedure.*

*Proposal 2 The performance monitoring procedure can be triggered either periodically or event based.*

[R2-2407956](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407956.zip) Other LCM for UE-sided model for Beam Management use case OPPO discussion Rel-19 NR\_AIML\_air-Core

*Proposal 9: For UE-sided performance monitoring for BM use cases, the following Options should be further considered:*

*Option 1: UE reports calculated metrics, e.g. the number of valid inferences, to NW and NW decides the performance monitoring result.*

*Option 2: UE reports metrics for performance monitoring calculation, e.g. UE reports measured and predicted beam measurements, to NW and NW calculates and decides the performance monitoring result.*

[R2-2408175](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408175.zip) Discussion on LCM for UE-sided model for Beam Management Spreadtrum Communications discussion Rel-19

[R2-2408208](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408208.zip) Discussion on LCM for UE-sided model for BM use case CATT discussion Rel-19 NR\_AIML\_air-Core

[R2-2408222](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408222.zip) Discussion on LCM for UE-sided model for Beam Management vivo discussion NR\_AIML\_air-Core

[R2-2408251](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408251.zip) Discussion on LCM for UE sided model NEC Corporation discussion Rel-19

[R2-2408263](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408263.zip) Discussion on LCM for UE-sided model for BM Xiaomi discussion

[R2-2408353](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408353.zip) Discussion on LCM for UE-sided models ASUSTeK discussion Rel-19 NR\_AIML\_air-Core

[R2-2408375](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408375.zip) Discussion on LCM for UE-sided model for Beam Management use case TCL discussion

[R2-2408376](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408376.zip) Further Discussion on LCM for UE side Model ZTE Corporation discussion Rel-19 NR\_AIML\_air-Core

[R2-2408456](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408456.zip) Discussion on LCM for UE-sided model for BM Google discussion Rel-19 NR\_AIML\_air-Core

[R2-2408484](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408484.zip) Further Discussion on Functionality-based LCM for UE-side Model MediaTek Inc. discussion

[R2-2408705](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408705.zip) Some aspects for model inference and model monitoring Sony discussion Rel-19 NR\_AIML\_air-Core

[R2-2408931](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408931.zip) On LCM for UE-sided Beam Management SHARP discussion

[R2-2408999](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408999.zip) Considerations on LCM of AI/ML for NR air Interface Kyocera discussion

[R2-2409038](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409038.zip) LCM for UE-sided model for BM LG Electronics discussion Rel-19 NR\_AIML\_air-Core

[R2-2409062](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409062.zip) Discussion on LCM for UE-Side Model for Beam Management use case Futurewei Technologies discussion Rel-19

[R2-2409107](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409107.zip) Discussion on Functionality-based LCM of UE-sided Model for Beam Management Use Cases CEWiT discussion Rel-19 NR\_AIML\_air-Core

#### 8.1.2.3 LCM for Positioning use case

Contributions should focus on LCM for UE-sided model, but can discuss NW-sided model and should focus on 1st priority positioning use cases. Aspects related to data collection should be covered in 8.1.3

##### **General LCM procedure**

[R2-2407957](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407957.zip) LCM for Positioning use case OPPO discussion Rel-19 NR\_AIML\_air-Core

*Proposal 1: Applicable functionality reporting is also needed for positioning Case 1 and the solution introduced for BM use cases is the baseline.*

*Proposal 2: For AI/ML based positioning Case 1, RAN2 assumes LPP signaling is used by UE to report UE-sided applicable functionality.*

[R2-2408618](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408618.zip) Discussion on LCM for UE sided model for AI positioning Xiaomi discussion

*Proposal 8: The following procedures for LCM for UE sided model for AI positioning can be considered:*

*Step 1: LMF may request the UE to report the supported functionalities at the UE side by LPP request capabilities message.*

*Step 2: UE sends LPP provide capabilities message to LMF with the supported functionalities at the UE side,*

- Vivo thinks that instead of assistance information it should be UE capability *LPP request capability*. Apple agrees with Vivo. Qualcomm thinks it should be assistance data.

*Step 4: UE reports the applicable functionality by the LPP provide capabilities message.*

*Step 5: The inference configuration is configured by the LPP request location information message.*

*Step 6: UE reports the measurement and/or UE location according to the request in the step 5, by the LPP provide location information message.*

[R2-2408554](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408554.zip) LCM for UE-side Positioning Nokia discussion Rel-19 NR\_AIML\_air-Core

*Proposal 9: RAN2 should send an LS to RAN1 with a list of questions on LCM for positioning use case similar to what was done for beam management use case. We can ask RAN1 about definition of functionalities for positioning use case, whether AI/ML positioning is one or more new positioning method(s) or if it is an enhanced implementation of existing positioning methods using models, about applicability of NW-side additional conditions, associated ID use etc.*

[R2-2409396 Offline on LCM for positioning InterDigital Inc. (Rapporteur) discussion Rel-19 NR\_AIML\_air-Core](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409396%0d.zip)

- Lenovo thinks that step4 is also dependent on receive something in step3, but is it possible to report step4 proactively. Interdigital explains that for positioning we have LPP provide capabilities that enables both reactive and proactive. So when we discuss the details we would discuss what would trigger step4. Nokia agrees that step4 can be sent unsolicited, but that is still dependent on some network control.

- Nokia thinks that RAN1 needs to provide details on new measurements to decide whether AI positioning is a new method. Huawei thinks that we can leave this up to RAN1 whether to use new positioning method. This was Nokia’s original thinking but based on Rel-16, RAN1 gave us the details but how it mapped to a method and RAN2 made the decision.

- Lenovo think that perhaps one question could be on additional conditions.

* Noted

|  |
| --- |
| **Agreements:**  1: The following procedures for LCM for UE sided model for AI positioning case 1 is the baseline:  Step 1: LMF may request the UE to report the supported functionalities at the UE side by *LPP request capabilities* message.  Step 2: UE sends *LPP provide capabilities* message to LMF with the supported functionalities at the UE side.  Step 3: LMF sends the *LPP provide assistance data* message (which may contain network side additional condition).  Step 4: UE reports the applicable functionality to the LMF by the *LPP provide capabilities* message.  Step 5: The LMF requests the inferred location information using the *LPP request location information* message.  Step 6: UE reports the inferred location using *LPP provide location information* message.  2: Whether the inference configuration is provided in step 3 or/and step 5 is FFS (to be revised based on RAN1 progress).  3: Whether network side additional condition is needed and what it contains is FFS (to be revised based on RAN1 progress).  4: FFS whether LMF controls the UE sending unsolicited LPP provide capabilities (i.e. whether step4 is sent reactively or proactively). FFS the signalling details.  5: RAN2 will decide whether AI positioning will be a new method after further details from RAN1 are received. |

##### **Applicability determination and Functionality management**

[R2-2408038](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408038.zip) Discussion on LCM for positioning use case China Telecom discussion Rel-19 NR\_AIML\_air-Core

*Proposal 1: For UE-sided model for positioning cases, RAN2 assumes that UE decides the applicable functionalities based on NW-side additional conditions, UE-side additional conditions internally known by UE and model availability in device.*

[R2-2408527](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408527.zip) Discussion on LCM for Positioning use case Samsung discussion Rel-19 NR\_AIML\_air-Core

*Proposal. 8: For AI/ML POS Case1, RAN2 wait for RAN1’s progress on functionality management.*

[R2-2408218](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408218.zip) Discussion on LCM for positioning use case ZTE Corporation discussion Rel-19 NR\_AIML\_air-Core

*Proposal 2: For AI/ML positioning use case 1, 2a and 2b, RAN2 to consider the following approaches for functionality-LCM:*

* *LMF activates/deactivates the functionality*
* *LMF allows UE to activate/deactivate the functionality*

[R2-2408098](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408098.zip) Discussion on LCM for positioning CMCC discussion Rel-19 NR\_AIML\_air-Core

[R2-2408142](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408142.zip) Discussion on LCM for Positioning Use Case Fujitsu discussion Rel-19 NR\_AIML\_air-Core [R2-2404342](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2404342.zip)

[R2-2408209](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408209.zip) Consideration on LCM for Positioning use case CATT discussion Rel-19 NR\_AIML\_air-Core

[R2-2408223](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408223.zip) Discussion on functionality LCM for AI/ML enhanced positioning vivo discussion NR\_AIML\_air-Core

[R2-2408313](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408313.zip) LCM for AIML based positioning with UE-sided model Lenovo discussion Rel-19

[R2-2408505](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408505.zip) Lifecycle management for positioning use-cases Fraunhofer IIS, Fraunhofer HHI discussion

[R2-2408527](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408527.zip) Discussion on LCM for Positioning use case Samsung discussion Rel-19 NR\_AIML\_air-Core

[R2-2408543](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408543.zip) LCM for positioning use case Qualcomm Incorporated discussion

[R2-2408548](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408548.zip) LCM for Positioning use case NEC discussion

[R2-2408564](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408564.zip) LCM procedure of AI/ML based positioning Apple discussion Rel-19 NR\_AIML\_air-Core

[R2-2408725](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408725.zip) Support for AI/ML for positioning accuracy enhancement Sony discussion Rel-19 NR\_AIML\_air-Core

[R2-2408837](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408837.zip) Discussion on LCM for Positioning use case Huawei, HiSilicon discussion Rel-19 NR\_AIML\_air-Core

[R2-2408922](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408922.zip) LCM for Positioning Interdigital Inc. discussion Rel-19 NR\_AIML\_air-Core

[R2-2408932](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408932.zip) LCM For Positioning Ericsson discussion Rel-19 NR\_AIML\_air-Core

[R2-2408941](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408941.zip) LCM for Positioning use case AT&T Services, Inc. discussion Rel-19 NR\_AIML\_air-Core

[R2-2409108](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409108.zip) Discussion on Functionality-based LCM for Positioning Use Case CEWiT discussion Rel-19 NR\_AIML\_air-Core

### 8.1.3 NW side data collection

Contributions should focus on the mechanisms and principles identified for data collection for network side model training during rel-18. Contributions should discusss type of data required to be collected for NW sided model and UE sided model (common to NW sided and different). Question to RAN1 should also be identified.

#### **Logging aspects:**

[R2-2407958](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407958.zip) Data Collection for Network Side Model Training OPPO discussion Rel-19 NR\_AIML\_air-Core

*Proposal 5: Only periodic logging is supported for training data collection procedure in R19.*

* Noted

[R2-2408224](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408224.zip) Discussion on UE side data collection vivo discussion NR\_AIML\_air-Core

Proposal 6. To facilitate data filtering and reduce data logging, event-triggered data logging should be supported. And the event-triggered data logging can be sent by periodical reporting.

* Noted

Discussions

- ZTE thinks that we have agreed to stop depending on power state but there is no understanding when the UE restarts. So we shouldn’t exclude the event-triggered logging and thing a bit more.

- Ericsson thinks that from the UE perspective the UE doesn’t have the log all the time and reminds everyone that this is the case for MDT, so we should align as much as possible. Apple agrees. Xiaomi agrees and radio channel conditions can be used as an event trigger. Qualcomm thinks that all events defined are already based on radio channel conditions.

- LG thinks we need to scope down on what is the event and not sure what is the motivation for L1 RSRP. If the event triggered logging is based on power saving or memory status it shouldn’t be specified, it’s up to the UE. Interdigital sees the benefits but the events currently are all based on mobility so they can’t be used as is. Apple indicates that for MDT in some poor radio conditions doesn’t make sense to log the measurements. This is already supported in MDT.

- CMCC asks what is the motivation for event triggered as we need to collect data for both good and bad conditions so we can have a full view and the model needs to work in both conditions. Ericsson agrees with CMCC and this is the use case to aid the gNB and OAM to build a model that can operate in all channel conditions and this should be up to the network. Mediatek agress with Ericsson.

- Oppo thinks that RAN1 model’s are generalized across all the channel models and they are not specific to just certain channel conditions. Qualcomm explains that this is for NW-sided model and this is really up to the network what and how they train the model. Samsung thinks we should ask RAN1. Apple explains that RAN1 already agree that both can be supported. Nokia explains that the NW is not having different models for different channel conditions but rather giving flexibility to collect the data they need.

- Mediatek asks if we can also consider area logging. CATT that from network points of view this can be useful. Xiaomi doesn’t think we need to configure cell list. Nokia thinks we need more discussions. Samsung thinks the network can anyways control the configuration so no need. Apple explains that for MDT the area logging is for another use case.

**Agreements on NW side data collection**

1. Periodic logging is supported for training data collection procedure in R19
2. Event-triggered data logging will be supported. At least radio condition based event triggered logging will be supported. FFS the details of radio condition based event. FFS if other events are supported.

#### **Reporting aspects (on-demand/periodic/event based):**

[R2-2408923](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408923.zip) Data Collection for Network-Sided Model Training for the beam management use case Interdigital Inc. discussion Rel-19 NR\_AIML\_air-Core

*Proposal 2: Only on-demand reporting of the logged measurements will be specified.*

*Proposal 3: The UE indicates the availability of logged data and sends the logged data only on explicit (on-demand) request from the network.*

*Proposal 4: The baseline mechanism for indicating the availability of logged data will be the same as for legacy logged measurements (e.g., indication in RRC complete messages).*

[R2-2409063](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409063.zip) Discussion on Data Collection for NW-side Model Training Futurewei Technologies discussion Rel-19

*Proposal 1: Support event/trigger-based reporting mechanisms in addition to periodical and on-demand request reporting for NW-side data collection.*

[R2-2408210](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408210.zip) Consideration on NW side data collection CATT discussion Rel-19 NR\_AIML\_air-Core

*Proposal 8: Support event-based (e.g. Fulfill the power state, AS buffer condition) availability indicator for AI/ML training data collection.*

*Proposal 9: Legacy messages of UEInformationRequest/UEInformationResponse could be used for on-demand reporting of AI/ML training data collection.*

Discussion on periodic reporting

- Ericsson, ZTE, Vivo, agrees that there is no reason for periodic reporting and it will simplify specification and the discussion on SRB. ZTE thinks that it is better from a resource utilization perspective, the UE can log and when it has resources it can request.

- LG would prefer to periodic as there may be large amount of data. Samsung thinks that periodical reporting is the simplest way. Huawei would prefer to keep periodic reporting and there are also drawbacks on on-demand. This also depends on the network configuration.

- Ericsson thinks that periodicity brings complexity as what happens if there are too much data, you have to wait for the next. In MDT we don’t have periodic reporting.

- Lenovo thinks that periodic reporting is very inefficient way of handling this. The data is not time critical. Also support indication of data UE availability indication.

- Qualcomm thinks that this depends on whether logging is supported in the UE. If the UE doesn’t support logging what’s the way forward for reporting. We should add if logging is supported. LG ask if logging is not supported whether it would be L3. Qualcomm thinks that it can be L3 or L1. Interdigital thinks that if UE doesn’t support loging l3 reporting doesn’t make much sense. Ericsson agrees it makes no sense and it would add a lot of additional work for L3.

- CMCC also supports periodic reporting.

- Xiaomi also doesn’t think periodic reporting is very useful as the UE may not have sufficient data when its time to report.

- Mediatek agrees with Ericsson.

- Interidigital brings up the SRB aspect as if we support periodic reporting we would increase complexity as we have to deal with scheduling of periodic reporting.

- CATT also thinks that the data is not time critical so no need for periodical reporting.

- Nokia also doesn’t think it is useful and wonders what is meant by availability.

- Kyocera doesn’t think that the UE should send this frequently especially when network is congested. Also periodic reporting is not needed especially since this is not critical data.

Discussion on event based

- Xiaomi thinks that it should be at least based on data. Interditial thinks that we agreed that the UE stops the logging so we just need to discuss what the UE does once it stops the logging, it can indicate to the network that it has data or send the data

- Nokia doesn’t agree on only on-demand.

Discussion on whether the UE can initiate logged data transmission or wait for network to send the data

- Qualcomm thinks that you can request data and the network can provide resources when it feels it has resources available. Nokia thinks that this can be based on BSR. Interdigital thinks that would work only if we have a separate SRB, otherwise the network is not aware that the request in BSR is for data collection. Apple thinks that data is buffered in RRC so BSR wouldn’t be able to reflect the amount of data as it calculates only data in PDCP.

- Xiaomi thinks that if the network is loaded the network should not configure the UE to collect data.

- Ericsson thinks that the network knows the UE has data (e.g. for periodic reporting) and it can request the data, but for other cases (event based logging) then the network can be told and it can request.

- Interdigital think we could use the Complete message to send the availability indication. Lenovo thinks that availability indication should provide some information on the amount of data that is there. LG reminds us that we need to discuss what we do with the data when we move to inactive or idle.

- CATT Thinks that when the UE Stops the logging it should indicate availability.

* Periodic reporting of logged data is not supported.
* On-demand reporting of the logged measurements will be specified
* UEInformationRequest/UEInformationResponse is used for on-demand reporting of AI/ML training data collection. FFS of details of the message
* The UE can indicates the availability of logged data to the network to assist network to trigger UEInformationRequest. FFS trigger/definition of availability indication. and FFS how data availability indication is sent to the network.

#### **SRB for reporting:**

[R2-2408077](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408077.zip) Discussion on NW side data collection CMCC discussion Rel-19 NR\_AIML\_air-Core

*Proposal 8: SRB2 is used to transmit the logged data for training.*

[R2-2407958](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407958.zip) Data Collection for Network Side Model Training OPPO discussion Rel-19 NR\_AIML\_air-Core

*Proposal 7: A low priority SRB, e.g. SRB4, is used for training data reporting.*

[R2-2408565](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408565.zip) Further discussion on NW-sided data collection Apple discussion Rel-19 NR\_AIML\_air-Core

*Proposal 13: Considering data collection reporting framework should be forward compatible, introduce a new SRB with configurable priority.*

Discussions on SRB

- ZTE supports using SRB2.

- Huawei supports new SRB as we may have a lot of data.

- Vivo doesn’t see any requirements that can’t be resolved by SRB2. Lenovo is fine with SRB4 or new SRB and we shouldn’t impact NAS procedures that use SRB2. They are higher priority.

- Ericsson is fine with SRB2 as for report for MDT also goes over SRB2. We can use SRB2 but maybe new SRB is also ok.

- Nokia thinks that SRB2 is high priority for NAS procedures and there no latency requirements for data collection, so new SRB.

- Xiaomi thinks that we should agree to a principle that we use lower priority SRB and FFS if new or existing SRB.

- Mediatek, Samsung supports new SRB.

- China Unicom thinks that SRB4 can be re-used, not need to introduce new SRB. Interdigital also thinks SRB4 can be used.

- LG also thinks low priority SRB should be use.

* Low priority SRB will be used. FFS new SRB or use of existing SRB

#### **Content of the data:**

[R2-2407958](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407958.zip) Data Collection for Network Side Model Training OPPO discussion Rel-19 NR\_AIML\_air-Core

*Proposal 11: For data collection for both NW-sided/UE sided BM model training, at least L1-RSRPs and/or beam-IDs needs to be collected by UE. Whether UE needs to collect other metric apart from L1-RSRPs and/or beam-IDs depends on RAN1 inputs.*

*Proposal 9: Send LS to RAN1 asking what is the content of training data collection configuration for BM use cases.*

* Noted

[R2-2408264](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408264.zip) Discussion on NW side data collection Xiaomi discussion

*Proposal 12: UE shall store the NW additional condition when the data is collected.*

*Proposal 13: UE report the collected training data and NW additional condition, under which training data was collected.*

*Proposal 14: UE shall store and report the UE side additional condition, under which training data was collected for UE side data collection.*

- Qualcomm and Nokia think that the network is collecting the data so it knows. Xiaomi doesn’t know which part of the data is collected from each cell.

* Noted

**Agreements on NW side data collection**

1. Periodic logging is supported for training data collection procedure in R19
2. Event-triggered data logging will be supported. At least radio condition based event triggered logging will be supported. FFS the details of radio condition based event. FFS if other events are supported.
3. Periodic reporting of logged data is not supported.
4. On-demand reporting of the logged measurements will be specified
5. UEInformationRequest/UEInformationResponse is used for on-demand reporting of AI/ML training data collection. FFS of details of the message
6. The UE can indicates the availability of logged data to the network to assist network to trigger UEInformationRequest. FFS trigger/definition of availability indication. and FFS how data availability indication is sent to the network.
7. Low priority SRB will be used. FFS new SRB or use of SRB4
8. For data collection for both NW-sided/UE sided BM model training, at least L1-RSRPs and/or beam-IDs needs to be collected by UE. FFS if other data needs to be collected based on RAN1 progress.

Depending on progress

#### **Single or Multiple Measurement configurations and dynamic (de)activation:**

[R2-2409162](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409162.zip) NW-side data collection for beam management and positioning Ericsson discussion

Proposal 3 No need to introduce multiple configurations for NW-side data collection.

Proposal 4 No need to introduce dynamic activation/deactivation mechanism for NW-side data collection.

[R2-2408391](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408391.zip) On Network Side Data Collection Qualcomm Incorporated discussion Rel-19

Proposal 2: For the training data collection, UE can be configured with multiple CSI RS configurations and CSI report configurations.

Proposal 3: For NW-side training data collection for beam management, the dynamic activation/deactivation of training data collection and logging/reporting should be supported to reduce redundancy in training data. The dynamic activation/deactivation of training data collection and logging/reporting should be randomazied to reduce redundancy in training data.

[R2-2408838](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408838.zip) Discussion on NW-sided data collection for training Huawei, HiSilicon discussion Rel-19 NR\_AIML\_air-Core

Proposal 4: For one specific use case, if there are more than one data collection configuration at the UE side, the dynamic activation/deactivation among these data collection configurations are not supported for NW side data collection.

#### **Positioning:**

[R2-2408544](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408544.zip) Data Collection for NW-side models Nokia discussion Rel-19 NR\_AIML\_air-Core

Proposal 14: For AI/ML positioning, until RAN#106, RAN2 should focus their specification efforts on positioning Case 1 (UE-based positioning with model on UE-side) while leaving positioning Case 3a and Case 3b to RAN3.

[R2-2408315](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408315.zip) Data Collection for NW-sided model training in positioning Lenovo discussion Rel-19

Proposal 1 For (case 3a) NG-RAN node assisted positioning with gNB-side model, RAN2 assumes gNB can retrieve the required training data from LMF via NRPPa with details upon RAN3.

Proposal 2 RAN2 waits for RAN1 progress before discussing the possible LPP impact, if any, to support training data collection for case 3a.

Proposal 3 For (case 3b) NG-RAN node assisted positioning with LMF-side model, RAN2 supports LMF collecting training data (e.g., label and time stamp) from PRU and non-PRU UE with estimated location via LPP protocol.

R2-2408615 Disuccsion on NW side data collection Samsung discussion Rel-19 NR\_AIML\_air-Core

[R2-2408039](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408039.zip) Discussion on NW-side data collection for AI/ML based beam management China Telecom discussion Rel-19 NR\_AIML\_air-Core

[R2-2408143](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408143.zip) Discussion on NW side Data Collection for Beam Management Fujitsu discussion Rel-19 NR\_AIML\_air-Core

[R2-2408144](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408144.zip) Discussion on NW side Data Collection for Positioning Fujitsu discussion Rel-19 NR\_AIML\_air-Core [R2-2406539](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2406539.zip)

[R2-2408176](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408176.zip) Discussion on NW-side data collection Spreadtrum Communications discussion Rel-19

[R2-2408314](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408314.zip) Data Collection for NW-sided model training in beam management Lenovo discussion Rel-19

[R2-2408315](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408315.zip) Data Collection for NW-sided model training in positioning Lenovo discussion Rel-19

[R2-2408377](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408377.zip) Further Consideration on NW side Data Collection ZTE Corporation discussion Rel-19 NR\_AIML\_air-Core

[R2-2408418](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408418.zip) AIML MDT-based data collection for NW-side model NEC discussion Rel-19 NR\_AIML\_air-Core

[R2-2408485](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408485.zip) Enhanced MDT for Data collection for Network Side Model Training MediaTek (Hefei) Inc. discussion

[R2-2408634](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408634.zip) Discussion on Data Collection for NW-side Model SHARP Corporation discussion Rel-19

[R2-2408670](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408670.zip) Discussion on NW side data collection for positioning TCL discussion

[R2-2409039](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409039.zip) NW side data collection LG Electronics discussion Rel-19 NR\_AIML\_air-Core

### 8.1.4 UE side data collection

*No contributions are expected for this AI. Waiting for response from SA WGs. Type of data required to be collected for UE sided model can be discussed in contributions in 8.1.3*

### 8.1.5 Model transfer/delivery

*Contributions should at least provide further analysis of the solutions captured in the TR (section 7.2.1.4 in the TR).*

**RAN2 identified solutions from the TR**

*- Solution 1a: gNB can transfer/deliver AI/ML model(s) to UE via RRC signalling.*

*- Solution 2a: Core Network (except LMF) can transfer/deliver AI/ML model(s) to UE via NAS signalling.*

*- Solution 3a: LMF can transfer/deliver AI/ML model(s) to UE via LPP signalling.*

*- Solution 1b: gNB can transfer/deliver AI/ML model(s) to UE via UP data.*

*- Solution 2b: Core Network (except LMF) can transfer/deliver AI/ML model(s) to UE via User Plane (UP) data.*

*- Solution 3b: LMF can transfer/deliver AI/ML model(s) to UE via UP data.*

*- Solution 4a: OTT server can transfer/deliver AI/ML model(s) to UE (e.g., transparent to 3GPP).*

*- Solution 4b: OAM can transfer/deliver AI/ML model(s) to UE.*

**RAN1 identified cases from the TR**

***Table 4.3-1: Model delivery/transfer cases***

|  |  |  |  |
| --- | --- | --- | --- |
| ***Case*** | ***Model delivery/transfer*** | ***Model storage location*** | ***Training location*** |
| ***y*** | *model delivery (if needed) over-the-top.* | *Outside 3GPP Network* | *UE-side / NW-side / neutral site* |
| ***z1*** | *model transfer in proprietary format.* | *3GPP Network* | *UE-side / neutral site* |
| ***~~z2~~*** | *~~model transfer in proprietary format.~~* | *~~3GPP Network~~* | *~~NW-side~~* |
| ***~~z3~~*** | *~~model transfer in open format.~~* | *~~3GPP Network~~* | *~~UE-side / neutral site~~* |
| ***z4*** | *model transfer in open format of a known model structure at UE, i.e., an exact model structure as has been previously identified between NW and UE and for which the UE has explicitly indicated its support.* | *3GPP Network* | *NW-side* |
| ***~~z5~~*** | *~~model transfer in open format of an unknown model structure at UE, i.e., any other model structure not covered in z4, including any model structure that is only partially known.~~* | *~~3GPP Network~~* | *~~NW-side~~* |

*Z2, Z3 and Z5 have been down prioritized in RAN1*

#### **Need/requirements:**

[R2-2408839](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408839.zip) Discussion on model transfer and delivery Huawei, HiSilicon discussion Rel-19 NR\_AIML\_air-Core

*Observation 1: Model transfer/delivery is mainly for two-sided model. From RAN1 perspective, model transfer is needed at least for some (e.g., Option 3b) of inter-vendor training collaboration option(s) of CSI compression using two-sided model (if supported).*

*Proposal 1: For now, RAN2 can wait for more RAN1 inputs on model transfer/delivery, such as more analysis on model transfer cases and possible content.*

* Noted

[R2-2408378](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408378.zip) Consideration on Model Transfer and delivery in RAN2 ZTE Corporation discussion Rel-19 NR\_AIML\_air-Core

*Proposal 1: Based on the current progress made in RAN1, The RAN2 discussion on model transfer/delivery shall be focused on two-side model (e.g. CSI compression) with a known model structure unless there is any extra requirement from RAN1 is identified.*

* Noted

[R2-2408924](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408924.zip) Model transfer/delivery Interdigital Inc. discussion Rel-19 NR\_AIML\_air-Core

*Proposal 1: RAN2 to postpone the discussion of the pros/cons of the different model/transfer solutions and any down selection until the requirements for model/transfer delivery are clarified by RAN1.*

*Proposal 2: For a one-sided model at the UE, there is no requirement for model content/format visibility by the MNO.*

*Proposal 3: RAN2 to ask RAN1 about the expected model size and frequency of model update for beam management with UE-sided model and positioning use case 1, when the model is delivered over Uu.*

* Noted

Discussions on requirements

- Lenovo agrees that we should postpone until we have more info from RAN1.

