3GPP TSG-RAN WG2 Meeting #131bis [R2-250xxxx](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-250xxxx.zip)

Prague, Czech Republic, Oct. 13th-17th

Source: RAN2 Chair (InterDigital)

Title: Agenda

# 1 Opening of the meeting

## 1.1 Call for IPR

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| 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

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

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| **Consensus principles reminder**  The attention of the delegates to the meeting is drawn to the fact that 3GPP endeavours to reach consensus on all decisions and therefore depends on a cooperative spirit of the Individual Members. In particular, Individual Members are encouraged to seek a consensus-based solution and only to sustain objections as a very last resort, and where absolutely necessary and well justified. The leadership will conduct the present meeting in a manner whereby informal methods of reaching consensus are encouraged, whilst ensuring that well justified concerns are taken into account |

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| **RAN endorsed working principle for 6G (RP-250766)**  3GPP to create lean and streamlined standards for 6G, e.g., by dimensioning an appropriate set of functionalities, minimizing the adoption of multiple options for the same functionality, avoiding excessive configurations, etc. Any exception to the above shall be well justified. |

# 2 General

## 2.1 Approval of the agenda

[R2-2506701](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2506701.zip) Agenda for RAN2#131bis Chairman agenda

* Approved

## 2.2 Approval of the report of the previous meeting

[R2-2506702](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2506702.zip) RAN2#131 Meeting Report MCC report Late

* 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-18 and earlier 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.
* NOTE: the tdoc limit applies to all CRs (i.e. WI spec rapporteurs are NO longer expected to submit individual contributions). They can submit a company CR where they also include miscellaneous corrections that have been sent to them.

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.

**Rel-19 CRs**

* CR already agreed in principle but not yet officially agreed must be submitted to RAN2#131 for formal approval under in-principle agreed CRs AIs
* CR editors / Rapporteurs continue to support maintenance related to their respective CR / WI and are required to follow drafting rules
* **Single correction CR per spec** coordinated by CR editor/rapporteurs will be agreed per feature for RAN#132
* **Rapporteurs (except for RRC) should create open issue list for correction phase. See below.**
* CR editors / Rapporteurs should gather miscellaneous and non-controversial issues, if any, for their respective specification prior to submission deadline.  **Other companies are expected to give editorial inputs to the rapporteurs and not have contributions on such issues**.
* Emails to CR editors/rapporteurs should follow the following naming convention when sending emails to rapporteurs:

**[Pre\_RAN2#131bis][CR xx.yyy] Clarification CRs**

* The organizational AIs for each WIs are reserved for rapporteurs only.  CR rapporteurs are expected to submit only 1 CR per spec.
* Companies are expected to submit Tdocs with TP (not CRs).   More specifically, the Tdoc should contain description of open issues/proposal and the proposed corrections/TP in the contribution itself.   Small issues can be included in the tdoc with just short justification same level of detail as in cover sheet.
* RRC ASN.1 changes can be drafted in a NBC way until ASN.1 is frozen, to avoid unnecessary RRC overhead.   The focus should be on drafting the changes in the best possible way.
* Inter-op analysis on Rel-19 CR coverpages in NOT needed

**Open issues**

* A list of open issues for correction phase is expected to be created per CR per WI (except for RRC specification - issues will be maintained in RIL list) and shared as soon as possible.  **The list of CR open issues should be completed by Sept. 19th** from CR editors/rapporteurs.  Companies can contribute to the open issue list and input (if requested) possible resolution.
* Rapporteur and/or company identifying issue can provide proposal on how to resolve the issues
  + For each issue, rapporteurs are requested to explicitly indicate whether further contribution input on the open issue is needed. Input should be requested only for difficult to resolve issues and/or new open issues for which there wasn’t sufficient discussion time to resolve it.
  + Rapporteurs should critically consider the need for contribution on an issue.  If the issue can be resolved with a quick offline during the meeting, then the issue should be marked as to be resolved offline without contributions on that topic.
* Stage 2 corrections and UE capability corrections should be given to rapporteur directly over email discussion and no contributions are expected, unless really needed as specified by rapporteur.
* Companies should follow rapporteurs guidance (i.e. only address open issues for which the rapporteur indicates further input is needed).
* Companies should clearly indicate the open issue number they are addressing in their section and proposal, e.g. Proposal x: (RIL-1, MAC-1, etc) Agree to bla bla

**ASN.1 and Handling of RILs**

* Please review Hakan's email instructions on ASN.1 review.  Instructions are found at:  [Directory Listing /ftp/Email\_Discussions/RAN2/[Misc]/ASN1 review/Rel-19 2025-09](https://www.3gpp.org/ftp/Email_Discussions/RAN2/%5BMisc%5D/ASN1%20review/Rel-19%202025-09)
* Companies are expected to provide their TPs/Comments in the RIL Comment file and not submit contributions.   WI CR and RRC spec Rapporteurs can identify the critical RILs that require further contribution inputs.
* Single Tdoc containing 1 or more RIL resolutions per WI is expected.    Companies are highly encouraged to work offline to resolve the issues.

Rel-19 UE capabilities

- EUTRA UE capabilities are covered by separate CRs

- All NR UE capabilities will be included common Mega CRs (38306 and 38331) covering all Rel-19 WIs (end outcome).

During the work on NR UE caps:

- In a Common Rel-19 Agenda Item (AI): RAN1 and RAN4 feature corrections are handled jointly under a common AI, with some explicit exceptions. UE capabilities will be included in UE cap MegaCR directly from UE capability rapporteur

- In WI-specific Rel-19 Agenda Items: RAN2 specific UE capabilities are handled per WI and endorsed as individual CRs. Final endorsed CRs will be merged into mega CR post meeting.

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).

Postponed CRs still count towards tdoc limit unless 3 or more companies are co-sourcing it.

For each R19 feature, 1 additional tdoc on top of the limit is allowed for a primary co-sourcing company for co-sourced contribution with 4 or more companies (this also applies to RILs).

Tdoc request/submission for RAN2#131bis deadlines:

* Tdoc Submission deadline: Oct 3rd, 2025

## 2.5 Others

[R2-2506703](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2506703.zip) RAN2 Handbook MCC discussion Late

# 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 Positioning WI, which is 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)

[R2-2506976](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2506976.zip) Correction on GNSS position acquisition Xiaomi CR Rel-17 36.331 17.14.0 5158 - F LTE\_NBIOT\_eMTC\_NTN-Core

[R2-2506977](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506977.zip) Correction on GNSS position acquisition Xiaomi CR Rel-18 36.331 18.7.0 5159 - A LTE\_NBIOT\_eMTC\_NTN-Core

[R2-2507248](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507248.zip) Clarification that MINT applicability only applies to E-UTRA connected to 5GC [MINT] Huawei, HiSilicon CR Rel-17 36.306 17.10.0 1926 - F TEI17

[R2-2507249](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507249.zip) Clarification that MINT applicability only applies to E-UTRA connected to 5GC [MINT] Huawei, HiSilicon CR Rel-18 36.306 18.6.0 1927 - A TEI17

[R2-2507252](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507252.zip) Clarification that MINT applicability only applies to E-UTRA connected to 5GC [MINT] Huawei, HiSilicon CR Rel-19 36.306 19.0.0 1928 - A TEI17

[R2-2507316](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507316.zip) Correction to uplink grant allocation for Semi-Persistent Scheduling for TDD TOYOTA Info Technology Center, Lenovo CR Rel-19 36.321 19.0.0 1597 - F LTE\_LATRED\_L2-Core, TEI19

[R2-2507325](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507325.zip) Correction to preallocated uplink grant for TDD TOYOTA Info Technology Center, Lenovo CR Rel-19 36.321 19.0.0 1598 - F LTE\_eMob-Core, TEI19 Revised

[R2-2507413](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507413.zip) Correction on event triggered based logged MDT configuration Huawei, HiSilicon, CMCC, ZTE CR Rel-17 36.331 17.14.0 5164 - F NR\_ENDC\_SON\_MDT\_enh-Core

[R2-2507414](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507414.zip) Correction on event triggered based logged MDT configuration Huawei, HiSilicon, CMCC, ZTE CR Rel-18 36.331 18.7.0 5165 - A NR\_ENDC\_SON\_MDT\_enh-Core

[R2-2507415](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507415.zip) Correction on event triggered based logged MDT configuration Huawei, HiSilicon, CMCC, ZTE CR Rel-19 36.331 19.0.0 5166 - A NR\_ENDC\_SON\_MDT\_enh-Core

[R2-2507459](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507459.zip) Correction to preallocated uplink grant for TDD TOYOTA Info Technology Center, Lenovo CR Rel-19 36.321 19.0.0 1598 1 F LTE\_eMob-Core, TEI19 [R2-2507325](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507325.zip)

[R2-2507477](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507477.zip) Introduce UE capability for UE coarse location reporting Xiaomi CR Rel-17 36.306 17.10.0 1930 - F LTE\_NBIOT\_eMTC\_NTN-Core

[R2-2507478](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507478.zip) Introduce UE capability for UE coarse location reporting Xiaomi CR Rel-18 36.306 18.6.0 1931 - A LTE\_NBIOT\_eMTC\_NTN-Core

[R2-2507479](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507479.zip) Introduce UE capability for UE coarse location reporting Xiaomi CR Rel-17 36.331 17.14.0 5169 - F LTE\_NBIOT\_eMTC\_NTN-Core

[R2-2507480](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507480.zip) Introduce UE capability for UE coarse location reporting Xiaomi CR Rel-18 36.331 18.7.0 5170 - A LTE\_NBIOT\_eMTC\_NTN-Core

## 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

# 5 NR Rel-15 and Rel-16

Essential corrections only.

Tdoc Limitation: 3 Tdocs in total for agenda item 5 (incl. its sub agenda items) and agenda item 6 (incl. its sub agenda items)

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))

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

### 5.1.2 User Plane corrections

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

#### 5.1.2.1 MAC

[R2-2507636](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2507636.zip) Correction to F field in MAC subheader for SL-SCH NTT DOCOMO, INC., Qualcomm Incorporated, Samsung CR Rel-16 38.321 16.21.0 2132 - F 5G\_V2X\_NRSL-Core

[R2-2507637](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507637.zip) Correction to F field in MAC subheader for SL-SCH NTT DOCOMO, INC., Qualcomm Incorporated, Samsung CR Rel-17 38.321 17.14.0 2133 - A 5G\_V2X\_NRSL-Core

[R2-2507638](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507638.zip) Correction to F field in MAC subheader for SL-SCH NTT DOCOMO, INC., Qualcomm Incorporated, Samsung CR Rel-18 38.321 18.7.0 2134 - A 5G\_V2X\_NRSL-Core

#### 5.1.2.2 RLC PDCP SDAP BAP

### 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.

[R2-2507107](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2507107.zip) Clarification of the single SCS per frequency restriction Apple CR Rel-15 38.331 15.30.0 5511 - F NR\_newRAT-Core

[R2-2507108](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507108.zip) Clarification of the single SCS per frequency restriction Apple CR Rel-16 38.331 16.21.0 5512 - A NR\_newRAT-Core

[R2-2507109](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507109.zip) Clarification of the single SCS per frequency restriction Apple CR Rel-17 38.331 17.14.0 5513 - A NR\_newRAT-Core

[R2-2507110](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507110.zip) Clarification of the single SCS per frequency restriction Apple CR Rel-18 38.331 18.7.0 5514 - A NR\_newRAT-Core

[R2-2507227](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507227.zip) On continuing acquiring PWS notification(s) until it re-acquires schedulingInfoList in SIB1 Samsung CR Rel-15 38.331 15.30.0 5520 - F NR\_newRAT-Core

[R2-2507228](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507228.zip) On continuing acquiring PWS notification(s) until it re-acquires schedulingInfoList in SIB1 Samsung CR Rel-16 38.331 16.21.0 5521 - A NR\_newRAT-Core

[R2-2507230](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507230.zip) On continuing acquiring PWS notification(s) until it re-acquires schedulingInfoList in SIB1 Samsung CR Rel-17 38.331 17.14.0 5522 - A NR\_newRAT-Core

[R2-2507231](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507231.zip) On continuing acquiring PWS notification(s) until it re-acquires schedulingInfoList in SIB1 Samsung CR Rel-18 38.331 18.7.0 5523 - A NR\_newRAT-Core

[R2-2507416](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507416.zip) Correction on event triggered based logged MDT configuration Huawei, HiSilicon, CMCC, ZTE CR Rel-16 38.331 16.21.0 5531 - F NR\_SON\_MDT-Core

[R2-2507417](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507417.zip) Correction on event triggered based logged MDT configuration Huawei, HiSilicon, CMCC, ZTE CR Rel-17 38.331 17.14.0 5532 - A NR\_SON\_MDT-Core

[R2-2507418](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507418.zip) Correction on event triggered based logged MDT configuration Huawei, HiSilicon, CMCC, ZTE CR Rel-18 38.331 18.7.0 5533 - A NR\_SON\_MDT-Core

[R2-2507419](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507419.zip) Correction on event triggered based logged MDT configuration Huawei, HiSilicon, CMCC, ZTE CR Rel-19 38.331 19.0.0 5534 - A NR\_SON\_MDT-Core

[R2-2507595](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507595.zip) Clarification of SSB-less SCell Ericsson CR Rel-15 38.331 15.30.0 5549 - F NR\_newRAT-Core

[R2-2507596](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507596.zip) Clarification of SSB-less SCell Ericsson CR Rel-16 38.331 16.21.0 5550 - A NR\_newRAT-Core

[R2-2507597](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507597.zip) Clarification of SSB-less SCell Ericsson CR Rel-17 38.331 17.14.0 5551 - A NR\_newRAT-Core

[R2-2507598](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507598.zip) Clarification of SSB-less SCell Ericsson CR Rel-18 38.331 18.7.0 5552 - A NR\_newRAT-Core

#### 5.1.3.2 UE capabilities

UE cap corrections 38306, 38331

#### 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.

## 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.

# 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.

Tdoc Limitation: 3 Tdocs in total for agenda item 5 (incl. its sub agenda items) and agenda item 6 (incl. its sub agenda items)

## 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))

(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))

(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))

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.

### 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)

[R2-2506723](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2506723.zip) Reply LS on emergency call back and paging (R3-255883; contact: Qualcomm) RAN3 LS in Rel-17 NR\_newRAT-Core, NR\_redcap-Core To:SA2 Cc:RAN2, CT1, RAN

[R2-2506725](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506725.zip) LS on compatibility issue for PEI and emergency PDU session (R3-255906; contact: ZTE) RAN3 LS in Rel-17 NR\_UE\_pow\_sav\_enh-Core To:SA2 Cc:CT1, RAN2

[R2-2507023](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507023.zip) Correction on PEI in emergency PDU session Vivo, Nokia (Rapporteur) CR Rel-17 38.300 17.14.0 1037 - F NR\_UE\_pow\_sav\_enh-Core

[R2-2507024](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507024.zip) Correction on PEI in emergency PDU session Vivo, Nokia (Rapporteur) CR Rel-18 38.300 18.7.0 1038 - A NR\_UE\_pow\_sav\_enh-Core

[R2-2507025](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507025.zip) Correction on PEI in emergency PDU session Vivo, Nokia (Rapporteur) CR Rel-19 38.300 19.0.0 1039 - A NR\_UE\_pow\_sav\_enh-Core

[R2-2507608](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507608.zip) Consideration on the LS on compatibility issue for PEI and emergency PDU session ZTE Corporation, Sanechips discussion Rel-17 NR\_UE\_pow\_sav\_enh-Core

[R2-2507609](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507609.zip) Reply LS on compatibility issue for PEI and emergency PDU session ZTE Corporation, Sanechips LS out Rel-17 NR\_UE\_pow\_sav\_enh-Core To:RAN3, SA2 Cc:CT1

### 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).

### 6.1.3 Control Plane corrections

#### 6.1.3.1 NR RRC

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

[R2-2506794](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2506794.zip) Correction on previousPSCellId in SCGFailureInformation CATT CR Rel-17 38.331 17.13.0 5487 - F NR\_ENDC\_SON\_MDT\_enh-Core

[R2-2506795](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506795.zip) Correction on previousPSCellId in SCGFailureInformation CATT CR Rel-18 38.331 18.6.0 5488 - A NR\_ENDC\_SON\_MDT\_enh-Core

[R2-2506796](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506796.zip) Correction on previousPSCellId in SCGFailureInformation CATT CR Rel-19 38.331 18.6.0 5489 - A NR\_ENDC\_SON\_MDT\_enh-Core

[R2-2507004](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507004.zip) Correction on subcarrierSpacing values in IE SCS-SpecificCarrier Huawei, HiSilicon CR Rel-17 38.331 17.14.0 5500 - F NR\_ext\_to\_71GHz-Core

[R2-2507005](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507005.zip) Correction on subcarrierSpacing values in IE SCS-SpecificCarrier Huawei, HiSilicon CR Rel-18 38.331 18.7.0 5501 - A NR\_ext\_to\_71GHz-Core

[R2-2507006](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507006.zip) Correction on subcarrierSpacing values in IE SCS-SpecificCarrier Huawei, HiSilicon CR Rel-19 38.331 19.0.0 5502 - A NR\_ext\_to\_71GHz-Core

[R2-2507066](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507066.zip) Correction on uac-BarringFactorForAI3 absence case [MINT] Huawei, HiSilicon CR Rel-17 38.331 17.14.0 5505 - F TEI17

[R2-2507067](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507067.zip) Correction on uac-BarringFactorForAI3 absence case [MINT] Huawei, HiSilicon CR Rel-18 38.331 18.7.0 5506 - A TEI17

[R2-2507068](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507068.zip) Correction on uac-BarringFactorForAI3 absence case [MINT] Huawei, HiSilicon CR Rel-19 38.331 19.0.0 5507 - A TEI17

[R2-2507097](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2507097.zip) Correction on PC5 Relay RLC channel configuration Apple, CATT CR Rel-17 38.331 17.14.0 5508 - F NR\_SL\_relay-Core

[R2-2507098](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2507098.zip) Correction on PC5 Relay RLC channel configuration Apple, CATT CR Rel-18 38.331 18.7.0 5509 - A NR\_SL\_relay-Core

[R2-2507099](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2507099.zip) Correction on PC5 Relay RLC channel configuration Apple, CATT CR Rel-19 38.331 19.0.0 5510 - A NR\_SL\_relay-Core

[R2-2507390](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507390.zip) Correction on pdcp-Config for SRB4 Samsung, Ericsson CR Rel-17 38.331 17.14.0 5527 - F NR\_QoE-Core

[R2-2507554](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507554.zip) Correction on SCGFailureInformation Samsung, Ericsson CR Rel-17 38.331 17.14.0 5545 - F NR\_ENDC\_SON\_MDT\_enh-Core

[R2-2507566](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507566.zip) Correction on SCGFailureInformation Samsung, Ericsson CR Rel-18 38.331 18.7.0 5546 - A NR\_ENDC\_SON\_MDT\_enh-Core

[R2-2507620](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507620.zip) Correction on setting timeSinceCHO-Reconfig when the failure is due to RLF Ericsson CR Rel-17 38.331 17.14.0 5555 - F NR\_ENDC\_SON\_MDT\_enh-Core

[R2-2507621](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507621.zip) Correction on setting timeSinceCHO-Reconfig when the failure is due to RLF Ericsson CR Rel-18 38.331 18.7.0 5556 - A NR\_ENDC\_SON\_MDT\_enh-Core

[R2-2507622](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507622.zip) Correction on setting timeSinceCHO-Reconfig when the failure is due to RLF Ericsson CR Rel-19 38.331 19.0.0 5557 - A NR\_ENDC\_SON\_MDT\_enh-Core

#### 6.1.3.2 UE capabilities

UE cap corrections 38306, 38331.

[R2-2507164](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2507164.zip) Correction on UL Tx switching MIMO coherence capabilities ZTE Corporation CR Rel-17 38.331 17.14.0 5515 - F NR\_RF\_FR1\_enh-Core

[R2-2507165](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507165.zip) Correction on UL Tx switching MIMO coherence capabilities ZTE Corporation CR Rel-18 38.331 18.7.0 5516 - A NR\_RF\_FR1\_enh-Core, NR\_MC\_enh-Core

[R2-2507166](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507166.zip) Correction on UL Tx switching MIMO coherence capabilities ZTE Corporation CR Rel-19 38.331 19.0.0 5517 - A NR\_RF\_FR1\_enh-Core, NR\_MC\_enh-Core

[R2-2507481](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507481.zip) Introduce UE capability for UE coarse location reporting Xiaomi CR Rel-17 38.306 17.14.0 1368 - F NR\_NTN\_solutions-Core

[R2-2507482](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507482.zip) Introduce UE capability for UE coarse location reporting Xiaomi CR Rel-18 38.306 18.7.0 1369 - A NR\_NTN\_solutions-Core

[R2-2507483](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507483.zip) Introduce UE capability for UE coarse location reporting Xiaomi CR Rel-17 38.331 17.14.0 5535 - F NR\_NTN\_solutions-Core

[R2-2507484](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507484.zip) Introduce UE capability for UE coarse location reporting Xiaomi CR Rel-18 38.331 18.7.0 5536 - A NR\_NTN\_solutions-Core Revised

[R2-2507495](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507495.zip) Introduce UE capability for UE coarse location reporting Xiaomi CR Rel-18 38.331 18.7.0 5536 1 A NR\_NTN\_solutions-Core [R2-2507484](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507484.zip)

#### 6.1.3.3 Other

Including idle and inactive behaviour specified in 38.304 or 36.304.