- Qualcomm agrees that it is mainly for two sided models and we should prioritize training aspects. RAN1 has reached the saturation on discussing this.

- Qualcomm explains that the structure and model is UE implementation and it should not be visible.

- Tmobile thinks that one sided model should be important and the principles of data collections should apply, especially for monitoring. Qualcomm explains that monitoring is per feature and not per model.

- CMCC thinks that the training is done on the OTT server and is sent transparently to the UE so there should be no requirement on visibility or controllability. For two sided it has to be visible and controllable. Huawei agrees with CMCC.

- Verizon thinks that controlabiliyt is needed but visibility is more related to what the model does for example, so that has to be studied a bit more. SA5 is looking into something called explainability. BT is aligned that some visibility will be required, but visibility may be a different definition than data collection.

- Samsung thinks that without some understanding of the data structure will be needed before discussing signalling. The focus of RAN1 is z4.

- KDDI thinks that some visibility for monitoring purposes is needed.

- ZTE thinks that case y there is no visibility needed. But case 4 it is clear that visibility should be full.

- Apple thinks this is different from data collection, but RAN1 will define the format, open or not. Operators should raise this issue in RAN1. We should focus on two sided model.

- Huawei asks whether operators would like to have visibility for z1 as the format is proprietary.

- NTT Docomo thinks that there is no reason for operator to have visibility for Z1 and y.

- Oppo thinks that operator may have no interest in seeing the model for z1 but we should discuss separately the subsequent steps, activate/deactive. We should discuss the transfer of the model itself and control of the model (activation/deactivation) separately. Qualcomm agrees to separate and one reason to have controllability is based on whether we need special QoS for this.

- Vivo thinks that we should start with two sided model, but can also consider case y as we are still in a study time.

- Mediatek thinks that we should focus on one sided as details for two sided and collaboration cases are still being discussed. Controllability and visibility depend on the collaboration level, y there should be none.

- Interdigital asked the difference between firmware upgrade and model update and the difference is that firmware upgrade happens very rarely but the model updates we don’t know how frequent it is and how large it is. Samsung doesn’t expect the updates are frequent.

- BT asks why are talking about case y, as it is out of 3GPP control.

- Nokia thinks that model updates are done as OTT updates.

- Ericsson thinks that if we want to focus on one-sided we should not focus on the RAN1 model that are for collaboration levels, we should instead link it to the data collection discussion. And it makes sense that if we have controllability for the UL for data collection we should have it for DL for model delivery. Mediatek agrees that we should link it to the data collection.

- CATT thinks we should focus on Z4.

- Tmobile thinks this is related to software management. What is important is how it is performing and we are talking about a lot of updates across the all the sites.

- Qualcomm thinks that it is important to discuss two sided as for one sided we already have a solution.

- Xiaomi thinks that we only need to determine whether we will need any specification effort. Case y doesn’t have any.

- Mediatek think that meta data information can be visible and ffs what that data is. Lenovo and interdigital wonder why the operator cares about the meta information as this is important for UE. And what is the operator going to do with the meta information. Mediatek esplains this is for collaboration level z1.

- Ericsson asks if we should discuss data collection for 2 side.

- Nokia explains that we don’t care which model the UE using, but just that it is performing well.

#### **Prioritization:**

[R2-2408566](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408566.zip) Discussion on Model transfer / delivery Apple discussion Rel-19 NR\_AIML\_air-Core

*Proposal 1: For one-sided model, only 3GPP transparent solution (i.e. RAN2 solution 4a and RAN1 Case y) is supported in Rel-19.*

*Proposal 2: For two-sided model (CSI compression), RAN2 prioritize solution 1a due to below justifications:*

*• Solution 1a is aligned with model transfer/delivery Case z4 which is prioritized in RAN1.*

*• Solution 1b can’t work in Rel-19 because it challenges the basic concept of PDU session (i.e. UP tunnel) and basic UP protocol stack.*

*• Other signaling solutions between UE and CN/LMF/OAM (i.e. solution 2a/2b/3a/3b/4b) are precluded because they are not aligned with use case of CSI compression which is only between UE and gNB.*

[R2-2408211](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408211.zip) AI/ML model transfer/delivery CATT discussion Rel-19 NR\_AIML\_air-Core

*Proposal 3: Solution 1a, 2a and 3a are prioritized for model transfer/delivery for further study for Model transfer/delivery.*

[R2-2407959](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407959.zip) Further analysis on Model Transfer/Delivery OPPO discussion Rel-19 NR\_AIML\_air-Core

*Proposal 4: RAN2 agrees to deprioritize solution 2a/2b for model transfer/delivery in R19.*

#### **Mapping of solutions (1a to 4b) to collaboration levels (y, z1 to Z5):**

[R2-2409165](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409165.zip) On model transfer/delivery Ericsson discussion

*Proposal 7 It is recommended that RAN2 waits for progress on the feasibility of data collection (e.g. option 1b, 2 and 3 in [1]), before discussing feasibility of model transfer solutions 2a/2b and 4b.*

*Proposal 8 RAN2 to wait more progress on RAN1, before examining the relevance of the various model transfer/delivery solutions in relation to the inter-vendor collaboration options addressed in RAN1.*

[R2-2408486](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408486.zip) Further Analysis on Model Transfer/Delivery Solutions MediaTek (Hefei) Inc. discussion

*Observation 1: Model transfer/delivery case z2, z3 and z4 are deprioritized by RAN1 in Rel-19 and model transfer/delivery case y, z1 and z4 are being studied.*

*Observation 2: The RAN1 study on case z4, including its necessity, feasibility, and benefits, has not yet been concluded.*

*Proposal 1: RAN2 prioritizes cases y and z1 as the primary scenarios for analyzing various model transfer/delivery solutions.*

[R2-2408392](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408392.zip) Discussion on Model Delivery/Transfer Qualcomm Incorporated discussion Rel-19

*Proposal 11: Solution 4a is the model delivery/transfer solution for delivering/transferring the UE-part model of the two-sided models to the UE (at least when the UE-part model of the two-sided model is trained by the UE-side) for inference if RAN2 determines that model delivery/transfer case z1 is not supported.*

*Proposal 12: Deprioritize all control plane-based solutions for the delivery/transfer of the UE-part model of two-sided models (at least when the UE-part model of the two-sided model is trained by the UE-side) if RAN2 determines that model delivery/transfer case z1 is supported.*

[R2-2408031](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408031.zip) AI/ML model transfer Xiaomi discussion Rel-19 NR\_AIML\_air-Core

[R2-2408040](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408040.zip) Discussion on model transfer/delivery China Telecom discussion Rel-19 NR\_AIML\_air-Core

[R2-2408078](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408078.zip) Discussion on AIML model transfer delivery CMCC discussion Rel-19 NR\_AIML\_air-Core

[R2-2408225](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408225.zip) Further analysis of model transfer/delivery vivo discussion NR\_AIML\_air-Core

[R2-2408552](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408552.zip) AIML Model Transfer NEC discussion

[R2-2408555](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408555.zip) Model transfer/delivery Nokia discussion Rel-19 NR\_AIML\_air-Core

[R2-2408691](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408691.zip) Downselection of the AI\_ML model delivery options BT plc discussion Rel-19

[R2-2409040](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409040.zip) Model transfer delivery LG Electronics discussion Rel-19 NR\_AIML\_air-Core

[R2-2409067](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409067.zip) Discussion on model transfer/delivery Futurewei Technologies discussion Rel-19

[R2-2409154](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409154.zip) Model transfer/delivery: key issues and way forward for RAN2 Samsung R&D Institute UK discussion

## 8.2 Ambient IoT

(FS\_Ambient\_IoT\_solutions,leading WG: RAN1; REL-19; SID: [RP-240826](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_103/Docs/RP-240826.zip))

Time budget: 2.5 TU

Tdoc Limitation: 4 tdocs

### 8.2.1 Organizational

LS, Rapporteur input, including workplan, etc.

[R2-2407907](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407907.zip) Reply LS on Clarification of requirements for Ambient IoT (R1-2407364; contact: Ericsson) RAN1 LS in Rel-19 FS\_Ambient\_IoT\_RAN, FS\_Ambient\_IoT\_solutions To:SA2 Cc:SA1, SA3, RAN2, RAN3

* Noted

[R2-2407934](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407934.zip) Reply LS on Clarification of requirements for Ambient IoT (S1-242527; contact: Ericsson) SA1 LS in Rel-19 FS\_Ambient\_IoT\_solutions To:SA2 Cc:SA3, RAN1, RAN2, RAN3

* Noted

[R2-2407984](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407984.zip) TP for TR 38.769 update Huawei, CMCC, T-Mobile USA pCR Rel-19 38.769 1.0.0 FS\_Ambient\_IoT\_solutions

* Use as baseline for email discussion and update with further agreements from RAN2#127bis
* [POST127bis][018][AIoT] TP for TR (Huawei)

Intended outcome: TP to be submitted for next meeting capturing agreements from RAN2#127

Deadline: long

[R2-2409405](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409405.zip) Reply LS to RAN2 on data block sizes for Ambient IoT (R1-2409250; contact: MediaTek) RAN1 LS in Rel-19 FS\_AmbientIoT, FS\_Ambient\_IoT\_solutions To:RAN2 Cc:SA2

* Noted

### 8.2.2 Functionality aspects

Contributions should focus on the functionalities required for A-IoT devices, AS ID, segmentation/reassembly candidate solution/feasibility, if needed, information visible to reader , higher layer repetition, message size/status indication, energy status report, etc.?

**AS ID**

[R2-2407985](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407985.zip) Report of [POST127][033][AIoT] Random Access Huawei, HiSilicon discussion Rel-19 FS\_Ambient\_IoT\_solutions

*Proposal 8: It is RAN1 final decision on whether the “AS ID” is needed for the purpose of D2R scheduling and R2D reception, while RAN2 just attempts to study some assumptions:*

* RAN2 assumes this “AS ID” can be a short AS layer ID, rather than the upper layer device ID.*

*From RAN2 perspective, there are two candidate options for this “AS ID”, after the reader addresses the contention by Msg2 in CBRA case:*

* Option 1: the random ID in Msg1 can be reused;*

* Option 2: reader assigns this “AS ID”, which is unique among the devices under service.*

* From RAN2 perspective, there are two candidate options for this “AS ID” in contention-free access case:*

* Option 1: a random ID in Msg1 can be reused;*

* Option 2: reader assigns this “AS ID”. FFS via which R2D message.*

- Huawei explains that the intention is to just provide the both options and we will not downselect. Vivo doesn’t think that we can only take these two.

- ZTE thinks that we should use the same option and not define different option for different RA procedure. Once we downselect we should use it for all RACH flavor. Vivo thinks that CBRA and CFRA we can use different option. Mediatek thinks that we should think of it the other way, they can use the same option so they should.

- Samsung thinks we should list the option but not rush to downselect.

- Vodafone thinks that we need to think of complexity as this AS ID is not so easy and we should consider security.

- Qualcomm would love to have a unified solution but for CFRA there is no random ID. ZTE thinks if it is gets divergent then the preference is to get rid of CFRA.

Discussion

- Samsung thinks that this is used for scheduling purposes. Apple thinks that this is also used for other purposes like filtering.

- Vodafone and Ericsson ask why is this AS ID is needed. Ericsson thinks that the only reason for needing this is for subsequent communication. This brings a lot of complexity for the reader as it can no longer be transparent as you have to map it to an AS ID. Mediatek agrees that there is an impact on the reader, but it is clear that we cannot use the full upper layer ID as it is too long and there are security concerns.

- CMCC thinks it is not clear whether the ID is visible to MAC layer. ZTE thinks that those details are up to RAN1 and the key is the length of the ID. Is this being discussed by RAN1? Huawei thinks that it can be up to RAN1 and we provide the options in the TR.

- NTT docomo is concerned with using partial ID as part of the ID never changes. Qualcomm thinks that some part changes.

- LG asks if we can use AS ID for the feedback for the previous RA discussion and wonders if these feedback messages are dedicated. Huawei says that yes it can be used for feedback. ZTE explains that there are different phases, if failure is for msg1 then there is no dedicate AS ID, but for msg3 failure there may be and it can be used.

|  |
| --- |
| **Agreements on AS ID**   * RAN2 assumes that if “AS ID” is defined it is used at least for purpose of D2R scheduling and R2D reception. Up to RAN1 to decide whether a “AS ID” is defined. * RAN2 assumes this “AS ID” should be a short AS layer ID, rather than the full upper layer device ID. FFS on the length. FFS if AS ID can be based on partial upper layer device ID. * From RAN2 perspective, following options are possible for “AS ID”:   Option 1: a random ID if used in Msg1 can be reused;  Option 2: reader assigns this “AS ID”. FFS via which R2D message.   * RAN2 will aim to define one common design for all RA procedures (if technically possible) |

[R2-2408226](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408226.zip) Discussion on functionality aspects for Ambient IoT vivo discussion FS\_Ambient\_IoT\_solutions

Proposal 1 The Device AS short ID allocation and uniqueness is under reader control, i.e., the AS short ID is randomly selected by device and confirmed by reader (in CBRA case), or is allocated by reader directly (in CFRA case).

Proposal 2 The Device AS short ID can be released on a timer expiry or explicit indication from reader.

[R2-2408952](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408952.zip) Ambient IoT data transmission after initial access MediaTek Inc. discussion Rel-19 FS\_Ambient\_IoT\_solutions

Proposal 2: Data can be transferred between the reader and device in the R2D direction as long as the device’s AS identifier (random number or value assigned by the reader) remains valid.

Proposal 6: The reader can page the device by AS identifier if the AS identifier is valid.

**Energy Status Reporting**

[R2-2408446](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408446.zip) Energy Status report Vodafone, Qualcomm, Nokia, Interdigital, Xiaomi, Samsung, Deutsche Telekom, ZTE discussion Rel-19

*Proposal 1: Taking into account the current progress of RAN1 work, it is proposed to progress the discussion on energy status transmission independent of RAN1 discussion to the UE states.*

*Proposal 2: Capture it in the TR 38.769*

*Proposal 3: It is proposed to enable the UE to include energy status in D2R messages (e.g. MSG1,MSG3 and Command Response message).*

*Proposal 4: It is proposed to leave the exact choice and definition to the work item phase and discuss if any of the examples above could be captured in the 38.769 already.*

* Noted

[R2-2408395](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408395.zip) Functionality for Ambient IOT InterDigital discussion Rel-19 FS\_Ambient\_IoT\_solutions

*Proposal 5: RAN2 capture at least the following options for energy status indication in the SI phase and can further down-select between them in the WI phase: a) Indication (e.g., one bit) that a device is unable to perform a requested operation; b) Indication of the amount of time or energy remaining at the device.*

* Noted

Discussions

- CMCC doesn’t think that type 1 can estimate the energy. Also wonders that the network has to support this feature. The device will use more energy to report.

- Vodafone thinks that this is a big community and we don’t design just for one device type. Also we can make it open when you send it.

- Huawei shares the same concerns with CMCC with the feasibility to estimate, so the only reasonable solution is the 1bit. Qualcomm thinks that 1 bit estimation is not that hard.

- Futurewei that having this in msg1 is not very useful. Qualcomm thinks that it is because of msg0. CATT thinks this is dependent on UE capability (device type). Vodafone explains that we don’t have UE capability that we send the network.

- Ericsson thinks that we should capture in the TR the use cases, what is this intended for. We should also capture the alternative.

- CMCC thinks that this should be under network control. Vodafone thinks that this is quite a stage 3 details and we should keep it simple. Nokia agrees with Vodafone. Mediatek thinks that optional means that the reader can chose not to do anything with that information.

- NTT docomo supports but asks about command response and whether it makes more sense to report it to the CN by upper layer message.

- Sony thinks that this 1bit is not defined.

- Telit is concerned that if we start talking about network control and capabilities we are making it a complicated closed loop system. Qualcomm agrees with the concern.

Agreements on energy bit indication

* Capture in the TR the option: the device may include energy status indication in D2R messages (e.g. MSG1,MSG3 and Command Response message), if the device can. 1 bit indication can be captured in the TR. We will capture the use case in the TR. FFS whether it is reader controlled.

**Need of MSG Size**

[R2-2408145](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408145.zip) Discussions on Functionality Aspect of Ambient IoT Fujitsu discussion Rel-19 FS\_Ambient\_IoT\_solutions

Proposal 4: The expected or maximum D2R message size is visible to reader from CN.

[R2-2408448](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408448.zip) Discussion on AIoT functionalities OPPO discussion

Proposal 3 It’s beneficial to support the remaining message size reporting, with the assumption that the upper layer packet size is non fixed.

**Scenario/Use for MSG Size**

[R2-2408099](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408099.zip) Discussion on functionality for A-IoT CMCC discussion Rel-19 FS\_Ambient\_IoT\_solutions

Proposal 6: Without considering segmentation, the message size reporting is not needed for A-IoT.

Proposal 7: If the segmentation is considered, message size reporting can be considered to inform reader whether there is data to be transmitted.

[R2-2407946](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407946.zip) Discussion on the Functionality Aspects for Ambient IoT CATT discussion Rel-19 FS\_Ambient\_IoT\_solutions

Proposal 4: Upon receiving the command service, e.g., read, the device is allowed to send the msg size indication to the reader.

Proposal 5a: The device should be allowed to send the msg size indication along with A-IoT Msg1 of 3-step CBRA.

Proposal 5b: The device should be allowed to send the msg size indication along with A-IoT Msg1 of 2-step CBRA, if the PDRCH is not large-enough to send the supposed data.

Proposal 5c: The device should be allowed to send the msg size indication along with the data transmission of CFRA, if the PDRCH is not large-enough to send the whole supposed data.

Proposal 5d: The device should be allowed to send the msg size indication along with the transmission of A-IoT Msg3, if the PDRCH is not large-enough to send the whole supposed data.

Proposal 5e: For the procedure of inventory + command, the device should be allowed to send the msg size indication along with the data transmission, if the PDRCH transmission after receiving the command is not large-enough to send the whole supposed data.

**Information Visible to the reader**

[R2-2408546](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408546.zip) Considerations on functionality aspects for Ambient IoT Lenovo discussion Rel-19 FS\_Ambient\_IoT\_solutions

Proposal 5: Command type information (e.g., read/write/disable) from CN should be visible to the reader.

[R2-2408253](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408253.zip) A-IoT functionalities Huawei, HiSilicon discussion Rel-19

Proposal 4b: Whether the following information should be visible to the reader and useful for AS procedure can be decided in Stage-3 phase:

 Information 1: command type, which is pending on whether the command response from device is optional or mandatory in different command types;

 Information 2: periodicity to execute the service request, which is up to RAN3/SA2 discussion;

 Information 3: device type/capability, which can be discussed/checked after the completion of physical layer specification design.

[R2-2408580](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408580.zip) Functional Aspects of Ambient IoT Apple discussion Rel-19 FS\_Ambient\_IoT\_solutions

Proposal 4 RAN2 clarify that “whether it targets one more than one device” can be realized by providing “group ID/device ID” to the AS layer of reader w/o new explicit indication.

**Repetition/retransmission**

[R2-2408166](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408166.zip) Discussion on the functionalities required for Ambient IoT Spreadtrum Communications discussion Rel-19

Proposal 5: R2D repetition can be up to reader implementation.

Proposal 6: D2R repetition can be triggered by reader indication or up to device implementation.

**Protocol stack**

[R2-2408191](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408191.zip) Discussion on A-IOT functionality aspects Xiaomi discussion

Proposal 11: RAN2 to confirm there is no AS layer on top of A-IOT MAC layer.

[R2-2409021](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409021.zip) Views on Functionality Aspects of Ambient IoT Qualcomm Incorporated discussion FS\_Ambient\_IoT\_solutions

Proposal 3: RAN2 assumes new AIoT upper layer protocol (e.g. Command Protocol) between AIoT device and AIoT Controller/AIoT Application Function will be introduced by SA2/3.

**Segmentation**

[R2-24090](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409013.zip)13 Discussion on segmentation functionalities for Ambient IoT Samsung Electronics Czech discussion Rel-19 FS\_Ambient\_IoT\_solutions

*Proposal 1: Do not support sequence number for A-IoT segmentation functionalities.*

*Proposal 2: Introduce segment type (e.g. not last segment or last segment) for A-IoT segmentation functionalities.*

- LG thikns that reader can know so doesn’t need to be indicated. Nokia agrees.

- Qualcomm thinks that we can use the principle of having more data to also indicate no more segment are left. We can discuss the details later.

- CATT also agrees that the reader needs to know that the segmentation is ongoing, so the reader can combine all the segments.

- Apple thinks that this how it will end up being one bit. ZTE agrees it is one bit to include at the end this is the last segment and this is how we avoid segment numbers.

- Oppo wonders if for some cases like inventory we don’t need segmentation as it is fixed size.

- MEdiatek and ZTE thinks that a last segment indication is needed and we shouldn’t distinguish between cases as it will be complex.

- CMCC thinks that this depends on whether message size is supported.

- Vivo thinks it is useful for the device to know as it has to allocate resource, but remaining size would be very useful.

- Huawei thinks that we need to separate the discussion on message size and indication. If we remove SN then we need to indicate last segment.

- Vodafone doesn’t think that there is a need to send exact number of bits. We should use 1 bit max for this

- Xiaomi also thinks it needs to be supported.

- Interdigital thinks that there is a need to indicate but how we do it can be discussed later as there is overlap with message size discussion.

- Ericsson thinks that we need indication and it should be inband indication.

- Samsung asks how the reader knows that the data has been segmented.

- ZTE points out that even with message size we can’t indicate exact size so we need bit anyways.

- LG thinks that there is a problem if the first part of segment is lost and the ACK doesn’t solve the problem as if the segment is lost and this is why we have two bits in RLC. Qualcomm has the same concern. Oppo thinks that this depends on message size. ZTE thinks that we can make it work with one bit with a stop and wait protocol.

*Proposal 3: Do not support segment number and the number of segments for A-IoT segmentation functionalities.*

*Proposal 4: Introduce explicit feedback (e.g. ACK) to trigger next segment transmission for A-IoT segmentation functionalities.*

- Apple thinks that we should discuss retransmissions separately, if segments are lost it can be detected.

*Proposal 5: RAN2 to discuss whether retransmission of the segment (i.e., sending it as new transmission from MAC perspective) is supported or not for A-IoT segmentation functionalities.*

*Proposal 6: Do not support AS layer buffering for A-IoT segmentation functionalities, i.e., all buffered segment(s) are stored in upper layer(s).*

- Fujitsu would like to confirm that this can be done with non volatile memory. ZTE thinks this is the understanding but we don’t need to specify. The intention is to not stall the channel coding bits.

*Proposal 7: Consider both D2R and R2D segmentation for A-IoT functionalities during SI phase.*

* Do not support sequence number for A-IoT segmentation functionalities.
* Do not support segment number and the number of segments for A-IoT segmentation functionalities.
* Capture the following option in TR: An indication is used to indicate to reader whether the data is segmented and whether it is last segment. FFS the details on how this is designed and number of bits (one or two).
* RAN2 assumes that for the device we will not support AS layer buffering for A-IoT segmentation functionalities, i.e., all buffered segment(s) are stored in upper layer(s).

[R2-2408099](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408099.zip) Discussion on functionality for A-IoT CMCC discussion Rel-19 FS\_Ambient\_IoT\_solutions

*Proposal 3: RAN2 focuses on D2R segmentation discussion only.*

- Vodafone and Huawei agree with this proposal.

*Discussion on LS from RAN1 on segmentation*

- Vivo thinks we can just progress with how segmentation would look like.

- Apple thinks it is concerning that there is no lower bound for RAN1 as we don’t even know if we can send an ID without segmentation. Qualcomm would be surprised if there is a 1 bit TBS but there is no guarantee on the minimum TB so we need to have a way to partially transmit the message.

- Futurewei points out that there is no condition defined under which 1000 bits can be supported so the assumption that several hundreds can be supported. So it is around the several hundreds bits that we have to discuss whether we need segmentation.

- Mediatek thinks that we can determine a minimum size requirement from RAN2 perspective. We can progress what a segmentation solution would look like. It seems clear that we won’t always support 1000 bits so we will need segmentation.

- ZTE points out that the key is that it is up to the reader to decide and the TB size would be dynamic. Also shares the concerns for the lower bound, but it means that we may need to go down to very small number. We should be able to say that initial message ID etc shouldn’t be segmentation.

- Huawei thinks that we should first study.

* RAN2 will study segmentation and RAN2 will need to give some guidance once there is more clarity on solution, on the minimum TB size.

*Discussion on whether we support DR2 segmenation or also R2D*

- Samsung thinks that we still don’t know about SA2 so we may need to consider R2D as well.

- Vodafone, CMCC, Huawei think that we should focus on DR2

- Mediatek thinks we need to study both.

- Nokia thinks we can start D2R and then depending on use case we can consider R2D.

- CATT, Xiaomi thinks that R2D would bring more complexity to device.

- Apple thinks that D2R is quite small so we may not need to do segmentation so R2D may be more meaningful.

- ZTE agrees that D2R is easier and it is up to the reader, so we can put a restriction on the reader to fit the data in one TB. All we need to do is support the functionality and then we can decide the direction.

- Oppo thinks that complexity is the same in both directions so we are waiting for SA2 response. Qualcomm thinks the devices are simple devices and the reader will be either a gNB or UE so it would be less complex for reader to support it.

- Interdigital also thinks that we start with D2R and the analysis in RAN1 was done on the energy availability on the device.

- Ericsson agrees to focus on simple D2R but we should make sure that it would work on both directions.

- LG thinks that we can avoid segmentation if we know the message size.

- Mediatek thinks that we need to speak to our RAN1 colleagues to understand the constrains of the reader (e.g. coverage).

* Study the functionality of segmentation in the MAC. We focus on D2R and can consider the support for R2D later depending on SA2 and RAN1. The solution should aim to be applicable to both direction (i.e. unified solution), if we decide to support on both directions.

Agreements on segmentations

1. RAN2 will study segmentation and RAN2 will need to give some guidance once there is more clarity on solution, on the minimum TB size.
2. Study the functionality of segmentation in the MAC. We focus on D2R and can consider the support for R2D later depending on SA2 and RAN1. The solution should aim to be applicable to both direction (i.e. unified solution), if we decide to support on both directions.
3. Do not support sequence number for A-IoT segmentation functionalities.
4. Do not support segment number and the number of segments for A-IoT segmentation functionalities.
5. Capture the following option in TR: An indication is used to indicate to reader whether the data is segmented and whether it is last segment. FFS the details on how this is designed and number of bits (one or two).
6. RAN2 assumes that for the device we will not support AS layer buffering for A-IoT segmentation functionalities, i.e., all buffered segment(s) are stored in upper layer(s).

**DO-A Gap Analysis**

[R2-2408253](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408253.zip) A-IoT functionalities Huawei, HiSilicon discussion Rel-19

Proposal 8: It is observed that at least the A-IoT paging is an aspect/part of the current design which is not sufficient for the DO-A use case.

[R2-2408058](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408058.zip) Ambient-IoT Functionality Aspects NEC Corporation discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2408145](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408145.zip) Discussions on Functionality Aspect of Ambient IoT Fujitsu discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2408275](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408275.zip) Discussions on A-IoT functionality HONOR discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2408291](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408291.zip) Stop-and-wait protocol for UP ZTE Corporation, Sanechips, China Unicom, Nordic Semiconductor ASA discussion

[R2-2408355](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408355.zip) Discussion on energy status report and data status indication ASUSTeK discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2408448](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408448.zip) Discussion on AIoT functionalities OPPO discussion

[R2-2408449](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408449.zip) Discussion on AIoT functionalities OPPO discussion

=> Withdrawn

[R2-2408453](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408453.zip) Inventory procedure without device ID Vodafone discussion Rel-19

[R2-2408458](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408458.zip) Discussion on Ambient IoT device AS ID and device energy status report Panasonic discussion Rel-19

[R2-2408482](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408482.zip) Discussion on A-IoT functionality ETRI discussion Rel-19

[R2-2408504](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408504.zip) AIoT Functionality Aspects Nokia France discussion Rel-19

[R2-2408542](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408542.zip) Energy status report for Ambient-IoT Quectel discussion

[R2-2408671](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408671.zip) Discussions on Energy Status Report in Ambient IoT Devices ROBERT BOSCH GmbH discussion Rel-19

[R2-2408701](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408701.zip) Discussion on A-IoT functionalities NTT DOCOMO INC. discussion Rel-19

[R2-2408706](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408706.zip) Considerations on functionality aspects for Ambient IoT Sony discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2408829](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408829.zip) Discussion on functionality for ambient IoT Google Ireland Limited discussion FS\_Ambient\_IoT\_solutions

[R2-2408850](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408850.zip) Discussion on Functionalities Required for A-IoT China Telecom discussion

[R2-2408934](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408934.zip) Message size reporting and segmentation Nordic Semiconductor ASA discussion Rel-19

[R2-2408942](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408942.zip) Considerations for energy status report Semtech Neuchatel SA discussion

[R2-2408955](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408955.zip) Use cases for energy status report in AIoT SHARP Corporation discussion

[R2-2408993](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408993.zip) Further consideration of functionality aspects for Ambient IoT Kyocera discussion Rel-19

[R2-2409013](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409013.zip) Discussino on segmentation functionalities for Ambient IoT Samsung Electronics Czech discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2409029](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409029.zip) Discussion on functionality aspects of ambient IoT LG Electronics Inc. discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2409114](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409114.zip) Segementation for AIoT Wiliot Ltd. discussion Late

[R2-2409172](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409172.zip) Discussions on AS ID for Ambient IoT devices Futurewei discussion Rel-19 FS\_Ambient\_IoT\_solutions

### 8.2.3 A-IoT Paging

Contributions should focus on paging aspects and content required for Ambient IoT for the different identified procedures (i.e. inventory, inventory + command, command only), including multiple/subsequent paging, monitoring of DL message, device unavailability due to energy harvesting (based on RAN1 progress).

**Multiple/Subsequent Paging (paging ID and/or reader ID)**

[R2-2408254](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408254.zip) A-IoT paging Huawei, HiSilicon discussion Rel-19

Proposal 1: The A-IoT paging message needs to indicate the device about whether it is for a new service request or a re-transmission for the old service request. FFS whether a transaction ID or NDI-like information is needed.

* Noted

[R2-2408227](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408227.zip) Discussion on AIoT Paging vivo discussion FS\_Ambient\_IoT\_solutions

Proposal 7. Session ID (details up to SA2) is included in AIoT paging message and employed to avoid device’s duplicated response for the same service request. LS to SA2 (Cc RAN3) to inform RAN2 decision on Session ID if agreed.

* Noted

[R2-2408186](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408186.zip) Discussion on ambient IoT paging LG Electronics Inc. discussion Rel-19 FS\_Ambient\_IoT\_solutions

Proposal 5: For A-IoT devices to operate properly within the multiple-reader scenario, A-IoT paging message should include the reader ID of the sender of the A-IoT paging message.

* Noted

Discussion

- Oppo supports session ID as we need to avoid two scenarios.

- Apple thinks we should separate transaction ID and reader ID and this depends on SA2. For transaction ID support Huawei. CATT also agrees with Huawei.

- CATT thinks that session ID is only required if there are parallel services.

- Nokia would like session ID for parallel and transaction ID or NDI is not needed. Mediatek has a different view, this is all of the device, it needs to distinguish between paging for event 1 for which it has responded or event 2 that it hasn’t yet responded. So this is more AS related aspects.

- CMCC thinks that this depends on CN and operator and this is for different use cases. We should support both.

- Qualcomm thinks that every ID we add we are adding complexity. We should simplify by using a timer, so if you do a procedure within window you don’t need to respond, but after that window you must respond. NEC and Sony also supports qual

- Samsung thinks the paging information should include information to avoid duplicate response from the UE side.

- Vodafone thinks that service related IDs are very long and this would require storing so it shouldn’t be desirable. It should be something very small in size.

- Xiaomi agrees we should include information but reader ID is separate.

- Vivo thinks that there is a requirement from SA2 to identify service ID, so we should only include on ID.

- Qualcomm thinks that NDI doesn’t work if the device misses the first transmission. Ericsson thinks NDI works as this is asynchronous system so you have no idea how many pages were delivered while you were out of power. So it would work so you may miss the fact that you responded, but we can live with that.

- Interdigital thinks that there may be situations from RAN2 where duplicate responses are expected.

- Ericsson thinks that there are still discussions in SA2 that may require an ID and in that case we may not need additional information.

* The A-IoT paging message can include information to avoid duplicate response from the device to a reader. This information should be short and simple. FFS how to indicate. Wait for further information and requirements from other WGs and make this decision in normative phase.

**Multiple/Subsequent Paging (device behavior)**

[R2-2408961](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408961.zip) Discussion on DL messages for Ambient IoT UEs Ericsson discussion Rel-19 FS\_Ambient\_IoT\_solutions

*Proposal 5 If paging message indicates an ID different that the one indicated in the previous paging round, i.e., paging messages are associated with separate CN requests, the device performs the requested procedure.*

*Proposal 6 If paging message indicates the same ID with the one indicated in the previous paging round, i.e., paging messages are associated with same CN request, the device performs the requested procedure only if it has not completed the procedure successfully in one of the earlier paging rounds associated with the same CN request. Otherwise, the device can ignore the paging message.*

- Qualcomm thinks that we didn’t agree to the ID.

- Huawei thinks if the device determines whether to respond to message or not.

- Ericsson thinks for following meeting we need to think about the UE behaviour if it has powered off between these indications. Qualcomm thinks that we need to design something that allows the device to know whether to respond or not without doing excessive checking.

*Proposal 7 Capture the following options on how ID is generated and the pros and cons in the TR: a) the reader generates the ID based on the request from the CN, b) CN generates the ID and provides it to the reader along with the request.*

- CATT supports ericsson’s proposal.

* Noted

[R2-2407947](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407947.zip) Discussion on Paging for Ambient IoT CATT discussion Rel-19 FS\_Ambient\_IoT\_solutions

Proposal 4: As far how the device determines the end of a service request, further study the following solutions.

­ A timer for devices. The length of timer could be predefined in spec or configured by reader in the R2D message.

­ Explicitly indicated by the reader with an “end” indication in the last A-IoT paging message within the service.

**Multiple Device IDs in Paging**

[R2-2408331](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408331.zip) Further consideration on the details of paging for AIoT ZTE Corporation, Sanechips discussion Rel-19 FS\_Ambient\_IoT\_solutions

Proposal 1: From RAN2 perspective, multiple IDs can be contained in paging message. The multiple IDs can be used to indicate a part of or a few specific devices (e.g., not all devices in a certain category/group) or multiple devices with discontinuous device IDs.

* Noted

[R2-2408162](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408162.zip) Ambient-IoT Paging NEC discussion Rel-19 FS\_Ambient\_IoT\_solutions

Proposal 3: For A-IoT paging message contains multiple device IDs of A-IoT devices, the reader can configure either contention free RA or contention-based RA.

Proposal 4: For contention free RA configuration when A-IoT paging message contains multiple IDs of A-IoT devices, mapping relationship between the IDs of A-IoT device and the random access resources is implicitly indicated by the device ID list.

* Noted

Discussions

- LG supports all the proposals.

- CATT doesn’t think that there is such a use case to carry multiple device ID in paging message. Another concerns is that multiple device ID would result in requiring segmentation. Apple thinks that we should just focus on single ID. This is related to multiplexing.

- NTT Docomo, Qualcomm, agrees with ZTE’s proposal as there may be cases where group ID is used and devices fail.

- Oppo is ok with these proposals at it is more efficient than sending multiple paging messages. Group ID should also be considered and also access location.

- Qualcomm thinks that from reader perspective it should be possible to page multiple device at the same time.

- Vodafone is concerned of creating large messages so it should be limited to a number of devices.

- Huawei thinks that we need to confirm with SA2. The impact to RAN2 is if SA2 support multiple device CFRA case and this can be discussed in WI phase. Nokia doesn’t think we need to wait.

- Xiaomi, Qualcomm, Lenovo agrees with proposal 3 from NEC.

- Mediatek also thinks that there are different aspects impacting these decisions including TB size, so we can wait.

- Ericsson, Qualcomm, ZTE think that we don’t need to wait for SA2 as even if SA2 pages one by one we can decide that from radio efficiency perspective RAN should decide whether to group them. Apple thinks this is related to multiplexing.

* From RAN2 perspective it is feasible to support paging multiple device IDs, however depending on TB size it may not be possible to include multiple device IDs. RAN2 will determine the need for this after considering aspects related to multiplexing and other WGs.
* If multiple device IDs in single paging is supported, if A-IoT paging message contains multiple device IDs, reader can configure either contention free RA or contention-based RA

**Access Type**

[R2-2408702](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408702.zip) Discussion on A-IoT paging message NTT DOCOMO INC. discussion Rel-19

*Proposal 1. Random access type (i.e., 3-step CBRA, 2-step CBRA, or contention-free access) is indicated in A-IoT paging messages for all use cases (inventory, command only, and inventory and command).*

- LG thinks we should prioritize only one CBRA procedure at the end to simplify.

- Qualcomm support this proposal.

- ZTE wonders if the is implicit or explicit. It can be both. Interdigital thinks we should state the device determines the random access type from paging message. FFS if it is implicit or explicit. CATT agrees and having multiple CFRA would increase the message size..

- Oppo thinks that implicit indication is enough.

- Vodafone asks if this means that this implies that all devices will have to support all these procedures. China mobile shares the same concerns with Vodafone. ZTE thinks this is a valid concern so we should have a unified procedure. Once the UE selects a random resources the procedures are all the same and then it becomes a reader choice. CBRA and CFRA is the same, it’s just in CFRA you have only one resource and for CBRA the device just needs to select randomly.

* For all use cases, *d*evice determines the random access type from the paging message. FFS whether it is explicitly or implicitly. FFS whether we will down selection for all RA types (2step, 3step, CFRA) or try to unify the design for 2step, 3step

**Service Type**

[R2-2408170](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408170.zip) Discussion on paging procedure of A-IoT Spreadtrum Communications discussion Rel-19

Proposal 4: For command only procedure, in addition to ID information, the paging message also includes service type, resource allocation information and RACH type (2/3-step CBRA, CFRA).

[R2-2408227](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408227.zip) Discussion on AIoT Paging vivo discussion FS\_Ambient\_IoT\_solutions

Proposal 6. AIoT paging cause to differentiate AIoT service type is not included in AIoT paging message.

**Agreements**

1. The A-IoT paging message can include information to avoid duplicate response from the device to a reader. This information should be short and simple. FFS how to indicate. Wait for further information and requirements from other WGs and make this decision in normative phase.
2. Based on this information the device determines whether to skip sending the response to paging.
3. From RAN2 perspective it is feasible to support paging multiple device IDs, however depending on TB size it may not be possible to include multiple device IDs. RAN2 will determine the need for this after considering aspects related to RAN2 multiplexing and other WGs.
4. If multiple device IDs in single paging is supported, if A-IoT paging message contains multiple device IDs, reader can configure either contention free RA or contention-based RA

[R2-2407954](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407954.zip) Discussion on A-IOT paging procedure Xiaomi discussion

[R2-2408059](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408059.zip) Discussion on the paging for A-IoT Transsion Holdings discussion Rel-19

[R2-2408068](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408068.zip) Discussion on A-IoT paging CMCC discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2408137](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408137.zip) Discussion on paging procedure for Ambient IoT OPPO discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2408146](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408146.zip) Discussions on AIoT paging Fujitsu discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2408278](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408278.zip) Discussion on A-IoT paging HONOR discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2408309](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408309.zip) Discussion on paging procedure for Ambient IoT Lenovo discussion Rel-19

[R2-2408356](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408356.zip) Discussion on Ambient IoT paging message with multiple IDs ASUSTeK discussion Rel-19 FS\_Ambient\_IoT\_solutions [R2-2406520](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2406520.zip)

[R2-2408396](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408396.zip) Paging Related Aspects for Ambient IOT InterDigital discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2408439](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408439.zip) Ambient IoT device paging TCL discussion Rel-19

[R2-2408463](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408463.zip) Discussion on A-IoT paging Panasonic discussion Rel-19

[R2-2408581](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408581.zip) Discussion on Ambient IoT Paging Apple discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2408625](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408625.zip) Ambient IoT Paging Qualcomm Incorporated discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2408698](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408698.zip) Paging procedures for Ambient IoT Nokia discussion FS\_Ambient\_IoT\_solutions

[R2-2408707](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408707.zip) Considerations on paging for Ambient IoT Sony discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2408847](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408847.zip) Ambient IoT Paging Procedure China Telecom discussion

[R2-2408848](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408848.zip) Ambient IoT Paging Procedure China Telecom discussion

=> Withdrawn

[R2-2408869](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408869.zip) Discussion on A-IoT paging Fraunhofer HHI, Fraunhofer IIS discussion

[R2-2408906](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408906.zip) Discussion on Paging aspects for Ambient-IoT Continental Automotive discussion

[R2-2408951](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408951.zip) Ambient IoT paging and unification of use cases MediaTek Inc. discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2408954](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408954.zip) Duplicate A-IoT paging message transmission and indication SHARP Corporation discussion

[R2-2408992](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408992.zip) Further consideration of A-IoT paging for Ambient IoT Kyocera discussion Rel-19

[R2-2409019](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409019.zip) Discussion on A-IoT paging Samsung Electronics Czech discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2409050](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409050.zip) Discussion on Ambient IoT paging LG Uplus discussion

[R2-2409109](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409109.zip) Discussion on A-IOT paging procedure CEWiT discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2409176](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409176.zip) Further discussions on Ambient IoT Paging Futurewei discussion Rel-19 FS\_Ambient\_IoT\_solutions

### 8.2.4 A-IoT Random Access

*Contributions should focus on A-IoT random access steps for both 2-step and 3-steps RA, content required for the different procedures, and any additional aspects related to CFRA and CBRA procedures. Determination of transmission/access occasion subsequent failure/success indication of D2R, re-access and FDMA impact (if any), etc.*

*Including outcome of post email discussion [POST127][033]*

[R2-2407985](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407985.zip) Report of [POST127][033][AIoT] Random Access Huawei, HiSilicon discussion Rel-19 FS\_Ambient\_IoT\_solutions

*Failure/success indication related*

*Proposal 1: In case of D2R data transmission failure (Msg3 or following D2R data), device follows the reader instruction:*

* it is supported to re-access in another opportunity controlled/provided by the reader (i.e. retry the random access); and*

* reader can repeat the R2D “command” to trigger the device to re-send the same D2R “response” (i.e., device just follows the received R2D to transmit D2R).*

*FFS on whether/how to handle the Msg3 “device ID” re-transmission for inventory case.*

- Vodafone asks why we need a function on the reader for repeater as the CN can do it.

- ZTE thinks that we can rephrase reader can trigger the device to resend D2R “response” (i.e., device just follows the received R2D to transmit D2R).

- Apple thinks that we can repeat the command to trigger a new reponse as we agreed that will not have feedback.

- Ericsson thinks that we can indicated that CN repetition is not excluded. Huawei explains that it is not precluded that the CN repeats, it is up to implementation.

*Proposal 2a: Support explicit R2D failure/success feedback indication for the D2R data transmission (Msg3 or following D2R data) at least for re-access.*

- Apple things that we can remove *following D2R data*

*Support optional explicit R2D failure/success feedback indication for at least MSG3 at least for re-access purpose. FFS for following D2R data. FFS when to send this indication.*

*-* Oppo thinks that we can use the RAN1 timer and we don’t need the explicit indication. Huawei thinks that this is a RAN2 solution and if RAN1 captures something that can be used at the end we can discuss later.

*-* ZTE thinks that for re-access this has to be allowed, if the reader asks you to reaccess you have to do it. Samsung agrees with ZTE.

*-* Qualcomm thinks that this should be optional as there are cases that there is not needed.

*-* Ericsson thinks that we need to wait for RAN1.

*Proposal 2b: RAN2 to discuss: It is up to the reader whether/when to include this explicit feedback indication. The absence of this feedback indication will not trigger device re-transmission/re-access (i.e., absence means “likely success”).*

­- Samsung asks how does the reader guarantee that the reader will receive the feedback so not sure if this work. Hauwei agrees with Samsung and that’s why it should be mandatory.

1. Postpone this as it is a stage 3 discussion

*Msg2 in 2step RA*

*Proposal 3: Msg2 is always needed for 2step CBRA.*

­- Qualcomm, Nokia and Vodafone think that there is no need to mandate. Huawei thinks that this is for new use case, so we can consider them later.

- LG doesn’t understand why this is optional as we are talking about CBRA. ZTE explains that the device always has to listen to DL, even if this is optional. So not sure what we would save as the device is anyways listening. Qualcomm thinks that if you get you have to process it, there are usecases that you don’t have to reaccess even if you fail, so you don’t always to be succesful.

- Interdigital thought that this was to align the 2-step or 3-step procedure.

- Qualcomm would like to avoid the discussion in the case where msg2 is missing. If msg2 is missing the device doesn’t do retransmission.

- Futurewei thinks that we need to understand why msg2 is missing, is it because there was a collision.

- Mediatek is ok with the proposal and we should try to not have too many options. It doesn’t understand the case where the device doesn’t need to know. Vodafone explains that counting doesn’t need msg2. The system just wants to count the number of devices. Mediatek asks that shouldn’t the device know whether it was counted or not so it doesn’t send again the message.

- CMCC supports the proposals and thinks we should have a unified solution and we should introduce new device with different capability.

- ZTE thinks that we can state that the device always listens to msg2. Next discussion is what it does if it doesn’t receive it and autonomous re-transmission is never expected. The reader has to always trigger the retransmission.

- Vivo, Oppo, thinks that if we don’t always support it then the design will be more complicated.

- Huawei thinks that for the Rel-19 use cases msg2 is always eneeded. Apple thinks that the counting use case is not a valid use case.

- Sony thinks it is difficult to know how to proceed if we don’t know the UE behavior with msg2.

- Ericson thinks that we need to discuss the additional use cases separately as they are making the discussion more complicated.

*Question to address*

*- What is the expected behaviour when you don’t get the response back?*

- Mediatek thinks that we should also discuss what happens when you get the response back, like delete, or shift. When you don’t get the response back you aren’t allowed to re-acces on your own.

- Ericsson thinks that if we don’t get anything back for 2step RA, then the device doesn’t know if the message was succesful.

* For 2step CBRA, if mgs2 is not received by the device, the device is not expected to autonomously re-access. The re-access is always controlled by reader.

*Re-access*

*Proposal 7a: Reader can send the R2D information which assigns or adjusts the number of following access occasions (e.g. can be used for re-access purpose).*

- Mediatek wonders that AIoT paging message can assing the access occasion, some of which can be use for re-access.

- ZTE thinks that whether we use paging or desing a new message. But what’s common is that you need R2D message for both cases.

- Telit asks if the UE is required to story the configuration.

- LG asks if this is the same procedure as the failure indication in agreement 2.

* R2D message is used to provide access occasion(s) which can be used for re-access purpose. One option to be captured in the TR is that this R2D message is AIoT paging message. FFS additional indications to differentiate if needed in paging message. FFS if other message can be used.

*slotted ALOHA*

*Proposal 5: From RAN2 perspective, at least for TDMA the device can randomly select one access occasion for A-IoT Msg1 from the total access occasions provided/assigned by the reader, as the baseline for CBRA (further enhancement option(s) can be considered after more RAN1 progress on TDMA/FDMA).*

- Ericsson thinks this is only applicable to TDMA. ZTE asks why this is only for TDMA. Ericsson explain that some type 1 devices can’t select randomly. ZTE thinks that our design should allow both as it should consider type2. Samsung agrees but RAN1 is still discussing for FDMA.

* *From RAN2 perspective, at least for TDMA the device can randomly select one access occasion for A-IoT Msg1 within access occasions provided/assigned by the reader, as the baseline for CBRA. FFS if this is applicable to FDMA. Further enhancement option(s) can be considered after more RAN1 progress on TDMA/FDMA.*

Proposal 4a: From RAN2 perspective on slotted-ALOHA, it should be possible/supported that the number of access occasions can be as large as the number of devices that may attempt to access. (It is up to the reader implementation on the actual assigned number of access occasions.)

Proposal 4b: FFS: After reader selects the devices to perform RA procedure (via A-IoT paging), there can be multiple R2D transmissions which define/schedule the resources for Msg1 transmission.

 It is up to RAN1 on how to define/schedule the time-frequency resources for Msg1 transmission. (another part was already captured in RAN2 agreement “=> wait for further RAN1 progress on indication of the start of access occasion”)

 RAN2 to discuss the R2D message corresponding to the “R2D transmission triggering” in RAN1 agreement (i.e. A-IoT paging message and/or other separate “QueryRep-like” R2D message), after some progress in RAN1.

**Agreements for Random Access**

1. In case of D2R data transmission failure, device follows the reader instruction:

 it is supported to re-access in another opportunity controlled/provided by the reader (i.e. retry the random access); and

 reader can repeat the R2D “upper layer command” to trigger the device to re-send the same D2R “response” (i.e., device just follows the received R2D to transmit D2R).

2 Support optional explicit R2D failure/success feedback indication for at least MSG3 for re-access purpose. FFS for following D2R data.

3 For 2step CBRA, if mgs2 is not received by the device, the device is not expected to autonomously re-access. The re-access is always controlled by reader.

4 For 2step and 3step CBRA, The A-IoT device performs re-access in another opportunity provided by the reader (i.e. retry the random access) at least in case of contention resolution failure.

5 R2D message is used to provide access occasion(s) which can be used for re-access purpose. One option to be captured in the TR is that this R2D message is AIoT paging message. FFS additional indications to differentiate if needed in paging message. FFS if other message can be used.

6 From RAN2 perspective, at least for TDMA the device can randomly select one access occasion for A-IoT Msg1 within the access occasions provided/assigned by the reader, as the baseline for CBRA. FFS if this is applicable to FDMA. Further enhancement option(s) can be considered after more RAN1 progress on TDMA/FDMA.

**Failure/success indication message**

[R2-2408243](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408243.zip) A-IoT random access procedure Huawei, HiSilicon discussion Rel-19 FS\_Ambient\_IoT\_solutions

Proposal 6b: For D2R data re-transmission of inventory case, RAN2 to discuss whether to support the device ID re-transmission triggered by the Msg2 re-transmission or failure indication from reader (aiming for no AS buffer of the device ID).

[R2-2408512](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408512.zip) Considerations for D2R failure/success indication in A-IoT Panasonic discussion Rel-19

Proposal 4a: Subsequent R2D messages received at the device following a D2R transmission can be used for success indication of the last transmitted D2R.

**Re-access occasion configuration**

[R2-2409167](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409167.zip) Discussion on A-IOT RACH related aspects Rakuten Mobile, Inc discussion

Proposal 9: The reader can pre-assign specific re-access occasions for devices that have experienced transmission failures, ensuring that these retries do not interfere with new access attempts. These pre-assigned occasions could be communicated during A-IoT paging or via a QueryRep-like R2D message.

[R2-2408397](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408397.zip) Random Access Procedure for Ambient IOT InterDigital discussion Rel-19 FS\_Ambient\_IoT\_solutions

Proposal 2a: A device performs one of the following upon random access (i.e. MSG1) failure a) retransmit MSG1 in access occasions configured by the reader for re-access in the same paging round, or b) perform re-access in access occasions of subsequent paging round(s).

Proposal 2b: RAN2 discusses prioritization rules for determining whether a device uses a) or b).

**Selection of 2-step vs 3-step CBRA**

[R2-2408536](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408536.zip) Unified random-access procedure for A-IoT ZTE Corporation, Sanechips discussion

Proposal 5: The decision between 2-step RA and 3-step RA is up to the reader

[R2-2408397](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408397.zip) Random Access Procedure for Ambient IOT InterDigital discussion Rel-19 FS\_Ambient\_IoT\_solutions

Proposal 8: RAN2 studies reader-based and device-based criteria for selection between 2-step vs 3-step AIoT access procedure.

[R2-2407948](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407948.zip) Discussion on the Random Access for Ambient IoT CATT discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2407953](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407953.zip) Discussion on access procedure for ambient IOT Xiaomi discussion Rel-19

[R2-2408041](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408041.zip) Discussion on A-IoT random access China Telecom discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2408060](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408060.zip) Discussion on the random access for A-IoT Transsion Holdings discussion Rel-19

[R2-2408093](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408093.zip) Further consideration on random access for ambient IoT CMCC discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2408140](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408140.zip) random access for AIoT OPPO discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2408147](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408147.zip) Discussions on AIoT Random Access Fujitsu discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2408167](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408167.zip) Discussion on random access of Ambient IoT Spreadtrum Communications discussion Rel-19

[R2-2408192](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408192.zip) Study the A-IoT random access procedure Tejas Network Limited discussion

[R2-2408228](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408228.zip) Random Access Procedure for A-IoT Device vivo discussion FS\_Ambient\_IoT\_solutions

[R2-2408277](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408277.zip) Discussion on A-IoT random access HONOR discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2408310](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408310.zip) Discussion on random access for Ambient IoT Lenovo discussion Rel-19

[R2-2408383](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408383.zip) Discussion on random access for AIoT China Unicom discussion FS\_Ambient\_IoT\_solutions

[R2-2408549](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408549.zip) Random Access for Ambient IoT device NEC discussion

[R2-2408582](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408582.zip) Discussion on Random Access for Ambient IoT Apple discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2408672](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408672.zip) Discussions on Failure Detection/Recovery in Ambient IoT Devices ROBERT BOSCH GmbH discussion Rel-19

[R2-2408688](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408688.zip) Discussion on UL multiple access Ericsson discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2408700](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408700.zip) Discussion on random access for Ambient AIoT Nokia discussion FS\_Ambient\_IoT\_solutions

[R2-2408703](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408703.zip) Discussion on A-IoT random access NTT DOCOMO INC. discussion Rel-19

[R2-2408708](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408708.zip) Considerations on random access aspects for Ambient IoT Sony discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2408834](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408834.zip) Discussion on multiple access for ambient IoT Google Ireland Limited discussion FS\_Ambient\_IoT\_solutions

[R2-2408908](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408908.zip) Discussion on RACH aspects for Ambient-IoT Continental Automotive discussion

[R2-2408927](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408927.zip) Further discussions on A-IoT random access ETRI discussion Rel-19

[R2-2408938](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408938.zip) AS scheduling ID and AS short ID considerations Nordic Semiconductor ASA discussion Rel-19

[R2-2408995](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408995.zip) Discussion on random access of Ambient IoT Kyocera discussion Rel-19

[R2-2409028](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409028.zip) Views on Random Access Aspects of Ambient IoT Qualcomm Incorporated discussion FS\_Ambient\_IoT\_solutions

[R2-2409075](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409075.zip) Discussion on Ambient IoT random access KT Corp. discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2409110](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409110.zip) Discussion on random access for Ambient IoT CEWiT discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2409119](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409119.zip) Random Access Ack/Nack Wiliot Ltd. discussion Late

[R2-2409122](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409122.zip) Discussion on random access aspects for Ambient IoT LG Electronics Inc. discussion FS\_Ambient\_IoT\_solutions

[R2-2409169](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409169.zip) Timing Relationship of Msg3 and R2D response Philips International B.V. discussion FS\_Ambient\_IoT\_solutions

[R2-2409173](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409173.zip) Further discussions on Ambient IoT random access Futurewei discussion Rel-19 FS\_Ambient\_IoT\_solutions

### 8.2.5 Topology 2 considerations

*Contributions should focus on topology 2 related aspects between gNB and reader, including RAN2 impacts due to the architecture options, radio resource allocation, reader configuration and RRC state, etc.*

**RRC State**

[R2-2409020](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409020.zip) Discussion on A-IoT Topology 2 Samsung Electronics Czech discussion Rel-19 FS\_Ambient\_IoT\_solutions

Proposal 3: in topology 2, the study is started from the assumption that the intermediate node is in RRC\_CONNECTED state.