## 6.3 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))

# 7 NR 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.

### 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: 4*

#### 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*

[R2-2507399](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2507399.zip) Correction on releasing CFRA resources in case of RACH-less handover Ericsson CR Rel-18 38.331 18.7.0 5528 - F TEI18

#### 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) )

#### 7.0.2.4 Mobile Terminated Small Data Transmission

(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))

#### 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))

#### 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))

[R2-2507631](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507631.zip) Correction on application of restrictions to mIAB-MT Samsung CR Rel-18 38.304 18.4.0 0449 - F NR\_mobile\_IAB-Core

#### 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))

#### 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))

#### 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))

#### 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))

[R2-2507274](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507274.zip) MAC correction on UE transmissions during Cell DRX Huawei, HiSilicon CR Rel-18 38.321 18.7.0 2128 - F Netw\_Energy\_NR-Core

[R2-2507275](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507275.zip) Stage-2 correction on UE transmissions during Cell DRX Huawei, HiSilicon CR Rel-18 38.300 18.7.0 1043 - F Netw\_Energy\_NR-Core

[R2-2507276](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507276.zip) MAC correction on UE transmissions during Cell DRX Huawei, HiSilicon CR Rel-19 38.321 19.0.0 2129 - A Netw\_Energy\_NR-Core

[R2-2507277](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507277.zip) Stage-2 correction on UE transmissions during Cell DRX Huawei, HiSilicon CR Rel-19 38.300 19.0.0 1044 - A Netw\_Energy\_NR-Core

#### 7.0.2.11 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))

[R2-2506790](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506790.zip) Correction on nrPreviousCell logging in RLF report CATT CR Rel-18 38.331 18.6.0 5483 - F NR\_ENDC\_SON\_MDT\_enh2-Core

[R2-2506791](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506791.zip) Correction on nrPreviousCell logging in RLF report CATT CR Rel-19 38.331 18.6.0 5484 - A NR\_ENDC\_SON\_MDT\_enh2-Core

[R2-2506792](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506792.zip) Correction on timeSinceSHR in SHR CATT CR Rel-18 38.331 18.6.0 5485 - F NR\_ENDC\_SON\_MDT\_enh2-Core

[R2-2506793](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506793.zip) Correction on timeSinceSHR in SHR CATT CR Rel-19 38.331 18.6.0 5486 - A NR\_ENDC\_SON\_MDT\_enh2-Core

[R2-2507519](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507519.zip) Correction to CPAC MRO ZTE Corporation, CMCC, Huawei, Ericsson, Sanechips CR Rel-18 38.331 18.7.0 5538 - F NR\_ENDC\_SON\_MDT\_enh2-Core

[R2-2507520](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507520.zip) Correction to CPAC MRO ZTE Corporation, CMCC, Huawei, Ericsson, Sanechips CR Rel-19 38.331 19.0.0 5539 - A NR\_ENDC\_SON\_MDT\_enh2-Core

#### 7.0.2.12 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))

#### 7.0.2.13 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))

[R2-2506731](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506731.zip) Reply LS on maximum transmission power for STxMP (R4-2511781; contact: vivo) RAN4 LS in Rel-20 NR\_MIMO\_evo\_DL\_UL-Core To:RAN1 Cc:RAN2

[R2-2507547](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507547.zip) Correction on dependency of group-based beam reporting Nokia CR Rel-18 38.331 18.7.0 5543 - F NR\_MIMO\_evo\_DL\_UL-Core

[R2-2507548](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507548.zip) Correction on dependency of group-based beam reporting Nokia CR Rel-19 38.331 19.0.0 5544 - A NR\_MIMO\_evo\_DL\_UL-Core

#### 7.0.2.14 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))

#### 7.0.2.15 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))

[R2-2506724](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506724.zip) Reply LS on MBS Communication Service Type (R3-255896; contact: Nokia) RAN3 LS in Rel-18 NR\_QoE\_enh-Core To:SA4 Cc:RAN2, SA5

[R2-2507546](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507546.zip) Correction on pdcp-Config for SRB4 and SRB5 Samsung, Ericsson CR Rel-18 38.331 18.7.0 5542 - F NR\_QoE\_enh-Core

#### 7.0.2.16 XR Enhancements for NR

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

[R2-2507028](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507028.zip) Discussion on DSR triggering for R18 XR vivo discussion Rel-18 NR\_XR\_enh-Core

[R2-2507282](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507282.zip) Discussion on DSR triggering for RLC segment LG Electronics Inc. discussion Rel-18 NR\_XR\_enh-Core

[R2-2507473](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507473.zip) Clarification on DSR Triggering Ericsson discussion

#### 7.0.2.17 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))

[R2-2506990](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506990.zip) Correction on eventD2 with multiple moving reference locations CSCN, ZTE Corporation, Sanechips, Huawei, Hisilicon, Xiaomi, CATT, OPPO discussion Rel-18 NR\_NTN\_enh-Core

[R2-2506996](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506996.zip) Corrections on eventD2 CSCN, ZTE Corporation, Sanechips, Huawei, Hisilicon, OPPO CR Rel-18 38.331 18.7.0 5496 - F NR\_NTN\_enh-Core

[R2-2506997](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506997.zip) Corrections on eventD2 CSCN, ZTE Corporation, Sanechips, Huawei, Hisilicon, CATT, OPPO CR Rel-18 38.331 18.7.0 5497 - F NR\_NTN\_enh-Core

[R2-2506998](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506998.zip) Corrections on eventD2 CSCN, ZTE Corporation, Sanechips, Huawei, Hisilicon, OPPO CR Rel-18 38.331 18.7.0 5498 - F NR\_NTN\_enh-Core

#### 7.0.2.18 IoT NTN enhancements

(IoT\_NTN\_enh-Core; leading WG: RAN2; REL-18; WID: [RP-223519](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_98e/Docs/RP-223519.zip))

#### 7.0.2.19 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))

[R2-2507076](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507076.zip) Correction on UE capability for MP split ZTE Corporation, Sanechips, CATT CR Rel-18 38.306 18.7.0 1357 - F NR\_SL\_relay\_enh-Core

[R2-2507077](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507077.zip) Correction on UE capability for MP split ZTE Corporation, Sanechips, CATT CR Rel-19 38.306 19.0.0 1358 - A NR\_SL\_relay\_enh-Core

[R2-2507213](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507213.zip) Correction to SI reception by remote UE for multi path LG Electronics Inc. CR Rel-18 38.331 18.7.0 5422 1 F NR\_SL\_relay\_enh-Core [R2-2505543](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2505543.zip) Revised

[R2-2507214](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507214.zip) Correction to SI reception by remote UE for multi path LG Electronics CR Rel-19 38.331 19.0.0 5422 2 A NR\_SL\_relay\_enh-Core [R2-2505543](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2505543.zip)

[R2-2507215](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507215.zip) Correction to SI reception by remote UE for multi path LG Electronics Inc. discussion Rel-18 NR\_SL\_relay\_enh-Core

[R2-2507474](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507474.zip) U2U Relays, Peer Remote UE Control Plane Procedures Ericsson, Nokia CR Rel-18 38.300 18.7.0 1045 - F NR\_SL\_relay\_enh-Core

[R2-2507553](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507553.zip) Correction to SI reception by remote UE for multi path LG Electronics CR Rel-18 38.331 18.7.0 5422 3 F NR\_SL\_relay\_enh-Core [R2-2507213](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507213.zip)

#### 7.0.2.20 NR Sidelink evolution

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

#### 7.0.2.21 Expanded and improved NR positioning

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

Including outcome of email discussion [Post131][410][POS] Stage 2 descriptions for Rel-18 positioning (CATT)

[R2-2506821](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506821.zip) Report of [Post131][410][POS] Stage 2 descriptions for Rel-18 positioning (CATT) CATT discussion Rel-18 NR\_pos\_enh2-Core

[R2-2506824](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506824.zip) Corrections on LPHAP, carrier phase, bandwidth aggregation and frequency hopping for positioning CATT, Ericsson, Nokia, ZTE Corporation CR Rel-18 38.305 18.6.0 0187 3 F NR\_pos\_enh2-Core [R2-2505124](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2505124.zip)

[R2-2506825](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506825.zip) Corrections on LPHAP, carrier phase, bandwidth aggregation and frequency hopping for positioning(R19 Cat. A CR) CATT, Ericsson, Nokia, ZTE Corporation CR Rel-19 38.305 18.6.0 0198 - A NR\_pos\_enh2-Core

[R2-2506969](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506969.zip) Correction on AdditionalSpectrumEmission in SL positioning ZTE Corporation CR Rel-18 38.331 18.7.0 5494 - F NR\_pos\_enh2-Core

[R2-2506970](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506970.zip) Correction on AdditionalSpectrumEmission in SL positioning ZTE Corporation CR Rel-19 38.331 19.0.0 5495 - A NR\_pos\_enh2-Core

[R2-2507040](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507040.zip) Correction for the description of rangeAndOrDirection Huawei, HiSilicon CR Rel-18 38.355 18.6.0 0016 - F NR\_pos\_enh2-Core Revised

[R2-2507152](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507152.zip) Correction on RequestLocationInformation for DL-TDOA and DL-AOD Samsung CR Rel-18 37.355 18.6.0 0561 - F NR\_pos\_enh2-Core Withdrawn

[R2-2507246](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507246.zip) Correction on RequestLocationInformation for DL-TDOA and DL-AOD Samsung, Qualcomm CR Rel-18 37.355 18.6.0 0562 - F NR\_pos\_enh2-Core

[R2-2507328](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507328.zip) Correction on NCD-SSB Configuration for Positioning China Telecom CR Rel-18 38.331 18.7.0 5524 - F NR\_pos\_enh2-Core

[R2-2507330](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507330.zip) Correction on NCD-SSB Configuration for Positioning China Telecom CR Rel-19 38.331 19.0.0 5525 - A TEI19, NR\_pos\_enh2-Core

[R2-2507349](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507349.zip) Correction for the description of rangeAndOrDirection Huawei, HiSilicon CR Rel-19 38.355 19.0.0 0017 - A NR\_pos\_enh2-Core

[R2-2507355](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507355.zip) Correction for the description of rangeAndOrDirection Huawei, HiSilicon CR Rel-18 38.355 18.6.0 0016 1 F NR\_pos\_enh2-Core [R2-2507040](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507040.zip)

[R2-2507533](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507533.zip) Correction on processing of sidelink grant on Dedicated SL-PRS resource pool ASUSTeK CR Rel-18 38.321 18.7.0 2131 - F NR\_pos\_enh2-Core

#### 7.0.2.22 Further NR mobility enhancements

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

[R2-2506726](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506726.zip) LS on the handling of inter-DU L2 reset for LTM (R3-255907; contact: Ericsson) RAN3 LS in Rel-18 NR\_Mob\_enh2-Core To:RAN2

[R2-2506812](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506812.zip) Correction on the execution of SCG LTM CATT CR Rel-18 38.331 18.6.0 5490 - F NR\_Mob\_enh2-Core Withdrawn

[R2-2506813](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506813.zip) Correction on the execution of SCG LTM CATT CR Rel-19 38.331 18.6.0 5491 - A NR\_Mob\_enh2-Core Withdrawn

[R2-2507026](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507026.zip) Correction on stop of cg-RRC-RetransmissionTimer upon configuredGrantTimer expiration vivo CR Rel-18 38.321 18.7.0 2124 - F NR\_Mob\_enh2-Core

[R2-2507027](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507027.zip) Correction on stop of cg-RRC-RetransmissionTimer upon configuredGrantTimer expiration vivo CR Rel-19 38.321 19.0.0 2125 - A NR\_Mob\_enh2-Core

[R2-2507220](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507220.zip) Corrections on validation of reported idle/inactive and reselection measurements Samsung CR Rel-18 38.331 18.7.0 5519 - F NR\_Mob\_enh2-Core

[R2-2507381](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507381.zip) Corrections on Rel-18 UE capabilities for LTM Huawei, HiSilicon CR Rel-18 38.306 18.7.0 1363 - F NR\_Mob\_enh2

[R2-2507382](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507382.zip) Corrections on Rel-18 UE capabilities for LTM Huawei, HiSilicon CR Rel-19 38.306 19.0.0 1364 - A NR\_Mob\_enh2

[R2-2507386](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507386.zip) On inter-DU Layer 2 Reset in LTM Nokia discussion Rel-18 NR\_Mob\_enh2-Core

[R2-2507400](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507400.zip) Handling of inter-DU L2 reset for LTM Ericsson discussion Rel-18 NR\_Mob\_enh2-Core

[R2-2507526](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507526.zip) Miscellaneous corrections on mobility enhancements ZTE Corporation, Sanechips CR Rel-18 38.331 18.7.0 5540 - F NR\_Mob\_enh2-Core

[R2-2507527](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507527.zip) Miscellaneous corrections on mobility enhancements ZTE Corporation, Sanechips CR Rel-19 38.331 19.0.0 5541 - A NR\_Mob\_enh2-Core

[R2-2507616](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507616.zip) Correction on the execution of SCG LTM CATT CR Rel-18 38.331 18.7.0 5554 - F NR\_Mob\_enh2-Core

[R2-2507630](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507630.zip) Correction on the execution of SCG LTM CATT CR Rel-19 38.331 19.0.0 5558 - A NR\_Mob\_enh2-Core

#### 7.0.2.23 TEI18

[R2-2507191](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507191.zip) Correction on uplink power control for Type-1 CG-PUSCH [PL RS Type 1 CG] Ofinno CR Rel-18 38.331 18.7.0 5518 - F TEI18

#### 7.0.2.24 Others

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

[R2-2506729](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506729.zip) LS on 8Rx UE receiver capability definition update request (R4-2509151; contact: China Telecom, Ericsson) RAN4 LS in Rel-18 NR\_ENDC\_RF\_FR1\_enh2-Perf To:RAN2

[R2-2506880](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506880.zip) Correction on R18 8Rx UE receiver capability definition China Telecom, Ericsson, Huawei, HiSilicon CR Rel-18 38.306 18.6.0 1354 - F NR\_ENDC\_RF\_FR1\_enh2-Perf Withdrawn

[R2-2506881](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506881.zip) Correction on R18 8Rx UE receiver capability definition China Telecom, Ericsson, Huawei, HiSilicon CR Rel-19 38.306 18.6.0 1355 - A NR\_ENDC\_RF\_FR1\_enh2-Perf Withdrawn

[R2-2507167](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507167.zip) Correction on UL Tx switching MIMO coherence capabilities ZTE Corporation CR Rel-18 38.306 18.7.0 1359 - F NR\_MC\_enh-Core

[R2-2507168](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507168.zip) Correction on UL Tx switching MIMO coherence capabilities ZTE Corporation CR Rel-19 38.306 19.0.0 1360 - A NR\_MC\_enh-Core

[R2-2507395](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507395.zip) Correction on R18 8Rx UE receiver capability definition China Telecom, Ericsson, Huawei, HiSilicon CR Rel-18 38.306 18.7.0 1365 - F NR\_ENDC\_RF\_FR1\_enh2-Perf

[R2-2507396](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507396.zip) Correction on R18 8Rx UE receiver capability definition China Telecom, Ericsson, Huawei, HiSilicon CR Rel-19 38.306 19.0.0 1366 - A NR\_ENDC\_RF\_FR1\_enh2-Perf

[R2-2507599](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507599.zip) Clarification of supported band pairs for UL TX switching Ericsson CR Rel-18 38.331 18.7.0 5553 - F NR\_MC\_enh-Core

# 8 NR Rel-19

## 8.0 General

[R2-2506711](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506711.zip) LS on updated Rel-19 RAN1 UE features lists for LTE after RAN1#122 (R1-2506429; contact: NTT DOCOMO, AT&T) RAN1 LS in Rel-19 IoT\_NTN\_Ph3, IoT\_NTN\_TDD, LTE\_terr\_bcast\_Ph2 To:RAN2 Cc:RAN4

* Noted

### 8.0.1 ASN.1 Review

Contributions on common ASN.1 identified issues and cross-WI identified issues. RILs specific to WI are expected to be discussed in corresponding WI.

*Rapporteur will create separate list that only include the RILs to be discussed in common session. One contribution covering the common session RILs is expected per company. Additional tdoc can be submitted for co-sourced contributions with 4 or more companies.*

[R2-2507222](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507222.zip) LTE ASN.1 Review file Samsung discussion Rel-19 Late

* Noted

[R2-2507223](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507223.zip) LTE RIL List Samsung discussion Rel-19 Late

* Noted

[R2-2507224](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507224.zip) LTE ASN.1 Class 0 Issues Samsung discussion Rel-19 Late

* Noted

[R2-2507685](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507685.zip) 38331 ASN.1 Review file v000 Ericsson discussion Rel-19 TEI19

* Noted

[R2-2507686](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507686.zip) 38331 ASN.1 Comments file v000 Ericsson discussion Rel-19 TEI19

* Noted

[R2-2507687](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507687.zip) 38331 ASN.1 RIL list v000 Ericsson discussion Rel-19 TEI19

* Noted

(C)LTM and SBFD RA

O000

[R2-2507617](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_131bis/Docs/R2-2507617.zip) Discussion on cross-WI ASN.1 Issues (O000,O001,O003, O004, O005) OPPO discussion Rel-19 NR\_duplex\_evo-Core, NR\_Mob\_Ph4-Core, NR\_LPWUS-Core, Netw\_Energy\_NR\_enh-Core, NR\_SL\_relay\_multihop-Core Late

**Agreements**

* [O000] R2 confirm SBFD-RACH is not applicable to early UL sync. Update RRC spec to restrict this.
* [O000] R2 confirm SBFD-RACH applicability to CLTM execution. No further specifications changes are required.
* [O000] R2 confirm SBFD-RACH applicability to LTM execution upon CSC for intra-DU case as per current specs

(C)LTM and sidelink

Z152

O001

[R2-2507617](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_131bis/Docs/R2-2507617.zip) Discussion on cross-WI ASN.1 Issues (O000,O001,O003, O004, O005) OPPO discussion Rel-19 NR\_duplex\_evo-Core, NR\_Mob\_Ph4-Core, NR\_LPWUS-Core, Netw\_Energy\_NR\_enh-Core, NR\_SL\_relay\_multihop-Core Late

Agreements

* [O001] R2 confirm that LTM/CLTM is not applicable to SL intermediate-relay UE.
* [O001] R2 confirm that CLTM is not applicable to SL relay UE.

(C)LTM and QoE

Z153

ZTE explains that there is a paragraph that explains how the failure is reported that may need to be updated.

* The co-existance of LTM and QoE is not supported (i.e. they are not configured at the same time)

(C)LTM and MBS

Z154

* The co-existance of LTM and MBS is not specified (i.e. can be supported but no further specification work)

PO bundling, NES and LPWUS

O005

C026

[R2-2507236](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_131bis/Docs/R2-2507236.zip) Discussion about LP-WUS RILs H050, E043, C026, V001, Z052 and V002 ZTE Corporation, Sanechips discussion Rel-19 NR\_LPWUS-Core

1. RAN2 confirms that LP-WUS in idle/inactive can co-exist with Rel-19 paging adaptation mechanism in NES, and the LP-WUS mechanism will not be affected by paging adaptation.

* Noted

[R2-2506864](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_131bis/Docs/R2-2506864.zip) [C026] Co-existence of LP-WUS with paging adaptation CATT discussion Rel-19 NR\_LPWUS-Core

1. []RAN2 confirms that LP-WUS in idle/inactive can co-exist with Rel-19 paging adaptation mechanism in NES, and the LP-WUS mechanism will not be affected by paging adaptation.

* Noted

[R2-2507617](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_131bis/Docs/R2-2507617.zip) Discussion on cross-WI ASN.1 Issues (O000,O001,O003, O004, O005) OPPO discussion Rel-19 NR\_duplex\_evo-Core, NR\_Mob\_Ph4-Core, NR\_LPWUS-Core, Netw\_Energy\_NR\_enh-Core, NR\_SL\_relay\_multihop-Core Late

1. [O005] R2 discuss to support co-configuration of LP-WUS and PO-bundling, i.e., separate LP-WUS configuration for legacy PO and R19 bundled PO.

* Noted
* RAN2 confirms that LP-WUS in idle/inactive can co-exist with Rel-19 paging adaptation mechanism in NES, and the LP-WUS mechanism will not be affected by paging adaptation. Further discussions can take place in LP-WUS session on addressing this.

PO bundling, NES and SL Relay

O004

[R2-2507617](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_131bis/Docs/R2-2507617.zip) Discussion on cross-WI ASN.1 Issues (O000,O001,O003, O004, O005) OPPO discussion Rel-19 NR\_duplex\_evo-Core, NR\_Mob\_Ph4-Core, NR\_LPWUS-Core, Netw\_Energy\_NR\_enh-Core, NR\_SL\_relay\_multihop-Core Late

* [O004] R2 not purse co-configuration of PO bundling and SL Relay in a same cell.

NES RA and SBFD RA

O003

[R2-2507617](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_131bis/Docs/R2-2507617.zip) Discussion on cross-WI ASN.1 Issues (O000,O001,O003, O004, O005) OPPO discussion Rel-19 NR\_duplex\_evo-Core, NR\_Mob\_Ph4-Core, NR\_LPWUS-Core, Netw\_Energy\_NR\_enh-Core, NR\_SL\_relay\_multihop-Core Late

* [O003] R2 confirm that it is not supported to configure addlRACH-Config-Adapt-r19 within rach-ConfigCommon (no suffix) and rach-ConfigCommon-r17, together with sbfd-RACH-SingleConfig-r19 enabled, but it is not supported to configure addlRACH-Config-Adapt-r19 within sbfd-RACH-DualConfig-r19.

NES Case1 with respect of the SSBless Scell.

E024

[R2-2507334](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_131bis/Docs/R2-2507334.zip) Discussion on RILS E023, E024, E025, X201, O006, J002, H128, H129, J005, Z101, Z102, V503 Ericsson discussion Rel-19 Netw\_Energy\_NR\_enh-Core Late

Proposal 1 RAN2 to conclude that Case 1 does not require always on SSB, even in reference cells.

* Continue in NES session and check how Rel-18 is impacted by this

Enhancing the readability of RRC procedure text

H202

[R2-2507055](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_131bis/Docs/R2-2507055.zip) Enhancing the readability of RRC spec [H202] Huawei, HiSilicon discussion TEI19

Proposal 1: For better readability of RRC procedure text, RAN2 to separate UE procedures belonging to different features within a long section to separate section for each feature. Take the TP in appendix A as an example.

- Qualcomm and Samsungs thinks we can try. Samsung think that we should examine on a case by case basis. Huawei thinks we can do by email, examine chapters and agree which chapter to re-examine and then propose TPs. Nokia thinks that we should do it as a separate effort from ASN.1 and the freeze. Oppo is concerned that if we do it for all features it will be a mess so we should do it one by one.

* For Rel-19 proposed text we can do an exercise where we identify sections which can be separated, without introducing inconsistencies in previous releases. Determine whether we do any further updates in RAN2#132
* [POST131bis][002][RRC] Readability of RRC procedural text ()

Intended outcome: Identify sections that can benefit from update procedure and doesn’t introduce inconsistencies in previous releases. No draft CR or TPs for RAN2#132

Deadline: long

Proposal 2: For better readability of ASN.1, similar to SetupRelease, RAN2 to use more parameterized types for CHOICE with sub-fields. Adopt the TP in appendix B.

- Qualcomm, Mediatek and Samsung thinks it is a bit late for NR. Huawei understands and thinks we can do it for 6G.

* Not supported

.

- Ericsson thinks we can do better in general

OtherConfig for XR, LPWUS, AIML, NTN UAI report

H201

* RRC Rapp assumes issue resolved at CR impl.

### 8.0.2 Other

This AI is reserved for Rel-19 LSs from other WGs. No contributions are expected on these LSs for this meeting

Reserved for UE capability rapporteur input .

[R2-2506710](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506710.zip) LS on updated Rel-19 RAN1 UE features lists for NR after RAN1#122 (R1-2506426; contact: NTT DOCOMO, AT&T) RAN1 LS in Rel-19 NR\_AIML\_air, NR\_MIMO\_Ph5, NR\_duplex\_evo, Netw\_Energy\_NR\_enh, NR\_LPWUS, NR\_Mob\_Ph4, NR\_NTN\_Ph3, NR\_MC\_enh2, TEI19, NR\_LBCA\_Sw To:RAN2 Cc:RAN4

* Noted

[R2-2506720](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506720.zip) LS on Rel-19 higher layers parameters list Post RAN1#122 (R1-2506626; contact: Ericsson) RAN1 LS in Rel-19 NR\_AIML\_air, NR\_MIMO\_Ph5, NR\_duplex\_evo, Netw\_Energy\_NR\_enh, NR\_LPWUS, NR\_Mob\_Ph4, NR\_XR\_Ph3, NR\_NTN\_Ph3, IoT\_NTN\_Ph3, IoT\_NTN\_TDD, NR\_MC\_enh2, NR\_LBCA\_Sw, LTE\_terr\_bcast\_Ph2, TEI19 To:RAN2, RAN3 Cc:RAN4

* Noted
* [POST131bis][003][RRC] RAN1 parameters (Ericsson)

Intended outcome: Report to RAN1 the final parameter names

Deadline: Long

[R2-2506734](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506734.zip) LS on Rel-19 RAN4 UE feature list for NR (version 2) (R4-2511884; contact: CMCC) RAN4 LS in Rel-19 NR\_ENDC\_RF\_Ph4, NonCol\_intraB\_ENDC\_NR\_CA\_Ph2, NR\_ATG\_enh, NR\_RRM\_Ph5, Netw\_Energy\_NR\_enh, NR\_LPWUS, NR\_Mob\_Ph4, NR\_XR\_Ph3, NR\_FR1\_lessthan\_5MHz\_BW\_Ph2, NR\_LBCA\_Sw, NR\_FR1\_7MHz\_BW, NR\_IoT\_NTN\_req\_test\_enh, NR\_AIML\_air, NR\_NTN\_Ku\_bands, NR\_NTN\_Ph3 To:RAN2 Cc:RAN1

* Noted

[R2-2507586](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507586.zip) Corrections on Rel-19 RAN1/4 UE capability Xiaomi CR Rel-19 38.306 19.0.0 1370 - F NR\_LPWUS, NR\_MIMO\_Ph5

* Use a baseline for next revision

[R2-2507587](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507587.zip) Corrections on Rel-19 RAN1/4 UE capability Xiaomi CR Rel-19 38.331 19.0.0 5547 - F NR\_LPWUS, NR\_AIML\_air, NR\_ENDC\_RF\_Ph4

- Lenovo is concerned that this is not aligned with the feature list. Vivo confirms that it reflects RAN1 intention.

* Use a baseline for next revision
* [POST131bis][004][UE caps] UE capability CR (Xiaomi)

Intended outcome: Update UE capability CRs post RAN1/RAN4 LS and combine with RAN2 CRs.

Deadline: long

[R2-2507144](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507144.zip) Discussion on remaining issues of UE capability OPPO discussion Rel-19 TEI19, NR\_LBCA\_Sw

* Noted

[R2-2506721](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506721.zip) Reply LS on NR Femto node shared by PLMN and PNI-NPN (R3-252337; contact: LGE) RAN3 LS in Rel-19 5G\_Femto, NR\_WAB\_5GFemto-Core, eNPN To:SA2 Cc:RAN2

* Noted

[R2-2506745](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506745.zip) Reply LS on FS\_VMR\_Ph2 solution impacts to RAN (Additional ULI) (S2-2504110; contact: Qualcomm) SA2 LS in Rel-19 VMR\_Ph2 To:RAN3 Cc:RAN2

* Noted

## 8.1 AI/ML for NR air interface

(NR\_AIML\_air-Core; leading WG: RAN1; REL-19; WID: RP-250792 and SID: RP-243245)

Time budget: 0 TU

Tdoc Limitation: 3 tdocs

### 8.1.1 Organizational

LS, Rapporteur input, including workplan.

Including LSs [R2-2506752](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506752.zip), [R2-2506751](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506751.zip), and [R2-250675](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-250675.zip) on R20 data collection and data set and parameter sharing. No contributions should be submitted to address these LSs.

**LS**

RAN2 in ‘To’

[R2-2506722](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506722.zip) Reply LS on Logged Data Handling During Handover (R3-255824; contact: Nokia) RAN3 LS in Rel-19 NR\_AIML\_air-Core To:RAN2 Cc:SA5

* Noted

[R2-2506751](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506751.zip) Reply LS on signalling feasibility of dataset and parameter sharing (S2-2508104; contact: Samsung) SA2 LS in Rel-19 NR\_AIML\_air-Core To:RAN2 Cc:RAN, RAN1, RAN3, SA, SA3, SA5

* Noted

R2-2507707

* Reply is sent to SA2 clarifying to answer their questions on the details of the options asked (based on existing RAN2 agreements)
* [AT131bis][007][AI PHY] LS to SA2 on dataset parameter options (Samsung)

Intended outcome: Agree to LS over email

Deadline: Thursday

[R2-2506757](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506757.zip) Reply LS on signalling feasibility of dataset and parameter sharing (S5-254083; contact: Huawei) SA5 LS in Rel-19 NR\_AIML\_air-Core To:RAN2 Cc:RAN, SA, RAN1, RAN3, SA2, SA3

* Noted

[R2-2507134](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507134.zip) LS on input data from UE for case 3b (S2-2507583; contact: Samsung) SA2 LS in Rel-19 NR\_AIML\_air, NR\_AIML\_air-Core, AIML\_CN To:RAN2 Cc:CT1, CT4

* Noted

[R2-2507148](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507148.zip) [Draft] Reply LS on input data from UE for Case 3b Samsung LS out Rel-19 NR\_AIML\_air-Core To:SA2 Cc:CT1, CT4

- Nokia explains that we didn’t even discuss case 3b, so we have to indicate that RAN2 doesn’t support case 3b in Rel-19. Ericsson thinks that we didn’t do any enhancements, but it doesn’t mean we don’t support it. Qualcomm, Apple and Vivo agrees and vivo thinks we can explain a bit about how it works. Apple points out that we had an agreement that it can be supported without RAN2 impact.

* Both can be supported by existing LPP protocol. Add that RAN2 didn’t study the details of case 3b, but we assume the ground truth is the location position in the LMF.
* [AT131bis][008][AI PHY] Reply LS on positioning (Samsung)

- Intended outcome: agree by email

- Deadline: Thursday

[R2-2507460](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507460.zip) Open Issues LCM for Positioning Ericsson discussion Rel-19 NR\_AIML\_air-Core Late (Moved from 8.1.2.3)

Proposal 1: Reply LS to SA2 says “existing LPP procedure can be reused for data collection with regards to ground truth data and its related data (e.g., quality indicator of ground truth data, time stamp of ground truth data)”.

Rel-20 LSs moved from 9.1

[R2-2506744](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506744.zip) LS on specification of dataset and model parameters exchange (RP-252966; contact: Qualcomm, InterDIgital) RAN LS in Rel-20 NR\_AIML\_air\_Ph2 To:SA Cc:SA2, SA5, RAN2

* Noted

[R2-2506752](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506752.zip) LS on UE data collection and data transfer (S2-2508119; contact: Nokia) SA2 LS in Rel-20 FS\_AIML\_CN\_Ph2 To:RAN2 Cc:RAN1, RAN3

* [AT131bis][009][AI PHY] Reply LS to SA2 on data collection (Nokia)

Intended outcome: Agree to LS

Deadline: CB Friday

RAN2 in ‘CC’ (To be Noted)

[R2-2506755](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506755.zip) Reply LS on per-UE UE performance metrics (S5-253854; contact: Huawei) SA5 LS in Rel-18 NR\_AIML\_NGRAN-Core To:RAN3 Cc:RAN2

* Noted

[R2-2506759](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506759.zip) Reply to LS on Continuous MDT (S5-254110; contact: Ericsson, Magenta, CATT, ZTE, Huawei) SA5 LS in Rel-19 NR\_AIML\_NGRAN\_enh-Core To:RAN3 Cc:RAN2

* Noted

**CRs, open issues, email discussion reports, RILs**

*37.320*

[R2-2507421](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507421.zip) TS 37320 Open Issues for Air Interface Feature Huawei, HiSilicon other Rel-19 NR\_AIML\_air-Core

Conclusion: Based on the email discussion, the changes due to the following issues are agreed:

Issue-01, Issue-02, Issue-03, Issue-04, Issue-05 (merged into Issue-06), Issue-06, Issue-07 (changes proposed by Apple).

* Noted

[R2-2507420](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507420.zip) Correction on AI for Air Interface Feature in TS 37320 Huawei, HiSilicon CR Rel-19 37.320 19.0.0 0146 - F NR\_AIML\_air-Core

* Dndorsed

*37.355*

[R2-2507411](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507411.zip) Remaining LPP open issues for feature "AI/ML for NR air interface" Qualcomm Incorporated (Rapporteur) discussion Late

* Noted

[R2-2507412](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507412.zip) Corrections to DL AI/ML Positioning Qualcomm Incorporated (Rapporteur) draftCR Rel-19 37.355 19.0.0 F NR\_AIML\_air-Core Late

* The CR is endorsed and will be updated after ASN.1 review

38.300

[R2-2506958](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506958.zip) Report of TS38300 Open Issues on AI for Air Interface Feature vivo(Rapporteur) report NR\_AIML\_air-Core

Conclusion: There is no open issues requiring online discussion

* Noted

[R2-2506959](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506959.zip) Introduction of AI for Air interface feature in 38300 vivo(Rapporteur) draftCR Rel-19 38.300 19.0.0 NR\_AIML\_air-Core Withdrawn

[R2-2506995](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506995.zip) Introduction of AI for Air interface feature in 38300 vivo(Rapporteur) CR Rel-18 38.300 18.7.0 1006 2 B NR\_AIML\_air-Core [R2-2506498](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506498.zip)

=> Revised in [R2-2507688](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507688.zip)

[R2-2507688](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507688.zip) Introduction of AI for Air interface feature in 38300 vivo(Rapporteur) CR Rel-18 38.300 18.7.0 1006 3 B NR\_AIML\_air-Core

R2-2507696 Introduction of AI for Air interface feature in 38300 vivo(Rapporteur) CR Rel-19 38.300 18.7.0 1006 3 B NR\_AIML\_air-Core

* Use as a baseline for further review
* [POST131bis][010][AI PHY] stage 2 CR (Vivo)

Intended outcome: CR to be submitted for approval next meeting

Deadline: Long

38.305

[R2-2506779](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506779.zip) Summary of open issue email discussion on 38.305 CR for AIML Positioning CATT discussion Rel-19 NR\_AIML\_air-Core

* Do not capture the following sentence in 38.305 Clause 7.6.1 for “Procedures for On-Demand PRS transmission” according to RAN2#131 agreement “The UE asks specific TRPs for PRS transmission with on-demand PRS configuration, i.e., within NR-On-Demand-DL-PRS-Request”:“UE-initiated On-Demand PRS transmission procedure allows the UE to request DL-PRS configuration information for specific TRPs.”
* Do not capture the following RAN2 understanding in 38.305: “RAN2 understand that when multiple UE-based positioning methods are requested by an LMF, the derivation of a single location estimate by the UE is up to UE implementation.”
* Noted

[R2-2506780](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506780.zip) Corrections on 38.305 CR for AIML Positioning CATT CR Rel-19 38.305 18.6.0 0197 - F NR\_AIML\_air-Core

* Remove sentence from above first agreement
* The CR is endorsed with the sentence deleted above. Any comments on the CR or new identified issues should be sent directly to rapporteur.

*38.306*

[R2-2507589](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507589.zip) Report of open issue in [POST131][043][AI PHY] UE capabilities (Xiaomi) Xiaomi discussion Rel-19

- Samsung and ZTE think it is important to have the UE capability indication. Apple thinks the assumption is that the data is 100 or 500bits. Samsung thinks that RAN1 didn’t consider the RAN2 impact as the UE would have to log for several seconds. Xiaomi thinks that we have a minimum of 64kB but it can support more. We can consider for next generation to indicate. Qualcomm, Oppo, and Vivo agrees we don’t need the capability. Huawei, BT, CMCC, and Ericsson thinks that if the UE supports it should indicate as if the network knows it would select UEs differently and set the threshold differently.

- Mediatek thinks that the network can chose multiple UEs to collect the data so for Rel19 we don’t need additional capability.

* No UE capability is introduced to indicate ‘whether UE can support other memory sizes for logged measurement of network-side data collection’ in Rel-19.

[R2-2507588](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507588.zip) Corrections on AI air UE capability Xiaomi, Oppo draftCR Rel-19 38.306 19.0.0 F NR\_AIML\_air

* The CR is endorsed. Any comments on the CR or new identified issues should be sent directly to rapporteur.

*38.331*

[R2-2507681](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507681.zip) AIML Comments file Ericsson report

* Noted

[R2-2507682](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507682.zip) AIML Review file Ericsson report

* Noted

[R2-2507680](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507680.zip) Corrections to AIML for NR air interface Ericsson CR Rel-19 38.331 19.0.0 5561 - F NR\_AIML\_air-Core

* [POST131bis][011][AI PHY] RRC CR (Ericsson)

Intended outcome: Continue reviewing and updating CRs and get input on remaining ASN.1 open issues.

Deadline: Long

### 8.1.2 Functionality based LCM

Corrections only. Companies should follow guidance from rapporteurs.

#### 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.

No contributions expected for this meeting.

#### 8.1.2.2 LCM for UE-sided model for Beam Management use case

Corrections only. Companies should follow guidance from rapporteurs.

**ASN.1 RILs**

*[N021]/[H003]/[A105]/[S047] ‘Choice hierarchy for CSI prediction and beam prediction – [Proposed Status: ToDo]*

* **To be treated in Offline considering relevant proposals e.g.** [**R2-2506778**](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506778.zip) **(P1-P5),** [**R2-2507090**](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507090.zip) **(P3),** [**R2-2507117**](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507117.zip) **(P1-P5),** [**R2-2507338**](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507338.zip) **(P7),** [**R2-2507534**](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507534.zip) **(P3),** [**R2-2507654**](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507654.zip) **(P2),** [**R2-2507670**](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507670.zip) **(P1-P3), and** [**R2-2507673**](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507673.zip) **(P3).**
* [AT131bis][012][AI PHY] Offline on RILs (Ericsson)

Intended outcome: Agree to RILs

Deadline: Thursday

*[E040] Redundant UE data collection config request – [Proposed Status: ToDo]*

[R2-2507678](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507678.zip) Discussion on RILs for LCM for UE-side models for beam management (E040, E041, E042, B206, O300, O301, S045, N114) Ericsson discussion

Proposal 1: Introduce the ID of the candidate data collection configuration (dataCollectionCandidateConfigId-r19) in the configuration of the corresponding UE-side data collection configuration (in CSI-ReportConfig), based on the TP above.

[R2-2506960](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506960.zip) Discussion on RILs [E040], [E041], [N028], [E042], [H002], [X003], [Z001,Z002] vivo discussion NR\_AIML\_air-Core

Proposal 1. (E040) No specification change is needed, as it is reasonably assumed that the UE can correctly determine whether to receive the UE-side data collection configuration corresponding to the requested candidate UE-side data collection configuration.

Discussion

- Vivo, Nokia, Apple don’t think anything is needed. Apple explains that a reasonable implementation can handle this.

- Ericsson asks if we can at least have a clarification note.

* No specification change is needed, as it is reasonably assumed that the UE can correctly determine whether to receive the UE-side data collection configuration corresponding to the requested candidate UE-side data collection configuration.

*[E041] Associated ID validity – [Proposed Status: ToDo]*

[R2-2507678](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507678.zip) Discussion on RILs for LCM for UE-side models for beam management (E040, E041, E042, B206, O300, O301, S045, N114) Ericsson discussion

Proposal 2: The network should be able to indicate to a UE that an associated ID is no longer valid, so that the UE (and/or associated training server) can handle its corresponding UE-side model accordingly, e.g. release or retrain it.

Proposal 3: RAN2 to introduce the TP for inclusion of a version number for a provided associated ID in the WI RRC CR for AI/ML for Phy.

[R2-2507118](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507118.zip) Open issues on LCM of AI/ML based beam management (including E041/E042/X003/H010/E040/Z001/Z002) Apple discussion Rel-19 NR\_AIML\_air-Core

Proposal 3 (RIL E041): It is left to NW implementation to maintain validity of associated ID in Rel-19, e.g. NW updates or de-configures the associated ID when it is out of date.

* It is left to NW implementation to maintain validity of associated ID in Rel-19, e.g. NW updates or de-configures the associated ID when it is out of date.

*[E042] Dedicated flag to configure applicability reporting via UAI – [Proposed Status: ToDo]*

[R2-2507678](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507678.zip) Discussion on RILs for LCM for UE-side models for beam management (E040, E041, E042, B206, O300, O301, S045, N114) Ericsson discussion

Proposal 4 RAN2 to discuss the following three signalling options for configuring applicability reporting via UAI:

a) Keep the flag reportApplicabilityUAI within applicabilityReportConfig;

b) Remove the flag reportApplicabilityUAI and assume that applicability reporting via UAI is implicitly configured when applicabilityReportConfig is included in otherConfig;

c) Move the flag reportApplicabilityUAI one level up, directly under otherConfig.

* Noted

Option a)

[R2-2507338](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507338.zip) Discussion on RILs [E041][E042][Z001][Z002][H010][Z007][E040][N021][H003][B204][X004] for AIML LG Electronics Inc. discussion Rel-19

Proposal 2. [E042] Keep the flag reportApplicabilityUAI-r19 within applicabilityReportConfig, as it is.

Option b)

[R2-2507090](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507090.zip) Remaining issues in LCM for BM use case Samsung discussion Rel-19 NR\_AIML\_air-Core

Proposal 4: (E042) RAN2 agree with Solution 1) i.e. remove the separate flag reportApplicabilityUAI-r19 and assume that applicapility reporting via UAI is implicitly configured when applicabilityReportConfig is included in otherConfig.

Option c)

[R2-2507534](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507534.zip) Discussion on open issues for LCM ASUSTeK discussion Rel-19 NR\_AIML\_air-Core

Proposal 4: [E042] Prefer solution 3) to move the flag reportApplicabilityUAI-r19 one level up, directly under otherConfig.

- Qualcomm, Apple, and Xiaomi think that the feature is broken unless the UAI is always configured. Interdigital indicates that we agreed it is optional, but agrees with Qualcomm and Xiaomi. Ericsson doesn’t think it is broken and we would make a lot of changes if we have to remove this.

- Qualcomm thinks that the UE behaviour is not clear when applicability reporting is not configured.

- Interdigital thinks that we can add a note that it is expected that the network always configures applicabliyt reporting. ZTE thinks that for option A we have to always have UAI configured but for options B it can be optional. Xiaomi thinks this is applicable for both, as even for option B the UE can change applicability.

- Qualcomm explains that for CSI report config the network needs to know if applicability has changed.

* [E042] Applicability reporting via UAI is always enabled for option A and B. Remove flag from RRC CR and update procedural text to indicate that it is configured if option A or B are configured. Wording offline.

*[Z001]/[Z002] releaseConfigurationPreference indication – [Proposed Status: ToDo]*

[R2-2507295](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507295.zip) On the remaining issue and RILs Z001 Z002 for LCM of UE side model ZTE Corporation discussion Rel-19 NR\_AIML\_air-Core

Proposal 3: [Z001/Z002] IE ApplicabilitySetConfig is not applicable for the inference related parameter sets. RAN2 to adopt the text proposal provided in the Annex.

* Noted

[R2-2507118](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507118.zip) Open issues on LCM of AI/ML based beam management (including E041/E042/X003/H010/E040/Z001/Z002) Apple discussion Rel-19 NR\_AIML\_air-Core

Proposal 8 (RIL Z001/Z002): Reject Z001/Z002, i.e., allow the UE to indicate “release” for one set of inference related parameters in OtherConfig in applicability report (via RRCReconfigurationComplete/UAI).

* Noted
* PropReject (RIL Z001/Z002) i.e., allow the UE to indicate “release” for one set of inference related parameters in OtherConfig in applicability report (via RRCReconfigurationComplete/UAI).

*[X003] Redundant indication of dataCollectionStart – [Proposed Status: ToDo]*

[R2-2507652](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507652.zip) [X003][O301/S045/N114][X004][E040]Discussion on open issues of UE data collection Xiaomi

Discussion

Proposal: [X003] is marked as PropAgree. TP in section 4.1 is adopted.

* Noted

[R2-2507476](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507476.zip) Discussion on UE-sided data collection-related RILs: [E040], [X003], [X004] InterDigital discussion Rel-19 NR\_AIML\_air-Core

Proposal 2: [X003] RAN2 understands UE may send a start indication alone to request the dataCollectionCandidateconfiglist (if not already provided). UE does not re-send start indication when subsequently indicating the preferred configuration.

* Noted
* [X003] (S045) and [0301] CB

*[O301]/[S045]/[N114]* *Missing purpose for UE-side data collection request – [Proposed Status: ToDo]*

[R2-2506764](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506764.zip) [O301] Missing purpose for UE side data collection request OPPO discussion Rel-19 NR\_AIML\_air-Core

Proposal 1: [O301] RAN2 to discuss which solution below is preferred to address the issue:

Solution 1: Along with ‘start’ indicator, UE should also indicate the data collection use case type, e.g. {BM, CSI prediction, spare 2, spare 1}.

Solution 2: ‘start’ indicator is signaled per use case.

[R2-2507090](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507090.zip) Remaining issues in LCM for BM use case Samsung discussion Rel-19 NR\_AIML\_air-Core

Proposal 6: (S045) the start indication (i.e., dataCollectionStart-r19) is introduced per serving cell, and the TP proposed in S045 is adopted.

*[X004]/[S041] Candidate data configuration – [Proposed Status: ToDo]*

[R2-2507652](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507652.zip) [X003][O301/S045/N114][X004][E040]Discussion on open issues of UE data collection Xiaomi discussion

* [X004] is marked as PropAgree. TP in 4.2 is adopted.

*[H010] Report configuration type in ApplicabilitySetConfig – [Proposed Status: ToDo]*

[R2-2507673](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507673.zip) Remaining issues (including H003, H008, H010) in LCM for UE-sided model for BM/CSI prediction Huawei, HiSilicon discussion Rel-19 NR\_AIML\_air-Core

Proposal 2: [H010] In ApplicabilitySetConfig-IE, reportSlotOffsetList, pucch-CSI-ResourceList and p0alpha in reportConfigType are not relevant to applicability check. The parameter reportConfigType can be simplified to ENUMERATED {periodic, aperiodic, semiPersistentOnPUCCH }. The TP is in section 4.1.

Proposal 2-1: [H010] If Proposal 2 cannot be agreed directly by RAN2, RAN2 should check this issue with RAN1.

* Noted

[R2-2507118](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507118.zip) Open issues on LCM of AI/ML based beam management (including E041/E042/X003/H010/E040/Z001/Z002) Apple discussion Rel-19 NR\_AIML\_air-Core

Proposal 6 (RIL H010): Reject H010 because reportSlotConfig/reportSLotOffsetList are needed for CPU occupation calculation and thereby necessary for the UE to determine applicability of ApplicabilitySetConfig-r19 (i.e. option B).