* Noted

[R2-2408311](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408311.zip) Considerations on Topology 2 for Ambient IoT Lenovo discussion Rel-19

Proposal 8: Intermediate UE can be in RRC CONNECTED/RRC IDLE/RRC INACTIVE states, to perform A-IoT associated procedure on A-IoT air interface.

* Noted

[R2-2408583](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408583.zip) Discussion on Ambient IoT Topology 2 Apple discussion Rel-19 FS\_Ambient\_IoT\_solutions

Proposal 3 RRC\_IDLE state UE reader and OOC UE reader is not supported in Rel-19 A-IoT.

* Noted

Discussions

- Apple explains that even if we don’t support IDLE, it doesn’t mean that if the UE goes temporarily from connect to idle that the connection is interrupted.

- Vodafone thinks that the UE has to be authorized so it should be in connected, but we should consider cases like RLF and handle them properly and that means it is just idle mode management. But we shouldn’t have cases were we design for fully IDLE mode UEs.

- Qualcomm agrees with Apple and Vodafone and Lenovo proposal. Between the reader and device the state shouldn’t matter, as long the reader was authorized and has gotten the command from the CN the connection should continue after the reader has sent the command. But this doesn’t mean that the reader should do this if it has been IDLE.

- Huawei supports the proposal from Samsung and Apple. Whether IDLE And INACTIVE, the gNB will release the context if it sends the UE in IDLE. For INACTIVE we have to consider radio resource allocation and have a clear view on the end to end procedure.

- Vivo doesn’t think the RRC state is an issue and the procedure should not be stopped.

- Xiaomi thinks that RRC can be considered as a baseline, and at least RRC INACTIVE can be considered as data can be transmitted by SDT but IDLE mode there are a lot of impact.

- Spreadrum is concerned that idle and inactive would increase UE complexity because it would require device to store.

- Mediatek thinks that we need to think what we will specify. Mediatek doesn’t see dependencies on Uu RRC state for reader to device communication. MEdiatek thinks that the resources will be semi-static anyways and as long as the resources are available at reader it can use them.

- CMCC suggests to prioritize in connected mode. For Idle and inactive the mobility is based on UE and the gNB is not aware and that could cause interference.

- ZTE asks what is meant by validity of resources. The difference in idle and inactive is that the UE can move on it’s own and these resources are valid within the cell. As long as we agree that the resources from one cell are not used in a another it would be ok.

- LG thinks validity of resource is connected with RRC state.

- CATT thinks we cannot split the RRC procedure from the CN procedure, so we support in connected mode.

- Oppo thinks that we need to consider energy efficiency and SDT can be used.

- Apple thinks that it does matter whether the UE is in connected mode from the CN perspective.

- Interdigital thinks that at least INACTIVE should be supported as long as the resources are valid. Assume RRC connected to start operation.

- Ericsson thinks that authorization can only be achieved when the UE is in connected. Share the concern with CATT on IDLE mode. INACTIVE can work but we would need to improve the legacy function. In legacy whenever the UE goes in RLF those resources become invalid and we should follow these way of thinking.

- Nokia thinks it is irrelevant what state as long as the UE fulfills its duty, so we should keep some flexibility.

- Samsung things that we need to pay attention to resource allocation and procedure initiation. For initiation of this procedure the mode should be in RRC connected state otherwise the UE cannot get the authorization from the network. Then after the initiation we can discuss whether we support idle or inactive.

- Qualcomm and Vivo explain that the UE can be configured with the resources for a certain duration. And if you have these resources the UE should still be allowed.

- Vodafone thinks that we should consider RLF.

- Mediatek thinks that there may possibility of validity area for the resources. ZTE thinks it is possible but it is an optimization.

- Tmobile thinks that we should consider validity across multiple cells.

**Resource Allocation: How to obtain resources**

[R2-2408069](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408069.zip) Discussions on topology 2 for A-IoT CMCC discussion Rel-19 FS\_Ambient\_IoT\_solutions

Proposal 7: For an intermediate UE, the methods to obtain A-IoT radio resources include:

Option 1: The intermediate UE receives the configuration of A-IoT radio resources from A-IoT enabled gNB without request. However shared resource pool is not prefered.

Option 2: The intermediate UE requests the A-IoT radio resources from A-IoT enabled gNB on demand.

- Interdigital thinks that this depends on architecture discussion so we can chose appropriate option. Also agrees we don’t support the shared cases.

**Resource Allocation: Use of shared/dedicated resources**

[R2-2408687](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408687.zip) On Topology 2 and DO-A Ericsson discussion Rel-19 FS\_Ambient\_IoT\_solutions

Proposal 6 The gNB assigns dedicated resources to intermediate UE for A-IoT interface. FFS on resource allocation granularity, i.e., per transmission, per D2R and R2D transmission pair or per access round.

[R2-2408626](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408626.zip) Further aspects of Topology 2 Qualcomm Incorporated discussion Rel-19 FS\_Ambient\_IoT\_solutions

Proposal 2: gNB can configure a pool of resources for R2D/D2R communication and UE Reader can randomly select resource(s) among the configured pool(s).

[R2-2408332](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408332.zip) Further consideration on TP2 for AIoT ZTE Corporation, Sanechips discussion Rel-19 FS\_Ambient\_IoT\_solutions

Proposal 5b: the following options on how to allocate/configure AIoT air interface resources for UE reader can be further discussed:

• gNB configures AIoT air interface resources to the UE reader when it in connected mode, e.g., via dedicated signaling;

• gNB pre-configures AIoT air interface resources which can be shared by all the involved UE readers.

- With additional NW indication on which specific part of the shared resources can be used by a certain UE reader

• Triggered by request from UE reader, gNB configures AIoT air interface resources to it.

Discussion

- Qualcomm indicates that shared pool of resources is mainly for forward compatibility. For this release it is sent in dedicated manner UE but in the future it can be extended.

- ZTE doesn’t want to include shared resources.

- Nokia doesn’t think that we need to discuss the shared resources as it anyways under network control. Qualcomm agrees that the network will give this to each reader but it can be designed to extended. MEdiatek thinks that we don’t need to conclude anything.

**Resource Allocation: Validity of the resources**

[R2-2408229](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408229.zip) Discussion on Topology 2 related aspects vivo discussion FS\_Ambient\_IoT\_solutions

*Proposal 6: RAN2 to study the controling & using of AIoT radio resources:*

*- Option-1: the AIoT radio resource is applicable within validity area, e.g. per-cell, per-gNB or multiple gNB area.*

*- Option-2: the AIoT radio resource is applicable within validity time.*

*- Option-3: the AIoT radio resource can be reconfigured during HO procedure.*

- Nokia thinks we can wait for RAN1. Vivo doesn’t think we need to wait for RAN2. Qualcomm agrees with all the three options as this cover all the scenarios.

- Lenovo thinks that we can add option 4, validity for service request.

- Xiaomi thinks that option 3 is most simple.

- CMCC doesn’t like validity timer as it is difficult for the network to know how much time is required and then we need to consider what happens when the resources are no longer valid. The resources should be valid as long as they are configured or until the reader completes the procedures. Mediatek explains that if the device doesn’t complete the procedure on time it can always send another request. CMCC thinks that if the timer is long and the reader has completed the resources are wasted.

- Mediatek agrees that all these options are valid.

- LG agrees with 3, but 1 and 2 are optimization as the network can just reconfigure all the time.

- Nokia is think it is great to have a timer but we should really talk about how to configure the resources dynamically and extend.

- CATT asks if the intention of option 3 means that we want to continue the procedure. Vivo would like to continue the service.

- Huawei indicates that we are talking about regular scenario and temporarily out of connection scenarios.

**Mobility**

[R2-2408069](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408069.zip) Discussions on topology 2 for A-IoT CMCC discussion Rel-19 FS\_Ambient\_IoT\_solutions

Proposal 10: For the case that intermediate UE out of connection, three optional solutions can be considered:

 Option 1: Continue conducting the A-IoT related procedure.

 Option 2: Suspend the A-IoT related procedure.

 Option 3: Terminate the A-IoT related procedure.

- CATT thinks that we should suspend. Ericsson agrees or we can phrase it as suspend and resume. Oppo thinks that as long the resource is valid it should continue.

- Apple thinks that this is related to validity. In connected the network configures, releases and it does whatever it wants. Apple thinks that in this scenario this is where validity timer is important. Interdigital thinks as long as the reader has valid resources. If for mobility the resource are changed then the resources are considered valid.

- LG thinks that once the UE is out of connection it shouldn’t start a new procedure.

- ZTE thinks it is possible to continue to operation but one important issue is legacy procedures shouldn’t be impacted.

- Samsung thinks all options are feasible and we should list all there options for SI but in WI we can downscope.

- Qualcomm wonders what suspend on terminate mean. Qualcomm doesn’t want to be mandated to be monitoring signal to indicate that you should terminate. Terminating D2R is impossible.

**Agreements**

1. Dedicated resource configuration is only given to the UE reader via dedicated signalling. Mechanisms for shared resource pool amongst readers are not considered in this release.
2. The UE may perform the AIoT procedure on AIoT interface between the reader and the device only if the resource configuration is valid in the cell under network control. FFS how valid resource is determined – we will consider temporary out of connection scenarios. FFS on resource validity across multiple cells.
3. The AIoT radio resource can be (re)configured during RRC reconfiguration (including during HO procedure, after re-establishment, etc).

[R2-2407949](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407949.zip) Discussion on Topology 2 for Ambient IoT CATT discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2408042](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408042.zip) Discussion on Topology 2 related aspects for Ambient IoT China Telecom discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2408139](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408139.zip) Discussion on topology 2 for Ambient IOT OPPO discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2408148](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408148.zip) Discussions on topology 2 related aspects Fujitsu discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2408171](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408171.zip) Discussion on Topology 2 issues Spreadtrum Communications discussion Rel-19

[R2-2408188](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408188.zip) Considerations on TP2 related aspects between BS and UE reader Beijing Xiaomi Software Tech discussion Rel-19

[R2-2408195](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408195.zip) Discussion on Topology 2 for A-IoT SHARP Corporation discussion FS\_Ambient\_IoT\_solutions

[R2-2408255](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408255.zip) A-IoT Topology 2 aspects Huawei, HiSilicon discussion Rel-19

[R2-2408276](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408276.zip) Consideration on resource allocation for Topology 2 HONOR discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2408357](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408357.zip) Consideration on information and scenario in Topology 2 ASUSTeK discussion Rel-19 FS\_Ambient\_IoT\_solutions [R2-2406522](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2406522.zip)

[R2-2408398](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408398.zip) Topology 2 for Ambient IOT InterDigital discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2408609](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408609.zip) Topology 2 related aspects NEC discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2408753](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408753.zip) Toplogy 2 considerations Nokia discussion

[R2-2408868](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408868.zip) Considerations on Topology 2 for Ambient IoT TCL discussion

[R2-2408953](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408953.zip) Ambient IoT topology 2 and out-of-coverage operation MediaTek Inc. discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2408994](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408994.zip) Discussion on Topology 2 aspects of Ambient IoT Kyocera discussion Rel-19

[R2-2409030](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409030.zip) Discussion on topology 2 considerations of ambient IoT LG Electronics Inc. discussion Rel-19 FS\_Ambient\_IoT\_solutions

## 8.3 AI/ML for Mobility

(FS\_NR\_AIML\_Mob; leading WG: RAN2; REL-19; SID: [RP-242393](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_105/Docs/RP-242393.zip))

Time budget: 2 TUs

Tdoc Limitation: 2 tdocs

### 8.3.1 Organizational

LS, Rapporteur input, including workplan, etc.

[R2-2407975](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407975.zip) Revised work plan of AI Mobility SI OPPO discussion Rel-19 FS\_NR\_AIML\_Mob

=> Revised in [R2-2409194](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409194.zip)

[R2-2409194](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409194.zip) Revised work plan of AI Mobility SI OPPO, MediaTek, Nokia discussion Rel-19 FS\_NR\_AIML\_Mob

- Apple doesn’t think that we should prioritize LCM and we should do it after we have some actual conclusions.

* Noted

[R2-2407976](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407976.zip) Text proposal of 38.744 OPPO draft TR Rel-19 38.744 0.0.3 FS\_NR\_AIML\_Mob

=> Withdrawn

[R2-2409011](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409011.zip) Text proposal on TR 38.744 OPPO draft TR Rel-19 38.744 0.0.4 FS\_NR\_AIML\_Mob

* Companies are encouraged to review and provide feedback to Oppo offline
* The TP will be used as a baseline for further updates

[R2-2409402](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409402.zip) Discussion on work plan and potential SLS OPPO discussion Rel-19 FS\_NR\_AIML\_Mob

- Xiaomi thinks that we need to downprioritize the system level performance and do it after intermediate KPIs. Even if we do it we should downscope some of the scenarios.

- Ericsson doesn’t think we should upscope and spend much time in the meeting discussing this.

- Qualcomm would not like to do more simulations other than KPIs that are just doing post-processing. Interdigital thinks that optional means that companies can bring results if they want to. CATT plans to do this system level and we should only focus on FR2 intra-frenquency case A.

- Huawei, Samsung, Mediatek, Nokia thinks that we can’t make conclusions without knowing how this impacts the systems.

- Samsung thinks we should do it at least for temporal domain.

- ZTE doesn’t thinks RLF should be prioritize over system level performance.

- Nokia thinks that anything requiring second goal should consider system level performance.

|  |
| --- |
| **Agreements**   1. The System level performance (e.g. HO performance) evaluation is optional (i.e. companies can bring results if they chose).    1. System level performance for measurement event prediction can be prioritized by companies if they chose to do it.      1. RAN2 will prioritize discussions on intermediate KPI discussion before discussing system level performance for the corresponding use case.   2: Discussion on what (type of information)/how generalization study can take place in Nov. meeting  3: The SLS simulation assumption discussion is covered in the post#127bis email discussion by assuming:   The simulation assumptions agreed for measurement event prediction and RLF prediction is taken as baseline for SLS in principle   The HO model in 36.839 is taken as baseline   The HO performance will be HOF and number of HO only and definition in 36.839 is taken as baseline   The baseline of HO performance is R15 legacy measurement and HO procedure |

### 8.3.2 RRM measurement prediction

Contributions should focus on simulation results on the agreed on prioritized scenarios and agreed assumptions. Further input on remaining issues related to RRM measurement prediction.

Any simulation results on non-prioritized scenarios should be clearly captured in separate section indicating “new scenarios”

Including outcome of [POST127][027][AI Mob] Simulation table (Mediatek )

#### **[POST127][027][AI Mob] Simulation table**

[R2-2408483](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408483.zip) Report of [POST127][027][AI Mob] Simulation table (Mediatek) MediaTek Inc. discussion [R2-2407886](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407886.zip)

*Proposal 8: Create a folder on the 3GPP FTP server for companies to upload their simulation results. Within this folder, create individual subfolders for different use cases. For each use case different subfolders under the main directory corresponds to the different identified scenairos.The file name of the excel table follows the format: 'MeetingNumber\_CompanyName\_TdocNumber'.*

- ZTE asks if we can upload multiple results in the folder. Mediatek thinks it is ok and companies should ensure that the final results table captures what companies want.

- Mediatek expects that we can start collecting the first version of result collection after November.

- Oppo asks that companies should follow the example template and make sure that they follow the rules and align.

**Agreements on simulation table**

1: The spreadsheets are organized into three separate folders, with each folder corresponding to one of the three use cases.

2: The RRM prediction use case is used as a template for the documentation process. This approach will be similarly applied to the measurement event prediction and RLF/HOF prediction use cases, the spreadsheets of which are subject to revision upon availability of the simulation results.

3: Individual spreadsheet for each identified scenario for the use case of RRM prediction is created, e.g., scenarios 1~6 with the understanding that we can add more spreadsheets as required e.g., when other scenarios are identified.

4: Distinct sheets are initially set up for capturing the simulation assumptions, evaluated KPIs and definitions, and simulation results from companies, with the understanding that we will add more sheets as needed and in accordance with discussions that emerge during the evaluation process.

5: The columns in the simulation results sheet are categorized into five main groups: general information, variable settings, selectable simulation assumption, model-related information and performance metrics for various KPIs.

6: The ‘case’ column considers the three sub-use cases and their combination with additional factors. One colume for additional factors will be introduced. Those factors can be determined through discussions as the evaluation progresses.

7: Adopt the example spreadsheets provided in the attachment as a starting point, understanding that their content is flexible and can be modified as the evaluation progresses.

*8* Create a folder on the 3GPP FTP server for companies to upload their simulation results. Within this folder, create individual subfolders for different use cases. For each use case different subfolders under the main directory corresponds to the different identified scenairos.The file name of the excel table follows the format: 'MeetingNumber\_CompanyName\_TdocNumber\_version number'.

9 Mediatek will provide example template, structure and rules to follow. Companies are expected to follow these examples.

* [POST127bis][016][AI Mob] Simulation results (Mediatek)

Intended outcome: finalize the table (one week email deadline)

- Informational email discussion on logistics of storing simulation results.

[R2-2409407](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409407.zip) [AT127bis][016][AI Mob] Simulation table example (Mediatek) Mediatek Inc. discussion

**Agreements**

1 It is mandatory to follow the following rules for filling out the table for simulation results:

* Adhere to the format provided in the example, except for the specified columns. The columns 'Other Factors,' 'AI Model Type,' 'Details of AI Model,' and 'Non-AI/Simple AI Method' do not have strict content restrictions.
* Keep the same parameter units as the template provided.
* Companies are not required to fill in all the information, e.g. some performance metrics. If companies can’t provide the information, please leave the cell blank.

NOTE: The rapporteur will not include the inputs if these rules are not followed

1. Adopt the agreed spreadsheet (after email discussion) examples of different RRM prediction scenarios to capture companies’s simulation results.

#### **Temporal prediction (Case 2/4) simulation results:**

[R2-2407977](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407977.zip) Discussion on simulation result of RRM measurement OPPO discussion Rel-19 FS\_NR\_AIML\_Mob

*Observation 4: Across sub-cases 1, 2, and 3, higher UE speeds result in larger prediction errors in the FR1 intra-frequency temporal domain case B.*

- Apple think we can generalize across all scenarios and frequencies. Mediatek that we can generalize but in the TR it depends how we capture the observations.

1. *For intra-frequency temporal domain, higher UE speeds result in larger prediction errors*

*.Observation 10: Initially, increasing the OW length can enhance prediction accuracy in the temporal domain case A, especially when the OW is relatively short. However, once the OW exceeds a certain threshold (e.g., 800ms), further increases do not yield significant benefits. Conversely, for PW, longer durations correlate with decreased prediction accuracy.*

- Mediatek thinks that we need more simulations results to determine the threshold. Oppo thinks that we can just remove the actual threshold.

- Samsung, Nokia has a similar observation and it is not good to continuously increase but the specific number is not important.

- ZTE thinks we can remove the certain threshold from the agreement. Xiaomi thinks we should keep it. Apple thinks we can keep it but not spend time as it is an implementation choice. ZTE and Ericsson think that it may be a bit early to conclude that it depends on implementation.

1. *Initially, increasing the OW length can enhance prediction accuracy in the temporal domain case A, especially when the OW is relatively short. However, once the OW exceeds a certain threshold, further increases do not yield significant benefits. Conversely, for PW, longer durations correlate with decreased prediction accuracy. RAN2 will not define the actual threshold and fast fading assumption.*

*.Observation 12: Among sub cases 1, 2, and 3, sub case 2 demonstrates the highest prediction accuracy, with sub case 1 being the second best. The prediction error of sub cases 1 and 3 is more than 1.08 dB larger than that of case 2 at 60km/h.*

- Vivo would like to prioritize case 2 and avoide too much combination. Samsung has same view as Vivo and we should decide which baseline to keep. Ericsson has the same observation.

- NTT Docomo thinks that for case 3 they have different observations and some further study is necessary for this issue. Qualcomm agrees with this observation and there is no reasoning provided why case 2 performs better. Nokia thinks that this is a specialized model for L3 measurement so it is expected that it performs better.

- Apple agrees with the observation but the actual numbers don’t need to be captures.

- ZTE indicates thinks that with very long prediction windows subcase 1 become better. We provided more values but other companies provided only value, so you cannot see the trend that we observed. The intention is to find out how long we can predict so companies can evaluate RSRP error difference at real time difference and not average during the window. Qualcomm, Nokia, Huawei and Ericsson also agrees and we should not be averaging the entire window. Ericsson thinks that we should provide both. Huawei thinks that we should focus on the last value of the window and average is not useful. Mediatek, Apple, Xiaomi thinks that even though this may impact intermediate KPI it may not make any difference to the system level results.

- Huawei thinks that we need to discuss if previously predicted results are also used as inputs for prediction, as we don’t measure all measurements. Nokia also thinks that companies should report what is used as an input

- Mediatek is open to study other cases.

- Xiaomi indicates that subcase 2 should be prioritized. Interdigital thinks that this would help us with measurement event as we can use subcase 2 for the indirect cases.

* Majority of companies observe that among sub cases 1, 2, and 3, at least with shorter prediction window sub case 2 demonstrates the highest prediction accuracy
* Companies can provide multiple real time RSRP value(s) and/or average RSRP value over the entire window and should indicate in their simulation results what they have used. The companies should at least provide the results of only one value it should be the last value at the end of the PW. We will add two columns in the spreadsheet to capture the last value and the average value.
* Companies need to report whether earlier predicted results are also used as inputs for future RRM prediction.

*Proposal 3: Capture the following observation into TP:*

*For FR2 intra-frequency temporal domain case A, increasing the OW length can improve prediction accuracy when OW is short. However, beyond a certain threshold (e.g., 800ms), additional increases do not provide benefits. For PW, longer durations lead to worse predictions.*

* Noted

[R2-2408558](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408558.zip) Evaluation and Simulation Results for AIML RRM Prediction MediaTek Inc. discussion Rel-19 FS\_NR\_AIML\_Mob

Observation 1: For intra-frequency temporal domain case B, the prediction accuracy is affected by OW length, MRRT, and UE speed. Specifically, higher accuracy can be achieved with a longer OW, lower MRRT, and lower UE speed.

Observation 6: For intra-frequency temporal domain case A, a higher OW/PW rate leads to higher prediction accuracy.

*Observation 7: For intra-frequency temporal domain case A, under the same OW and PW length, the sliding filtering case has higher prediction accuracy compared to the non-sliding filtering case.*

- ZTE and Apple thinks that not many companies showed this so not comfortable making this observation. Oppo thinks that the sliding filtering is better at small time scale, but at longer time scale they achieve almost the same effect.

* Noted

#### **Inter-frequency prediction (Case 3)**

[R2-2408747](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408747.zip) Simulation results for temporal and inter-frequency RRM measurement predictions Ericsson discussion Rel-19 FS\_NR\_AIML\_Mob

*Observation 17 Inter-Frequency prediction highly depends on the frequency distance (inversely proportion to correlation) between input/output frequencies, i.e., the higher the frequency distance the worse the prediction performance.*

- Mediatek didn’t see enough results on this. NTT docomo agrees as we only agreed to one pair of frequencies.

- Samsung thinks that it depends on the correlation of input and output frequency so this observation makes sense. Ericsson thinks that this observation indicates the importance of correlation between the channels.

- Samsung thinks that it would better for companies to report the channel correlation coefficient along with the simulation results.

- Ericsson thinks that we can maybe do simulation for highly correlated cells and low correlated cells.

1. Companies should report with their simulation the correlation coefficient

*Observation 19 Higher-to-lower frequency prediction slightly outperforms lower-to-higher frequency prediction (on average 0.2 dB less error is observed when predicting a cell in 2GHz frequency).*

- Xiaomi thinks that this observation is not as useful and the difference is only .2 dB. Oppo and CATT observed the opposite but anyways it is almost the same.

- Huawei has same observation but the difference is very comparable.

* Higher-to-lower and lower-to-higher frequency prediction is comparable
* Noted

[R2-2408558](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408558.zip) Evaluation and Simulation Results for AIML RRM Prediction MediaTek Inc. discussion Rel-19 FS\_NR\_AIML\_Mob

Observation 3: In frequency domain prediction cases, cell-specific approaches achieve limited gain compared to the non-AI approach without the help of neighbor cell measurement. The cluster-based approach outperforms cell-specific approaches across all sub-use cases.

*Observation 4: For the inter-frequency prediction in the co-located deployment, the UE speed does not affect the prediction accuracy.*

- Huawei indicates that in their results there is some impact but not very large impact. Vivo has different observation. Vivo’s results have impact and it is high impact

* For co-located scenario, the UE speed in the inter-frequency case has minor impact on prediction accuracy
* Noted

[R2-2407979](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407979.zip) Simulation results for RRM measurement prediction vivo discussion Rel-19 FS\_NR\_AIML\_Mob

Observation 5: For frequency domain prediction, increasing OW length can improve prediction accuracy.

Observation 6: For frequency domain prediction, as the UE speed increases, prediction accuracy decreases.

Observation 7: For frequency domain prediction within FR1, the prediction accuracy of prediction from low frequency to high frequency and prediction from high frequency to low frequency is almost the same.

* Noted

[R2-2407977](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407977.zip) Discussion on simulation result of RRM measurement OPPO discussion Rel-19 FS\_NR\_AIML\_Mob

Observation 6: With a similar model structure, cluster-based approach has higher model complexity than the cell-based approach. The more cells a cluster has, the more complexity the AI/ML model will have.

Observation 7: With a similar model structure, cluster-based approach has a larger RSRP difference than the cell-based approach under different observation windows. The gap becomes more evident (from 0.5dB to 1.98dB ) when OW changes from 400ms to 800ms. As the number of cells within a cluster grows, the average L3-RSRP difference tends to increase.

Proposal 1: Confirm that the cluster-based approach is optional and of low priority in the study and capture the following observation into TP: The cell-based approach outperforms the cluster-based approach in terms of model complexity, computational complexity, and prediction accuracy.

*Proposal 2: For the FR1 inter-frequency case, a small OW length, e.g., 400ms, is sufficient for making prediction. There is no need to introduce a longer OW length.*

- ZTE, Mediatek, Apple and CATT wonders if we have to consider the OW as the input and output can be at the same time instance. Vivo thinks we can have multiple input and then we need OW, if we use single then the OW is one time instance. ZTE thinks this is implementation. MEdiatek agrees that how long you will utilize the data it is UE implementation.

* Noted

[R2-2408529](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408529.zip) Discussion on RRM measurement prediction Samsung discussion Rel-19 FS\_NR\_AIML\_Mob

Observation 19: The cluster approach outperforms the cell-specific approach in frequency domain prediction.

Observation 20: In temporal domain prediction (intra-cell prediction), the measurement results of the target cell has the most directly correlated information and thus the cluster approach using measurement results from other cells may not be that useful.

Observation 21: In frequency domain prediction (inter-cell prediction), there is no measurement results for the target cell in input data and thus the cluster approach using measurement results from other cells can be relatively more useful.

Proposal 7: RAN2 to support the study on benefit of using the cluster approach at least for inter-cell measurement prediction scenarios (e.g., frequency domain prediction).

* Noted

Discussion on cluster based approach

- Oppo thinks it is more complex and lower performance so it should be considered with lower priority.

- Samsung agrees that it is more complex but if this complex model is trained well it can outperform the cell specific one. There is tradeoff between complexity and performance.

- Mediatek disagrees with Oppo and thinks that cluster can outperform.