* Noted
* (RIL H010) PropReject

*[C083]/[C084] AddModList for applicabilityConfigList and applicabilitySetConfigList – [Proposed Status: ToDo]*

[R2-2506777](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506777.zip) Discussion on RIL[C083][C084] CATT, CBN discussion Rel-19 NR\_AIML\_air-Core

* [C083][C084] Adopt the AddModList and ReleaseList IE structure for both applicabilityConfigList-r19 and applicabilitySetConfigList-r19.

*[B206]/[O300] Transfer of applicability information in HO command preparation – [Proposed Status: ToDo]*

[R2-2506927](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506927.zip) [B206][O300] Incomplete applicability info during handover Lenovo, Oppo, Samsung, ZTE, Apple discussion Rel-19 Late

Proposal 1 RAN2 seeks for a solution that allows the source gNB to transfer complete applicability information to target gNB

a. Alternative 1： [B206] Allow UAI in HandoverPreparationInformation message to convey complete applicability information.

b. Alternative 2: [O300] UE reports complete applicability information in UAI.

c. Alternative 3: A new IE in HandoverPreparationInformation message to convey complete applicability information.

* Noted

[R2-2507652](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507652.zip) [X003][O301/S045/N114][X004][E040]Discussion on open issues of UE data collection Xiaomi discussion

Proposal 5: [B206] is PropReject. The target gNB can always request UE to report its full applicability information that is applicable to the target gNB after UE’s handover.

* Noted

*[H008]/[B204] Configuration restrictions in predictionConfiguration – [Proposed Status: ToDo]*

[R2-2507673](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507673.zip) Remaining issues (including H003, H008, H010) in LCM for UE-sided model for BM/CSI prediction Huawei, HiSilicon discussion Rel-19 NR\_AIML\_air-Core

Proposal 4 [H008]: Field description for predictionConfiguration-r19 needs to be added as follows, in order to ensure that it is always set in alignment with reportQuantity-r19.

[R2-2507338](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507338.zip) Discussion on RILs [E041][E042][Z001][Z002][H010][Z007][E040][N021][H003][B204][X004] for AIML LG Electronics Inc. discussion Rel-19

Proposal 8. [B204] Adopt the revised TP for B204, i.e., clarify that ‘none-BM-r19’ and ‘none-CSI-r19’ are intended for UE-side data collection in the field description for reportQuantity.

*[S050] UAI retransmission after mobility – [Proposed Status: ToDo]*

[R2-2507090](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507090.zip) Remaining issues in LCM for BM use case Samsung discussion Rel-19 NR\_AIML\_air-Core

Proposal 9: [S050] UE does not resend the UAI for applicability reporting in below cases:

a. If the UAI was send 1s before the handover execution.

b. After LTM cell switch or CHO execution.

*[S049] Applicability reporting needs to consider RRCResumeComplete – [Proposed Status: changed to PropAgree]*

[R2-2507090](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507090.zip) Remaining issues in LCM for BM use case Samsung discussion Rel-19 NR\_AIML\_air-Core

Proposal 8: [S049] Consider applicability reported in RRCResumeComplete while reporting applicability in UAI or RRCReconfigurationComplete. S049 is agreed.

**Other issues**

*Distinguish single vs. multi-cell Associated ID*

[R2-2507118](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507118.zip) Open issues on LCM of AI/ML based beam management (including E041/E042/X003/H010/E040/Z001/Z002) Apple discussion Rel-19 NR\_AIML\_air-Core

Proposal 1 (Remaining FFS): On top of 24-bit associated ID, introduce 1-bit indication on whether it is applied to single cell or multiple cells.

[R2-2507090](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507090.zip) Remaining issues in LCM for BM use case Samsung discussion Rel-19 NR\_AIML\_air-Core

Proposal 10: No explicit indication to distinguish cell specific and multi-cell specific associated ID.

*Periodic CSI report changing from ‘not applicable’ to ‘applicable’*

[R2-2507295](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507295.zip) On the remaining issue and RILs Z001 Z002 for LCM of UE side model ZTE Corporation discussion Rel-19 NR\_AIML\_air-Core

Proposal 2: When the previously configured inference configuration with periodic CSI reporting changes from "inapplicable" to "applicable", and the applicability report is transmitted via the RRCReconfigurationComplete , UE shall not activate this inference configuration automatically. The handling should be consistent with that when the report is sent via UAI.

*AIML support for SCG cells in NR-DC*

[R2-2507295](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507295.zip) On the remaining issue and RILs Z001 Z002 for LCM of UE side model ZTE Corporation discussion Rel-19 NR\_AIML\_air-Core

Proposal 4: RAN2 to confirm that beam management and CSI prediction use case are supported for SCG cells in NR-DC configuration without need for NR-DC enhancement. When inference configurations for both MCG cell and SCG cell are included in same RRC message, It is up to UE implementation to decide the applicability.

**Not Treated**

[R2-2506778](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506778.zip) Discussion on RIL[N021][H003] CATT discussion Rel-19 NR\_AIML\_air-Core

[R2-2506927](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506927.zip) [B206][O300] Incomplete applicability info during handover Lenovo discussion Rel-19 Late

[R2-2507117](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507117.zip) Discussion on RIL issues related to predictionConfiguration-r19 (A105/N021/H003) Apple, ZTE Corporation, Sanechips discussion Rel-19 NR\_AIML\_air-Core

[R2-2507181](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507181.zip) On Simplifying Procedures and ASN.1 for AI/ML Nokia discussion Rel-19 NR\_AIML\_air-Core

[R2-2507345](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507345.zip) Discussion on RIL issues related to [Z001/Z002] [E042] [X003] LCM for UE-sided Model for Beam Management SHARP discussion

[R2-2507475](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507475.zip) Discussion on Applicability-related RILs: [E041], [E042], [C083], [C084], [Z001], [Z002], and [H010] InterDigital discussion Rel-19 NR\_AIML\_air-Core

[R2-2507624](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507624.zip) Issues related to AI for Air interface feature in TS 38.300 Nokia discussion Rel-19 NR\_AIML\_air-Core

[R2-2507654](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2507654.zip) Discussion on open issues of AIML LCM [E041, H003/A105/S047, E042, Z001/Z002, B206] Xiaomi discussion Rel-19 NR\_AIML\_air

[R2-2507670](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507670.zip) Corrections for CSI report configuration (H003, N021, S047, A105) Huawei, HiSilicon discussion Rel-19 NR\_AIML\_air-Core

#### 8.1.2.3 LCM for Positioning use case

Corrections only. Companies should follow guidance from rapporteurs.

[R2-2507088](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507088.zip) Discussion on remaining issue for AI positioning ZTE Corporation discussion Rel-19 NR\_AIML\_air-Core Late

[R2-2507460](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507460.zip) Open Issues LCM for Positioning Ericsson discussion Rel-19 NR\_AIML\_air-Core Late (Moved from 8.1.2.3)

Proposal 1: Reply LS to SA2 says “existing LPP procedure can be reused for data collection with regards to ground truth data and its related data (e.g., quality indicator of ground truth data, time stamp of ground truth data)”.

Proposal 2: Stage2 TP to include clarification on UE behaviour when multiple methods are configured is agreed.

Proposal 3: “UE requests for specific TRPs for PRS transmission with on-demand PRS configuration” is NOT added to stage2 description for on-demand procedure

### 8.1.3 NW side data collection

Corrections only. Companies should follow guidance from rapporteurs.

*[H007] Handling of logged data during logged measurement configuration modification and release*

[R2-2507296](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507296.zip) On RIL Z010, Z011, Z004/J009, Z005/H009, Z007, J008, H007 and RAN centric NW side data collection ZTE Corporation discussion Rel-19 NR\_AIML\_air-Core

Observation 7: Discarding the collected data when associated logging configuration is released or modified will cause the collected data loss which is waste the UE effort to collect the data.

Observation 9: NW can be aware of situation before releasing the CSI-LoggedMeasurementConfig, so that the NW is able to do the right things when releasing the old csi-LoggedMeasurementConfig and adding a new csi-LoggedMeasurementConfig with the same configuration Id.

Proposal 9: To capture the following note in the subclause 5.5x.1.3:

*‘It is up to NW implementation to guarantee that UE will not log the measurements for a csi-LoggedMeasurementConfigId is from different csi-LoggedResourceConfig in the VarCSI-LogMeasReport’*

[R2-2507337](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507337.zip) Discussion on RILs [J008][J009][N028][H002][H007][Z004][Z005][H009][L002] for AIML LG Electronics Inc. discussion Rel-19

Proposal 4. [H007] Adopt proposed TP from H007 in [1], i.e., clarify the UE operation when it receives modified/released logging configuration, to ensure alignment between UE behaviour and network expectations.

[R2-2507119](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507119.zip) Open issues on NW-side data collection (including H007/Z005/H009/H002/Z007) Apple discussion Rel-19 NR\_AIML\_air-Core

Proposal 3 (RIL H007): Following similar principle of legacy logged MDT, NW is expected to retrieve data before providing an updated configuration, and all the remaining logged data (if any) will be discarded upon reception of a modified logging configuration or release a logging configuration.

*[H002] Retaining Logged Measurements During LTM*

[R2-2506928](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506928.zip) [H002][H007] Handling of logged data in UE Lenovo discussion Rel-19

Proposal 1: [H002] RAN2 is suggested to not support the data retaining for LTM case in Rel19.

[R2-2507431](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507431.zip) Remaining issues for NW side data collection (RILs: N028, H002, H007, Z005, H009) InterDigital Pennsylvania discussion Rel-19 NR\_AIML\_air\_Ph2-Core

Proposal 2: RAN2 to confirm that no special handling is needed regarding the retraining/discarding of data during LTM (i.e., current retainLoggedMeasurement handling for HO is sufficient also for LTM).

[R2-2507119](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507119.zip) Open issues on NW-side data collection (including H007/Z005/H009/H002/Z007) Apple discussion Rel-19 NR\_AIML\_air-Core

Observation 2: On H002, although the solution agreed in RAN2#130 may not be applied to subsequent LTM, smart NW implementation may still apply the solution to LTM. For example, NW may configure all the candidate LTM cells from the same infra-vendor based on its implementation.

Proposal 5 (RIL H002): Capture the following NOTE in TS 38.300 (TP in Appendix 1).

NOTE: It is up to Network implementation whether to include the indication in the RRCReconfiguration message for regular HO or CHO or LTM.

*[Z005] Start/stop performing L1 measurement in Logged NW side data collection*

*[H009] Interactions with PHY for NW-side data collection*

[R2-2507296](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507296.zip) On RIL Z010, Z011, Z004/J009, Z005/H009, Z007, J008, H007 and RAN centric NW side data collection ZTE Corporation discussion Rel-19 NR\_AIML\_air-Core

Observation 5: The interaction between RRC and PHY layer is missing in the current text procedure regarding measurement logging, as a result, PHY layer still performs the L1 measurement when measurement logging has been stopped in RRC layer which may cause the unnecessary power consumption, PHY layer does not perform the corresponding L1 measurement in time when RRC layer start/resume data logging which may result in nothing can be logged by RRC.

Proposal 5: Add the interlayer interaction between RRC layer and PHY layer in the text procedure regarding L1 measurement logging in subclause 5.5x.3.2:

* Indicate to lower layer to start the corresponding L1 measurement when performing the logging
* Indicate to lower layer to stop the corresponding L1 measurement when stopping performing the logging.

[R2-2507337](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507337.zip) Discussion on RILs [J008][J009][N028][H002][H007][Z004][Z005][H009][L002] for AIML LG Electronics Inc. discussion Rel-19

Proposal 6. [Z005/H009] Not support TPs from Z005 and H009 in [1]. The decision whether to measure or not is UE implementation, and RAN2 specify the logging-related behavior only at the RRC layer.

*[N028] Reuse of A1/A2 events for NW-side logging*

[R2-2507298](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507298.zip) Discussion on RILs related to NW side data collection Nokia discussion Rel-19 NR\_AIML\_air-Core Late

Observation 1: The current implementation does not follow the conventional specification structure defined for other event-based features and it is not easily expandable for a new event.

Proposal 1: (RIL-N028) Simplify the procedure by adapting the changes as proposed in the Section 2.1.1.

*[Z007] The field description of CSI-LogMeasReportReq (regarding multiplexing of legacy SON/MDT and AIML logged data)*

[R2-2507338](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507338.zip) Discussion on RILs [E041][E042][Z001][Z002][H010][Z007][E040][N021][H003][B204][X004] for AIML LG Electronics Inc. discussion Rel-19 *(moved from agenda 8.1.2.2)*

Proposal 5. [Z007] Not support TP from Z007 in [1], i.e., the current specification is sufficient to capture that multiplexing of legacy SON/MDT reports and AIML logged data is not supported

[R2-2506961](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506961.zip) Discussion on RILs [Z004,J008,J009], [H007], [Z005,H009], [Z007] vivo discussion NR\_AIML\_air-Core

Proposal 5. (Z007) The current procedural text does not capture the RAN2 agreement of “Multiplexing of legacy SON/MDT report and AIML logged data is not supported in the same UE information response message”. Suggest to add the related description in the field description of CSI-LogMeasReportConfig.

*[Z004] The timing point of logging the cell Id and configuration Id for the data collection*

*[J008] Setting csi-LogMeasInfoList in UEInformationResponse*

*[J009] Discard entries in csi-LogMeasInfoCellList after sending UEInformationResponse*

* **To be treated offline [Z004][J008][J009] considering the contributions below**

[R2-2507296](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507296.zip) On RIL Z010, Z011, Z004/J009, Z005/H009, Z007, J008, H007 and RAN centric NW side data collection ZTE Corporation discussion Rel-19 NR\_AIML\_air-Core

Proposal 4: The concern from J009 is no longer exited if UE creates the entry only when at least one measurement result for this entry is logged.

[R2-2506961](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506961.zip) Discussion on RILs [Z004,J008,J009], [H007], [Z005,H009], [Z007] vivo discussion NR\_AIML\_air-Core

Proposal 1. (Z004) (J009) No specification change is needed, i.e.,

* The logging of cell Id information and configuration Id information in the VarCSI-LogMeasReport is performed upon receiving logging configuration.
* The UE does not discard the entries in csi-LogMeasInfoCellList from VarCSI-LogMeasReport if the corresponding csi-LogMeasInfoList is empty.

Proposal 2. (J008) Upon reporting the logging measurement, the UE should ignore the entries in csi-LogMeasInfoCellList from VarCSI-LogMeasReport, in which the corresponding csi-LogMeasInfoList is empty.

[R2-2507298](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507298.zip) Discussion on RILs related to NW side data collection Nokia discussion Rel-19 NR\_AIML\_air-Core Late

Proposal 2: (RIL-Z004) Support procedural text in Clause 5.5x.1.3 and Clause 5.5x.3 as it is.

Proposal 3: (RIL-J008/J009/S044) Additional clarification is required for logged measurement entries and additional entries in Clause 5.7.10.3.

**8.2 Ambient IoT**

*(Ambient\_IoT\_solutions, leading WG: RAN1; REL-19; WID: RP-250796)*

*Time budget: 0 TU*

*Tdoc Limitation: 1 tdoc*

8.2.1 Organizational

*LS, Rapporteur input, including workplan, etc.*

*Including outcome of [POST130][027][AIoT] MAC Running CR (Huawei) and [POST130][028][AIoT] 38.300 Running CR (CMCC)*

**Email Discussion Outputs**

[R2-2507030](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507030.zip) Summary of A-IoT MAC open issues (outcome of [POST131][021][AIoT] MAC spec) Huawei, HiSilicon report Rel-19

Proposal 1: For permanent disabled device, RAN2 to agree the following TP for stage2 clarification:

|  |
| --- |
| An A-IoT device monitors the R2D message as long as it has sufficient energy, except for devices disabled by upper layers using the Permanent Disable Command, whereafter the device no longer follows the A-IoT Physical layer procedures defined in TS 38.291 [yy] nor the A-IoT MAC layer procedures defined in TS 38.391 [xx]. |

Proposal 2: For paging ID check in re-access case, both transaction ID and paging ID are to be checked by the device. (i.e., no change to the current spec.)

Proposal 3: For *Random ID Response* message monitoring, RAN2 to agree the following change to MAC spec:

|  |
| --- |
| 5.3.1.3   Reception of *Random ID Response* message  Once the *Access Random ID* message is transmitted, the device shall monitor for *Random ID Response* message until it has received *K* message(s) of the *Access Trigger* message or the *A-IoT Paging* message or *R2D Upper Layer Data Transfer* message addressed to the device (i.e., the device shall not monitor for the *Random ID Response* message after that). The *K* is configured in the *A-IoT Paging* message. |

Proposal 4: For *R2D Upper Layer Data* *Transfer* message monitoring, RAN2 to discuss whether to include the following change to the MAC spec.

|  |
| --- |
| 5.4 A-IoT upper layer data procedure  5.4.1 General  The purpose of this procedure is for a device to transmit or receive upper layer data.  A device monitors for *R2D Upper Layer Data Transfer* message after transmission of *D2R Upper Layer Data Transfer* message until reception of a *A-IoT Paging* message if the device does not have a stored AS ID or, until the AS ID is released if the device has a stored AS ID. |

[R2-2507709](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507709.zip)

* Noted

Agreements

1. RAN2 concludes the follow for the proposals in post-email summary R2-2507030:

 (5-1) For permanent disabled device, no change to MAC and 38.300 spec (unless CT1 request us later). Companies understand it is clear in SA2 and/or CT1 spec.

2 (5-2) For paging ID check in re-access case, both transaction ID and paging ID are to be checked by the device. (i.e., no change to the current spec.)

3 (5-3) For *Random ID Response* message monitoring, RAN2 to agree the following change to MAC spec:

|  |
| --- |
| 5.3.1.3   Reception of *Random ID Response* message  Once the *Access Random ID* message is transmitted, the device shall monitor for *Random ID Response* message until it has received *K* message(s) of the *Access Trigger* message or the *A-IoT Paging* message or *R2D Upper Layer Data Transfer* message addressed to the device (i.e., the device shall not monitor for the *Random ID Response* message after that). The *K* is configured in the *A-IoT Paging* message. |

4. (5-4) For *R2D Upper Layer Data* *Transfer* message monitoring, no spec change is needed.

**Rel19 CR**

[R2-2507029](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507029.zip) A-IoT MAC rapporteur CR Huawei, HiSilcon CR Rel-19 38.391 19.0.0 0001 - F Ambient\_IoT\_Solutions-Core

* [POST131bis][017][AIoT] MAC CR (Huawei)

Intended outcome: update and review revised MAC CR with agreements from this meeting and highlight any new open issues.

Deadline: Long

**LS to RAN2**

[R2-2506704](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506704.zip) LS on delayed A-IoT D2R NAS messages (C1-255165; contact: Huawei) CT1 LS in Rel-19 Ambient\_IoT\_Solutions, AmbientIoT-CT To:RAN2 Cc:SA2

* Noted

[R2-2506708](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506708.zip) LS on the maximum supported AIoT NAS container length (C1-255679; contact: Lenovo) CT1 LS in Rel-19 AmbientIoT-CT To:RAN2 Cc:RAN1, RAN3

* Noted

**Agreements**

RAN2 replies to CT1:

 We clarify the answer is only about R19 in general.

 For the response to single upper layer command in D2R, RAN2 supports the 125 bytes considering that SA1 requirement is 125 bytes.

 To explain to CT1 that the D2R segmentation is not intended to support the NAS SDU larger than SA1 requirement.

 RAN2 understands for R2D upper layer data for single upper layer command, the maximum size of one R2D NAS container is: 125bytes – 6bytes = 119bytes

* [AT131bis][13][AIoT] LS to CT1 (Lenovo)

Intended outcome: agree to LS by email

Deadline: Thursday

[R2-2506712](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506712.zip) LS on Ambient IoT Stage-2 TP (R1-2506523; contact: CMCC) RAN1 LS in Rel-19 Ambient\_IoT\_Solutions To:RAN2

* Already implemented in August meeting
* Noted

[R2-2506748](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506748.zip) Reply LS to Reply LS on the removal of service type information (S2-2507689; contact: LGE) SA2 LS in Rel-19 AmbientIoT-ARC, Ambient\_IoT\_Solutions To:RAN3, RAN2 Cc:RAN1

* Noted

[R2-2506750](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506750.zip) LS on AIoT Device Permanent ID Length (S2-2507793; contact: Huawei) SA2 LS in Rel-19 AmbientIoT-ARC To:RAN2 Cc:RAN1, CT4, SA3

* Noted

- Apple thinks that this impacts the flexibility of future paging message. Ericsson and Xiaomi thinks that we should highlight the space pressure and the 1000bits limit. ZTE thinks that there is a good reason to do this to compete with RF ID. Mediatek agrees there is a use cases but we can address all the atoms in the universe about 270bits, so it would be good to highlight the space limitation. Huawei explains that RF ID carries more information and it is not just one ID per device.

|  |
| --- |
| **Agreements**  RAN2 replies to SA2:  - From RAN2 point of view, extending the AIoT Device permanent ID to 256-bit and 496-bit is feasible, based on the calculation of existing fields size in this release.  - However, the less overhead of paging message, the better coverage performance for paging message reception. Highlight space pressure with 1000bits and ask SA2 to consider the space pressure from RAN2. |

* [AT131bis][014][AIoT] LS to SA2 (Huawei)

Intended outcome: Agree to LS by email

Deadline: Thursday

[R2-2506753](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506753.zip) Reply LS on paging ID length (S3-252933; contact: CATT) SA3 LS in Rel-19 AmbientIoT-SEC To:SA2, RAN2, CT4 Cc:RAN3

* Noted

**LS with RAN2 in CC**

[R2-2506709](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506709.zip) LS on Structure updates of AIoT Identifiers (C4-253575; contact: CICT) CT4 LS in Rel-19 AmbientIoT-CT To:SA2, RAN3 Cc:SA3, RAN2

* Noted

[R2-2506920](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506920.zip) [Draft] Reply LS on the maximum supported AIoT NAS container length Lenovo LS out Rel-19 Ambient\_IoT\_solutions To:CT1, RAN3

* To be update over email discussion

8.2.2 A-IoT

*Corrections only. Companies should follow guidance from rapporteurs.*

**Paging ID extension**

[R2-2507347](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507347.zip) Remaining issues in R19 Ambient-IoT ZTE Corporation, Sanechips discussion Rel-19 Ambient\_IoT\_Solutions

Proposal 1(Issue 1-3): RAN2 to reply to SA2 that it is feasible to extend the AIoT Device permanent ID to 256-bit and 496-bit from signaling overhead point of view, even though less overhead is preferred from the performance point of view.

Proposal 2(Issue 1-3): If AIoT Device permanent ID is extended as requested by SA2, the length of the paging ID length field needs to be extended to 10 bits, so that maximum size of about 600 bits paging ID can be indicated.

[R2-2507101](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507101.zip) Discussion on remaining open issues of A-IoT Apple discussion Rel-19 Ambient\_IoT\_Solutions

Proposal 7: RAN2 reply to SA2 that only 256-bit Paging ID can be considered.

* Wait for SA2 conclusion before finalizing length ID field size

**Maximum NAS container size**

[R2-2506962](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506962.zip) Remaining open issues on R19 Ambient IoT vivo discussion FS\_Ambient\_IoT\_solutions

Proposal 4: (Issue 4-6) RAN2 to reply to CT1 with the following information:

The maximum supported AIoT NAS container length in R2D direction is 119 bytes;

The maximum supported AIoT NAS container length in D2R direction is 123 bytes.

[R2-2507557](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507557.zip) Remaining open issues for Rel-19 A-IoT Xiaomi discussion Rel-19 Ambient\_IoT\_Solutions [R2-2506986](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506986.zip)

Proposal 5: (Issue 4-6) RAN2 replies to CT1 that the maximum supported TB sizes in R2D and D2R directions are 952 bits and 991 bits, respectively.

**Security parameter in paging**

[R2-2506902](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506902.zip) Issue 1-7 Security parameter in A-IoT paging CMCC, China Unicom, China Telecom, Huawei, HiSilicon, ZTE Corporation, Sanechips, Nokia, Fujitsu, Interdigital, Xiaomi, vivo, LGE, Panasonic, Transsion Holdings, Quanray Electronics, ETRI discussion Rel-19 Ambient\_IoT\_Solutions

Proposal 1: Add a 128-bit field in paging message to carry the security parameter, which is optionally present with 1-bit to indicate its presence.

* Noted

[R2-2506915](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506915.zip) Discussion on A-IoT remaining issues Spreadtrum, UNISOC discussion Rel-19

Proposal 3: The 128 bits security parameter should be mandatory in paging message according to SA3 agreements.

* Noted

Discussion

- Samsung things that we can make this optional from singaling point of view but whether it is mandatory present it is up to SA3.

- Qualcomm thinks that SA3 have in their specification that it is always included. Why don’t we discuss this SA3.

- Huawei doesn’t have an intention to change SA3 agreements, this is only for signalling purposes. This one bit will also help with future releases. And it is up for discussion on how to align the SA3 behaviour.

- Mediatek thinks that only reason seems to be for future compatibility bit, but not sure what will change. CMCC thinks that for Rel-20 there may be other security information.

- Xiaomi thinks that it can be up to the operator to determine whether to include it or not. Apple indicates that now Xiaomi is showing a different reason and that should be discussed in SA3. Xiaomi explains that in R20 we can have a simple security algorithm.

- ZTE thinks that future compatibility is one reason but of course another reason it is coverage. ZTE thinks that if we do it this way then if SA3 changes the agreements this works. Mediatek agrees but thinks that we should decouple future compatibility with SA3 decision.

- Interdigital explains that we are challenging SA3 decision for now but just discussing the tradeoff with adding one bit to potentially simplify lives later on.

- LG thinks that if we want the future compatibility we can use another bit instead of extension bit, like a version bit. Huawei thinks that this would be specific to security so we can have version bit for security not paging message.

- Nokia understands that the SA3 agreement is that the UE shall support and not that the network shall always set it.

- Futurewei indicates that everytime we include this 128bits it means it is power consuming. And agrees with ZTE that maybe SA3 will change their decision. Qualcomm thinks that if they won’t change their mind in R19 they will not for R20. Huawei thinks that it is not clear whether the authentication procedure is used every time.

- Oppo indicates that we also have the case for paging for all in which case we will not have security.

- ZTE asks that even if authentication is needed is the 128bits always needed.

|  |
| --- |
| **Agreements**  Send an LS to SA3, cc:CT1  - Question on whether the security parameter has to be included in every paging message.  - Clarify that we have different types of messages, paging message and subsequent paging.  - While it is feasible from signaling perspective, RAN2 has concerns  - RAN2 has discussed the following concerns and downsides with making the 128bits mandatory for every paging message:  - deployments where it may not be always needed  - overhead is high and complexity for devices  - power consumption overhead with authentication (time consuming, etc)  - coverage  In RAN2 agree to:  - Add a 1 bit optionality bit for 128bits security field in paging message. For now, we state in our specification that this bit is set to present in this release according to SA3 TS. If SA3 confirms that it can be optional after LS reply it shall be updated. |

* [AT131bis][015][AIoT] LS to SA3 (CMCC)

Intended outcome: LS to SA3 on 128bits security

Deadline: Thursday

[R2-2507906](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507906.zip)

* The LS is approved in R2-2507920

**New case with no NAS response**

[R2-2507258](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507258.zip) Remaining issues of Ambient IoT Qualcomm Incorporated discussion Ambient\_IoT\_Solutions-Core

Proposal 2: RAN2 confirms, in addition to delayed response, it is valid that in some cases A-IoT NAS doesn’t provide a response at all.

* Noted

[R2-2507558](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507558.zip) Discussion on the remaining issues on A-IoT Samsung discussion Rel-19 Ambient\_IoT\_Solutions-Core

Proposal 1: RAN2 is kindly asked to prepare LS to CT1 to check the case of “no upper layer data available”. If CT1 confirms the possible case of “no upper layer data available”, the following solution can be considered:

“0 SDU & MDI =0” represents “no upper layer data available”

“0 SDU & MDI =1” represents “no upper layer data available due to delay NAS”

* Noted

Discussion

- Xiaomi and Samsung that there is an integrity failure case, but it is not clear whether the device has to send something to the AF.

On the case where NAS doesn’t provide a response at all (not for integrity failure)

- Vivo thinks that Samsungs proposal makes sense as we have two different cases, delayed and no responses.

- Apple and Ericsson thinks that we don’t need to handle this in RAN2. Xiaomi explains that the reader doesn’t know that the UE will not respond. Qualcomm explains that today’s protocol we will send 0 SDU and drain the power. Ericsson thinks that we should just not send anything (no 0 SDU).

- Mediatek thinks that there is benefits for the reader to understand whether it expects anything or not.

- Transsion thinks that the reader can’t take action if it doesn’t know what case it is.

- ZTE wonders how the device knows why the failure occurred and if there is an integrity failure the device should not transmit. Huawei explains that UE implementation.

- ZTE thinks that at least for integrity failure according to SA3 there should be no response. Nokia agrees that the issue is similar to NR. Honor thinks that for integrity failure the AS shouldn’t respond. Interdigital thinks that this is not the only reason for failure.

On MDI

- Huawei thinks that for now we only have one case “other than integrity failure” so we can use the 1 MDI bit value and if we have to handle integrity failure we can consider adding another bit later.

- Qualcomm thinks we may need to update further so maybe we can wait to see if we get a response from SA3 or we can make it future proof.

“0 SDU & MDI =0” represents “no upper layer data available”

“0 SDU & MDI =1” represents “no upper layer data available due to delay NAS”

Agreements

1. RAN2 confirms, in addition to delayed response, it is valid that in some cases A-IoT NAS doesn’t provide a response at all.
2. For cases other than integrity failure, AS will indicate no NAS response expected to reader. FFS how (e.g. using 0 SDU & MDI, or new indication).
3. For integrity failure, for now RAN2 assumes that there is no AS response to the reader. Ask SA3 ccCT1 whether a similar mechanism (e.g. AS response to the reader) can be used to indicate to reader no NAS response due to integrity failure.

* [AT131bis][016][AIoT] LS to SA3 on integrity failure (Xiaomi )

Intended outcome: agree to LS by email

Deadline: Thursday

[R2-2507914](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507914.zip)

* Update action: RAN2 respectfully asks SA3 to address Question 1 and other WGs to provide feedback (if needed) to the above questions for the case of integrity check failure of an R2D A-IoT NAS message.
* The LS is approved in R2-2507915 with the change above

**Paging ID Type (wait for SA2 and discuss in November)**

[R2-2506839](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506839.zip) Ambient-IoT Remaining Issues NEC discussion Rel-19 Ambient\_IoT\_Solutions

Proposal 2.2:

One new *paging ID type* field is included in CBRA paging message, which is used to indicate the type of paging ID field from either single device ID or group device ID (filter information).

One new *paging ID protection* field is included in both CBRA and CFA paging message, which is used to indicate whether protection procedure for paging id is applied or not.

[R2-2507347](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507347.zip) Remaining issues in R19 Ambient-IoT ZTE Corporation, Sanechips discussion Rel-19 Ambient\_IoT\_Solutions

Proposal 4 (Issue 1-7): A 3 bit field is introduced in paging message to indicate the paging ID type (i.e. device permanent ID, concealed T-ID, stored T-ID, or filtering information) and whether the stored T-ID type shall be updated with a command in case stored T-ID type is used.

[R2-2507426](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507426.zip) Open issues for TS 38.391 Ericsson discussion Rel-19 Ambient\_IoT\_Solutions

[Proposal 5 Rename paging ID field name as paging NAS container and paging ID length field as paging NAS container length.](#_Toc210335663)

**Overall guidance**

* After December, NBC changes should be avoided as much as possible similar to NR MAC process.

[R2-2506765](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506765.zip) Discussion on segmentation order issue Transsion Holdings discussion Rel-19

[R2-2506921](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506921.zip) Discussion on max NAS message size Lenovo discussion Rel-19

[R2-2506929](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506929.zip) Discussion on remaining open issues on A-IOT OPPO discussion Rel-19 Ambient\_IoT\_Solutions

[R2-2506986](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506986.zip) Remaining open issues for Rel-19 A-IoT Xiaomi discussion Rel-19 Ambient\_IoT\_Solutions Revised

[R2-2507031](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507031.zip) A-IoT remaining issues related to other WGs Huawei, HiSilicon discussion Rel-19

[R2-2507197](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507197.zip) Views on remaining issue 3-7 Ofinno discussion Rel-19 Ambient\_IoT\_Solutions

[R2-2507207](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507207.zip) Discussions on remaining issues for Rel-19 AIoT Futurewei discussion Rel-19 38.391 Ambient\_IoT\_Solutions-Core

[R2-2507210](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507210.zip) Discussion on open issues for AIoT LG Electronics Inc. discussion Rel-19 FS\_Ambient\_IoT\_solutions

[R2-2507256](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507256.zip) Ambient IoT open issues Nokia discussion Ambient\_IoT\_Solutions

[R2-2507453](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507453.zip) Handling of NAS Layer Errors with MDI Field InterDigital France R&D, SAS discussion Rel-19

[R2-2507535](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507535.zip) Discussion on Ambient IoT open issues ASUSTeK discussion Rel-19 Ambient\_IoT\_Solutions

[R2-2507552](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507552.zip) On remaining issues for AIoT MAC NTT DOCOMO, INC. discussion Rel-19

[R2-2506942](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506942.zip) Discussion on remaining issues for ambient IoT CATT discussion Rel-19 Ambient\_IoT\_Solutions

## 8.4 Low-power wake-up signal and receiver for NR (LP-WUS/WUR)

(NR\_LPWUS-Core; leading WG: RAN1; REL-19; WID RP-251200)

Time budget: 0 TU

Tdoc Limitation: 3 tdocs

### 8.4.1 Organizational

LS, Rapporteur input, etc.

[R2-2506727](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506727.zip) LS on allocation of CN assigned subgroup ID for LP-WUS (R3-255941; contact: NTT DOCOMO) RAN3 LS in Rel-19 NR\_LPWUS-Core To:SA2 Cc:RAN2, RAN1

[R2-2506861](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506861.zip) Corrections on LP-WUS in TS 38.304 CATT CR Rel-19 38.304 18.4.0 0447 - F NR\_LPWUS-Core

[R2-2506862](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506862.zip) List of open issues for LP-WUS 38.304 CR CATT discussion Rel-19 NR\_LPWUS-Core

[R2-2507007](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507007.zip) Miscellaneous corrections on RRC for Rel-19 LP-WUS WUR vivo (Rapporteur) CR Rel-19 38.331 19.0.0 5503 - F NR\_LPWUS-Core

[R2-2507008](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507008.zip) LPWUS RILs resolutions (based on review file v17) vivo discussion Rel-19 NR\_LPWUS-Core

[R2-2507104](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507104.zip) Open issues on Rel-19 LPWUS 38.321 CR Apple(Rapporteur) discussion Rel-19

[R2-2507156](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507156.zip) List of open issues for Rel-19 LP-WUS UE capabilities Huawei, HiSilicon (Rapporteur) discussion Rel-19

[R2-2507369](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507369.zip) Open issue of LP-WUS in TS37.340 ZTE Corporation, Sanechips report Rel-19 NR\_LPWUS-Core

[R2-2507370](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507370.zip) Correction on LP-WUS in TS 37.340 ZTE Corporation, Sanechips, Xiaomi CR Rel-19 37.340 19.0.0 0424 - F NR\_LPWUS-Core

[R2-2507639](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507639.zip) Miscellaneous corrections for LP-WUS Ericsson CR Rel-19 38.300 19.0.0 1046 - F NR\_LPWUS-Core Revised

[R2-2507640](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507640.zip) Miscellaneous corrections for LP-WUS Ericsson CR Rel-19 38.300 19.0.0 1046 1 F NR\_LPWUS-Core [R2-2507639](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507639.zip)

### 8.4.2 RRC issues

Issues related to RILs, other remaining RRC issues

[R2-2506863](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506863.zip) [E009][H050][V001][C031][H055]Discussion on RRC open issues CATT discussion Rel-19 NR\_LPWUS-Core

[R2-2506864](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506864.zip) [C026] Co-existence of LP-WUS with paging adaptation CATT discussion Rel-19 NR\_LPWUS-Core

[R2-2506953](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506953.zip) Discussion on LP-WUS RRC remaining issue NEC discussion Rel-19 NR\_LPWUS-Core

[R2-2507009](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507009.zip) [V001-V006, C026, H053/054, E036] Discussion on RRC open issues for LP-WUS WUR vivo discussion Rel-19 NR\_LPWUS-Core

[R2-2507041](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507041.zip) Discussion on [RIL] O701 Whether UE can report an empty preference time offset OPPO discussion Rel-19 NR\_LPWUS-Core

[R2-2507082](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507082.zip) Remaining issues on LP-WUS paging monitoring and proposed TP to 3331,304 Xiaomi Communications, Huawei, HiSilicon, ZTE Corporation, Sanechips, Qualcomm Incorporated, Ericsson, Apple, Lenovo discussion

[R2-2507155](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507155.zip) Discussion on open issues 38304-1 and 38304-3 for R19 LP-WUS Huawei, HiSilicon discussion Rel-19

[R2-2507236](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507236.zip) Discussion about LP-WUS RILs H050, E043, C026, V001, Z052 and V002 ZTE Corporation, Sanechips discussion Rel-19 NR\_LPWUS-Core

[R2-2507331](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507331.zip) [H050][H053][H054][H055] Discussion on LP-WUS RILs Huawei, HiSilicon discussion Rel-19 Late

[R2-2507344](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507344.zip) Discussion about LP-WUS RILs E034, E035, E037, E043, V002, H050, H053, H054 Nokia discussion Rel-19 NR\_LPWUS-Core

[R2-2507350](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507350.zip) Discussion on RIL in LP-WUS RRC Qualcomm Incorporated discussion NR\_LPWUS-Core

[R2-2507504](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507504.zip) RRC issues on LP-WUS InterDigital, Inc. discussion Rel-19 NR\_LPWUS-Core

[R2-2507626](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507626.zip) LP-WUS issues (E035, E036, E037, E043, 38304-2, C026) Ericsson discussion Rel-19 NR\_LPWUS-Core Late

### 8.4.3 MAC issues

Remaining MAC issues

[R2-2506865](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506865.zip) Discussion on MAC open issues CATT discussion Rel-19 NR\_LPWUS-Core

[R2-2506923](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506923.zip) Remaining MAC open issues for LP-WUS Lenovo discussion Rel-19

[R2-2506954](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506954.zip) Discussion on LP-WUS MAC remaining issue NEC discussion Rel-19 NR\_LPWUS-Core

[R2-2506981](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506981.zip) Discussing on remaining MAC open issues Xiaomi discussion Rel-19 NR\_LPWUS-Core

[R2-2507010](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507010.zip) Discussion on MAC open issues for LP-WUS WUR vivo discussion Rel-19 NR\_LPWUS-Core

[R2-2507042](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507042.zip) Discussion on the remaining issue on LP-WUS in RRC\_CONNECTED OPPO discussion Rel-19 NR\_LPWUS-Core

[R2-2507105](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507105.zip) Remaining issues of LP-WUS in RRC\_CONNECTED Apple discussion Rel-19

[R2-2507174](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507174.zip) MAC open issues Nokia, Nokia Shanghai Bell discussion Rel-19 NR\_LPWUS-Core

[R2-2507308](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507308.zip) LP-WUS options description InterDigital discussion Rel-19 NR\_LPWUS-Core

[R2-2507351](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507351.zip) Remaining issues in LP-WUS MAC Qualcomm Incorporated discussion NR\_LPWUS-Core

[R2-2507530](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507530.zip) LP-WUS MAC Issues ZTE Corporation, Sanechips discussion Rel-19 NR\_LPWUS-Core

[R2-2507627](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507627.zip) LP-WUS MAC issue (Eri-001 and Proposal 1 in #213) Ericsson discussion Rel-19 NR\_LPWUS-Core

### 8.4.4 Other issues

Issues related to IDLE/INACTIVE, Changes to Stage 2, UE capabilities, and other remaining issues if not covered by the previous agenda items

[R2-2506965](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506965.zip) [LPWUS-Cap-OI-1] Discussion on open issue for LP-WUS UE capabilities Huawei, HiSilicon discussion Rel-19 NR\_LPWUS-Core

[R2-2507011](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507011.zip) Discussion on other open issues for LP-WUS WUR vivo discussion Rel-19 NR\_LPWUS-Core

[R2-2507043](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507043.zip) Discussion on the remaining issues on RRM measurement OPPO discussion Rel-19 NR\_LPWUS-Core

[R2-2507083](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507083.zip) Remaining issues on RRM relaxation and proposed TP to TS 38.304 Xiaomi Communications discussion

[R2-2507253](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507253.zip) Correction to R19 LP-WUS UE Capabilities Huawei, HiSilicon draftCR Rel-19 38.306 19.0.0 NR\_LPWUS-Core

[R2-2507352](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507352.zip) Paging monitoring in LP-WUS CONNECTED state Qualcomm Incorporated discussion NR\_LPWUS-Core

[R2-2507505](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507505.zip) Open issues on LP-WUS InterDigital, Inc. discussion Rel-19 NR\_LPWUS-Core

[R2-2507531](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507531.zip) LP-WUS Other Issues ZTE Corporation, Sanechips discussion Rel-19 NR\_LPWUS-Core

[R2-2507618](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507618.zip) Discussion on open issues in 38.304 for LP-WUS Nokia discussion Rel-19 NR\_LPWUS-Core

[R2-2507628](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507628.zip) LP-WUS critical issues (E008, 38304-1 and -3) Ericsson discussion Rel-19 NR\_LPWUS-Core Late

## 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: 0 TU

Tdoc Limitation: 2 tdocs

### 8.5.1 Organizational

Incoming LS, CR rapporteurs’ inputs, etc.

[R2-2506719](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506719.zip) Reply LS on RA-RNTI for PRACH adaptation (R1-2506587; contact: Ericsson) RAN1 LS in Rel-19 Netw\_Energy\_NR\_enh To:RAN2

[R2-2507178](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507178.zip) Report of [POST131][111][NES] 38.321 CR InterDigital discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2507179](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507179.zip) Miscellaneous MAC corrections for R19 NES InterDigital CR Rel-19 38.321 19.0.0 2127 - F Netw\_Energy\_NR\_enh-Core

[R2-2507272](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507272.zip) Report of email discussion [POST131][108][NES] stage-2 CR Huawei, HiSilicon report Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2507273](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507273.zip) Network Energy Savings Enhancements miscellaneous stage-2 corrections Huawei, HiSilicon CR Rel-19 38.300 19.0.0 1042 - F Netw\_Energy\_NR\_enh-Core

[R2-2507367](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507367.zip) Open issues on Rel-19 NES UE capability ZTE Corporation, Sanechips report Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2507368](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507368.zip) Correction on Rel-19 NES UE capability ZTE Corporation, Sanechips, Ericsson CR Rel-19 38.306 19.0.0 1362 - F Netw\_Energy\_NR\_enh-Core

[R2-2507660](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507660.zip) NES Comments File Ericsson report Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2507661](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507661.zip) NES Review File Ericsson report Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2507662](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507662.zip) Conclusions for NES RILs Ericsson report Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2507663](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507663.zip) Corrections for Network Energy Saving Ericsson CR Rel-19 38.331 19.0.0 5559 - F Netw\_Energy\_NR\_enh-Core

### 8.5.2 Control plane

Essential RRC corrections (including the issues related to RILs), 38.304, stage-2, and UE capability corrections. Note stage-2 corrections may be handled with lower priority.

[R2-2506817](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506817.zip) [C184]Impact of od-ssb-PositionsInBurst on ssb-ToMeasure CATT discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2506848](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506848.zip) Left Issues on On-Demand SSB and SSB adaptation (X200, L201, L202, O006) OPPO discussion Rel-19 Netw\_Energy\_NR\_enh-Core Late

[R2-2506849](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506849.zip) Remaining issue on Redcap UE for OD-SIB1 and Paging Adaptation OPPO discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2506879](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506879.zip) handling of RRC open issues Samsung discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2506936](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506936.zip) [H126][L201][X200][A103][H128][H129][X201][H131][H130][H127] Control plane issues Huawei, HiSilicon discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2506966](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506966.zip) Remaining CP open issues of NES vivo discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2507050](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507050.zip) RIL X200, X201, X202, X203 and remaining open issues for NES Xiaomi discussion Netw\_Energy\_NR\_enh-Core

[R2-2507115](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507115.zip) Control plane open issues on Rel-19 NES (including RIL E204/E205/A103/X200/O005) Apple discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2507162](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507162.zip) [J001][J002][J005] Discussion on OD-SSB and SSB Adaption Sharp discussion Rel-19 Late

[R2-2507326](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507326.zip) [E023,…][L201][O005] Discussion on RRC open issues LG Electronics France discussion Rel-19 38.331 Netw\_Energy\_NR\_enh-Core Late

[R2-2507334](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507334.zip) Discussion on RILS E023, E024, E025, X201, O006, J002, H128, H129, J005, Z101, Z102, V503 Ericsson discussion Rel-19 Netw\_Energy\_NR\_enh-Core Late

[R2-2507465](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507465.zip) Discussion on remaining RRC issues Qualcomm Incorporated discussion

[R2-2507509](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507509.zip) User Plane issues for NES Nokia, Nokia Shanghai Bell discussion Rel-19 Netw\_Energy\_NR\_enh

[R2-2507614](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507614.zip) Control Plane issues [N001[N002][X200] [N003] Nokia, Nokia Shanghai Bell discussion Rel-19 Netw\_Energy\_NR\_enh-Core Late

[R2-2507676](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2507676.zip) Discussion on NES RILs O004, O005, H127, H130, and more Ericsson discussion Rel-19 Netw\_Energy\_NR\_enh-Core

### 8.5.3 User plane

Essential MAC corrections.