- NTT Docomo thinks that even the model is more complex we can obtain more outputs in one shot and cell specific we have to run it multiple times t get those outputs.

- Qualcomm thinks that it should be up to the companies whether they use cluster based approach to make better prediction. It is very useful especially for mobility.

- Ericsson thinks that it really depends on which cells we combine, correlated cells will give us better results. Nokia agrees and it hasn’t been fully studied, also simulation results have been agreed.

- ZTE and Apple thinks it is too early to conclude as not many companies have provided results.

- Apple thinks that cluster based approach it means different things to people, multiple input/output, so companies should clarify which flavor they are using.

- CATT has only adopted the cluster based approach as it is more useful and practical.

- Mediatek thinks that the current table captures input/out and you can deduct the cluster based approach from that information.

**Agreements on intra-frequency**

1. For intra-frequency temporal domain, higher UE speeds result in larger prediction errors
2. Initially, increasing the OW length can enhance prediction accuracy in the temporal domain case A, especially when the OW is relatively short. However, once the OW exceeds a certain threshold, further increases do not yield significant benefits. Conversely, for PW, longer durations correlate with decreased prediction accuracy. RAN2 will not define the actual threshold and fast fading assumption.
3. Majority of companies observe that among sub cases 1, 2, and 3, at least with shorter prediction window sub case 2 demonstrates the highest prediction accuracy
4. Companies can provide multiple real time RSRP value(s) and/or average RSRP value over the entire window and should indicate in their simulation results what they have used. The companies should at least provide the results of only one value it should be the last value at the end of the PW. We will add two columns in the spreadsheet to capture the last value and the average value.

**Agreements on inter-frequency**

1. Companies need to report whether earlier predicted results are also used as inputs for future RRM prediction.
2. Companies should report with their simulation the correlation coefficient
3. Higher-to-lower and lower-to-higher frequency prediction is comparable
4. For co-located scenario, the UE speed in the inter-frequency case has minor impact on prediction accuracy

#### **Benchmarking with Non-AI ML/simple AI models**

[R2-2408558](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408558.zip) Evaluation and Simulation Results for AIML RRM Prediction MediaTek Inc. discussion Rel-19 FS\_NR\_AIML\_Mob

Observation 2: For intra-frequency temporal domain case B, the AI enhancement is limited compared to simple non-AI approaches, e.g., sample and hold. Particularly, when PW is short, non-AI approaches already provide very good performance, thus, the margin for AI enhancement is limited.

Observation 8: For intra-frequency temporal domain case A, AI can provide ~20% gain (in terms of L3 cell RSRP difference) compared to the non-AI approach, i.e., sample and hold. The improvement is more significant in the high UE speed case, e.g., 120km/hr, than in the low UE speed cases, e.g., 60km/hr.

* Noted

[R2-2408929](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408929.zip) RRM Measurement Prediction Evaluation Results Nokia discussion Rel-19 FS\_NR\_AIML\_Mob

Observation 14: Taking the max measurement outperforms random forest, when the interleaved approach is used.

Observation 15: Iterative selection/optimization of the set of measured beams provides significantly higher accuracy than any other approach without introducing complex models.

Proposal 8: RAN2 to study two sub-use-cases of spatial measurement reduction:

1. Fixed selection of the measured beams

2. Dynamic selection of the measured beams

* Noted

[R2-2408556](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408556.zip) RRM measurement prediction results using field and simulated data Apple Inc discussion

=> Revised in [R2-2409201](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409201.zip)

[R2-2409201](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409201.zip) RRM measurement prediction results using field and simulated data Apple Inc discussion

Observation 3: non-AI/ML approaches are not limited to “sample and hold”.

Observation 4: FNN outperforms other models; the performance gap is larger for larger speeds and larger prediction windows. However, simple models do perform reasonably OK (with the disclaimer that we are yet to establish what should be considered “reasonable accuracy”).

Observation 6: while for simulated data AR performs well and indeed close to FNN, that is not quite the case for field data, where FNN significantly outperforms AR.

* Noted

*Discussion*

­- Mediatek is open to consider more advanced approaches but we need to understand the situations we need to use AI.

- Qualcomm has also observed that non-AI approach can in some cases outperform AI approach, so it is difficult to understand whether we need non-AI as benchmark. In some cases simple AI models perform worst with simulation data but better with field data. It is useful to have simple models for UE complexity.

- Samsung agrees in general it is useful to quick check the performance. Not sure if we can agree to a baseline for each case, so we shouldn’t spend much time and leave it optional and up to company. Interdigital also agrees that it should be optional as there are so many options on what to compare with. It is anyways up to UE implementation.

- Vivo thinks that we should provide RSRP change and the actual prediction

- Oppo thinks that the comparison also depends on how the model is trained.

- Ericsson thinks that sample and hold can be ok for simple scenarios.

- Nokia thinks that we should capture complexity vs gain for different models.

- Mediatek asks if we should have a column for bench-marking. Interdigital notes that we can use the column on the model to indicate what we are using.

- Xiaomi asks what is simple AI model. Apple gives example of decision tree.

* Companies are free to consider non-AI or simple AI models

**KPI**

[R2-2409201](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409201.zip) RRM measurement prediction results using field and simulated data Apple Inc discussion

Proposal 2: to consider limited set of simple system level KPIs such HO failure rate as a KPI in this study.

[R2-2408265](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408265.zip) Discussion on RRM prediction Xiaomi discussion

Proposal 5: No need to do system level simulation for case 4.

Proposal 6: Reuse the modelling in 36.839 for HOF and ping-pong handover. The exact parameter value can be further discussed for FR2.

[R2-2408326](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408326.zip) Discussions and evaluations on RRM measurement prediction NTT DOCOMO, INC. discussion

- Study the HOF rate, Ping-pong rate, and CDF of the time-of-stay from system-level simulations.

*All contributions below will be NOTED and simulation results will be merged by rapporteur in the simulation results spreadsheed*

[R2-2408073](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408073.zip) Simulation results for RRM measurement prediction CMCC discussion Rel-19 FS\_NR\_AIML\_Mob

[R2-2408174](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408174.zip) Simulation results and other aspects on RRM measurement prediction Spreadtrum Communications, BUPT discussion Rel-19

[R2-2408206](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408206.zip) Simulation results of RRM Measurement Prediction CATT, Turkcell discussion Rel-19 FS\_NR\_AIML\_Mob

[R2-2408358](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408358.zip) Discussion on other aspects related to RRM measurement prediction ASUSTeK discussion Rel-19 FS\_NR\_AIML\_Mob

[R2-2408393](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408393.zip) Simulation results for RRM measurement prediction Qualcomm Incorporated discussion Rel-19

[R2-2408419](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408419.zip) Discussion on some clarification for RRM measurement prediction NEC discussion Rel-19 FS\_NR\_AIML\_Mob

[R2-2408438](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408438.zip) AI/ML RRM measurement prediction TCL discussion Rel-19

[R2-2408442](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408442.zip) Discussion on cluster based RRM measurement prediction for high speed railway communications BJTU discussion

[R2-2408520](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408520.zip) Evaluation on RRM measurement prediction ZTE Corporation discussion Rel-19 FS\_NR\_AIML\_Mob

=> Revised in [R2-2409207](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409207.zip)

[R2-2409207](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409207.zip) Evaluation on RRM measurement prediction ZTE Corporation discussion Rel-19 FS\_NR\_AIML\_Mob

[R2-2408736](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408736.zip) Simulation results and discussion on RRM measurement prediction Huawei, HiSilicon discussion Rel-19 FS\_NR\_AIML\_Mob

=> Revised in [R2-2409203](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409203.zip)

[R2-2409203](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409203.zip) Simulation results and discussion on RRM measurement prediction Huawei, HiSilicon discussion Rel-19 FS\_NR\_AIML\_Mob

[R2-2408740](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408740.zip) AI/ML RRM measurement prediction Fraunhofer HHI, Fraunhofer IIS discussion

[R2-2408747](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408747.zip) Simulation results for temporal and inter-frequency RRM measurement predictions Ericsson discussion Rel-19 FS\_NR\_AIML\_Mob

[R2-2408872](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408872.zip) AI-ML based Inter-frequency measurement prediction Rakuten Mobile, Inc discussion Rel-19

[R2-2408925](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408925.zip) Simulation results for RRM measurement predictions Interdigital Inc. discussion Rel-19 FS\_NR\_AIML\_Mob

[R2-2408967](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408967.zip) Discussion on RRM Measurement Prediction Framework Meta discussion Rel-19

[R2-2408974](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408974.zip) Discussion on RRM measurement prediction ETRI discussion

[R2-2409188](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409188.zip) Simulation results for RRM Measurement Prediction CEWiT discussion Rel-19 FS\_NR\_AIML\_Mob Late

### 8.3.3 Measurement event predictions

Contributions should focus on measurement event prediction use cases/scenarios to focus during the study, simulation assumptions and relevant performance metrics/KPIs to evaluate

#### **Simulation scenario:**

[R2-2408616](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408616.zip) Discussion on measurement event prediction Samsung discussion Rel-19 FS\_NR\_AIML\_Mob

*Proposal 5. Measurement event prediction use case is for 2nd study goal (i.e., HO KPI improvement).*

- Huawei thinks that we are also interested to understand if it works with reduced measurements and both are equally important, but we simulate we can further discuss. Can limit the use cases and not do all like in RRM. Apple agrees as measurement reduction is more important than performance improvement.

- Mediatek agrees that we should focus on the 2nd goal, we can consider both but maybe first priority should be 2nd goal.

- Xiaomi agrees with proposal.

*Proposal 6. For evaluation of measurement event prediction, RAN2 focus on FR2 to FR2 intra-frequency HO scenario.*

* Noted

[R2-2408327](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408327.zip) Discussions on measurement event prediction NTT DOCOMO, INC. discussion

*Proposal 1: Study the same cases of RRM measurement prediction at least for the indirect measurement event prediction and reuse the priorities.*

[R2-2408557](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408557.zip) On Measurement Event Prediction Evaluation Apple Inc discussion

*Proposal 4: consider both intra-frequency and inter-frequency.*

*Proposal 5: focus on FR1, can consider FR2 with lower priority*

*Discussion on use case is for 2nd study goal (i.e., HO KPI improvement) and/or measurement reduction.*

- Huawei, Nokia, ZTE thinks that we are also interested to understand if it works with reduced measurements and both are equally important, but we simulate we can further discuss. Can limit the use cases and not do all like in RRM. Apple agrees as measurement reduction is more important than performance improvement. Nokia and Huawei explains that the UE is doing measurement reduction and we need to understand how that impacts the KPI.

- Mediatek agrees that we should focus on the 2nd goal, we can consider both but maybe first priority should be 2nd goal.

- Xiaomi agrees with proposal to focus on 2nd study goal. CATT and LG agrees.

- Ericsson doesn’t think we need to do anything for measurement reduction as we have already done the work in RRM prediction. Oppo agrees if predict results are accurate the event prediction would be accurate.

- Lenovo understands that measurement reduction is important but the scope should focus on study goal two.

*Discussions on FR1 or FR2*

- Vivo thinks that we should focus on intra-frequency FR2 to FR2. Mediatek agrees with apple that FR1 is important to consider so we can do both.

- Xiaomi thinks we should focus on FR2 as there are not much issues for FR1 and if we do FR1 we would have to do hetnet

- Apple suggests one possibility is to perhaps we can do measurement reduction for FR1 and 2nd study goal for FR2.

- Qualcomm , Nokia, and CATT thinks FR2 is important

- Ericsson, CMCC, Huawei, thinks that if we can predict easily in FR2 then we can deduce that it would be possible in FR1 as well. LG agrees with Ericsson so to make it practical and useful we should prioritize. Huawei thinks that two scenarios should be picked, FR1 measurement reduction and FR2 HO improvement but what matters is that measurement prediction errors translate into KPI of event prediction accuracy.

- Oppo, Lenovo, agrees that we have focus on FR2 as the main goal is to predict an event in advance.

- Nokia thinks that we should also consider interfrequency prediction so it would help to study.

- ZTE thinks that doing simulation in FR2 it takes more time and more complicated.

- ZTE asks if we can consider case A for FR1 for checking the goal for handover performance.

- ZTE asks how can you evaluate the case A and prove the improved HO . Oppo explains that we should do the study step by step, how to do measurement event prediction and how to verify the impact to the system level performance.

- Oppo asks if we plan to do both intra-frequency and inter-frequency. Mediatek thinks we should focus on intra-frequency. Mediatek thinks that it is still worth bring other improvements for FR1, as the benefits in FR2 may not directly translate to FR1. Docomo thinks that inter-frequency still makes sense and we can use the same assumptions as inter-frequency. Huawei thinks that we should just pick two scenarios and we should focus on intra-frequency, as it will give the same results.

**Agreements**

* Measurement event prediction simulations will at least focus on intra-frequency FR2, case A, and second study goal (i.e. HO KPI improvement). FFS what is KPI.
* Companies can bring simulation results for intra-frequency measurement reduction for FR1 and report what they are doing. Focus on temporal case B.
* Companies will prioritize simulations on indirect method. Companies can bring simulations on direct method and should report what method is being used.
* Measurement event prediction results are expected in RAN2#129

#### **Simulation parameters:**

[R2-2407978](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407978.zip) Discussion on measurement event prediction OPPO discussion Rel-19 FS\_NR\_AIML\_Mob

*Proposal 10: The Simulation assumption of RRM measurement prediction for temporal domain case A (FR2) can be reused.*

*Proposal 11: The sliding filtering option is adopted as the baseline for measurement event prediction.*

- Apple would prefer to have both filtering options and we stick to the same assumption. ZTE and Huawei agrees with Apple. Vivo, Samsung, Mediatek agrees that we should focus only on a few options so we don’t have too many combinations. Mediatek points out that companies can indicate what they are using.

*Proposal 12: To focus on sub-case 2 for measurement event prediction*

*Proposal 13: To agree on HO parameters in table 2.4-1 as simulation parameters for measurement event prediction*

|  |  |
| --- | --- |
| Parameters | values |
| A3 event offset | 2 db (baseline), 0dB |
| TTT | 80ms (baseline), 160ms, 320ms, 480ms |
| **Preparation and execution time** | **80ms** |

Table 2.4-1

- Vivo thinks that for TTT and offset we should pick less values so it is easier to compare. Huawei and CATT thinks we can pick one A3 offset but TTT we need more. Samsung thinks that we can have different values based on companies preference. For A3 we can chose 2dB but for TTT we need to decide the criteria on how to chose the value.

- CATT thinks we can exclude 0dB. Qualcomm would like to check internally for FR2

- ZTE thinks that if want to do study goal two we need to create an unreasonable scenario and then prove that we can improve. That cannot be done with A3 event offset set to 2bB (as there will be no ping pong scenarios). Apple thinks that we can just drop all UEs at cell edge. Qualcomm thinks that if we go to higher speeds we will some more problems. .

[R2-2408737](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408737.zip) Discussion on simulations for measurement event prediction Huawei, HiSilicon discussion Rel-19 FS\_NR\_AIML\_Mob

Proposal 5: The following assumptions and settings can be used for measurement event prediction simulation.

|  |  |  |
| --- | --- | --- |
|  | Case 2: FR1 to FR1 intra-frequency temporal domain case B | Case 4: FR2 to FR2 intra-frequency temporal domain case A |
| Goal | Measurement overhead reduction | HO performance improvement |
| UE speeds | 30, 60, 90 km/h | 60, 90, 120 km/h |
| OW/PW | 1000/200 ms  1000/600 ms | 400/400 ms (RRM sub use case 2)  800/400 ms (RRM sub use case 2)  160/160 ms (RRM sub use case 1)  320/160 ms (RRM sub use case 1) |
| MRRT | 50% for target frequency, no reduction on serving frequency | N/A |
| Frequency layers | Inter-frequency HO:   * Serving frequency: 2 GHz * Target Frequency: 4 GHz | Intra-frequency HO: Freq=30 GHz |
| A3 event settings | * TTT: 40, 80, 160, 480 ms * a3-offset: -1, 0, 1, 2, 3 dB | |

* Aim to narrow down options and values. Will continue this discussion over email discussion
* Noted

#### **HO procedure simulation:**

[R2-2408032](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408032.zip) Measurement event prediction Xiaomi discussion Rel-19 FS\_NR\_AIML\_Mob

Proposal 7: For event prediction, at current stage, there is no need to model HO procedure. Companies should ensure that only reasonable simulation data is collected with respect to UE mobility and coverage.

Proposal 8: RAN2 to confirm that for measurement event prediction, traffic is not simulated.

[R2-2407978](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407978.zip) Discussion on measurement event prediction OPPO discussion Rel-19 FS\_NR\_AIML\_Mob

Proposal 7: A hypothetical HO procedure based on measurement event A3 is running to help identify serving cell during simulation

Discusssion

- Interdigital, CATT, Apple, Ericsson agrees with Xiaomi as all we need to do is collect the samples. Vivo thinks that system level performance should be considered and HO. CATT, Samsung and Ericsson thinks that as first step we should focus on inter-mediate KPI. System level can be considered later.

- Qualcomm asks what is HO procedure modelling and there should be no need to simulate messages.

- Qualcomm and Samsung also agree on no traffic simulation.

- Huawei thinks that HO performance we can assume agreements on RRM predictions already and the HO modelling would need be discussed. For modelling we can reuse the LTE TR. Mediatek agrees at the end we will have to model HO procedure for system level. Nokia agrees.

- Oppo thinks that this is just for methodology and we are not proposing to model HO procedure. Nokia thinks we should have the hypothetical HO procedure as that will simplify. Interdigital thinks that this would slow the simulation and dropping the user somewhere else right away would be more efficient. Samsung has the same understanding as interdigital. How to inentify the serving cell can be up to company implementation.

Agreements on simulation assumptions

* *The Simulation assumption of RRM measurement prediction can be reused unless otherwise specified.*
* Companies can pick and report what they are using for filtering options (similar to RRM prediction)
* Companies will focus on sub-case 2 for measurement event prediction. Companies can simulate other sub-cases if they wish and report what they are using.
* Leave the simulation parameter discussion for email discussion. Pick only one value for A3.
* It is up to company implementation how to model UE behavior after A3 event is trigger. Focus on intermediate KPIs for this exercise. System level KPI is FFFs
* For measurement event prediction, traffic is not simulated.

#### **Input/Output:**

[R2-2408616](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408616.zip) Discussion on measurement event prediction Samsung discussion Rel-19 FS\_NR\_AIML\_Mob

*Proposal 1. For indirect measurement event prediction, the intermediate output (i.e., the output of RRM prediction model) is RSRP of serving/neighboring cells.*

*The final output is the expected occurrence time of a certain measurement event (ex. event A3).*

- Nokia asks what this means as this is different from RLF. The network is interested of the time as the UE will vanish. Qualcomm and Nokia the time of occurrence gives the network time to do preparation and it is useful.

- Interdigital explains that there must be a time window so we should add a time limit window as classification problem doesn’t have a time limit. Oppo explains that similar to RLF the prediction for indirect it is exactly one time instance for the prediction. Nokia explains it is a bit different for RLF and we should capture the same thing for direct and indirect as in this case we only care about the event. Levono thinks that we don’t want to have a report of an event that can occur at any point in time, so it is relevant to have a time window. ZTE and Qualcomm explains that the time is there and it corresponds to the prediction window. ZTE thinks that the prediction window is sliding and if TTT can occur within prediction window. Qualcomm thinks that the prediction window should include the TT Time.

- Mediatek thinks that the most important aspect is how we want to calculate the KPI do we want to predict the event at a specific time or do we want to predict in a time range.

- Xiaomi thinks for simulation we just calculate the time it occurs but for KPI calculation we would need to consider window.

- Apple thinks at the end we will consider F1 score and we would need to have the window. Interidigital agrees that we need to bound it with a time window. Samsung has same understanding. To calculate the F1 score we need this first output whether it occurs or not.

- Oppo thinks that this is what we were doing for RLF prediction. Nokia think that this should be the same for RLF and we can apply the discussion in the email discussion.

*Proposal 2. For direct measurement event prediction, the model output is the probability of event occurrence within a time window.*

­- Apple thinks that there are more problems with indirect and we should define what time window means in email discussion.

- Huawei asks what does it mean for event A3 to occur. InterDigital thinks that it should be at the end of TTT like in normal HO procedure. Mediatek ask when the UE sends the report, either immediately. Interdigital thinks those are secondary discussions and don’t effect the simulation. Samsung agrees but when we discuss the system level we may need to decide.

- Oppo thinks that for direct the training can be done with TTT already.

[R2-2408079](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408079.zip) Discussion on measurement event prediction CMCC discussion Rel-19 FS\_NR\_AIML\_Mob

Proposal 2: For indirect prediction, the input and output of AI/ML model are as follows:

- Input: L1 or L3 measurement results

- Output: predicted RRM measurement (e.g. RSRP, RSRQ)

Proposal 3: For direct prediction, the input and output of AI/ML model are as follows:

- Input: at least includes L1/L3 measurement results, measurement event configuration (i.e. A3 event)

- Output: probability of measurement event occurrence within a window

#### **KPIs:**

[R2-2408207](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408207.zip) Discussion on Measurement Event Prediction CATT, Turkcell discussion Rel-19 FS\_NR\_AIML\_Mob

Proposal 6: RAN2 to adopt the following KPIs for measurement event prediction use case:

for indirect: the RSRP difference, missed event detection, false event detection, F1 score, time difference of true time event reporting triggered and predicted time event reporting triggered, true event prediction.

for direct: missed event detection, false event detection, F1 score.

- Ericsson asks when the inference begins, as soon as a measurement enters the condition and then you start prediction. Interdigital thinks that it should be up to implementation. Mediatek agrees with ericsson but it is too early and companies can first run some simulations.

**Agreements on inputs/outputs and KPIs**

1. For indirect measurement event prediction, the intermediate output (i.e., the output of RRM prediction model) is RSRP of serving/neighboring cells. The final output is the expected occurrence time of a certain measurement event (ex. event A3).
2. For direct measurement event prediction, the model output is the probability of event occurrence within a time window.
3. A3 event prediction should follow legacy rules (i.e. the “predicted” conditions have to persist for the duration of TTT).
4. As baseline, we will use RLF event prediction KPI:

for indirect: F1 score. the following can be reported: RSRP difference, missed event detection, false event detection. FFS how to define F1 score.

time difference of true time event reporting triggered and predicted time event reporting triggered, true event prediction.

for direct: F1 score. The following can be reported: missed event detection, false event detection,

Continue discussion over email discussion to see if there is a difference.

[R2-2408431](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408431.zip) Evaluation methodology, scenario and simulation assumption for measurement event prediction MediaTek (Chengdu) Inc. discussion Rel-19 FS\_NR\_AIML\_Mob

Proposal 14: System-level performance KPIs is needed to reflect the impact of RRM measurement event prediction results (indirect prediction) and event prediction recall/precision (direct prediction) on handover performance for the 2nd study goal.

[R2-2407978](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407978.zip) Discussion on measurement event prediction OPPO discussion Rel-19 FS\_NR\_AIML\_Mob

[R2-2407980](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407980.zip) Discussion on measurement event prediction vivo discussion Rel-19 FS\_NR\_AIML\_Mob

[R2-2408032](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408032.zip) Measurement event prediction Xiaomi discussion Rel-19 FS\_NR\_AIML\_Mob

[R2-2408079](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408079.zip) Discussion on measurement event prediction CMCC discussion Rel-19 FS\_NR\_AIML\_Mob

[R2-2408207](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408207.zip) Discussion on Measurement Event Prediction CATT, Turkcell discussion Rel-19 FS\_NR\_AIML\_Mob

[R2-2408298](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408298.zip) Other Aspects for AI based Measurement Event Prediction Continental Automotive discussion Rel-19

[R2-2408318](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408318.zip) Discussion on measurement event prediction Lenovo discussion Rel-19

[R2-2408327](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408327.zip) Discussions on measurement event prediction NTT DOCOMO, INC. discussion

[R2-2408359](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408359.zip) Discussion on measurement event prediction ASUSTeK discussion Rel-19 FS\_NR\_AIML\_Mob

[R2-2408394](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408394.zip) Measurement Event prediction Qualcomm Incorporated discussion Rel-19

[R2-2408431](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408431.zip) Evaluation methodology, scenario and simulation assumption for measurement event prediction MediaTek (Chengdu) Inc. discussion Rel-19 FS\_NR\_AIML\_Mob

[R2-2408493](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408493.zip) Discussion on measurement event prediction Jio discussion

[R2-2408521](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408521.zip) Discussion on measurement event prediction ZTE Corporation discussion Rel-19 FS\_NR\_AIML\_Mob

[R2-2408551](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408551.zip) Target scenarios for measurement event prediction NEC discussion

[R2-2408557](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408557.zip) On Measurement Event Prediction Evaluation Apple Inc discussion

[R2-2408616](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408616.zip) Discussion on measurement event prediction Samsung discussion Rel-19 FS\_NR\_AIML\_Mob

[R2-2408679](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408679.zip) Discussion on measurement event predictions III discussion FS\_NR\_AIML\_Mob

[R2-2408737](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408737.zip) Discussion on simulations for measurement event prediction Huawei, HiSilicon discussion Rel-19 FS\_NR\_AIML\_Mob

[R2-2408825](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408825.zip) AI based measurement events prediction: Use cases, and simulations Ericsson discussion FS\_NR\_AIML\_Mob

[R2-2408926](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408926.zip) Measurement event prediction Interdigital Inc. discussion Rel-19 FS\_NR\_AIML\_Mob

[R2-2408930](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408930.zip) Discussion on Measurement Event Prediction Nokia discussion Rel-19 FS\_NR\_AIML\_Mob

[R2-2408978](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408978.zip) Discussion on measurement event predictions ETRI discussion

[R2-2409066](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409066.zip) Event prediction use cases and KPI LG Electronics Inc. discussion FS\_NR\_AIML\_Mob

[R2-2409095](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409095.zip) Discussion on Measurement Event Predictions SHARP Corporation discussion Rel-19

## 8.4 Low-power wake-up signal and receiver for NR (LP-WUS/WUR)

(NR\_LPWUS-Core; leading WG: RAN1; REL-19; WID [RP-241824](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_105/Docs/RP-241824.zip))

Time budget: 1 TU

Tdoc Limitation: 3 tdocs

### 8.4.1 Organizational

LS, Rapporteur input, including workplan, etc.

[R2-2407921](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407921.zip) LS on LP-WUS operation in IDLE/INACTIVE mode (R1-2407559; contact: Apple) RAN1 LS in Rel-19 NR\_LPWUS To:RAN2, RAN4

[R2-2409157](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409157.zip) On LR and MR operating frequencies (related to LS in R1-2407559) Vodafone discussion Rel-19

### 8.4.2 Procedure and configuration of LP-WUS in RRC\_IDLE/INACTIVE

Procedure and configuration of LP-WUS indicating paging monitoring triggered by LP-WUS, including at least configuration, sub-grouping and entry/exit condition for LP-WUS monitoring

[R2-2408007](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408007.zip) Procedure and configuration of LP-WUS for IDLE and INACTIVE mode ZTE Corporation, Sanechips discussion Rel-19 NR\_LPWUS-Core

[R2-2408043](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408043.zip) LP-WUS in RRC\_IDLE and INACTIVE China Telecom discussion Rel-19 NR\_LPWUS-Core

[R2-2408072](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408072.zip) LP-WUS operation in IDLE/INACTIVE modes CMCC discussion Rel-19 NR\_LPWUS-Core

[R2-2408114](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408114.zip) Discussion on LP-WUS WUR in RRC\_IDLE INACTIVE vivo discussion Rel-19 NR\_LPWUS-Core

[R2-2408168](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408168.zip) Discussion on LP-WUS operation in IDLE/INACTIVE mode Spreadtrum Communications discussion Rel-19

[R2-2408182](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408182.zip) LP-WUS in RRC\_IDLE/INACTIVE CATT discussion Rel-19 NR\_LPWUS-Core

[R2-2408239](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408239.zip) Discussion on LP-WUS in RRC\_IDLE and RRC\_INACTIVE Sharp discussion Rel-19

[R2-2408289](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408289.zip) Procedure of LP-WUS in RRC\_IDLE and INACTIVE HONOR discussion Rel-19 NR\_LPWUS-Core

[R2-2408415](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408415.zip) Discussion on LP-WUS in RRC\_IDLE INACTIVE NEC discussion Rel-19 NR\_LPWUS-Core

[R2-2408428](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408428.zip) General considerations on the procedure for RRC\_IDLE\_INACTIVE Xiaomi Communications discussion

[R2-2408447](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408447.zip) Discussion on procedure and configuration of LP-WUS in RRC\_IDLE/INACTIVE Huawei, HiSilicon discussion Rel-19

[R2-2408450](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408450.zip) Discussion on procedure and configuration of LP-WUS in RRC\_IDLEINACTIVE OPPO discussion

[R2-2408489](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408489.zip) Procedure and Configuration of LP-WUS in RRC Idle/ Inactive Lenovo discussion Rel-19 NR\_LPWUS-Core

[R2-2408572](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408572.zip) Procedure and configuration of LP-WUS in RRC\_IDLE/INACTIVE Apple discussion Rel-19 NR\_LPWUS-Core

[R2-2408709](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408709.zip) RAN2 aspects on LP-WUS/WUR in RRC Idle/Inactive mode Sony discussion Rel-19 NR\_LPWUS-Core

[R2-2408741](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408741.zip) LP-WUS in IDLE and INACTIVE Nokia discussion Rel-19 NR\_LPWUS-Core

[R2-2408763](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408763.zip) LP-WUS operation in IDLE/Inactive state Qualcomm Incorporated discussion NR\_LPWUS-Core

[R2-2408768](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408768.zip) LP-WUS operation in RRC\_IDLE and RRC\_INACTIVE LG Electronics Inc. discussion Rel-19 NR\_LPWUS-Core

[R2-2408949](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408949.zip) Discussion on LP-WUS operation in RRC\_IDLE/INACTIVE modes InterDigital, Inc. discussion Rel-19 NR\_LPWUS-Core

[R2-2409005](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409005.zip) Procedure and Configuration of LP-WUS in RRC Idle Inactive Mode Samsung discussion Rel-19

[R2-2409058](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409058.zip) LP-WUS in Idle and Inactive Ericsson discussion Rel-19 NR\_LPWUS-Core [R2-2407396](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407396.zip)

### 8.4.3 RRM measurement relaxation and offloading in RRC\_IDLE/INACTIVE

RRM relaxation of UE MR for both serving and neighbor cell measurements, and UE serving cell RRM measurement offloaded from MR to LP-WUR, including the necessary conditions

[R2-2408008](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408008.zip) RRM measurement relaxation and offloading in RRC\_IDLE and RRC\_INACTIVE mode ZTE Corporation, Sanechips discussion Rel-19 NR\_LPWUS-Core

[R2-2408071](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408071.zip) Discussion on RRM measurement relaxation and offloading in RRC\_IDLE INACTIVE CMCC discussion Rel-19 NR\_LPWUS-Core

[R2-2408111](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408111.zip) RRM measurement relaxation and offloading in RRC\_IDLE/INACTIVE Huawei, HiSilicon discussion Rel-19 NR\_LPWUS-Core

[R2-2408115](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408115.zip) Discussion on RRM measurement relaxation and offloading in RRC\_IDLE/INACTIVE vivo discussion Rel-19 NR\_LPWUS-Core

[R2-2408159](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408159.zip) Discussion on RRM measurement in RRC IDLE and INACTIVE OPPO discussion Rel-19 NR\_LPWUS-Core

[R2-2408169](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408169.zip) Discussion on RRM measurement relaxation in IDLE/INACTIVE mode Spreadtrum Communications discussion Rel-19

[R2-2408183](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408183.zip) RRM Relaxation and Offloading in RRC\_IDLE/INACTIVE CATT discussion Rel-19 NR\_LPWUS-Core

[R2-2408240](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408240.zip) Discussion on RRM measurement relaxation and offloading Sharp discussion Rel-19

[R2-2408306](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408306.zip) RRM measurement relaxation and offloading in RRC\_IDLE/INACTIVE Lenovo discussion Rel-19

[R2-2408416](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408416.zip) Discussion on LP-WUS RRM NEC discussion Rel-19 NR\_LPWUS-Core

[R2-2408429](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408429.zip) Discussion on RRM measurement relaxation for RRC\_IDLE\_INACTIVE Xiaomi Communications discussion

[R2-2408573](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408573.zip) RRM measurement relaxation and offloading in RRC\_IDLE/INACTIVE Apple discussion Rel-19 NR\_LPWUS-Core

[R2-2408710](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408710.zip) Discussion on RRM aspects for LP-WUS/WUR Sony discussion Rel-19 NR\_LPWUS-Core

[R2-2408742](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408742.zip) RRM measurement relaxation in RRC\_IDLE/INACTIVE Nokia discussion Rel-19 NR\_LPWUS-Core

[R2-2408765](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408765.zip) LP-WUS RRM measurement relaxation and offloading Qualcomm Incorporated discussion NR\_LPWUS-Core

[R2-2408769](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408769.zip) RRM relaxation and RRM offloading LG Electronics Inc. discussion Rel-19 NR\_LPWUS-Core

[R2-2408849](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408849.zip) RRM Measurement Relaxation and Offloading in RRC\_IDLE /INACTIVE Mode China Telecom discussion

[R2-2408950](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408950.zip) Discussion on RRM measurement relaxation and offloading InterDigital, Inc. discussion Rel-19 NR\_LPWUS-Core

[R2-2409006](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409006.zip) RRM measurement relaxation and offloading in RRC Idle Inactive Mode Samsung discussion Rel-19

[R2-2409059](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409059.zip) LP-WUS and RRM measurements Ericsson discussion Rel-19 NR\_LPWUS-Core [R2-2407397](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407397.zip)

### 8.4.4 Procedures for LP-WUS in RRC\_CONNECTED

Procedures to allow UE MR PDCCH monitoring triggered by LP-WUS including activation and deactivation procedure of LP-WUS monitoring.

[R2-2408009](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408009.zip) Procedures for LP-WUS in RRC\_CONNECTED ZTE Corporation, Sanechips discussion Rel-19 NR\_LPWUS-Core

[R2-2408030](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408030.zip) Discussion on LP-WUS for RRC\_CONNECTED mode Huawei, HiSilicon discussion Rel-19 NR\_LPWUS-Core

[R2-2408044](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408044.zip) Procedures for LP-WUS in RRC\_CONNECTED China Telecom discussion Rel-19 NR\_LPWUS-Core

[R2-2408084](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408084.zip) Discussion on LP-WUS operation in CONNECTED mode CMCC discussion Rel-19 NR\_LPWUS-Core

[R2-2408116](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408116.zip) Discussion on LP-WUS WUR in RRC\_Connected vivo discussion Rel-19 NR\_LPWUS-Core

[R2-2408184](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408184.zip) Analysis on LP-WUS for RRC\_CONNECTED Mode CATT discussion Rel-19 NR\_LPWUS-Core

[R2-2408290](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408290.zip) Procedure of LP-WUS in RRC\_CONNECTED HONOR discussion Rel-19 NR\_LPWUS-Core

[R2-2408417](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408417.zip) Discussion on LP-WUS in RRC\_CONNECTED NEC discussion Rel-19 NR\_LPWUS-Core

[R2-2408430](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408430.zip) Discussing on LP-WUS monitoring for RRC\_Connected Xiaomi Communications discussion

[R2-2408451](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408451.zip) Discussion on LP-WUS in RRC\_CONNECTED OPPO discussion

[R2-2408490](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408490.zip) LP-WUS in RRC Connected Mode Lenovo discussion NR\_LPWUS-Core

[R2-2408574](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408574.zip) Procedures for LP-WUS in RRC\_CONNECTED Apple discussion Rel-19 NR\_LPWUS-Core

[R2-2408605](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408605.zip) LP-WUS operation in RRC\_CONNECTED Mode LG Electronics Inc. discussion Rel-19 NR\_LPWUS-Core

=> Withdrawn

[R2-2408692](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408692.zip) LP-WUS in CONNECTED mode InterDigital discussion Rel-19 NR\_LPWUS-Core

[R2-2408711](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408711.zip) Considerations on LP-WUS/WUR in RRC Connected mode Sony discussion Rel-19 NR\_LPWUS-Core

[R2-2408764](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408764.zip) LP-WUS operation in CONNECTED state Qualcomm Incorporated discussion NR\_LPWUS-Core

[R2-2409007](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409007.zip) Procedures for LP-WUS in RRC Connected Mode Samsung discussion Rel-19

[R2-2409052](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409052.zip) Discussion on LP-WUS for CONNECTED state NTT DOCOMO INC. discussion Rel-19

[R2-2409060](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409060.zip) LP-WUS in Connected Ericsson discussion Rel-19 NR\_LPWUS-Core [R2-2407398](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407398.zip)

[R2-2409076](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409076.zip) LP-WUS in RRC\_CONNECTED Nokia discussion

[R2-2409160](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409160.zip) LP-WUS operation in RRC\_CONNECTED Mode LG Electronics Inc. discussion Rel-19 NR\_LPWUS-Core

## 8.5 Network Energy Saving Enh.

(Netw\_Energy\_NR\_enh-Core; leading WG: RAN1; REL-19; WID: [RP-242354](https://www.3gpp.org/ftp/meetings_3gpp_sync/ran/docs/RP-242354.zip))

Time budget: 1 TU

Tdoc Limitation: 3 tdocs

### 8.5.1 Organizational

Including incoming LSs and rapporteur inputs.

[R2-2407914](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407914.zip) LS to RAN2 for on-demand SSB SCell operation (R1-2407438; contact: LGE) RAN1 LS in Rel-19 Netw\_Energy\_NR\_enh-Core To:RAN2

[R2-2408559](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408559.zip) Updated workplan for Rel-19 network energy savings WI Rapporteurs (Ericsson, Apple) Work Plan Rel-19 Netw\_Energy\_NR\_enh-Core

### 8.5.2 On-demand SSB SCell operation

Remaining issues from RAN2#127 and details of L3 measurements in case 1 and case 2 (taking measurement configuration and RAN1 agreement of including SSB periodicity in MAC-CE).

[R2-2407973](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407973.zip) Discussion on On-Demand SSB OPPO discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2407990](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407990.zip) Consideration on on-demand SSB SCell operation CATT discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408004](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408004.zip) On-demand SSB SCell operation in connected mode ZTE Corporation, Sanechips discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408045](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408045.zip) Further consideration for on-demand SSB China Telecom discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408085](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408085.zip) Discussion on on-demand SSB CMCC discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408100](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408100.zip) Discussion on on-demand SSB SCell operation vivo discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408172](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408172.zip) Discussion on on-demand SSB Scell operation Spreadtrum Communications discussion Rel-19

[R2-2408189](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408189.zip) Discussion on on-demand SSB Xiaomi discussion

[R2-2408237](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408237.zip) Discussion on on-demand SSB SCell operation for NES Huawei, HiSilicon discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408295](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408295.zip) On-demand SSB SCell Operation Samsung Electronics Co., Ltd discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408321](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408321.zip) Issues on the procedure of on-demand SSB SCell operation Lenovo discussion Rel-18

[R2-2408385](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408385.zip) Discussion on on-demand SSB for NES Ericsson discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408409](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408409.zip) Discussion on on-demand SSB SCell operation Fujitsu discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408560](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408560.zip) Further Discussion on-demand SSB for SCell Apple discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408612](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408612.zip) Further discussion on On-demand SSB for SCell NEC discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408712](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408712.zip) On-demand SSB Scell operation discussion Sony discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408770](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408770.zip) RRM relaxation and RRM offloading LG Electronics Inc. discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408785](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408785.zip) Discussion on OD-SSB Qualcomm Incorporated discussion

[R2-2408904](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408904.zip) On demand SSB transmission for SCell InterDigital discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2409053](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409053.zip) Discussion on on-demand SSB SCell operation Sharp discussion

[R2-2409086](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409086.zip) On demand SSB handling Nokia, Nokia Shanghai Bell discussion Rel-19 Netw\_Energy\_NR\_enh-Core

### 8.5.3 On-demand SIB1

Procedures and signaling method for case 2, e.g. which SIB includes UL WUS config for cell A and NES cell, details of UL WUS configurations, access restriction for legacy UEs, details of the UE behaviors related to OD-SIB1 request and failure case, etc.

[R2-2407952](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407952.zip) Discussion on on-demand SIB1 Xiaomi discussion Rel-19

[R2-2407991](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407991.zip) Consideration on on-demand SIB1 issues CATT discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408005](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408005.zip) Remaining issues of on-demand SIB1 in idle and inactive mode ZTE Corporation, Sanechips discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408086](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408086.zip) Discussion on on-demand SIB1 CMCC discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408101](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408101.zip) Discussion on on-demand SIB1 for RRC IDLE and INACTIVE UE vivo discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408173](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408173.zip) Discussion on on-demand SIB1 for NES Spreadtrum Communications discussion Rel-19

[R2-2408241](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408241.zip) Discussion on on-demand SIB1 Sharp discussion Rel-19

[R2-2408274](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408274.zip) Discussion on on-demand SIB1 for NES HONOR discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408294](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408294.zip) On-demand SIB1 Samsung Electronics Co., Ltd discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408386](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408386.zip) Discussion on on-demand SIB1 for NES Ericsson discussion Rel-19 Netw\_Energy\_NR\_enh-Core [R2-2407041](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407041.zip)

[R2-2408410](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408410.zip) Discussion on on-demand SIB1 procedure for NES Fujitsu discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408445](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408445.zip) Discussion on on-demand SIB1 operation for NES Huawei, HiSilicon discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408454](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408454.zip) Barring and SIB1-less case 2 Vodafone, Deutsche Telekom discussion Rel-19

[R2-2408461](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408461.zip) Open issues for the on-demand SIB1 transmission Google discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408561](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408561.zip) Discussion on on-demand SIB1 Apple discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408600](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408600.zip) Discussion on On-demand SIB1 signalling details NEC discussion

[R2-2408606](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408606.zip) Discussion on Ondemand-SIB1 KDDI Corporation discussion

[R2-2408641](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408641.zip) Remaining essential issues Lenovo discussion Netw\_Energy\_NR\_enh-Core

[R2-2408677](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408677.zip) On-demand SIB1 for Idle/Inactive mode UEs III discussion Netw\_Energy\_NR\_enh

[R2-2408713](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408713.zip) On-demand SIB1 for IDLE/INACTIVE UEs Sony discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408771](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408771.zip) On-demand transmission of SIB1 LG Electronics Inc. discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408772](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408772.zip) Consideration on on-demand SIB1 OPPO discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408786](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408786.zip) Discussion on OD-SIB1 Qualcomm Incorporated discussion

[R2-2408865](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408865.zip) Detection and access of NES cells with OD-SIB1 Rakuten Mobile, Inc discussion Rel-19

[R2-2408866](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408866.zip) Discussion on on-demand SIB1 for NES Rakuten Mobile, Inc discussion Rel-19

[R2-2408902](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408902.zip) On-demand SIB1 request and reception InterDigital discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2409087](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409087.zip) On demand SIB1 handling Nokia, Nokia Shanghai Bell discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2409144](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409144.zip) Discussion on On-demand SIB1 for NES Fraunhofer IIS, Fraunhofer HHI discussion Rel-19

[R2-2409156](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409156.zip) On-demand SIB1 for IDLE/INACTIVE UEs CEWiT discussion

### 8.5.4 Adaptation of common signal/channel transmissions

Adapation of paging occasions in time domain (including the email discussion[POST127][109][NES]), legacy UE impact (including barring aspect for paging adaptation), configuration aspect for paging adaptation, RAN2 spec impact and solutions for RACH adaptation and SSB (with consideration of RAN1 progress), etc.

[R2-2407974](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407974.zip) Report for [POST127][109][NES] (OPPO) OPPO report Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2407992](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407992.zip) Adaptation of Common signal channel transmissions CATT discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408006](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408006.zip) Further consideration on paging occasion adaptation ZTE Corporation, Sanechips discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408102](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408102.zip) Discussion on adaptation of common signal transmissions vivo discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408136](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408136.zip) Discussion on adaptation of common signal channel transmission OPPO discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408149](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408149.zip) Adaptation of common signal or channel Fujitsu discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408190](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408190.zip) Discussion on common signal adaptation Xiaomi discussion

[R2-2408238](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408238.zip) Discussion on adaptation of common signals/channels transmissions Huawei, HiSilicon discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408296](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408296.zip) Adaptation of common signal channel transmissions Samsung Electronics Co., Ltd discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408322](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408322.zip) Discussion on the adaptation transmissions for NES operation Lenovo discussion Rel-19

[R2-2408562](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408562.zip) Further discussion on common signal transmission adaptation Apple discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408601](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408601.zip) PRACH and Paging adaptation NEC discussion

[R2-2408684](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408684.zip) Discussion on paging adaptation scheme for NES cell ITRI discussion Netw\_Energy\_NR\_enh-Core

[R2-2408718](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408718.zip) Considerations on adaptation for paging signals Sony discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408794](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408794.zip) Discussion on adaptation of common signal/channel transmission Qualcomm Incorporated discussion

[R2-2408828](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408828.zip) Discussion on common signal and channel adaptation LG Electronics Inc. discussion Rel-19 Netw\_Energy\_NR\_enh

[R2-2408903](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408903.zip) Time domain adaptation of common signalling and channels InterDigital discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2408962](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408962.zip) Adaptation of common signal/channel transmissions for NES Ericsson discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2409061](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409061.zip) Discussion on RACH adaptation for NES SHARP Corporation discussion Rel-19

[R2-2409088](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409088.zip) Common signal aspects of NES WI Nokia, Nokia Shanghai Bell discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2409146](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409146.zip) Adaptation of Common Signals and Channels for NES Fraunhofer IIS, Fraunhofer HHI discussion Rel-19

[R2-2409148](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409148.zip) Adaptation of common signal/channel transmissions III discussion

## 8.6 Mobility Enhancement Ph4

(NR\_Mob\_Ph4-Core; leading WG: RAN2; REL-19; WID: [RP-242356](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_105/Docs/RP-242356.zip))

Time budget: 2 TU

Tdoc Limitation: 3 tdocs

### 8.6.1 Organizational

Including incoming LSs, WI rapporteur inputs, stage 2 running CR, etc.

[R2-2408052](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408052.zip) Introduction of NR mobility enhancements Phase 4 in TS 37.340 China Telecom draftCR Rel-19 37.340 18.3.0 B NR\_Mob\_Ph4-Core

[R2-2408595](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408595.zip) Important aspects of Rel-19 mobility enhancements WI Rapporteurs (Apple, China Telecom) discussion NR\_Mob\_Ph4-Core

[R2-2408598](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408598.zip) Introduction of NR mobility enhancements Phase 4 in TS 38.300 Apple draftCR Rel-19 38.300 18.3.0 B NR\_Mob\_Ph4-Core

### 8.6.2 Inter-CU LTM

Remaining open issues for inter-CU LTM (SA). Further RAN2 spec impacts and details of inter-CU LTM in DC, e.g. signaling design for inter-CU SCG LTM configuration, network interaction on inter-CU SCG LTM which to be added to 37.340, further scenario or issue clarification on the coexistence of intra-MN/inter-MN MCG LTM and inter-SN/intra-SN SCG LTM, etc.

[R2-2407987](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407987.zip) Discussion on Inter-CU LTM CATT discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408053](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408053.zip) Discussion on inter-CU LTM in DC China Telecom discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408061](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408061.zip) Discussion on remaining issues of inter-CU LTM cell switch Transsion Holdings discussion Rel-19

[R2-2408087](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408087.zip) Discussion on Inter-CU LTM CMCC discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408117](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408117.zip) Discussion on inter-CU LTM vivo discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408193](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408193.zip) Discussion on inter-CU LTM Xiaomi discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408259](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408259.zip) Discussion on Inter-CU LTM standalone and DC MediaTek Inc. discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408279](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408279.zip) Further discussion on inter-CU LTM HONOR discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408292](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408292.zip) Discussion on Inter CU LTM Lekha Wireless Solutions discussion Rel-19

[R2-2408319](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408319.zip) Discussion on Inter-CU LTM Lenovo discussion Rel-19

[R2-2408328](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408328.zip) Discussion on issues for supporting inter-CU LTM Sharp discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408498](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408498.zip) Discussion on open issues for inter-CU LTM OPPO discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408524](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408524.zip) Discussion on inter-CU LTM ZTE Corporation discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408596](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408596.zip) Open items for inter-CU LTM in SA and DC cases Apple discussion NR\_Mob\_Ph4-Core

[R2-2408607](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408607.zip) Discussion on inter-CU LTM with DC LG Electronics Inc. discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408659](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408659.zip) Discussion on inter-CU LTM NEC discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408682](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408682.zip) The Rel-19 ID for subsequent inter-CU LTM ITRI discussion NR\_Mob\_Ph4-Core

[R2-2408714](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408714.zip) LTM for Inter-CU Sony discussion Rel-19 NR\_Mob\_Ph4

[R2-2408752](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408752.zip) On Inter-CU LTM Open Issues Nokia discussion

[R2-2408758](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408758.zip) DC aspects for inter-CU LTM Ericsson discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408860](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408860.zip) Further Considerations to Support Inter-CU LTM Samsung discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408867](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408867.zip) Initial considerations for inter-CU LTM Rakuten Mobile, Inc discussion Rel-19

[R2-2408870](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408870.zip) LTM in DC scenarios Rakuten Mobile, Inc discussion Rel-19

=> Withdrawn

[R2-2408876](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408876.zip) LTM in DC scenarios Rakuten Mobile, Inc discussion Rel-19

[R2-2408957](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408957.zip) Discussion on Inter-CU LTM InterDigital, Europe, Ltd. discussion Rel-19

[R2-2408959](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408959.zip) Further Discussion to Support the inter -CU LTM ETRI discussion Rel-19

[R2-2408966](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408966.zip) Inter-gNB LTM Qualcomm Innovation Center Inc discussion

[R2-2409000](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409000.zip) Discussion on Inter-CU LTM Kyocera discussion Rel-19

[R2-2409009](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409009.zip) Discussion on fast LTM recovery support for Rel-19 LTM Fujitsu discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2409031](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409031.zip) Multiple reference configuration for inter-CU LTM KDDI Corporation, LG Electronics, Nokia, ZTE, Rakuten, KT, CMCC, ETRI, ITL, ITRI, Fujitsu, SK telecom, Uplus discussion

[R2-2409142](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409142.zip) Inter-CU LTM Huawei, HiSilicon discussion Rel-19 NR\_Mob\_Ph4-Core

### 8.6.3 L1 event triggered measurement reporting

Details on report configuration signaling design associating with the resource configuration, event evaluation and triggering details, need of other condition to trigger measurement report (e.g. need of MR when leaving condition is met, need of event-triggered periodic MR), information and signaling structure of MR MAC CE, UE procedure to transmit MR MAC CE, etc.

[R2-2407988](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407988.zip) L1 event triggered measurement reporting CATT discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408021](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408021.zip) Remaining issues of L1 event triggered measurement reporting Xiaomi discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408054](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408054.zip) Discussion on L1 event triggered measurement reporting China Telecom discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408062](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408062.zip) Discussion on L1 event triggered measurement reporting Transsion Holdings discussion Rel-19

[R2-2408070](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408070.zip) Discussion on L1 event triggered measurement reporting CMCC discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408118](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408118.zip) Discussion on LTM measurement event evaluation and reporting vivo discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408150](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408150.zip) Discussions on event triggered L1 measurement reporting Fujitsu discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408164](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408164.zip) Discussion on L1 event triggered measurement reporting Spreadtrum Communications discussion Rel-19

[R2-2408260](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408260.zip) Measurement reporting discussion MediaTek Inc. discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408280](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408280.zip) Discussion on measurement event evaluation and report HONOR discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408320](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408320.zip) L1 Measurement enhancements Lenovo discussion Rel-19

[R2-2408329](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408329.zip) Discussion on issues for L1 event triggered measurement reporting Sharp discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408384](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408384.zip) Discussion on LTM measurement reporting configuration Baicells discussion

[R2-2408455](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408455.zip) L1 measurement event configuration and reporting Panasonic discussion Rel-19

[R2-2408492](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408492.zip) Discussion on L1 event triggered measurement Jio discussion

[R2-2408499](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408499.zip) Open issues for event triggered L1 measurement reporting OPPO discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408525](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408525.zip) Discussion on L1 event triggered measurement reporting ZTE Corporation discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408597](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408597.zip) LTM event triggered measurement reporting Apple discussion NR\_Mob\_Ph4-Core

[R2-2408613](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408613.zip) Details of L1 event triggered measurement reporting NEC discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408759](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408759.zip) Event definition and MAC CE content for L1 event-triggered measurements Ericsson discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408783](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408783.zip) Discussion on event-triggered measurement report Huawei, HiSilicon discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408871](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408871.zip) Event based L1 measurements triggered LTM candidate cell addition/release Rakuten Mobile, Inc discussion Rel-19

[R2-2408948](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408948.zip) On L1 Measurement Reporting Enhancements for Rel-19 LTM Nokia discussion Rel-19 NR\_Mob\_Ph4

[R2-2408965](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408965.zip) Measurement enhancements for LTM Qualcomm Incorporated discussion

[R2-2408996](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408996.zip) L1 measurement reporting procedures for LTM enhancements Kyocera discussion Rel-19

[R2-2409033](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409033.zip) Discussion on Event-triggered L1 measurement reporting NTT DOCOMO, INC. discussion Rel-19

[R2-2409065](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409065.zip) Event LTM report LG Electronics Inc. discussion NR\_Mob\_Ph4-Core

[R2-2409096](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409096.zip) Support of Event Triggered L1 Measurement Reporting Samsung discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2409105](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409105.zip) Discussion on event triggered L1 measurement reporting ITL discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2409127](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409127.zip) Discussion on L1 event triggered measurement reporting KDDI Corporation discussion

[R2-2409192](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409192.zip) Event triggered L1 measurement reporting for LTM Interdigital, Inc. discussion Rel-19 NR\_Mob\_Ph4-Core

### 8.6.4 Conditional intra-CU LTM

RAN2 spec impact and high-level solution, i.e. additional new aspect on top of intra-CU LTM.