[R2-2506818](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2506818.zip) Discussion on MAC open issues CATT discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2506878](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506878.zip) handling of MAC open issues Samsung discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2506967](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506967.zip) Remaining UP open issues of NES vivo discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2507051](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507051.zip) Remaining MAC open issues for NES Xiaomi discussion Netw\_Energy\_NR\_enh-Core

[R2-2507116](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507116.zip) User plane open issues on Rel-19 NES Apple discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2507140](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507140.zip) Remaining MAC open issues on common signal/channel adaptation Fujitsu discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2507161](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507161.zip) [MAC issue 2] Discussion on OD-SIB1 for RedCap UE Sharp discussion Rel-19

[R2-2507177](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507177.zip) [MAC issue 1] RA-RNTI for PRACH adaptation InterDigital discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2507251](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507251.zip) Discussion on NES user plane open issues LG Electronics Inc. discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2507271](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507271.zip) Discussion on remaining User Plane issues of NES Huawei, HiSilicon discussion Rel-19 Netw\_Energy\_NR\_enh-Core

[R2-2507464](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507464.zip) Discussion on remaining MAC issues Qualcomm Incorporated discussion

[R2-2507536](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507536.zip) Discussion on RA-RNTI for PRACH adaptation ASUSTeK discussion Rel-19 Netw\_Energy\_NR\_enh-Core

## 8.6 Mobility Enhancement Ph4

(NR\_Mob\_Ph4-Core; leading WG: RAN2; REL-19; WID: [RP-252111](https://www.3gpp.org/ftp/tsg_ran/TSG_RAN/TSGR_109/Docs/RP-252111.zip))

Time budget: 0 TU

Tdoc Limitation: 2 tdocs

### 8.6.1 Organizational

Incoming LS, CR rapporteurs’ inputs, etc.

[R2-2506740](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506740.zip) LS on definition of CSI-RS based L1 intra/inter-frequency measurement (R4-2512334; contact: Apple) RAN4 LS in Rel-19 NR\_Mob\_Ph4-Core To:RAN2 Cc:RAN1

[R2-2506816](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506816.zip) Report of [POST131][115][MOB] Open issues on UE capability (CATT) CATT discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2507012](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507012.zip) Miscellaneous corrections on MAC for Mob Ph4 vivo (Rapporteur) CR Rel-19 38.321 19.0.0 2123 - F NR\_Mob\_Ph4-Core

[R2-2507013](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507013.zip) List of MAC open issues for R19 mobility vivo discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2507170](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507170.zip) 38.300 open issue list for R19 mobility Apple discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2507401](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507401.zip) Mobility Review file Ericsson report Rel-19 NR\_Mob\_Ph4-Core

[R2-2507402](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507402.zip) Mobility Comments file Ericsson report Rel-19 NR\_Mob\_Ph4-Core

=> Revised in [R2-2507658](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507658.zip)

[R2-2507658](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507658.zip) Mobility Comments file Ericsson report Rel-19 NR\_Mob\_Ph4-Core

[R2-2507403](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507403.zip) Mobility RILs conclusions Ericsson report Rel-19 NR\_Mob\_Ph4-Core

[R2-2507404](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507404.zip) Corrections on RRC for mobility enhancements Phase 4 Ericsson CR Rel-19 38.331 19.0.0 5529 - F NR\_Mob\_Ph4-Core

### 8.6.2 Control plane

Essential RRC corrections (including the issues related to RILs), stage-2, and UE capability corrections. Note stage-2 corrections may be handled with lower priority.

[R2-2506814](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506814.zip) [M202] control plane issues for LTM CATT discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2506924](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506924.zip) [B110] [B111] [M202] Maintenance of CSI resource and CSI report configuration after cell switch Lenovo discussion Rel-19 Late

[R2-2507015](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507015.zip) Discussion on RRC open issues for R19 mobility vivo discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2507093](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507093.zip) RRC open issues for R19 mobility OPPO discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2507121](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507121.zip) Miscellaneous corrections for stage-2 in Rel-19 Mobility Enhancements Apple Inc CR Rel-19 38.300 19.0.0 1040 - F NR\_Mob\_Ph4-Core

[R2-2507238](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507238.zip) [S036][S037]Discussion on Mobility RILs Samsung discussion Late

[R2-2507378](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507378.zip) RRC issues for LTM Huawei, HiSilicon discussion Rel-19 NR\_Mob\_Ph4-Core Late

[R2-2507405](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507405.zip) Issue with handling of radio bearers during the LTM cell switch [E005] Ericsson, MediaTek Inc., Samsung, Huawei, HiSilicon, ZTE Corporation, Sanechips discussion Rel-19 NR\_Mob\_Ph4-Core

=> Revised in [R2-2507659](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507659.zip)

[R2-2507659](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507659.zip) Issue with handling of radio bearers during the LTM cell switch [E005] Ericsson, MediaTek Inc., Samsung, NEC, Huawei, HiSilicon, ZTE Corporation, Sanechips, Nokia discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2507434](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507434.zip) [X153] [X152] Discussion on RILs X153 and X152 Xiaomi discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2507436](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507436.zip) Remaining Open Issues for RRC Nokia discussion

[R2-2507528](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507528.zip) Discussion on RIL issue [Z155][Z157] ZTE Corporation, Sanechips discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2507550](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507550.zip) Remaining CP issues in R19 mobility MediaTek Inc. discussion Rel-19 NR\_Mob\_Ph4-Core

### 8.6.3 User plane

Essential MAC corrections.

[R2-2506815](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2506815.zip) Discussion on SP CSI-RS and CSI-IM for early CSI acquisition CATT discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2507014](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507014.zip) Discussion on MAC open issues for R19 mobility vivo discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2507078](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507078.zip) Handling of MAC open issues on C(LTM) Samsung discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2507094](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507094.zip) MAC open issues for R19 mobility OPPO discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2507190](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507190.zip) [MAC-F02] Threshold for beam selection Ofinno discussion Rel-19 NR\_Mob\_Ph4

[R2-2507304](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507304.zip) Collision between PUSCH for early CSI and measurement gap NEC discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2507379](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507379.zip) MAC issues for LTM Huawei, HiSilicon discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2507435](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507435.zip) Discussion on mobility MAC open issues Xiaomi discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2507457](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507457.zip) Discussion on remaining User Plane issues Ericsson discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2507462](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507462.zip) On the open MAC issues for Rel-19 LTM Nokia discussion Rel-19 NR\_Mob\_Ph4

[R2-2507485](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507485.zip) LTM MAC remaining issues Qualcomm Incorporated discussion

[R2-2507529](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507529.zip) Discussion on MAC open issues ZTE Corporation, Sanechips discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2507537](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507537.zip) Discussion on MAC open issues for CLTM ASUSTeK discussion Rel-19 38.321 NR\_Mob\_Ph4-Core

[R2-2507551](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507551.zip) Remaining MAC issues in R19 mobility MediaTek Inc. discussion Rel-19 NR\_Mob\_Ph4-Core

[R2-2507573](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507573.zip) User Plane issues for CLTM and event triggered L1 MR Sharp discussion Rel-19 NR\_Mob\_Ph4-Core

## 8.7 XR Enhancements Ph3

(NR\_XR\_Ph3-Core; leading WG: RAN2; REL-19; WID: RP-250107)

Time budget: 0 TU

Tdoc Limitation: 3 tdocs

### 8.7.1 Organizational

LS, rapporteur input, open issues lists etc.

[R2-2506810](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506810.zip) Corrections for XR enhancements Qualcomm France CR Rel-19 38.321 18.6.0 2122 - D NR\_XR\_Ph3

[R2-2507016](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507016.zip) Miscellaneous corrections on RLC for R19 XR vivo CR Rel-19 38.322 19.0.0 0066 - F NR\_XR\_Ph3-Core

[R2-2507017](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2507017.zip) List of RLC open issues for R19 XR vivo discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2507052](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507052.zip) R19 XR RRC comment file Huawei, HiSilicon discussion NR\_XR\_Ph3-Core Late

[R2-2507053](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507053.zip) R19 XR RRC review file Huawei, HiSilicon discussion NR\_XR\_Ph3-Core Late

[R2-2507054](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507054.zip) Correction to RRC spec for R19 XR Huawei, HiSilicon CR Rel-19 38.331 19.0.0 5504 - F NR\_XR\_Ph3-Core Late

[R2-2507130](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507130.zip) PDCP open issues for XR LG Electronics Inc. (Rapporteur) discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2507245](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507245.zip) Offline 504 on XR Stage 2 Open Issues Nokia (Rapporteur) discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2507430](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507430.zip) Summary of [POST131][508][XR] Discussion on XR MAC open issues Qualcomm France discussion

### 8.7.2 RRC corrections

Corrections to TS 38.331 which require Tdoc submission as per RIL list.

[R2-2506840](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506840.zip) Discussion on RRC for XR CATT,CBN discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2507018](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507018.zip) [V050, V051] Discussion on RRC open issues for R19 XR vivo discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2507160](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507160.zip) Views on RIL050 and RIL051 Nokia, Nokia Shanghai Bell discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2507300](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507300.zip) XR RRC Corrections ZTE Corporation, Sanechips discussion

[R2-2507470](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507470.zip) N091, S038 Ericsson discussion Rel-19

[R2-2507510](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507510.zip) RIL N091 and S038 on UAI for measurement gap skipping Nokia, Nokia Shanghai Bell, Huawei discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2507629](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507629.zip) RRC Corrections for XR Samsung discussion Rel-19 Late

### 8.7.3 User plane corrections

Corrections to 38.321, 38.322 and 38.323 for all features.

[R2-2506841](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506841.zip) Leftover Issue on User Plane CATT discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2506926](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506926.zip) Discussion on avoiding unnecessary retransmissions Lenovo discussion Rel-19

[R2-2506931](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506931.zip) Discussion on remaining issues for RLC Huawei, HiSilicon discussion Rel-19 NR\_XR\_Ph3-Core Withdrawn

[R2-2506964](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506964.zip) On the definition of non-delay-reporting PDCP SDU Fujitsu discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2507019](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507019.zip) Discussion on MAC open issues on rate control for R19 XR vivo discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2507020](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507020.zip) Discussion on RLC open issues for R19 XR vivo discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2507056](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507056.zip) Discussion on remaining issues for RLC for R19 XR Huawei, HiSilicon discussion NR\_XR\_Ph3-Core

[R2-2507057](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507057.zip) Discussion on remaining issues for MAC for R19 XR Huawei, HiSilicon discussion NR\_XR\_Ph3-Core

[R2-2507058](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507058.zip) Discussion on non-delay-reporting PDCP SDU definition Huawei, HiSilicon discussion NR\_XR\_Ph3-Core

[R2-2507084](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507084.zip) Remaining issues on DSR and proposed TP Xiaomi Communications discussion

[R2-2507112](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507112.zip) Open Issues of RLC CR for Rel-19 XR Apple discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2507129](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507129.zip) Remaining open issues related to RLC enhancements LG Electronics Inc. discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2507159](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507159.zip) UP Open Issues Nokia, Nokia Shanghai Bell discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2507192](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507192.zip) Discussion on XR User Plane Open Issues Sharp discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2507279](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507279.zip) Remaining open issues for DSR LG Electronics Inc. discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2507299](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507299.zip) XR RLC Issues ZTE Corporation, Sanechips discussion

[R2-2507301](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507301.zip) XR Scheduling enhancement open issues ZTE Corporation, Sanechips discussion

[R2-2507305](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507305.zip) XR user plane corrections NEC discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2507309](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507309.zip) Remaining MAC open issues InterDigital discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2507310](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507310.zip) Remaining RLC open issues on avoiding unnecessary re-transmissions InterDigital discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2507311](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507311.zip) Remaining RLC open issue on timely re-transmissions InterDigital discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2507315](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507315.zip) Discussion on open issues for RLC and PDCP Samsung discussion Rel-19

[R2-2507342](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507342.zip) Discussion on PDCP open issues OPPO discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2507343](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507343.zip) Discussion on RLC open issues OPPO discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2507471](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507471.zip) RLC-E01, RLC-X01 Ericsson discussion Rel-19

[R2-2507472](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507472.zip) H001, N001 Ericsson discussion Rel-19

[R2-2507516](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507516.zip) Discussion on open issues of XR RLC AM enhancements Xiaomi discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2507532](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507532.zip) User plane corrections for XR Enhancements Ph3 NTT DOCOMO INC.. discussion Rel-19

[R2-2507632](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507632.zip) Outstanding LCP issues and related TPs Samsung discussion

### 8.7.4 Other corrections

Including corrections to stage-2, UE capabilities etc.

[R2-2506842](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506842.zip) Discussion on UE Capabilities for XR CATT discussion Rel-19 NR\_XR\_Ph3-Core

## 8.8 NTN for NR Ph3

(NR\_NTN\_Ph3-Core; leading WG: RAN2; REL-19; WID: [RP-251954](https://www.3gpp.org/ftp/tsg_ran/TSG_RAN/TSGR_109/Docs/RP-251954.zip) )

LTE\_TN\_NR\_NTN\_mob, leading WG: RAN2, Rel-19 WID: [RP-251974](https://www.3gpp.org/ftp/tsg_ran/TSG_RAN/TSGR_109/Docs/RP-251974.zip) )

Time budget: 0 TU

Tdoc Limitation: 3 tdocs

### 8.8.1 Organizational

LS, Rapporteur input, including open issues lists, etc.

Rapporteur inputs do not count towards the tdoc limitation.

Including the lists of open issues, if any, raised in the following email discussions:

[Post131][301][R19 NR NTN] Stage2 CR (Thales)

[Post131][302][R19 NR NTN] RRC CR (Ericsson)

[Post131][303][R19 NR NTN] 38.304 CR (ZTE)

[Post131][304][R19 NR NTN] capability CR (Apple)

[Post131][315][R19 NR NTN] MAC CR (Interdigital)

[Post131][316][LTE NR NTN mob] Stage2 CR (Samsung)

[Post131][317][LTE NR NTN mob] RRC CR (CATT)

[Post131][318][LTE NR NTN mob] capability CR (vivo)

[R2-2506869](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506869.zip) Corrections on LTE TN to NR NTN IDLE mode mobility in TS 38.331 CATT CR Rel-19 36.331 18.6.0 5157 - F LTE\_TN\_NR\_NTN\_mob

[R2-2506870](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506870.zip) RIL status on LTE TN to NR NTN mobility CATT discussion Rel-19 LTE\_TN\_NR\_NTN\_mob

[R2-2507122](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507122.zip) Report of [Post131][304][R19 NR NTN] Open issues for capability (Apple) Apple discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2507521](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507521.zip) Open issues on NR NTN 38.304 ZTE Corporation, Sanechips report Rel-19 NR\_NTN\_Ph3-Core

[R2-2507522](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507522.zip) Correction on broadcast service in NTN ZTE Corporation, Sanechips CR Rel-19 38.304 19.0.0 0448 - F NR\_NTN\_Ph3-Core

[R2-2507648](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507648.zip) Report of [Post131][301][R19 NR NTN] Open issues for Stage2 (Thales) THALES discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2507649](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507649.zip) Miscellaneous Stage 2 corrections for NR NTN phase 3 THALES (Rapporteur) CR Rel-19 38.300 19.0.0 1047 - F NR\_NTN\_Ph3-Core

[R2-2507692](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507692.zip) Initial corrections to NR NTN Phase 3 Ericsson CR Rel-19 38.331 19.0.0 5562 - F NR\_NTN\_Ph3-Core

[R2-2507693](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507693.zip) ASN.1 comment file and RIL assessment for NR NTN Rel-19 Ericsson discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2507694](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507694.zip) ASN.1 review file for NR NTN Ericsson discussion Rel-19 NR\_NTN\_Ph3-Core

### 8.8.2 RRC corrections

Corrections to TS 38.331.

[R2-2506807](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506807.zip) Discussion on RIL X250 X251 V205 for DL coverage enhancement Xiaomi, ZTE, CSCN, Samsung discussion Rel-19

[R2-2506833](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506833.zip) Discussion on RIL V206 vivo discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2506834](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506834.zip) Discussion on RILs [V200][S024][S025][H250][V208][X250] regarding SMTC Enhancement vivo discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2506866](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506866.zip) [C006][C008][C009]Corrections on the smtc5list CATT discussion Rel-19 NR\_NTN\_Ph3-Core Late

[R2-2506867](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506867.zip) [C005][S024][S025]Discussion on the mechanism of UE reporting the N closest reference location CATT discussion Rel-19 NR\_NTN\_Ph3-Core Late

[R2-2506868](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506868.zip) [C003] Clarification of how the UE uses the service area information in SIB and USD CATT discussion Rel-19 NR\_NTN\_Ph3-Core Late

[R2-2506907](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506907.zip) Remaining issues on broadcast service for NR NTN CMCC discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2506935](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506935.zip) [H250][H251][H252][H253] Discussion on remaining RRC issues Huawei, HiSilicon discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2506989](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506989.zip) Discussion on the remaining issue of Downlink Coverage Enhancements CSCN discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2507044](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507044.zip) Discussion on [RIL]O710 geo-fencing for ETWS OPPO discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2507123](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507123.zip) Open issues on NR NTN (A200/V204) Apple discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2507151](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507151.zip) RRC corrections for Rel-19 NR NTN DL-CE DENSO CORPORATION discussion NR\_NTN\_Ph3-Core

[R2-2507329](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507329.zip) Downlink Coverage Enhancements for NTN for NR Phase3 TOYOTA Info Technology Center discussion Rel-19 38.331 NR\_NTN\_Ph3-Core

[R2-2507380](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507380.zip) Remaining issues for MBS broadcast over NTN Huawei, HiSilicon discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2507440](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507440.zip) Remaining issues on beam hopping with multiple SMTC offsets [Q200] Qualcomm Incorporated discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2507496](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507496.zip) RIL S024 S025 C006 Samsung discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2507523](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507523.zip) RRC corrections related to RILs ZTE Corporation, Sanechips discussion Rel-19 NR\_NTN\_Ph3-Core Late

[R2-2507538](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507538.zip) Discussion on closest reference location reporting ASUSTeK discussion Rel-19 38.331 NR\_NTN\_Ph3-Core

[R2-2507625](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507625.zip) Remaining RRC issues for NR NTN Sharp discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2507634](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507634.zip) Service continuity in MBS NTN Ericsson discussion Rel-19 NR\_NTN\_Ph3-Core [R2-2505822](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2505822.zip)

[R2-2507664](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507664.zip) Discussion on RIL N085, S024, X250, A200 Nokia, Nokia Shanghai Bell discussion

[R2-2507675](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507675.zip) Discussion on RIL V204-C003-Z253-Z255-V206-V207 for NR NTN Ph3 Xiaomi discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2507690](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507690.zip) Discussion on various RILs for NR NTN Ericsson discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2507691](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507691.zip) [RIL H250] Applicability of SMTC enhancements to inter-frequency Ericsson discussion Rel-19 NR\_NTN\_Ph3-Core

### 8.8.3 Idle mode corrections

Corrections to TS 38.304.

[R2-2506835](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506835.zip) Discussion on 304 Open Issue 2 regarding PDCCH Repetition vivo discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2507610](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507610.zip) Discussion on Paging Search Space monitor for PDCCH repetition Nokia, Nokia Shanghai Bell discussion Rel-19 NR\_NTN\_Ph3-Core

### 8.8.4 Other corrections

Corrections to TS 38.300, TS 38.306 and TS 38.321.

[R2-2507254](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507254.zip) Considerations on two SMTC periodicities Nokia, Nokia Shanghai Bell discussion NR\_NTN\_Ph3-Core

[R2-2507288](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507288.zip) Support for OCC RACH-less Samsung discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2507524](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507524.zip) UE capability for R19 VSAT UEs ZTE Corporation, Sanechips discussion Rel-19 NR\_NTN\_Ph3-Core

### 8.8.5 LTE to NR NTN mobility corrections

Corrections to all specs for LTE\_TN\_NR\_NTN\_mob.

[R2-2507045](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507045.zip) Discussion on [RIL] O711 remaining issue on dedicated priority OPPO, Xiaomi discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2507285](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507285.zip) RRC corrections related to [S905] Samsung discussion Rel-19 LTE\_TN\_NR\_NTN\_mob Late

[R2-2507493](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507493.zip) Remaining issues on LTE TN to NR NTN mobility Huawei, HiSilicon discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2507525](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507525.zip) Clarification on SMTC configuration for redirection ZTE Corporation, Sanechips discussion Rel-19 LTE\_TN\_NR\_NTN\_mob

[R2-2507677](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507677.zip) Discussion on the RIL X500 (smtc in the CarrierInfoNR-r19) for LTE-NR NTN mobility Xiaomi, Samsung, OPPO, Apple discussion Rel-19 LTE\_TN\_NR\_NTN\_mob-Core

## 8.9 IoT NTN Ph3

(IoT\_NTN\_Ph3-Core; leading WG: RAN2; REL-19; WID: [RP-252504](https://www.3gpp.org/ftp/tsg_ran/TSG_RAN/TSGR_109/Docs/RP-252504.zip))

Time budget: 0 TU

Tdoc Limitation: 3 tdocs

### 8.9.1 Organizational

LS, Rapporteur input, including open issues lists, etc.

Rapporteur inputs do not count towards the tdoc limitation.