[R2-2407989](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407989.zip) Discussion on Conditional Intra-CU LTM CATT discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408055](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408055.zip) Discussion on conditional intra-CU LTM China Telecom discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408063](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408063.zip) Discussion on supporting conditional intra-CU LTM Transsion Holdings discussion Rel-19

[R2-2408088](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408088.zip) Disucssion on conditional LTM CMCC discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408119](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408119.zip) Discussion on conditional LTM vivo discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408151](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408151.zip) Discussion on conditional LTM Fujitsu discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408165](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408165.zip) Discussion on conditional intra-CU LTM Spreadtrum Communications discussion Rel-19

[R2-2408194](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408194.zip) Discussion on conditional LTM Xiaomi discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408261](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408261.zip) Initial thinking on conditional LTM MediaTek Inc. discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408281](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408281.zip) Discussion on conditional LTM HONOR discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408330](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408330.zip) Discussion on conditional LTM Sharp discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408500](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408500.zip) Discussion on conditional LTM OPPO discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408507](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408507.zip) Considerations for conditional LTM Panasonic discussion Rel-19

[R2-2408526](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408526.zip) Discussion on conditional intra-CU LTM ZTE Corporation discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408599](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408599.zip) Scoping conditional LTM for Rel-19 Apple discussion NR\_Mob\_Ph4-Core

[R2-2408608](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408608.zip) Discussion on conditional LTM LG Electronics Inc. discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408614](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408614.zip) Discussion on conditional intra-CU LTM NEC discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408640](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408640.zip) Conditional LTM basics Lenovo discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408724](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408724.zip) Conditional Intra-CU LTM Sony discussion Rel-19 NR\_Mob\_Ph4

[R2-2408760](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408760.zip) Baseline assumptions for conditional LTM Ericsson discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2408928](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408928.zip) On conditional LTM Nokia discussion Rel-19 NR\_Mob\_Ph4

[R2-2408960](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408960.zip) Discussion on conditional intra-CU LTM ETRI discussion Rel-19

[R2-2408964](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408964.zip) Conditional intra-gNB LTM Qualcomm Incorporated discussion

[R2-2408997](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408997.zip) Discussion on Conditional LTM KT Corp. discussion

[R2-2409001](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409001.zip) Discussion on Conditional Intra-CU LTM Kyocera discussion Rel-19

[R2-2409035](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409035.zip) Discussion on Conditional intra-CU LTM NTT DOCOMO, INC. discussion Rel-19

[R2-2409097](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409097.zip) Support of Conditional Intra-CU LTM Samsung discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2409106](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409106.zip) Discussion on Conditional LTM ITL discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2409111](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409111.zip) Discussion on Conditional mobility CEWiT discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2409143](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409143.zip) Intra-CU conditional LTM Huawei, HiSilicon discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2409193](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409193.zip) Conditional LTM Interdigital, Inc. discussion Rel-19 NR\_Mob\_Ph4-Core

## 8.7 XR Enhancements Ph3

(NR\_XR\_Ph3-Core; leading WG: RAN2; REL-19; WID: [RP-241771](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_105/Docs/RP-241771.zip))

Time budget: 2 TU

Tdoc Limitation: 5 tdocs

### 8.7.1 Organizational

LS, Rapporteur input, including workplan, etc.

[R2-2407927](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407927.zip) Response LS to SA2 on FS\_XRM Ph2 (R3-244844; contact: ZTE) RAN3 LS in Rel-19 FS\_XRM\_Ph2 To:SA2 Cc:RAN2, SA4

[R2-2407936](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407936.zip) LS reply on multi-modality awareness at RAN (S2-2409444; contact: Huawei) SA2 LS in Rel-19 NR\_XR\_Ph3-Core, XRM\_Ph2 To:RAN2, SA4, RAN3 Cc:RAN

[R2-2407939](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407939.zip) LS Reply on FS\_XRM\_Ph2 (S4-241776; contact: Nokia) SA4 LS in Rel-19 FS\_XRM\_Ph2, FS\_5G\_RTP\_Ph2 To:SA2, RAN2 Cc:RAN3

[R2-2407940](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407940.zip) LS on Application-Layer FEC Awareness at RAN (S4-241785; contact: Qualcomm) SA4 LS in Rel-19 FS\_XRM\_Ph2, NR\_XR\_Ph3-Core, FS\_5G\_RTP\_Ph2 To:SA2 Cc:RAN2, RAN3

[R2-2408645](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408645.zip) Rapporteur Inputs Nokia, Qualcomm (Rapporteurs) discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408782](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408782.zip) Discussion on reply LS on multi-modality awareness Huawei, HiSilicon discussion Rel-19 NR\_XR\_Ph3-Core

### 8.7.2 Multi-modality support

**No contributions are expected for this AI for RAN2#127bis, RAN2 is only expected to provide input to SA2/SA4 by replying to SA2 LS, as per the latest WID:**

- Specify support for multimodality in RAN for UL and DL [RAN3]:

NOTE: This is subject to alignment with SA2, e.g., if MMSID is not available from CN, then UE assistance information-based approach as an alternative. RAN#106 to check handling of uplink discard based on SA2/SA4 outputs on whether the corresponding information is available at the UE.

[R2-2408120](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408120.zip) Discussion on LS from SA2 on multi-modality vivo discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408535](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408535.zip) Reply LS on multi-modality support ZTE Corporation, Sanechips discussion

[R2-2408627](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408627.zip) Discussion on LS from SA2 on multi-modality awareness at RAN Meta discussion

[R2-2408693](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408693.zip) Discussion on multi-modality LS InterDigital discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2409082](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409082.zip) Draft Reply LS on multi-modality awareness at RAN Nokia, Nokia Shanghai Bell LS out NR\_XR\_Ph3-Core To:SA2 Cc:SA4, RAN3

### 8.7.3 RRM measurement gaps/restrictions related enhancements

Objective: Specify enhancements to enable transmission/reception in gaps/restrictions that are caused by RRM measurements (from inter-frequency RRM measurement gaps, or intra-frequency measurements, or other scheduling restrictions etc).

Focus on RAN2 impacts from solutions considered by RAN1/RAN4.

[R2-2407998](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407998.zip) Enabling TX RX for XR during RRM measurements CATT discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408074](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408074.zip) Discussion on RRM measurement gaps enhancements CMCC discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408129](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408129.zip) Discussion on overriding measurement gaps Qualcomm Incorporated discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408347](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408347.zip) Enabling TX/RX for XR during RRM measurement gaps /restrictions Lenovo discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408425](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408425.zip) Discussion on RRM measurement gaps enhancements of XR traffic Xiaomi Communications discussion

[R2-2408575](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408575.zip) Views on Enhancements Relating to RRM Measurement Gaps Apple discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408610](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408610.zip) Discussion on RRM measurement gaps/restrictions related enhancements NEC discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408617](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408617.zip) Measurement Gap Enhancements for XR Sharp discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408628](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408628.zip) Discussion on RRM Measurement Gaps/Restrictions Enhancements Meta discussion

[R2-2408689](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408689.zip) RRM Measurement Gaps/Restrictions related enhancements for XR Google Ireland Limited discussion

[R2-2408720](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408720.zip) Discussion on enabling TX/RX for XR during RRM measurements Sony discussion Rel-19 NR\_XR\_Ph3

[R2-2408781](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408781.zip) Discussion on RRM enhancements for XR Huawei, HiSilicon discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408882](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408882.zip) XR - RRM Measurement Gap/Restriction Enhancements Ericsson discussion Rel-19

[R2-2408986](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408986.zip) Discussion on RRM measurement gaps/restrictions enhancements for Rel-19 XR Samsung discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2409016](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409016.zip) RRM measurement gaps/restrictions related enhancements Nokia, Nokia Shanghai Bell discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2409116](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409116.zip) Discussion on Measurement Gap enhancements OPPO discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2409147](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409147.zip) Discussion on XR RRM measurement gaps/restrictions related enhancements III discussion NR\_XR\_Ph3-Core

[R2-2409151](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409151.zip) Discussion on MG enhancement for XR LG Electronics Inc. discussion Rel-19 NR\_XR\_Ph3-Core

### 8.7.4 Scheduling enhancements

#### 8.7.4.1 LCP enhancements

Objective: Specify Enhancements for support of UL scheduling to enable high XR capacity while meeting delay requirements/avoiding too late PDUs, as follows [RAN2]:

* Specify additional Logical Channel priority handling using delay/deadline information of packets;

Including aspects such as further details of the additional priority for LCH with dealy-critical data

[R2-2407999](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407999.zip) Consideration on LCP enhancement CATT discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408094](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408094.zip) Consideration on LCP enhancement for XR CMCC discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408106](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408106.zip) Discussion on additional Logical Channel priority handling TCL discussion

[R2-2408121](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408121.zip) Discussion on LCP enhancement for XR vivo discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408130](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408130.zip) Discussion on LCP enhancements Qualcomm Incorporated discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408134](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408134.zip) Discussion on delay-aware LCP enhancements for XR OPPO discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408152](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408152.zip) Discussions on enhancement of the LCP for delay-critical data Fujitsu discussion Rel-19 NR\_XR\_Ph3-Core [R2-2406548](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2406548.zip)

[R2-2408177](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408177.zip) Discussion on LCP enhancements for XR Spreadtrum Communications discussion Rel-19

[R2-2408286](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408286.zip) Discussion on LCP enhancements HONOR discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408343](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408343.zip) Considerations on LCP enhancements for XR NEC discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408346](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408346.zip) Enhanced Logical channel prioritization (LCP) for XR Lenovo discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408421](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408421.zip) Additional LCH Priority Handling and Prioritization Sharp discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408426](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408426.zip) Discussion on LCP enhancements of XR traffic Xiaomi Communications discussion

[R2-2408495](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408495.zip) Discussion on Logical channel priority CANON Research Centre France discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408530](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408530.zip) LCP enhancements for XR ZTE Corporation, Sanechips discussion

[R2-2408576](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408576.zip) Delay-based Logical Channel Priority Adjustment Apple discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408650](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408650.zip) Discussion on LCP enhancements for XR DENSO CORPORATION discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408694](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408694.zip) LCP enhancements for UL scheduling InterDigital discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408727](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408727.zip) Discussion on additional priority based LCP enhancements in XR Huawei, HiSilicon discussion NR\_XR\_Ph3-Core

[R2-2408857](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408857.zip) Discussion on Leftover Issues for LCP Prioritization China Telecom discussion

[R2-2408907](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408907.zip) Discussion on additional LCP handling ETRI discussion Rel-19

[R2-2408916](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408916.zip) LCP enhancements Ericsson discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2409017](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409017.zip) LCP Enhancements for XR Nokia, Nokia Shanghai Bell discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2409049](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409049.zip) LCP enhancements for LCH with delay critical data MediaTek Inc. discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2409149](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409149.zip) Discussion on LCP enhancement for XR LG Electronics Inc. discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2409155](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409155.zip) LCP enhancements for Rel-19 XR Samsung R&D Institute UK discussion

#### 8.7.4.2 DSR enhancements

Objective: Specify enhanced DSR (Delay Status Report) reporting with multiple pairs of remaining time and buffer size for a LCG.

Including aspects such as further details of DSR with multiple pairs of remaining time and buffer size, e.g. does PSI need to be included, need of thresholds configuration constraints, impact on delay-critical data definition, inclusion of non-delay critical data etc.

[R2-2408000](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408000.zip) Consideration on DSR enhancement CATT discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408095](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408095.zip) Consideration on DSR enhancement for XR CMCC discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408122](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408122.zip) Discussion on DSR enhancement for XR vivo discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408131](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408131.zip) Discussion on DSR enhancements Qualcomm Incorporated discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408135](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408135.zip) Discussion on delay-aware DSR enhancements for XR OPPO discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408153](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408153.zip) Discussions on DSR enhancements Fujitsu discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408288](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408288.zip) Discussion on DSR enhancements HONOR discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408307](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408307.zip) Enhanced delay status reporting for XR Lenovo discussion Rel-19

[R2-2408344](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408344.zip) Considerations on DSR enhancements for XR NEC discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408422](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408422.zip) Considerations for DSR Enhancements Sharp discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408427](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408427.zip) Discussion on DSR enhancements of XR traffic Xiaomi Communications discussion

[R2-2408496](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408496.zip) Discussion on Delay status report CANON Research Centre France discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408531](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408531.zip) DSR enhancements for XR ZTE Corporation, Sanechips discussion

[R2-2408577](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408577.zip) Views on DSR Enhancements Apple discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408629](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408629.zip) Discussion on DSR Enhancements Meta discussion

[R2-2408683](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408683.zip) Discussion on enhanced DSR for XR ITRI discussion NR\_XR\_Ph3-Core

[R2-2408695](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408695.zip) DSR enhancements for UL scheduling InterDigital discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408728](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408728.zip) Discussion on DSR enhancements in XR Huawei, HiSilicon discussion NR\_XR\_Ph3-Core

[R2-2408858](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408858.zip) Discussion on Remaining Issues for DSR Enhancement China Telecom discussion

[R2-2408918](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408918.zip) DSR enhancements Ericsson discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408985](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408985.zip) DSR enhancements for Rel-19 XR Samsung discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2409018](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409018.zip) DSR Enhancements for XR Nokia, Nokia Shanghai Bell discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2409074](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409074.zip) Discussion on DSR enhancement TCL discussion Rel-19

[R2-2409101](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409101.zip) Discussion on DSR enhancements ETRI discussion

[R2-2409112](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409112.zip) Remaining issues for DSR enhancement MediaTek Inc. discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2409145](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409145.zip) Discussion on XR scheduling enhancements III discussion NR\_XR\_Ph3-Core

[R2-2409150](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409150.zip) Discussion on DSR enhancement for XR LG Electronics Inc. discussion Rel-19 NR\_XR\_Ph3-Core

### 8.7.5 RLC enhancements

Objective: RLC re-transmission related enhancements for operation of RLC Acknowledged Mode (AM) with small packet delay budget.

Including aspects such as:

* how to avoid unnecessary retransmissions, e.g. details of Tx, Rx and combined approaches, pros and cons comparison.
* how to ensure timely RLC retransmissions for XR, e.g.
  + can existing mechanisms be reused or do we need enhancements?
  + what kind of enhancements are needed, e.g. autonomous retransmission, retransmission based on enhanced status report, retransmission based on enhanced polling.
  + details and pros and cons of different solutions.

[R2-2407986](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407986.zip) Discussion on RLC AM enhancements Huawei, HiSilicon discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408001](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408001.zip) Consideration on XR-specific RLC enhancement CATT discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408033](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408033.zip) RLC AM retransmission enhancements Xiaomi discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408075](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408075.zip) Discussion on the RLC re-transmission related enhancements for XR CMCC discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408123](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408123.zip) Discussion on RLC enhancement for XR vivo discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408132](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408132.zip) Discussion on RLC enhancements Qualcomm Incorporated discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408154](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408154.zip) Discussions on RLC enhancements Fujitsu discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408178](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408178.zip) Discussion on timely RLC retransmission(s) Spreadtrum Communications discussion Rel-19

[R2-2408287](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408287.zip) Discussion on timely RLC enhancements HONOR discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408308](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408308.zip) AM RLC enhancement Lenovo discussion Rel-19

[R2-2408424](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408424.zip) Discussion on Timely Retransmission Sharp discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408497](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408497.zip) Discussion on RLC AM Enhancements CANON Research Centre France discussion Rel-19 NR\_XR\_Ph3

[R2-2408532](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408532.zip) RLC enhancements for XR ZTE Corporation, Sanechips discussion

[R2-2408578](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408578.zip) Views on RLC-AM Enhancements for Rel-19 XR Apple discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408630](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408630.zip) Discussion on RLC AM Enhancements for XR Meta discussion

[R2-2408633](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408633.zip) RLC Enhancements for XR Samsung discussion Rel-19

[R2-2408646](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408646.zip) RLC enhancements Nokia discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408673](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408673.zip) Further Discussion on RLC AM enhancement NEC discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408696](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408696.zip) Discussion on RLC retransmission enhancements InterDigital discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408697](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408697.zip) Avoiding unnecessary RLC re-transmissions InterDigital discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408715](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408715.zip) RLC AM enhancements Sony discussion Rel-19 NR\_XR\_Ph3

[R2-2408859](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408859.zip) Discussion on RLC Enhancement China Telecom discussion

[R2-2408883](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408883.zip) Even Further Discussions on RLC AM Enhancements Ericsson discussion Rel-19

[R2-2408982](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408982.zip) Discussion on further details of RLC enhancements for XR LG Electronics Inc. discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2409073](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409073.zip) Discussion on RLC AM enhancement TCL discussion Rel-19

[R2-2409115](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409115.zip) Discussion on RLC re-transmission related enhancements OPPO, China Telecom, Sharp, Samsung, HONOR, CMCC, KDDI, Apple, Intel, vivo, MediaTek, ZTE discussion Rel-19 NR\_XR\_Ph3-Core

=> Revised in [R2-2409208](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409208.zip)

[R2-2409208](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409208.zip) Discussion on RLC re-transmission related enhancements OPPO, China Telecom, Sharp, Samsung, HONOR, CMCC, KDDI, Apple, Intel, vivo, MediaTek, ZTE discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2409153](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409153.zip) RLC AM enhancements with small packet delay budget MediaTek Inc. discussion Rel-19 38.322 NR\_XR\_Ph3-Core

### 8.7.6 XR rate control

Objective: Specify uplink congestion signaling [RAN2]:

* Specify in MAC layer XR rate control signaling over downlink per QoS flow/per DRB to enable faster source rate adaption to uplink congestion

[R2-2408002](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408002.zip) Discussion on XR rate control CATT discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408034](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408034.zip) XR rate control Xiaomi discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408096](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408096.zip) Consideration on rate control enhancement for XR CMCC discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408107](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408107.zip) Discussion on XR rate control TCL discussion

[R2-2408124](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408124.zip) Discussion on codec rate adaption vivo discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408133](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408133.zip) Discussion on signaling enhancements for XR rate control Qualcomm Incorporated discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408345](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408345.zip) Uplink rate control for XR NEC discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408423](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408423.zip) UL Congestion Signaling Enhancements for XR Sharp discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408491](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408491.zip) XR Rate Control Lenovo discussion NR\_XR\_Ph3-Core

[R2-2408533](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408533.zip) MAC signalling for data rate control for XR applications ZTE Corporation, Sanechips discussion

[R2-2408579](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408579.zip) Views on MAC Signalling for XR Rate Control Apple discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408631](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408631.zip) Discussion on RAN Awareness and UL Rate Control for XR Meta discussion

[R2-2408722](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408722.zip) Recommended bit rate based XR rate control Sony discussion Rel-19 NR\_XR\_Ph3

[R2-2408773](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408773.zip) Discussion on uplink congestion signalling OPPO discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408780](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408780.zip) Discussion on XR rate control Huawei, HiSilicon discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408884](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408884.zip) On XR Rate Control Ericsson discussion Rel-19

[R2-2408983](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408983.zip) Discussion on rate control signaling for XR LG Electronics Inc. discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2408984](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408984.zip) Discussion on UL rate control for Rel-19 XR Samsung discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2409077](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409077.zip) XR rate control Nokia, Nokia Shanghai Bell discussion

[R2-2409084](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409084.zip) Uplink congestion control signalling MediaTek Inc. discussion Rel-19 38.321 NR\_XR\_enh-Core

[R2-2409174](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409174.zip) Discussions on XR UL rate control Futurewei discussion Rel-19 NR\_XR\_Ph3-Core

## 8.8 NTN for NR Ph3

(NR\_NTN\_Ph3-Core; leading WG: RAN2; REL-19; WID: [RP-241789](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_105/Docs/RP-241789.zip))

LTE\_TN\_NR\_NTN\_mob, leading WG: RAN2, Rel-19 WID: [RP-240924](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_104/Docs/RP-240924.zip))

Time budget: 2 TU

Tdoc Limitation: 3 tdocs

### 8.8.1 Organizational

LS, Rapporteur input, including workplan, etc.

For the LTE\_TN\_NR\_NTN\_mob WI, including initially endorsed draft CRs from the WI spec rapporteurs.

Rapporteur inputs do not count towards the tdoc limitation.

[R2-2407919](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407919.zip) Reply LS on DL coverage enhancements (R1-2407538; contact: CMCC) RAN1 LS in Rel-19 NR\_NTN\_Ph3-Core To:RAN2

[R2-2407963](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407963.zip) Introduction of LTE TN to NR NTN IDLE mode mobility CATT draftCR Rel-19 36.331 18.3.1 B LTE\_TN\_NR\_NTN\_mob [R2-2407617](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407617.zip)

[R2-2407964](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407964.zip) Open issue list and rapporteur's input for LTE\_TN\_NR\_NTN\_mob CATT discussion LTE\_TN\_NR\_NTN\_mob

[R2-2408014](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408014.zip) Introduction of LTE TN to NR NTN Mobility UE Capability vivo draftCR Rel-19 36.306 18.3.0 B LTE\_TN\_NR\_NTN\_mob-Core

[R2-2408805](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408805.zip) Stage 2 Running CR for E-UTRAN to NR NTN mobility Samsung draftCR Rel-19 36.300 18.3.0 LTE\_TN\_NR\_NTN\_mob-Core [R2-2407616](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407616.zip)

[R2-2409183](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409183.zip) Running RRC CR for NR NTN phase 3 Ericsson CR Rel-19 38.331 18.3.0 5084 - B NR\_NTN\_Ph3-Core

### 8.8.2 Downlink coverage enhancements

Contributions should focus on RAN2 aspects of DL coverage enhancements (e.g. cell level / beam level DTX/DRX mechanism, etc.).

[R2-2407960](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407960.zip) Discussion on Downlink Coverage Enhancements CATT discussion NR\_NTN\_Ph3-Core

[R2-2407983](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407983.zip) Consideration on downlink coverage enhancements NERCDTV discussion

[R2-2408015](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408015.zip) Discussion on Cell Bar Control for DL Coverage Enhancement vivo discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408046](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408046.zip) Discussion of NR NTN coverage enhancement China Telecom discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408097](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408097.zip) RAN2 Impact on DL coverage enhancements CMCC discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408155](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408155.zip) Discussions on cell DTX during satellite dynamic power sharing Fujitsu discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408160](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408160.zip) Discussion on DL coverage enhancement for NTN OPPO discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408284](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408284.zip) Discussion on downlink coverage enhancement HONOR discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408300](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408300.zip) Access control for NTN downlink coverage enhancement Lenovo discussion Rel-19

[R2-2408337](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408337.zip) Discussion on DL coverage enhancements Huawei, HiSilicon, Turkcell discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408411](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408411.zip) Consideration on downlink coverage enhancement NEC Corporation. discussion Rel-18 NR\_NTN\_Ph3-Core

[R2-2408459](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408459.zip) DL coverage enhancement at system level Google discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408465](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408465.zip) Discussion on cell DTX/DRX for NTN Xiaomi discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408593](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408593.zip) DL coverage enhancement in NTN Apple discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408655](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408655.zip) Consideration on downlink coverage enhancements ZTE Corporation, Sanechips discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408699](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408699.zip) Discussion on NTN downlink coverage enhancement Nokia discussion NR\_NTN\_Ph3-Core

[R2-2408719](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408719.zip) SMTC impacts due to NTN downlink coverage enhancements Sony discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408739](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408739.zip) Discussion on Downlink Coverage Enhancements CSCN discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408894](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408894.zip) Discussion on cell DTX Qualcomm Incorporated discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408920](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408920.zip) Downlink coverage enhancement for NTN InterDigital discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408970](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408970.zip) Downlink coverage enhancement SMTC impacts Sequans Communications discussion Rel-19 NR\_NTN\_Ph3-Core [R2-2407532](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407532.zip)

[R2-2408981](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408981.zip) Discussion on downlink coverage enhancements LG Electronics Inc. discussion Rel-19

[R2-2409004](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409004.zip) Discussion on Downlink Coverage Enhancements Sharp discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2409025](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409025.zip) Discussion on Downlink Coverage Enhancement Samsung discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2409051](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409051.zip) Discussion on the impact of SSB extension for NR NTN NTPU discussion Rel-19

[R2-2409180](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409180.zip) DL coverage enhancements Ericsson discussion Rel-19 NR\_NTN\_Ph3-Core

### 8.8.3 Uplink Capacity/Throughput Enhancement

No contributions are expected for this AI at this meeting.

### 8.8.4 Support of Broadcast service

Contributions should address the signaling of the intended service area of a broadcast service.

[R2-2407961](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407961.zip) Discussion on support of broadcast service in NR NTN CATT discussion NR\_NTN\_Ph3-Core

[R2-2407982](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407982.zip) Discussion on support of broadcast service in NTN NERCDTV discussion

[R2-2408016](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408016.zip) Further Discussion on MBS Broadcast Provision in NTN vivo discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408047](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408047.zip) Consideration of service area in NR NTN China Telecom discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408080](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408080.zip) Discussion on MBS broadcast service for NR NTN CMCC discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408138](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408138.zip) Discussion on providing MBS service area in NTN network OPPO discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408156](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408156.zip) Discussions on supporting broadcast intended to serve partial cell Fujitsu discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408285](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408285.zip) Discussion on the support of broadcast service HONOR discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408301](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408301.zip) Further considerations for broadcast service area indication Lenovo discussion Rel-19

[R2-2408338](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408338.zip) Discussion on MBS broadcast over NTN Huawei, HiSilicon, Turkcell discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408464](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408464.zip) Discussion on Support of MBS Broadcast Service over NTN TCL discussion

[R2-2408488](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408488.zip) Discussion on MBS Broadcast service area signaling THALES discussion Rel-19 NR\_NTN\_Ph3-Core [R2-2406606](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2406606.zip)

[R2-2408592](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408592.zip) Intended broadcast service area provision over NTN Apple discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408602](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408602.zip) Further details on intended service area for MBS and ETWS NEC discussion

[R2-2408619](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408619.zip) Discussion on the support of broadcast service Xiaomi discussion

[R2-2408656](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408656.zip) Consideration on broadcast service ehancements ZTE Corporation, Sanechips discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408685](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408685.zip) Discussions on MCCH reacquiring ITRI discussion NR\_NTN\_Ph3-Core

[R2-2408892](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408892.zip) Signaling of MBS broadcast service area information Qualcomm Incorporated discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408946](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408946.zip) On MBS Support in Rel-19 NR NTN Nokia, Nokia Shanghai Bell discussion Rel-19 NR\_NTN\_Ph3

[R2-2408958](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408958.zip) Support for broadcast service in non-terrestrial networks InterDigital, Europe, Ltd. discussion Rel-19

[R2-2408988](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408988.zip) Discussion on support of broadcast service in NTN LG Electronics France discussion Rel-19 38.331 NR\_NTN\_Ph3-Core [R2-2407418](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407418.zip)

[R2-2409002](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409002.zip) UE behaviour for MBS related procedures Sharp discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2409003](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409003.zip) Discussion on MBS service area information Sharp discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2409026](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409026.zip) Discussion on MBS Broadcast Service Intended Area Samsung discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2409113](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409113.zip) Remaining issues for the support of broadcast service in NTN ETRI discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2409184](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409184.zip) Support for broadcast services in NR NTN Ericsson discussion Rel-19 NR\_NTN\_Ph3-Core

### 8.8.5 Support of regenerative payload

Contributions should focus on the needed updates for Stage 2 description and on whether any existing essential features would be affected - and potentially need any modifications - in a regenerative payload architecture.

[R2-2407962](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407962.zip) Further discussion on regenerative payload CATT discussion NR\_NTN\_Ph3-Core

[R2-2408161](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408161.zip) Discussion on satellite switch with resynch for regenerative payload OPPO discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408283](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408283.zip) Discussion on regenerative payload HONOR discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408302](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408302.zip) UE location verification in NTN regenerative architecture Lenovo discussion Rel-19

[R2-2408339](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408339.zip) Discussion on regenerative payload Huawei, HiSilicon, Turkcell discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408657](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408657.zip) Consideration on NTN remaining issues ZTE Corporation, Sanechips discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408716](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408716.zip) Satellite switch with re-sync in regenerative payload Sony discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408806](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408806.zip) On adaptations related to regenerative payload for NR NTN Samsung discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408893](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408893.zip) Discussion on regenerative payload Qualcomm Incorporated discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408947](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408947.zip) Remaining Issues for NTN over Regenerative Architecture Nokia, Nokia Shanghai Bell discussion Rel-19 NR\_NTN\_Ph3

[R2-2408980](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408980.zip) Discussion on regenerative payload Fujitsu Limited discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2409071](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409071.zip) Discussion on support of regenerative payload ETRI discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2409179](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409179.zip) Regenerative payload Ericsson discussion Rel-19 NR\_NTN\_Ph3-Core

### 8.8.6 LTE to NR NTN mobility

Contributions should focus on the remaining issues for the support of idle mode mobility between LTE and NR NTN.