Including the lists of open issues, if any, raised in the following email discussions:

[Post131][305][R19 IoT NTN] Stage2 CR (Ericsson)

[Post131][306][R19 IoT NTN] RRC CR (Huawei)

[Post131][307][R19 IoT NTN] MAC CR (Mediatek)

[Post131][308][R19 IoT NTN] 36.304 CR (Nokia)

[Post131][309][R19 IoT NTN] capability CR (Qualcomm)

[R2-2506717](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506717.zip) Reply LS on on CB Msg3 EDT for IoT NTN Ph3 (R1-2506553; contact: MediaTek) RAN1 LS in Rel-19 IoT\_NTN\_Ph3 To:RAN2

[R2-2506737](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506737.zip) LS on CB-msg3-EDT (R4-2512173; contact: MediaTek) RAN4 LS in Rel-19 IoT\_NTN\_Ph3-Core To:RAN2

[R2-2507059](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507059.zip) Rapporteur correction on IoT NTN Ph3 Huawei, HiSilicon CR Rel-19 36.331 19.0.0 5160 - F IoT\_NTN\_Ph3-Core Revised

[R2-2507060](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507060.zip) RIL status on IoT NTN Ph3 Huawei, HiSilicon discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2507261](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507261.zip) Rapporteur correction on IoT NTN Ph3 Huawei, HiSilicon CR Rel-19 36.331 19.0.0 5160 1 F IoT\_NTN\_Ph3-Core [R2-2507059](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507059.zip)

[R2-2507439](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507439.zip) Rappoertuer Summary for [Post131][308][R19 IoT NTN] 36.304 CR Nokia , Nokia Shanghai Bells discussion

[R2-2507443](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507443.zip) Open issues on Rel-19 IoT NTN UE capabilities Qualcomm Incorporated discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2507555](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507555.zip) Corrections for CB-MSG3 EDT MediaTek Inc. CR Rel-20 36.321 19.0.0 1599 - F IoT\_NTN\_Ph3-Core

=> Revised in [R2-2507656](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507656.zip)

[R2-2507656](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507656.zip) Corrections for CB-MSG3 EDT MediaTek Inc. CR Rel-20 36.321 19.0.0 1599 1 F IoT\_NTN\_Ph3-Core

[R2-2507561](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507561.zip) Remaining MAC open issues in Rel-19 IoT NTN MediaTek Inc. discussion IoT\_NTN\_Ph3-Core

[R2-2507563](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507563.zip) Miscellaneous Corrections for TS36.304 Nokia CR Rel-19 36.304 19.0.0 0885 - F IoT\_NTN\_Ph3-Core

### 8.9.2 RRC corrections

Corrections to TS 36.331.

[R2-2506836](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506836.zip) Discussion on RIL V211 vivo discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2506837](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506837.zip) Discussion on RIL S901 and RIL V214 vivo discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2506838](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506838.zip) Discussion on RIL V215 vivo discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2506872](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506872.zip) [C001] Correction on the operation mode of neighbour cells CATT discussion Rel-19 IoT\_NTN\_Ph3-Core Late

[R2-2506980](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506980.zip) Discussion on remaining RRC open issues on S&F operation Xiaomi discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2507046](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507046.zip) Discussion on RRC open issues for IoT NTN OPPO discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2507086](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507086.zip) RRC corrections for R19 IoT NTN ZTE Corporation, Sanechips discussion Rel-19 IoT\_NTN\_Ph3-Core Late

[R2-2507149](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507149.zip) RRC corrections for Rel-19 Store & Forward operation DENSO CORPORATION discussion IoT\_NTN\_Ph3-Core

[R2-2507219](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507219.zip) Discussion on leftover issues with Store and Forward satellite operation ETRI, Korea University discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2507283](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507283.zip) Discussions on RILs [V211][C001][V215] Samsung discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2507284](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507284.zip) RRC corrections related to [S900][S901] Samsung discussion Rel-19 IoT\_NTN\_Ph3-Core Late

[R2-2507441](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507441.zip) Remaining issues on CB-EDT Qualcomm Incorporated discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2507611](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507611.zip) Discussion on remaining RILs for IoT NTN Nokia, Nokia Shanghai Bell discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2507643](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507643.zip) RRC IoT NTN issues Ericsson discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2507650](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507650.zip) [V211][C001][S901] Discussion on RILs for IoT-NTN Google discussion Rel-19 IoT\_NTN\_Ph3-Core Late

### 8.9.3 MAC corrections

Corrections to TS 36.321.

[R2-2506979](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506979.zip) Discussion on remaining MAC open issues on CB-Msg3-EDT Xiaomi discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2507087](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507087.zip) MAC corrections for R19 IoT NTN ZTE Corporation, Sanechips discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2507242](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507242.zip) Issues on early termination of CB-Msg3-EDT without RRC message Google discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2507286](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507286.zip) Various MAC corrections on CB-Msg3-EDT Samsung discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2507306](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507306.zip) CB-EDT relevant MAC open issues NEC discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2507642](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507642.zip) MAC IoT NTN issues Ericsson discussion Rel-19 IoT\_NTN\_Ph3-Core

### 8.9.4 Other corrections

Corrections to TS 36.300, TS 36.304 and TS 36.306.

[R2-2506871](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506871.zip) Discussion on relaxation of IDLE mode task based on the S&F monitoring list CATT, Samsung, Thales, Google discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2506873](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506873.zip) Correction on the any cell selection state for NB-IoT CATT discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2506944](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506944.zip) Discussion on remaining issues on Store&Forward Transsion Holdings discussion Rel-19

[R2-2506978](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506978.zip) Discussion on remaining 36.304 open issues on S&F operation Xiaomi discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2507047](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507047.zip) Discussion on other open issues for Rel-19 IoT-NTN OPPO discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2507061](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507061.zip) Paging enhancement in Store and Forward satellite operation Huawei, HiSilicon, Apple, Nokia, Ericsson, CENC discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2507089](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507089.zip) Other corrections for R19 IoT NTN ZTE Corporation, Sanechips discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2507244](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507244.zip) Impact of the S&F mode transition time on AS Google discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2507287](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507287.zip) Idle mode and capability-related corrections Samsung discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2507359](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507359.zip) Discussion on S&F Idle Mode Procedures TOYOTA ITC discussion Rel-19 IoT\_NTN\_Ph4-Core

[R2-2507437](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507437.zip) Remaining Open Issues related to SF Architecture aspects Nokia , Nokia Shanghai Bells discussion

[R2-2507438](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507438.zip) Remaining Open issues for idle mode operation Nokia , Nokia Shanghai Bells discussion

[R2-2507494](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507494.zip) UE behaviour related to the Satellite ID list for Store and Forward Huawei, HiSilicon discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2507635](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507635.zip) Remaining open issues for store and forward Ericsson 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 TU

Tdoc Limitation: 2 tdocs

### 8.10.1 Organizational

LS, CR rapporteur’s miscellaneous non-controversial corrections, etc.

[R2-2506728](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506728.zip) LS on geographical area scope MDT (R3-255960; contact: CATT) RAN3 LS in Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core To:RAN2, SA5

[R2-2506783](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506783.zip) Discussion on PLMN ID list for NTN MDT (LS R3-255960) CATT discussion Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2506784](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506784.zip) Summary of open issue email discussion on SONMDT UE capabilities CATT discussion Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2506785](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506785.zip) Corrections on SONMDT UE Capabilities CATT CR Rel-19 38.306 18.6.0 1353 - F NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2507422](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507422.zip) Correction on R19 SONMDT in TS 36.331 Huawei, HiSilicon CR Rel-19 36.331 19.0.0 5167 - F NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2507423](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507423.zip) WI Comments file for TS 36.331 CR for R19 SONMDT Huawei, HiSilicon other Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2507424](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507424.zip) WI Review file for TS 36.331 CR for R19 SONMDT Huawei, HiSilicon other Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2507665](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507665.zip) SONMDT Comment file Ericsson report Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2507666](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507666.zip) SONMDT Review file Ericsson report Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2507667](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507667.zip) Corrections on RRC for Rel-19 SONMDT features Ericsson CR Rel-19 38.331 19.0.0 5560 - F NR\_ENDC\_SON\_MDT\_Ph4-Core

### 8.10.2 Papers related to RILs

Papers related to identified RILs

[R2-2506781](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506781.zip) Discussion on MDT RIL[C057] CATT discussion Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2506782](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506782.zip) Discussion on SON RIL[C058][C060] CATT discussion Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2506993](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506993.zip) Discussion on Rel-19 SONMDT RILs Xiaomi discussion Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2507233](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507233.zip) Discussion about SON MDT RILs ZTE Corporation, Sanechips discussion Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core Late

[R2-2507409](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507409.zip) [RIL] N064, N065: RLF, SHR logging when CHO only HO is performed Nokia discussion Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2507582](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507582.zip) [S20][S021]Discussion on SON/MDT RILs Samsung discussion Late

[R2-2507668](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507668.zip) Addressing RILs for Rel-19 SONMDT features [E015, C057, E051] Ericsson discussion Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2507671](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507671.zip) Discussion on R19 SONMDT RIL [H310] Huawei, HiSilicon discussion Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2507672](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507672.zip) Discussion on R19 SONMDT RIL [H301] Huawei, HiSilicon discussion Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core

### 8.10.3 Other

Critical corrections, if any.

[R2-2507234](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507234.zip) Correction to NTN MDT CR 37.320 Rel-19 ZTE, Sanechips CR Rel-19 37.320 19.0.0 0145 - F NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2507235](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507235.zip) Correction to successful LTM cell switch CR 38.300 Rel-19 ZTE, Sanechips CR Rel-19 38.300 19.0.0 1041 - F NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2507410](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507410.zip) Some MRO related enhancements Nokia discussion Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core

[R2-2507623](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507623.zip) Stage-2 corrections for SONMDT features Ericsson discussion Rel-19 NR\_ENDC\_SON\_MDT\_Ph4-Core

## 8.11 Evolution of NR duplex operation: Sub-band full duplex (SBFD)

(NR\_duplex\_evo-Core; leading WG: RAN1; REL-19; WID: RP-251874)

Time budget: 0 TU

Tdoc Limitation: 2 tdocs

### 8.11.1 Organizational

Incoming LS, Rapporteur input, etc..

[R2-2506718](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506718.zip) Reply LS on CSI-RS based CFRA using SBFD RO (R1-2506556; contact: ZTE) RAN1 LS in Rel-19 NR\_duplex\_evo-Core To:RAN2 Cc:RAN4

[R2-2506820](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506820.zip) Open issues in TS 38.300 on Rel-19 Evolution of NR duplex operation (SBFD) CATT discussion Rel-19 NR\_duplex\_evo-Core

[R2-2507080](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507080.zip) Correction on MAC spec for R19 SBFD Samsung CR Rel-19 38.321 19.0.0 2126 - F NR\_duplex\_evo-Core

[R2-2507158](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507158.zip) Summary of Rel-19 SBFD MAC open issue discussions for maintenance Samsung discussion Rel-19 NR\_duplex\_evo-Core

### 8.11.2 MAC issues

Remaing MAC issues

[R2-2506822](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506822.zip) Remaining Issues on Random Access CATT discussion Rel-19

[R2-2506971](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506971.zip) Discussion on MAC-2 and MAC-3 for SBFD ZTE Corporation discussion Rel-19 NR\_duplex\_evo-Core

[R2-2507003](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507003.zip) Discussion on residual issues for MAC spec Huawei, HiSilicon discussion Rel-19 NR\_duplex\_evo-Core

[R2-2507255](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507255.zip) Discussion on the remaining MAC open issues Samsung discussion Rel-19 NR\_duplex\_evo-Core

[R2-2507264](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507264.zip) Remaining issue of SBFD Qualcomm Incorporated discussion NR\_duplex\_evo-Core

[R2-2507266](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507266.zip) MAC Issues - SBFD Nokia discussion Rel-19 NR\_duplex\_evo-Core

[R2-2507280](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507280.zip) Remaining MAC issues on SBFD LG Electronics Inc. discussion Rel-19 NR\_duplex\_evo-Core

[R2-2507363](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507363.zip) MAC remaining issues Ericsson discussion Rel-19 NR\_duplex\_evo-Core

[R2-2507517](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507517.zip) Discussion on SBFD MAC open issues Xiaomi discussion Rel-19 NR\_duplex\_evo-Core

[R2-2507576](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507576.zip) Discussion on UE transmit power continuity during RO type switching vivo discussion Rel-19 NR\_duplex\_evo-Core

### 8.11.3 Other aspects

Issues related to RILs, other remaing RRC issues, Changes to Stage 2, UE capabilities, and other remaining issues if not covered by the previous agedam items

[R2-2506823](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506823.zip) Introduction of Rel-19 Evolution of NR duplex operation (SBFD) CATT CR Rel-19 38.300 18.6.0 1008 2 F NR\_duplex\_evo-Core [R2-2506604](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506604.zip)

[R2-2506972](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506972.zip) Discussion on RIL [C100][C104][L701] ZTE Corporation discussion Rel-19 NR\_duplex\_evo-Core

[R2-2506999](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506999.zip) Corrections to WI SBFD Huawei, HiSilicon (Rapporteur) CR Rel-19 38.331 19.0.0 5499 - F NR\_duplex\_evo-Core

[R2-2507000](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507000.zip) WI SBFD ASN.1 Review file Huawei, HiSilicon (Rapporteur) discussion Rel-19 NR\_duplex\_evo-Core

[R2-2507001](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507001.zip) WI SBFD ASN.1 Comments file Huawei, HiSilicon (Rapporteur) discussion Rel-19 NR\_duplex\_evo-Core

[R2-2507002](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507002.zip) Discussion on issues for Stage-2 spec Huawei, HiSilicon discussion Rel-19 NR\_duplex\_evo-Core

[R2-2507267](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507267.zip) Other Aspects of SBFD Nokia discussion Rel-19 NR\_duplex\_evo-Core

[R2-2507281](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507281.zip) [L701][C100][C104] RIL issues on SBFD LG Electronics Inc. discussion Rel-19 NR\_duplex\_evo-Core

[R2-2507364](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507364.zip) Remaining issue for Stage 2 spec Ericsson discussion Rel-19 NR\_duplex\_evo-Core

[R2-2507507](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507507.zip) RRC issues on SBFD InterDigital, Inc. discussion Rel-19 NR\_duplex\_evo-Core

[R2-2507508](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507508.zip) SBFD with CA for stage-2 spec InterDigital, Inc. discussion Rel-19 NR\_duplex\_evo-Core

[R2-2507518](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507518.zip) Discussion on SBFD RRC open issues Xiaomi discussion Rel-19 NR\_duplex\_evo-Core

[R2-2507577](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507577.zip) Discussion on RRC Remaining issues for SBFD vivo 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 TU

Tdoc Limitation: 2 tdocs

### 8.12.1 Organizational

LSs and rapporteur input, etc.

[R2-2506738](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506738.zip) LS on event triggered L1-RSRP reporting if eventDetectionTimeWindowLength-r19 is configured (R4-2512232; contact: Qualcomm) RAN4 LS in Rel-19 NR\_MIMO\_Ph5-Core To:RAN1 Cc:RAN2

[R2-2507497](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507497.zip) Report of Rel-19 MIMO MAC open issues for maintenance Samsung discussion Rel-19 NR\_MIMO\_Ph5-Core

[R2-2507592](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507592.zip) Corrections for MIMO Phase 5 Ericsson CR Rel-19 38.331 19.0.0 5548 - F NR\_MIMO\_Ph5-Core Late

[R2-2507593](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507593.zip) Review file for MIMO ASN.1 review Ericsson discussion Late

[R2-2507594](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507594.zip) Comment file for MIMO ASN.1 review Ericsson discussion Late

### 8.12.2 MAC issues

Remaining MAC issues

[R2-2506847](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506847.zip) Discussion on remaining MAC issue China Telecom discussion NR\_MIMO\_Ph5-Core

[R2-2506906](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506906.zip) Discuss on MIMO MAC issues CMCC discussion Rel-19 NR\_MIMO\_Ph5-Core Withdrawn

[R2-2506941](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506941.zip) Discussion on remaining MAC issues CATT discussion Rel-19 NR\_MIMO\_Ph5-Core

[R2-2507021](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507021.zip) Discussion on MAC open issues for UEI BMR vivo discussion Rel-19 NR\_MIMO\_Ph5-Core

[R2-2507154](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507154.zip) [Issue-2] Discussion on MAC remaining issue for MIMO SHARP Corporation discussion NR\_MIMO\_Ph5-Core

[R2-2507199](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507199.zip) Remaining MAC issues in MIMO Ofinno discussion Rel-19 NR\_MIMO\_Ph5-Core

[R2-2507209](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507209.zip) Remaining issues on UEI beam reporting LG Electronics Inc. discussion Rel-19 NR\_MIMO\_Ph5-Core

[R2-2507265](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507265.zip) MAC Open issues Nokia discussion Rel-19 NR\_MIMO\_Ph5-Core

[R2-2507377](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507377.zip) MAC issues for MIMO Huawei, HiSilicon discussion Rel-19 NR\_MIMO\_Ph5-Core

[R2-2507498](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507498.zip) MAC open issues Samsung discussion Rel-19 NR\_MIMO\_Ph5-Core

[R2-2507539](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507539.zip) Discussion on MIMO MAC open issues ASUSTeK, Ofinno, Ericsson discussion Rel-19 38.321 NR\_MIMO\_Ph5-Core

[R2-2507600](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507600.zip) Consideration on the Remaining MAC Issues of UEIBM ZTE Corporation discussion Rel-19 NR\_MIMO\_Ph5-Core

### 8.12.3Others

Issues related to RILs, other remaining RRC issues, Changes to Stage 2, and other issues if not covered by the previous agenda items

[R2-2506852](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506852.zip) Clarification on the coexistence between LTM or CLTM and UL-only TRP OPPO discussion Rel-19 NR\_MIMO\_Ph5-Core

[R2-2507376](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507376.zip) RRC issues for MIMO Huawei, HiSilicon discussion Rel-19 NR\_MIMO\_Ph5-Core Late

[R2-2507499](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507499.zip) RIL S001 H403 Samsung discussion Rel-19 NR\_MIMO\_Ph5-Core

[R2-2507540](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507540.zip) Discussion on RIL [K103] ASUSTeK discussion Rel-19 38.331 NR\_MIMO\_Ph5-Core

[R2-2507549](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507549.zip) Stage 2 and RRC aspects Nokia discussion Rel-19 NR\_MIMO\_Ph5-Core Late

[R2-2507565](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507565.zip) Discussion on remaining RRC issue China Telecom discussion

[R2-2507605](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507605.zip) [Z408][K103][H400][H403][Z409]RIL Issues for MIMO ZTE Corporation discussion Rel-19 NR\_MIMO\_Ph5-Core

[R2-2507657](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507657.zip) [K103][H402] Discussion on RIL related issues CATT discussion Rel-19 NR\_MIMO\_Ph5-Core

## 8.13 NR sidelink multi-hop relay

(NR\_SL\_relay\_multihop; leading WG: RAN2; REL-19; WID: [RP-250188](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_107/Docs/RP-250188.zip))

Time budget: 0 TU

Tdoc Limitation: 2 tdocs

### 8.13.1 Organizational

LSs and rapporteur input

[R2-2506805](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506805.zip) SRAP open issues for NR sidelink multi-hop relay OPPO report NR\_SL\_relay\_multihop

[R2-2507150](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507150.zip) Miscellaneous SRAP corrections for multi-hop U2N Relay OPPO, ASUSTeK CR Rel-19 38.351 19.0.0 0042 - F NR\_SL\_relay\_multihop

[R2-2507183](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507183.zip) Open issues on Rel-19 multihop relay 38.304 CR MediaTek Inc. discussion Rel-19 NR\_SL\_relay\_multihop-Core

[R2-2507455](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507455.zip) MAC Open Issues Discussion InterDigital France R&D, SAS discussion

[R2-2507488](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507488.zip) Corrections to WI SLRelay Huawei, HiSilicon (Rapporteur) CR Rel-19 38.331 19.0.0 5537 - F NR\_SL\_relay\_multihop-Core Late

[R2-2507489](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507489.zip) WI SLRelay ASN.1 Review file Huawei, HiSilicon (Rapporteur) discussion Rel-19 NR\_SL\_relay\_multihop-Core Late

[R2-2507490](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507490.zip) WI SLRelay ASN.1 Comments file Huawei, HiSilicon (Rapporteur) discussion Rel-19 NR\_SL\_relay\_multihop-Core Late

[R2-2507559](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507559.zip) Open issues on Rel-19 Relay Capability Samsung discussion Rel-19 NR\_SL\_relay\_multihop-Core

### 8.13.2 Control plane

Impact to 38.331 (except for capability issues), 38.304

[R2-2506804](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506804.zip) Discussion on control plane correction for multi-hop U2N relay OPPO discussion Rel-19 NR\_SL\_relay\_multihop

[R2-2506843](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506843.zip) Further Discussion on Control Plane Leftover Issues CATT discussion Rel-19 NR\_SL\_relay\_multihop-Core

[R2-2506844](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506844.zip) Intra-gNB Service Continuity for Multi-hop U2N Relay CATT discussion Rel-19 NR\_SL\_relay\_multihop-Core

[R2-2506877](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2506877.zip) Remaining CP issues for Multi-hop Relay NEC discussion Rel-19 NR\_SL\_relay\_multihop

[R2-2506925](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506925.zip) [B100][B101][B102] issues for notification message Lenovo discussion Rel-19

[R2-2506946](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506946.zip) [W500][W501]Discussion on SUI for multi-hop U2N Relay NEC Corporation discussion Rel-19 NR\_SL\_relay\_multihop-Core

[R2-2506983](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506983.zip) Discussion on RIL [Z452][Z454][Z455][Z456][Z458][Z459] ZTE Corporation, Sanechips discussion Rel-19 NR\_SL\_relay\_multihop

[R2-2506994](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506994.zip) Discussion on Rel-19 SL MH-Relay RILs Xiaomi discussion Rel-19 NR\_SL\_relay\_multihop

[R2-2507103](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507103.zip) ASN.1 issues for SI/Paging forwarding (A500/O505/X501/K002/H451) Apple discussion Rel-19 NR\_SL\_relay\_multihop

[R2-2507257](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507257.zip) Discussion on discovery and relay reselection for multi-hop U2N relay LG Electronics Inc. discussion Rel-19 NR\_SL\_relay\_multihop

[R2-2507259](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507259.zip) Discussion on the control plane procedure for multi-hop U2N relay LG Electronics Inc. discussion Rel-19 NR\_SL\_relay\_multihop

[R2-2507353](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507353.zip) Remaining issue on U2N multi-hop U2N relay control plane Qualcomm Incorporated discussion NR\_SL\_relay\_multihop-Core

[R2-2507427](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507427.zip) Discussion on RIL E044 and RIL E029 Ericsson discussion Rel-19 NR\_SL\_relay\_multihop

[R2-2507428](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507428.zip) discussion on RIL E049 and RIL E050 Ericsson discussion Rel-19 NR\_SL\_relay\_multihop

[R2-2507451](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507451.zip) Correction on Restricting Service Continuity for Inter-gNB cases InterDigital France R&D, SAS discussion Rel-19

[R2-2507452](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507452.zip) Corrections on Notification Message Handling InterDigital France R&D, SAS discussion Rel-19

[R2-2507491](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507491.zip) Discussion on Multi-hop Relay RILs [H452],[H454] and [H455] Huawei, HiSilicon discussion Rel-19 NR\_SL\_relay\_multihop-Core Late

[R2-2507492](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507492.zip) Remaining issues for Multi-hop Relay Huawei, HiSilicon discussion Rel-19 NR\_SL\_relay\_multihop-Core

[R2-2507541](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507541.zip) [K002] Required SIB and Paging information release due to SL RLF ASUSTeK discussion Rel-19 38.331 NR\_SL\_relay\_multihop

[R2-2507590](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507590.zip) [O503] [Z454] [Z455] [Z456] [O505] [K002] [E044] [H452] [H454] discussion on remaining issues related to C-plane procedure for multi-hop relay Sharp discussion Rel-19 NR\_SL\_relay\_multihop-Core

### 8.13.3 User plane corrections

Impact to 38.351, 38.321, and 38.323.