[R2-2408048](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408048.zip) Signaling design optimization for satellite information China Telecom discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2408081](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408081.zip) Discussion on left issues of LTE to NR mobility CMCC discussion Rel-19 LTE\_TN\_NR\_NTN\_mob

[R2-2408257](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408257.zip) SIB33 multi-beam signalling PANASONIC discussion

[R2-2408674](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408674.zip) Remaining Issues on NR Satellite Info Provision in LTE TN cell NEC discussion Rel-19 NR\_NTN\_Ph3-Core

## 8.9 IoT NTN Ph3

(IoT\_NTN\_Ph3-Core; leading WG: RAN2; REL-19; WID: [RP-242397](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_105/Docs/RP-242397.zip))

Time budget: 1 TU

Tdoc Limitation: 3 tdocs

### 8.9.1 Organizational

LS, Rapporteur input, including workplan, etc.

Rapporteur inputs do not count towards the tdoc limitation.

[R2-2407920](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407920.zip) Reply LS to RAN2 on UL synchronization for contention based Msg3 transmission without Msg1/Msg2 (R1- 2407548; contact: ZTE) RAN1 LS in Rel-19 IoT\_NTN\_Ph3-Core To:RAN2, RAN4

[R2-2407931](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407931.zip) Reply LS to RAN2 on UL synchronization for contention based Msg3 transmission without Msg1/Msg2 (R4-2414114; contact: ZTE) RAN4 LS in Rel-19 IoT\_NTN\_Ph3-Core To:RAN2 Cc:RAN1

[R2-2407938](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407938.zip) LS on reply to LS on FS\_5GSAT\_Ph3\_ARCH conclusions (S3-243533; contact: Nokia) SA3 LS in Rel-19 FS\_5GSAT\_Ph3\_ARCH To:SA2 Cc:SA3-LI, RAN2

[R2-2408635](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408635.zip) Revised work Plan for Rel-19 IoT NTN MediaTek Inc. Work Plan IoT\_NTN\_Ph3-Core [R2-2402941](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2402941.zip)

[R2-2409182](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409182.zip) Introduction of IoT NTN phase 3 Ericsson draftCR Rel-19 36.300 18.3.0 B IoT\_NTN\_Ph3-Core

### 8.9.2 Support of Store & Forward

Contributions should focus on possible impacts to the radio interface.

[R2-2407966](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407966.zip) Discussion on RAN2 impacts due to the satellite ID list from MME in S&F operation CATT discussion IoT\_NTN\_Ph3-Core

[R2-2408017](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408017.zip) RAN2 Aspect for S&F Operation vivo discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2408049](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408049.zip) Remaining issues of IoT NTN Store & Forward China Telecom discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2408064](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408064.zip) Discussion on support of Store&Forward Transsion Holdings discussion Rel-19

[R2-2408066](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408066.zip) Discussion on IoT NTN Store and Forward CMCC discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2408108](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408108.zip) Further consideration on Store and Forward Huawei, HiSilicon, Turkcell, China Southern Power Grid discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2408244](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408244.zip) Considerations on S&F operation from device perspective Telit Communications S.p.A., Novamint, Sateliot, Thales discussion Rel-19 [R2-2407487](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407487.zip)

[R2-2408282](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408282.zip) Discussion on the Store and Forward satellite operation HONOR discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2408303](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408303.zip) Access control and information exchange for Store and Forward operation Lenovo discussion Rel-19

[R2-2408333](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408333.zip) Further consideration on S&F operation in IoT NTN ZTE Corporation, Sanechips discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2408360](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408360.zip) Discussion on information for Store & Forward ASUSTeK discussion Rel-19 IoT\_NTN\_Ph3-Core [R2-2406526](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2406526.zip)

[R2-2408389](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408389.zip) Access Control for Store and Forward Operation CATT, Huawei, HiSilicon, CMCC, vivo discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2408460](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408460.zip) Access control and the S&F indication Google discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2408501](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408501.zip) Discussion on Store & Forward satellite operation OPPO discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2408591](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408591.zip) Support of S&F operation in IoT NTN Apple discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2408620](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408620.zip) Discussion on the support of store and forward Xiaomi discussion

[R2-2408622](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408622.zip) RAN2 impact on S&F mode MediaTek Inc. discussion IoT\_NTN\_Ph3-Core [R2-2406821](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2406821.zip)

[R2-2408675](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408675.zip) Radio Interface Aspect of Store and Forward NEC discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2408754](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408754.zip) On RAN2 Impacts of SF Operation Nokia, Nokia Shanghai Bell discussion

[R2-2408802](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408802.zip) Discussion on Store and Forward Samsung discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2408895](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408895.zip) Discussion on S&F mode operation Qualcomm Incorporated discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2408905](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408905.zip) Considerations on multi-satellite for S&F Satellite operation NOVAMINT, Sateliot discussion

[R2-2408956](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408956.zip) Considerations on Store & Forward Satellite Operation SHARP Corporation discussion

[R2-2408971](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408971.zip) Support of Store & Forward Sequans Communications discussion Rel-19 IoT\_NTN\_Ph3-Core [R2-2407537](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407537.zip)

[R2-2409064](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409064.zip) Discussion on Store & Forward operation DENSO CORPORATION discussion IoT\_NTN\_Ph3-Core

[R2-2409189](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409189.zip) Support of Store and Forward InterDigital, Inc. discussion Rel-19 IoT\_NTN\_Ph3-Core

### 8.9.3 Uplink Capacity Enhancement

Contributions should focus on the possible enhancements to reduce the necessary uplink and downlink signaling to complete an EDT transaction (Msg3 transmission without msg1/RAR; efficient delivery of msg4 / RRCEarlyDataComplete).

[R2-2407965](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407965.zip) Further consideration on UL capacity enhancements CATT discussion IoT\_NTN\_Ph3-Core

[R2-2408018](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408018.zip) Discussion on CB-Msg3 EDT Enhancement vivo discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2408050](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408050.zip) Support Contention-based Msg3-EDT in IoT NTN China Telecom discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2408065](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408065.zip) Discussion on uplink capacity enhancement Transsion Holdings discussion Rel-19

[R2-2408082](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408082.zip) Further discussion on uplink capacity enhancement for IoT-NTN CMCC discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2408109](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408109.zip) Discussion on the mechanisms for UL capacity enhancement based on simulation results Huawei, HiSilicon, CTCC, CATT, Nokia, Nokia Shanghai Bell, Apple, Turkcell, China Southern Power Grid discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2408163](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408163.zip) Uplink Capacity Enhancement for EDT transaction Spreadtrum Communications discussion Rel-19

[R2-2408304](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408304.zip) EDT for uplink capacity enhancement in NTN Lenovo discussion Rel-19

[R2-2408334](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408334.zip) Comparison of solutions for UL capacity enhancements in IoT NTN ZTE Corporation, Sanechips discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2408413](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408413.zip) Consideration on UL capacity enhancement for IoT-NTN NEC Corporation. discussion Rel-18 IoT\_NTN\_Ph3-Core

[R2-2408466](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408466.zip) Discussion on uplink capacity enhancements for IOT NTN Xiaomi discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2408502](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408502.zip) Discussion on enhanced EDT for IoT NTN OPPO discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2408545](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408545.zip) Repetitions and Delay Considerations about SA and DSA ESA, Eutelsat Group, Viasat, Inmarsat, Novamint, Echostar, Sateliot, Toyota ITC discussion Rel-19

=> Withdrawn

[R2-2408547](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408547.zip) Repetitions and Delay Considerations about SA and DSA ESA, Eutelsat Group, Viasat, Inmarsat, Novamint, Echostar, Sateliot, Toyota ITC discussion Rel-19

[R2-2408590](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408590.zip) Uplink capacity enhancement in IoT NTN Apple discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2408623](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408623.zip) Discussion on enhanced EDT MediaTek Inc. discussion IoT\_NTN\_Ph3-Core [R2-2406869](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2406869.zip)

[R2-2408803](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408803.zip) Procedures for uplink capacity enhancements for IoT NTN Samsung discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2408831](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408831.zip) Discussion on UL capacity enhancement for IoT NTN Nokia, Nokia Shanghai Bell discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2408863](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408863.zip) Discussion on throughput and delay performance of slotted ALOHA and diversity slotted ALOHA DLR, ESA discussion Rel-19

[R2-2408896](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408896.zip) Discussion on EDT enhancements Qualcomm Incorporated discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2409170](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409170.zip) Operator views on EDT enhancements and CRDSA Inmarsat, Viasat discussion Rel-19 Late

[R2-2409181](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409181.zip) UL capacity enhancements for IoT NTN Ericsson discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2409190](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409190.zip) EDT/PUR enhancements InterDigital, Inc. discussion Rel-19 IoT\_NTN\_Ph3-Core

### 8.9.4 Support of PWS

Contributions should focus on the introduction of support for broadcast of PWS messages for NB-IoT, re-using the LTE mechanisms.

[R2-2408019](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408019.zip) Discussion on the Support of PWS in IoT-NTN vivo, Apple discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2408051](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408051.zip) Support PWS in IoT NTN China Telecom discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2408083](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408083.zip) Discussion on broadcast of PWS messages for NB-IoT CMCC discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2408110](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408110.zip) Support of PWS for NB-IoT Huawei, HiSilicon, Turkcell, China Southern Power Grid discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2408305](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408305.zip) PWS broadcast support for NB-IoT in NTN Lenovo discussion Rel-19

[R2-2408335](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408335.zip) PWS support for NB-IoT over NTN ZTE Corporation, Sanechips discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2408412](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408412.zip) Consideration on PWS broadcast for NB-IoT NEC Corporation. discussion Rel-18 IoT\_NTN\_Ph3-Core

[R2-2408621](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408621.zip) Discussion one the support of broadcast of PWS for NB-IoT Xiaomi discussion

[R2-2408624](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408624.zip) Discussion on supporting PWS for NB-IoT MediaTek Inc. discussion IoT\_NTN\_Ph3-Core

[R2-2408804](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408804.zip) Impact of PWS signalling for NB-IoT Samsung discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2408826](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408826.zip) Discussion on Emergency Broadcast for NB-IoT Inmarsat, Viasat discussion Rel-19

[R2-2408832](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408832.zip) Support of PWS for NB-IoT NTN Nokia, Nokia Shanghai Bell discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2408897](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408897.zip) Discussion on PWS in NB-IoT NTN Qualcomm Incorporated discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2408998](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408998.zip) Discussion on broadcast of PWS message for NB-IoT KT Corp. discussion

[R2-2409191](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409191.zip) Support of PWS Interdigital, Inc. discussion Rel-19 IoT\_NTN\_Ph3-Core

## 8.10 SON/MDT Ph4

(NR\_ENDC\_SON\_MDT\_Ph4-Core; leading WG: RAN3; REL-19; WID: [RP-234038](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_102/Docs/RP-234038.zip))

Time budget: 0.5 TU

Tdoc Limitation: 2 tdocs

### 8.10.1 Organizational

LS, Rapporteur input, including workplan, etc.

[R2-2407925](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407925.zip) LS on SON for Network Slicing and enhanced area scope (R3-244823; contact: Nokia) RAN3 LS in Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core To:SA5 Cc:RAN2

### 8.10.2 MRO enhancements for Rel-18 mobility features

LTM, CHO with candidate SCGs, subsequent CPAC

[R2-2408056](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408056.zip) MRO for Rel-18 mobility features vivo discussion Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2408090](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408090.zip) MRO enhancements for CHO with candidate SCGs CMCC discussion Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2408091](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408091.zip) MRO enhancements for LTM CMCC discussion Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2408185](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408185.zip) Discussion on MRO enhancement for R18 mobility features SHARP Corporation discussion

[R2-2408199](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408199.zip) Discussion on MRO Enhancements for Rel-18 Mobility CATT discussion Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2408316](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408316.zip) Discussion on MRO for R18 mobility Lenovo discussion Rel-19

[R2-2408354](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408354.zip) Discussion on random access report for LTM ASUSTeK discussion Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core [R2-2406527](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2406527.zip)

[R2-2408379](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408379.zip) MRO for CHO with candidate SCG Nokia discussion Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2408380](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408380.zip) MRO for LTM Nokia discussion Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2408381](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408381.zip) Discussion on MRO enhancement for LTM China Unicom discussion NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2408382](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408382.zip) Discussion on MRO enhancement for CHO with candidate SCGs China Unicom discussion NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2408405](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408405.zip) More on failure and near failure cases for LTM ZTE Corporation, Sanechips discussion Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2408406](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408406.zip) More on CHO with candidate SCGs ZTE Corporation, Sanechips discussion Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2408435](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408435.zip) MRO enhancements for Rel-18 mobility features Samsung discussion

[R2-2408749](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408749.zip) MRO enhancements for LTM NEC discussion Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2408750](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408750.zip) MRO for CHO with candidate SCG(s) NEC discussion Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2408766](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408766.zip) MRO enhancement for SON and MDT Qualcomm Incorporated discussion NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2408824](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408824.zip) SON support for MRO Ericsson discussion NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2408835](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408835.zip) Discussion on MRO enhancements for Rel-18 mobility features Huawei, HiSilicon discussion Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2408873](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408873.zip) Configuring UE based TA acquisition for LTM Rakuten Mobile, Inc discussion Rel-19

[R2-2408979](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408979.zip) SON/MDT reports for LTM Kyocera discussion

[R2-2409041](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409041.zip) MRO for MOB DCCA LG Electronics discussion Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core [R2-2407105](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407105.zip)

[R2-2409042](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409042.zip) MRO for MOB LTM LG Electronics discussion Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core [R2-2407105](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407105.zip)

### 8.10.3 SON/MDT for Slicing

No contributions are expected and this AI will not be treated in RAN2#127bis, in wait for RAN3 progresses

### 8.10.4 SON/MDT for NTN

No contributions are expected and this AI will not be treated in RAN2#127bis, in wait for RAN3 progresses

### 8.10.5 Leftovers from Rel-18

RACH optimization for SDT, MHI Enhancement for SCG Deactivation/Activation, MRO for MR-DC SCG failure

[R2-2408057](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408057.zip) RACH optimization for SDT vivo discussion Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2408187](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408187.zip) Discussion on RACH enhancement for SDT SHARP Corporation discussion

[R2-2408198](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408198.zip) Consideration on leftovers from Rel-18 SONMDT CATT discussion Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2408317](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408317.zip) Discussion on RACH optimization for SDT Lenovo discussion Rel-19

[R2-2408437](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408437.zip) Reporting failure cause for SDT Samsung discussion

[R2-2408494](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408494.zip) SON/MDT enhancements for leftover topics from R18 Jio discussion Late

[R2-2408767](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408767.zip) SON and MDT for SDT Qualcomm Incorporated discussion NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2408836](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408836.zip) Discussion on support of the Rel-18 leftovers Huawei, HiSilicon discussion Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2409163](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409163.zip) On Rel.18 leftovers Ericsson discussion

## 8.11 Evolution of NR duplex operation: Sub-band full duplex (SBFD)

(NR\_duplex\_evo-Core; leading WG: RAN1; REL-19; WID: [RP‑241614](https://www.3gpp.org/ftp/meetings_3gpp_sync/ran/docs/RP-241614.zip))

Time budget: 0.5 TU

Tdoc Limitation: 2 tdocs

### 8.11.1 Organizational

Incoming LS, Rapporteur input, including workplan, etc.

[R2-2407917](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407917.zip) LS to RAN3 on PHY/L1 aspects of information exchange among gNBs for CLI mitigation (R1-2407533; contact: Ericsson) RAN1 LS in Rel-19 NR\_duplex\_evo To:RAN3 Cc:RAN2

### 8.11.2 Random access in SBFD

RAN2 impacts to support SBFD operation to support random access in SBFD symbols by UEs in RRC \_CONNECTED mode and RRC\_IDLE/INACTIVE mode.

[R2-2407950](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407950.zip) Random Access in SBFD symbols CATT discussion Rel-19 NR\_duplex\_evo-Core

[R2-2407955](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407955.zip) Discussion on RACH in SBFD Xiaomi discussion Rel-19

[R2-2408067](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408067.zip) Discussion on random access in SBFD CMCC discussion Rel-19 NR\_duplex\_evo-Core

[R2-2408103](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408103.zip) Discussion on random access procedure in SBFD vivo discussion Rel-19 NR\_duplex\_evo-Core

[R2-2408219](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408219.zip) Discussion on random access procedure in SBFD ZTE Corporation discussion Rel-19 NR\_duplex\_evo-Core

[R2-2408364](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408364.zip) Impacts on the random access by the evolution of duplex operation Huawei, HiSilicon discussion Rel-19 NR\_duplex\_evo-Core

[R2-2408420](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408420.zip) Random Access Procedures for SBFD Sharp discussion Rel-19 NR\_duplex\_evo-Core

[R2-2408508](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408508.zip) SBFD RACH configuration for initial random access Charter Communications, Inc discussion NR\_duplex\_evo Late

[R2-2408550](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408550.zip) Random Access for SBFD Operation NEC discussion

[R2-2408594](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408594.zip) Framework to support RACH in SBFD Apple discussion Rel-19 NR\_duplex\_evo-Core

[R2-2408647](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408647.zip) Random Access Operation of SBFD Nokia Corporation discussion Rel-19 NR\_duplex\_evo-Core

[R2-2408690](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408690.zip) Random access in Sub-Band Full Duplex Google Ireland Limited discussion

[R2-2408717](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408717.zip) Random access for SBFD Operation Sony discussion Rel-19 NR\_duplex\_evo-Core

[R2-2408799](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408799.zip) Views on random access for SBFD Qualcomm Incorporated discussion NR\_duplex\_evo-Core

[R2-2408855](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408855.zip) SBFD RA aspects Ericsson discussion Rel-19 NR\_duplex\_evo-Core

[R2-2409008](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409008.zip) Random access in SBFD Samsung discussion Rel-19

[R2-2409152](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409152.zip) Discussion on Random Access procedure for SBFD LG Electronics Inc. discussion Rel-19 NR\_duplex\_evo-Core

### 8.11.3 Other aspects

Other RAN2 impacts with SBFD if not covered by the previous agenda items.

[R2-2407951](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407951.zip) Discussion on other aspects for SBFD CATT discussion Rel-19 NR\_duplex\_evo-Core

[R2-2408035](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408035.zip) Other aspects of SBFD Xiaomi discussion Rel-19 NR\_duplex\_evo-Core

[R2-2408089](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408089.zip) Discussion on SBFD related issues CMCC discussion Rel-19 NR\_duplex\_evo-Core

[R2-2408104](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408104.zip) Discussion on other aspects in SBFD vivo discussion Rel-19 NR\_duplex\_evo-Core

[R2-2408220](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408220.zip) Discussion on CLI measurement in SBFD ZTE Corporation discussion Rel-19 NR\_duplex\_evo-Core

[R2-2408365](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408365.zip) Discussion on the SBFD configuration and CLI measurement Huawei, HiSilicon discussion Rel-19 NR\_duplex\_evo-Core

[R2-2408800](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408800.zip) Other aspects of SBFD Qualcomm Incorporated discussion NR\_duplex\_evo-Core

[R2-2408856](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408856.zip) Non-RA aspects for subband full duplex (SBFD) operation Ericsson discussion Rel-19 NR\_duplex\_evo-Core

[R2-2409089](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409089.zip) Other aspects of SBFD Nokia discussion Rel-19 NR\_duplex\_evo-Core

[R2-2409098](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409098.zip) Support of Cross Link Interference in SBFD Samsung discussion Rel-19 NR\_duplex\_evo-Core

## 8.12 NR MIMO Phase 5

(NR\_MIMO\_Ph5-Core; leading WG: RAN1; REL-19; WID: [RP-242394](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_105/Docs/RP-242394.zip))

Time budget: 0.5 TU

Tdoc Limitation: 1 tdocs

### 8.12.1 Organizational

LSs and rapporteur input, including workplan, etc.

[R2-2407906](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407906.zip) LS to RAN2 on RRC and MAC CE impacts for Rel-19 NR MIMO Ph5 (R1-2407285; contact: Samsung) RAN1 LS in Rel-19 NR\_MIMO\_Ph5 To:RAN2

[R2-2408909](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408909.zip) Running CR for MIMO Phase 5 Ericsson draftCR Rel-19 38.331 18.3.0 B NR\_MIMO\_Ph5-Core

[R2-2409128](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409128.zip) Work Plan for Rel-19 on NR MIMO Phase 5 CMCC, Samsung, MediaTek Inc. Work Plan Rel-19 NR\_MIMO\_Ph5-Core

### 8.12.2 Initial analysis on RAN2 impact

Initial analysis on R2 impact, including RRC and MAC aspects

[R2-2408022](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408022.zip) Discussion on the pathloss offset update via MAC CE and RRC Xiaomi discussion Rel-19 NR\_MIMO\_Ph5-Core

[R2-2408092](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408092.zip) RAN2 Impacts of Rel-19 NR MIMO CMCC discussion Rel-19 NR\_MIMO\_Ph5-Core

[R2-2408125](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408125.zip) Discussion on UE-initiated/event-driven beam management vivo discussion Rel-19 NR\_MIMO\_Ph5-Core

[R2-2408181](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408181.zip) Discussion on MAC CE impact for PL offset updates CATT discussion Rel-19 NR\_MIMO\_Ph5-Core

[R2-2408196](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408196.zip) Discussion on UE-initiated/event-driven beam management SHARP Corporation discussion NR\_MIMO\_Ph5-Core

[R2-2408402](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408402.zip) Initial Analysis on the RAN2 Impact for the R19 MIMO ZTE Corporation discussion Rel-19 NR\_MIMO\_Ph5-Core

[R2-2408511](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408511.zip) Initial analysis on RAN2 impact for Rel-19 NR MIMO Ph5 Huawei, HiSilicon discussion NR\_MIMO\_Ph5-Core

=> Revised in [R2-2409200](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409200.zip)

[R2-2409200](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409200.zip) Initial analysis on RAN2 impact for Rel-19 NR MIMO Ph5 Huawei, HiSilicon discussion NR\_MIMO\_Ph5-Core

[R2-2408649](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408649.zip) RAN2 Aspects of the NR MIMO Nokia Corporation discussion Rel-19 NR\_MIMO\_Ph5-Core

[R2-2408667](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408667.zip) User plane and Control plane impacts from MIMO Ericsson discussion Rel-19 NR\_MIMO\_Ph5-Core

[R2-2408723](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408723.zip) Enhancement for Asymmetric DL sTRP/UL mTRP Sony discussion Rel-19 NR\_MIMO\_Ph5

[R2-2408795](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408795.zip) Discussion on the design considerations for MIMO Phase 5 Qualcomm Incorporated discussion

[R2-2409023](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409023.zip) Discussion on RAN2 impacts Samsung discussion Rel-19 NR\_MIMO\_Ph5

[R2-2409093](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409093.zip) Consideration on RAN2 impact in MIMO phase 5 LG Electronics Inc. discussion Rel-19 NR\_MIMO\_Ph5-Core

[R2-2409168](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409168.zip) Triggering condition of PHR for UL-only TRP NTT DOCOMO INC. discussion Rel-19

## 8.13 NR sidelink multi-hop relay

(NR\_SL\_relay\_enh2; leading WG: RAN2; REL-19; WID: [RP-242349](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_105/Docs/RP-242349.zip))

Time budget: 0 TU

Tdoc Limitation: 0 tdocs

No contributions expected for this meeting

### 8.13.1 Organizational

LSs and rapporteur input, including workplan, etc.

### 8.13.2 Relay discovery and (re)selection

Enhancements to relay dscovery and (re)selection to support one additional hop relay (remote UE ⬄ first relay UE ⬄ last relay UE ⬄ gNB). Extensibility to a second additional hop in this WI is considered as a design criterion.

### 8.13.3 Control Plane Procedures

Contributions should focus on control plane procedures and can include QoS handling to support additional hops. NOTE: No service continuity aspects should be discussed in contributions for this meeting.

## 8.14 Additional topological enhancements

(NR\_WAB\_5GFemto; leading WG: RAN3; REL-19; WID [RP-242395](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_105/Docs/RP-242395.zip))

Time budget: 0 TU

Tdoc Limitation: 0 tdocs

Work on this WI will only be triggered by LS from RAN3 so work on this WI is not expected to start RAN2#127bis or RAN2#128.

No contributions expected for this meeting

[R2-2407926](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2407926.zip) Reply LS on Support of UE move between CAG cell of 5G Femto and CSG cell (R3-244830; contact: Ericsson) RAN3 LS in Rel-19 FS\_NR\_WAB\_5GFemto To:SA2 Cc:RAN2

## 8.15 NavIC L1 SPS A-GNSS support

(Acronym\_TBD; leading WG: RAN2; REL-19; WID [RP-242414](https://www.3gpp.org/ftp/meetings_3gpp_sync/ran/docs/RP-241264.zip))

Time budget: 0 TU

Tdoc Limitation: 0 tdocs

This WI will not be treated in RAN2#127bis, therefore no contribution is expected under agenda item 8.15.

## 8.16 BDS B2b in A-GNSS

(BDS\_B2b; leading WG: RAN2; REL-19; WID [RP-242413](https://www.3gpp.org/ftp/meetings_3gpp_sync/ran/docs/RP-241264.zip))

Time budget: 0.25 TU

Tdoc Limitation: 1 tdoc

[R2-2408036](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408036.zip) Introduction of B2b signal in BDS system in A-GNSS CATT, CAICT, Ericsson draftCR Rel-19 37.355 18.3.0 B LCS\_BDS\_B2b\_LTE\_NR-Core

[R2-2408221](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408221.zip) Introduction of BDS B2b in A-GNSS positioning ZTE Corporation discussion Rel-19 LCS\_BDS\_B2b\_LTE\_NR-Core

[R2-2408299](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408299.zip) Introduction of BDS B2b signal in A-GNSS for BDS system CAICT,CATT discussion Rel-19

[R2-2408660](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408660.zip) Discussion on BDS B2b in A-GNSS NEC discussion Rel-19 LCS\_BDS\_B2b\_LTE\_NR-Core

[R2-2408791](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408791.zip) Discussion on support of BDS B2b in A-GNSS Huawei, HiSilicon discussion Rel-19 LCS\_BDS\_B2b\_LTE\_NR

[R2-2408792](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408792.zip) Introduction of BDS B2b in A-GNSS for TS 38305 Huawei, HiSilicon draftCR Rel-19 38.305 18.3.0 F LCS\_BDS\_B2b\_LTE\_NR

[R2-2408793](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408793.zip) Introduction of BDS B2b in A-GNSS for TS 36305 Huawei, HiSilicon draftCR Rel-19 36.305 18.0.0 F LCS\_BDS\_B2b\_LTE\_NR

[R2-2408933](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2408933.zip) Introduction of LCS User Plane Ericsson, Intel Corporation, Huawei, HiSilicon, ZTE Corporation, vivo, Qualcomm Incorporated CR Rel-18 38.305 18.3.0 0159 3 F TEI18 [R2-2403538](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2403538.zip)

[R2-2409199](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_127b\Docs\R2-2409199.zip) LPP Impacts for B2b Signal addition Ericsson discussion Rel-19 LCS\_BDS\_B2b\_LTE\_NR-Core

# 9 Breakout session reports

No documents shall be submitted to this AI or its sub-AIs. It is only for at-meeting-generated contents.

## 9.1 Session on V2X/SL, R19 NES and MOB

R2-2409211 Report from session on V2X/SL, R19 NES and MOB Vice Chairman (Samsung) report

## 9.2 Session on Rel-18 MIMO and MUSIM, Rel-19 MIMO, LPWUS, and SBFD

R2-2409212 Rel-18 MIMO and MUSIM, Rel-19 MIMO, LPWUS, and SBFD Vice Chairman (CATT) report

## 9.3 Session on NR NTN and IoT NTN

R2-2409213 Report from session on NR NTN and IoT NTN Session chair (ZTE) report

## 9.4 Session on positioning and sidelink relay

R2-2409214 Report from session on positioning and sidelink relay Session chair (MediaTek) report

## 9.5 Session on R18 MBS, R18 QoE and R19 XR

R2-2409215 Report from session on R18 MBS, R18 QoE and R19 XR Session chair (Huawei) report

## 9.6 Session on maintenance and SON/MDT

R2-2409216 Report from session on maintenance and SON/MDT Session chair (Ericsson) report