[R2-2506803](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506803.zip) Discussion on user plane correction for multi-hop U2N Relay OPPO discussion Rel-19 NR\_SL\_relay\_multihop

[R2-2506984](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506984.zip) Discussion on SRAP layer issue ZTE Corporation, Sanechips discussion Rel-19 NR\_SL\_relay\_multihop

[R2-2507591](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507591.zip) (SRAP-6) discussion on remaining issues related to U-plane procedure for multi-hop relay Sharp discussion Rel-19 NR\_SL\_relay\_multihop-Core

[R2-2507633](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507633.zip) SRAP error handling and related TP Samsung discussion

### 8.13.4 Others

Impact to specs not listed above, including capability aspects of 38.331.

[R2-2507354](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507354.zip) Last relay UE capability Qualcomm Incorporated, vivo, Samsung, Xiaomi, OPPO discussion NR\_SL\_relay\_multihop-Core

## 8.14 Additional topological enhancements

(NR\_WAB\_5GFemto; leading WG: RAN3; REL-19; WID RP-243009)

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

## 8.15 NavIC L1 SPS A-GNSS support

(LCS\_NAVIC\_L1\_SPS\_NR\_LTE-Core; leading WG: RAN2; REL-19; WID [RP-251552](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_108/Docs/RP-251552.zip)

Time budget: 0 TU

Tdoc Limitation: 1 tdoc

## 8.16 BDS B2b in A-GNSS

LCS\_BDS\_B2b\_LTE\_NR; leading WG: RAN2; REL-19; WID [RP-250767](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_107/Docs/RP-250767.zip))

Time budget: 0 TU

Tdoc Limitation: 1 tdoc

## 8.17 IoT-NTN TDD mode

(IoT\_NTN\_TDD; leading WG: RAN1; REL-19; WID RP-243293)

Time budget: 0TU

Tdoc Limitation: 1 tdoc

Corrections to all specs.

Including the lists of open issues, if any, raised in the following email discussions:

[Post131][310][IoT NTN TDD] Stage2 CR (Iridium)

[Post131][311][IoT NTN TDD] RRC CR (Huawei)

[Post131][312][IoT NTN TDD] MAC CR (Toyota)

[Post131][313][IoT NTN TDD] 36.304 CR (Xiaomi)

[Post131][314][IoT NTN TDD] capability CR (Samsung)

[R2-2506714](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506714.zip) LS on updated text proposal for 36.300 for IoT NTN TDD mode (R1-2506535; contact: Qualcomm) RAN1 LS in Rel-19 IoT\_NTN\_TDD To:RAN2

[R2-2506741](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506741.zip) LS Reply on precompensation for NB-IoT NTN TDD mode (R4-2512550; contact: Iridium) RAN4 LS in Rel-19 IoT\_NTN\_TDD-Core To:RAN1 Cc:RAN2

[R2-2507048](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507048.zip) Discussion on IoT NTN TDD mode OPPO discussion Rel-19 IoT\_NTN\_TDD

[R2-2507062](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507062.zip) Rapporteur correction on IoT NTN TDD Huawei, HiSilicon CR Rel-19 36.331 19.0.0 5161 - F IoT\_NTN\_TDD Revised

[R2-2507063](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507063.zip) RIL status on IoT NTN TDD Huawei, HiSilicon discussion Rel-19 IoT\_NTN\_TDD

[R2-2507064](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507064.zip) Neighbour cell measurement in IoT NTN TDD Huawei, HiSilicon discussion Rel-19 IoT\_NTN\_TDD

[R2-2507262](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507262.zip) Rapporteur correction on IoT NTN TDD Huawei, HiSilicon CR Rel-19 36.331 19.0.0 5161 1 F IoT\_NTN\_TDD [R2-2507062](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507062.zip)

[R2-2507442](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507442.zip) Remaining issues for NB-IoT NTN TDD mode Qualcomm Incorporated discussion Rel-19 IoT\_NTN\_TDD

[R2-2507456](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507456.zip) Discussion on RIL [X501] for IoT NTN TDD Samsung discussion Rel-19

[R2-2507612](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507612.zip) Remaining issues on support of TDD mode for NB-IoT-NTN Nokia, Nokia Shanghai Bell discussion Rel-19 IoT\_NTN\_TDD

[R2-2507674](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507674.zip) Discussion on the RIL X501 (radioFrameOffset-r19) for IoT NTN TDD Beijing Xiaomi Electronics discussion Rel-19 IoT\_NTN\_TDD-Core

## 8.18 LTE-based 5G Broadcast

(LTE\_terr\_bcast\_Ph2; leading WG: RAN1; REL-19; WID RP-250794)

Time budget: 0 TU

Tdoc Limitation: 1 tdoc

### 8.18.1 Organizational

Incoming LS, rapporteur input etc.

[R2-2507467](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507467.zip) WI TerrBcast ASN.1 comments file Qualcomm Incorporated discussion Rel-19 LTE\_terr\_bcast\_Ph2-Core Late

[R2-2507468](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507468.zip) WI TerrBcast ASN.1 review file Qualcomm Incorporated discussion Rel-19 LTE\_terr\_bcast\_Ph2-Core Late

[R2-2507469](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507469.zip) Corrections to LTE-based 5G Broadcast Phase 2 after ASN.1 review Qualcomm Incorporated CR Rel-19 36.331 19.0.0 5168 - F LTE\_terr\_bcast\_Ph2-Core Late

### 8.18.2 RRC corrections

Corrections to TS 36.331 which require Tdoc submission as per RIL list.

[R2-2507581](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507581.zip) RRC corrections on LTE-based 5G Broadcast Samsung discussion Rel-19 Late

### 8.18.3 Other corrections

Corrections to other specifications including 36.321 and UE capabilities

[R2-2507339](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507339.zip) Consideration on cyclic shift for PMCH Samsung discussion Rel-19

## 8.19 TEI19

Time budget: 1 TU

Tdoc Limitation: 1 tdoc for new proposals and 1 tdoc for old proposals for RAN2-led.

1 additional tdoc for primary co-sourcing company on top of the limit is allowed for co-sourced contribution with 4 or more companies.

Companies are encouraged to submit co-sourced contributions, which will have priority for discussion in RAN2#130

### 8.19.1 RAN2-led

**SL Relay (SL breakout session)**

[R2-2506876](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506876.zip) Extension of SFN-DFN mechanism for SL multi-hop relay NEC, Ericsson discussion Rel-19 TEI19

[R2-2506948](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506948.zip) Discussion on SFN-DFN offset in multi-hop scenario Lenovo discussion Rel-19

[R2-2506951](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506951.zip) Introduction of SFN-DFN offset in Multi-hop scenario [PosMultiplehop] Lenovo CR Rel-19 38.331 19.0.0 5493 - B TEI19

**LTM\_enh\_SR**

[R2-2507406](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507406.zip) Introducing SR resources in LTM cell switch MAC CE [LTM\_enh\_SR] Ericsson, Continental Automotive, T-Mobile USA, BT Plc., Sharp, Charter Communications, Rakuten Mobile, Verizon, InterDigital, Qualcomm Incorporated, AT&T, Vodafone, MediaTek Inc., NTT Docomo, LG Electronics, Deutsche Telekom, Telia Company, Turkcell CR Rel-19 38.331 19.0.0 5530 - B TEI19

* Check offline if there is a better way to capture the configuration IE while ensuring that the UE can easily release the configuration.

[R2-2507407](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507407.zip) Introducing SR resources in LTM cell switch MAC CE [LTM\_enh\_SR] Ericsson, Continental Automotive, T-Mobile USA, BT Plc., Sharp, Charter Communications, Rakuten Mobile, Verizon, InterDigital, Qualcomm Incorporated, AT&T, Vodafone, MediaTek Inc., NTT Docomo, LG Electronics, Deutsche Telekom, Telia Company, Turkcell CR Rel-19 38.321 19.0.0 2130 - B TEI19

[R2-2507408](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507408.zip) Introducing SR resources in LTM cell switch MAC CE [LTM\_enh\_SR] Ericsson, Continental Automotive, T-Mobile USA, BT Plc., Sharp, Charter Communications, Rakuten Mobile, Verizon, InterDigital, Qualcomm Incorporated, AT&T, Vodafone, MediaTek Inc., NTT Docomo, LG Electronics, Deutsche Telekom, Telia Company, Turkcell CR Rel-19 38.306 19.0.0 1367 - B TEI19

* Check if stage 2 specification is required
* [AT131bis][005][TEI19] LTM\_enh\_SR (Ericsson)

Intended outcome: Agree in principle to CRs and check with Samsung if there is an alternate way.

Deadline: Friday

[R2-2507106](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507106.zip) DRX adaptation for voice activity Apple discussion Rel-19

*Proposal 1: Introduce a new peer-silence-indication MAC CE that the UE can use to indicate the number of on-Durations for which the UE will be in a Reduced Monitoring mode (i.e., skip PDCCH monitoring or use an alternate SSSG pattern for PDCCH monitoring).*

*Proposal 2: UE enters the Reduced Monitoring mode upon transmitting the peer-silence-indication MAC CE.*

*Observation 4: Standard UL data arrival procedures enable the UE to exit the reduced monitoring mode and return to normal operation.*

*Proposal 3: If there is UL data in the buffer in the reduced monitoring mode, the UE exits the reduced monitoring mode.*

- Ericsson thinks that there are means in the network to detect. This will introduce delays from the network and if the UE is not listening (and network missed the indication) the network may think that there issues and adapt it’s scheduling.

- ZTE also thinks that the network can detect silent periods and even if you recognize UL silence the UE doesn’t know the DL side. ZTE Thinks that even if current packet is silent packet doesn’t mean the second one will also be silent packet. Apple thinks that even if there is a delay by another 160ms it is ok from the UE perspective.

- Xiaomi is supportive from UE side, but asks how the MAC CE is triggered given this is linked to application layer. Will it be up to implementation. Apple thinks that we can discuss solution and is worried about power.

- CATT asks how the UE predicts and also thinks that DL services may be delayed, so prefers not to do skipping.

- Vivo thinks that the silence period is dependent on UE and codec so this is related to other SA WGs.

- Samsung also shares concerns that silent period cannot be predicted accurately. Benefit is marginal as one UE can be in silent but not another one.

- Oppo thinks that providing more information to the network is a good direction and we should consider the voice traffic performance. We can think of this in 6G.

- ZTE explains that this a tradeoff between performance and power saving.

- CMCC has same concern with ZTE and Samsung as it impact voice performance.

- Apple hopes that we keep this in mind and consider it for 6G.

[R2-2507604](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2507604.zip) Adapting TTT based on mobility state in NR Ericsson discussion Rel-19 TEI19

Proposal 1 TTT scaling can be implemented on the network side. The UE side TTT scaling mechanism from LTE should not be introduced in NR.

Proposal 2 For 6G more robust methods for determining mobility state (e.g. based on RSRP) should be explored. Also consider how other mobility parameters than TTT can be tuned.

* Noted

[R2-2507689](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507689.zip) Discussion on speed dependant scaling of measurement related parameters KDDI discussion Rel-19 TEI19

Proposal 1 Clarify the applicability and limitations of each candidate option, including identifying effective deployment scenarios such as highways, railways, and heterogeneous networks.

As a result, three candidate approaches were identified:

- Option 1: No standardization; rely on vendor-specific network implementation.

- Option 2: Reuse LTE-based mechanisms, such as handover count-based mobility state estimation.

~~- Option 3: Use RSRP variation-based estimation, such as relaxed measurement criteria.~~

Proposal 2 Initiate a survey among operators and vendors to gather feedback on the feasibility and preference for each option. This will ensure that the standardization process is informed by practical insights and deployment realities across different regions and technologies.

Proposal 3 Consider the inclusion of medium mobility state definitions in the standard, based on commercial network usage.

Proposal 4 Conduct a survey among operators to assess whether Option 1 is acceptable, specifically considering the risk that there is no guarantee network vendors will implement the required features. The survey should clarify if operators can tolerate the possibility that NR may not provide the functionalities they need due to vendor-specific implementations.

* Noted

Discussion

- Docomo prefers option 2 as it solves the high speed scenario. Nokia thinks we should consider option 2 if the operators do really have a problematic scenario, otherwise we can do option 1 and let the networks handle it.

- Samsung explains that there are some issues on their network side that option 1 doesn’t solve. Further option 2 is implemented in LTE in the field and it is useful in certain scenarios. So option 2 is a compromise solution.

- Huawei also thinks it is beneficial to specify something and we should pursue option 2.

- Qualcomm understands that in LTE it didn’t perform very well in the field. KDDI and Samsung explain that they show in the paper with real trials the benefit. ZTE confirms the benefits on this in the field.

- Apple thinks that if operator has a problem in field they can ask their network vendors to count. LG also thinks that the network can handle it.

- Qualcomm thinks that for the existing UEs the network will have to do something anyways, and just doing it for Rel-19 won’t help much. Samsung thinks that we can also use magic sentence. Docomo thinks that even for Rel-19 it would be helpful as the system will keep on going for many years.

- CATT also supports option 2 and we can add UE capability whether it is supported in UE side.

- Qualcomm thinks that this only works for homogeneous deployments.

- Ericsson thinks that the inter-vendor scenario doesn’t happen very often. KDDI thinks that in Japan this happens in some high speed area.

- Apple thinks that practically speaking the networks have to solve this anyways as there are legacy UEs. Huawei thinks that it is complicated for the networks so if at least some UEs implemented they will benefit.

- Mediatek thinks option 1 preferable.

**Agreements**

* Reuse LTE-based mechanisms, such as handover count-based mobility state estimation.
* Introduce optional UE capability
* [POST131bis][006][TEI19] Speed dependent scaling (KDDI/Samsung)

Intended outcome: Agreable CRs, 38.331, 38.306

Deadline: Long

**NTN (NTN Breakout session)**

(Why TEI19, all CRs have WI code?)

[R2-2507243](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507243.zip) Redirection from E-UTRAN TN to NB-IoT NTN [IoT-TN-NTN-redir] Google discussion Rel-19 TEI19

[R2-2507289](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507289.zip) RRC correction and stage 2 for TN to NTN redirection Samsung, Xiaomi discussion Rel-19 TEI19

[R2-2507346](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507346.zip) Asisstance for inter-RAT cell-selection from NB-IoT NTN to NR-NTN EchoStar, Boost Mobile, Qualcomm, Aalyria, Terrestar, Skylo, Sateliot CR Rel-19 36.306 19.0.0 1929 - B IoT\_NTN\_enh-Core

[R2-2507356](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507356.zip) NB-IoT NTN to NR NTN Cell Selection EchoStar, Boost Mobile, Qualcomm, Aalyria, Terrestar, Skylo, Sateliot CR Rel-19 36.331 19.0.0 5163 - B IoT\_NTN\_enh-Core

[R2-2507358](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507358.zip) Asisstance for inter-RAT cell-selection from NR NTN to NB-IoT NTN EchoStar, Boost Mobile, Qualcomm, Aalyria, Terrestar, Skylo, Sateliot CR Rel-19 38.306 19.0.0 1361 - B NR\_NTN\_enh-Core

[R2-2507360](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507360.zip) NR-NTN to NB-IoT NTN Cell Selection EchoStar, Boost Mobile, Qualcomm, Aalyria, Terrestar, Skylo, Sateliot CR Rel-19 38.331 19.0.0 5526 - B NR\_NTN\_Ph3-Core

### 8.19.2 Other WG-led

[R2-2506713](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506713.zip) Reply LS on non-RedCap UE UL SRS frequency hopping for positioning (R1-2506531; contact: ZTE) RAN1 LS in Rel-19 TEI19 To:RAN3 Cc:RAN2

* Noted

[R2-2506715](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506715.zip) Reply LS on UL Tx switching for TEI19 (R1-2506538; contact: MediaTek) RAN1 LS in Rel-19 TEI19 To:RAN4, RAN2

* Noted

[R2-2507022](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507022.zip) Discussion on SA2 reply LS on paging capability loss issue vivo discussion Rel-19 NR\_LPWUS-Core, TEI19

* Wait for RAN3 discussion [CB if they have decisions]

Should be moved to NR Others

[R2-2507100](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507100.zip) Restriction on RAT utilization Apple, OPPO, InterDigital, Huawei, HiSilicon, Nokia, Samsung, Ericsson draftCR Rel-19 25.304 18.0.0 B ECRATU

**MBS (MBS breakout session)**

[R2-2507139](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507139.zip) Rapporteur correction on CAS muting for LTE based 5G broadcast [5GB\_CASMuting] Huawei, HiSilicon, Samsung CR Rel-19 36.331 19.0.0 5162 - F TEI19 Revised

[R2-2507237](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507237.zip) 5G Broadcast CAS Muting in stage 2 spec [5GB\_CASMuting] ZTE Corporation, Sanechips, Samsung, Huawei CR Rel-19 36.300 19.0.0 1436 - F TEI19

[R2-2507263](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507263.zip) Rapporteur correction on CAS muting for LTE based 5G broadcast [5GB\_CASMuting] Huawei, HiSilicon, Samsung CR Rel-19 36.331 19.0.0 5162 1 F TEI19 [R2-2507139](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507139.zip)

## 8.20 NR Others

Tdoc limit: 2

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-19 specific WIs/SIs that has no RAN WI.

Additional tdocs on top of limit can be allowed for co-sourced contribution with 3 or more companies

### 8.20.1 RAN4

[R2-2506730](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506730.zip) LS on RRC signalling for power domain enhancement (R4-2511759; contact: Huawei) RAN4 LS in Rel-19 NR\_ENDC\_RF\_Ph4-Core To:RAN2

[R2-2506735](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506735.zip) LS on Release Independence of 6Rx (R4-2511898; contact: T-Mobile) RAN4 LS in Rel-19 NR\_ENDC\_RF\_Ph4-Core To:RAN2 Cc:RAN1

[R2-2506736](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506736.zip) Reply LS on CSSF optimization for NR RRM Phase 5 (R4-2512161; contact: Apple) RAN4 LS in Rel-19 NR\_RRM\_Ph5-Core To:RAN2

[R2-2506739](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506739.zip) LS on Rx BSF optimization for NR RRM Phase 5 (R4-2512333; contact: CICT RAN4 LS in Rel-19 NR\_RRM\_Ph5-Core To:RAN2

[R2-2506742](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506742.zip) LS on UE Capability for Rel.19 Ku band VSAT (R4-2512658; contact: Chunghwa Telecom, Sharp) RAN4 LS in Rel-19 NR\_NTN\_Ku\_bands To:RAN2

[R2-2506788](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506788.zip) Report of [Post131][225][NR\_Others] On Rx BSF optimization (CATT) CATT discussion Rel-19 NR\_RRM\_Ph5-Core

[R2-2506789](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506789.zip) Introduction of Rx BSF optimization for NR RRM Ph5 CATT draftCR Rel-19 38.331 18.6.0 B NR\_RRM\_Ph5-Core

[R2-2506933](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506933.zip) Introduction of Ku band Huawei, HiSilicon CR Rel-19 38.331 19.0.0 5492 - B NR\_NTN\_Ku\_bands

[R2-2506934](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506934.zip) Introduction of Ku band Huawei, HiSilicon CR Rel-19 38.306 19.0.0 1356 - B NR\_NTN\_Ku\_bands

[R2-2506947](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506947.zip) Discussion on UE capability of low band CA via switching Huawei, HiSilicon discussion Rel-19 NR\_LBCA\_Sw

[R2-2506987](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506987.zip) [DRAFT] Reply LS on Release Independence of 6Rx Qualcomm Incorporated, T-Mobile LS out Rel-19 NR\_ENDC\_RF\_Ph4-Core To:RAN4 Cc:RAN1

[R2-2507124](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507124.zip) UE capability for LBCA via switching Apple discussion Rel-19 NR\_LBCA\_Sw

[R2-2507171](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507171.zip) Discussion on release independent of 6Rx vivo discussion Rel-19

[R2-2507193](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507193.zip) UE Capability for Rel-19 Ku Band VSAT (R4 60-1/60-2) Sharp, CHTTL, SES discussion Rel-19 NR\_NTN\_Ku\_bands

[R2-2507194](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507194.zip) Draft 38.306 CR for Rel-19 NTN Ku Band Sharp, CHTTL, SES draftCR Rel-19 38.306 19.0.0 NR\_NTN\_Ku\_bands

[R2-2507195](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507195.zip) Draft 38.331 UE capability CR for Rel-19 NTN Ku Band Sharp, CHTTL, SES draftCR Rel-19 38.331 19.0.0 NR\_NTN\_Ku\_bands

[R2-2507383](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507383.zip) The introduction of NTN VSAT FR1 capabilities in 38.306 Nokia, Nokia Shanghai Bell draftCR Rel-19 38.306 19.0.0 NR\_NTN\_Ku\_bands

[R2-2507384](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507384.zip) The introduction of NTN VSAT FR1 capabilities in 38.331 Nokia, Nokia Shanghai Bell draftCR Rel-19 38.331 19.0.0 NR\_NTN\_Ku\_bands

[R2-2507601](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507601.zip) Consideration on the LBCA Capability Signaling ZTE Corporation discussion Rel-19 NR\_LBCA\_Sw

[R2-2507603](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507603.zip) Backwards compatibility for low NR band carrier aggregation switching Ericsson discussion

[R2-2507606](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507606.zip) Consideration on the Type 2 and Type 4 UE Capability Reporting ZTE Corporation discussion Rel-19 NonCol\_intraB\_ENDC\_NR\_CA\_Ph2-Core

[R2-2507613](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507613.zip) Fast Beam Sweeping Factor Nokia discussion Rel-19 NR\_RRM\_Ph5-Core Late

### 8.20.2 Other WGs

[R2-2506705](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506705.zip) Reply LS on UE usage of the RAT restrictions (C1-255319; contact: Apple) CT1 LS in Rel-19 ECRATU To:RAN2 Cc:CT4, RAN

[R2-2506707](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506707.zip) LS on Broadcasting Information on Disaster Condition of a PLMN from E-UTRAN in Case of Disaster Condition (C1-255678; contact LGE) CT1 LS in Rel-19 MINT\_Ph2 To:RAN2 Cc:SA2

[R2-2506733](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506733.zip) LS on capability of NR\_LBCA\_Sw (R4-2511863; contact: Huawei) RAN4 LS in Rel-19 NR\_LBCA\_Sw To:RAN2

[R2-2506749](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506749.zip) Reply LS on energy saving indication from CN to RAN (S2-2507784; contact: LGE) SA2 LS in Rel-19 EnergySys To:RAN3 Cc:RAN2

[R2-2506756](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506756.zip) LS on temporary suspension of trace production (S5-253909; contact: Ericsson) SA5 LS in Rel-19 TraceQoE\_OAM To:RAN3, RAN2

[R2-2506758](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506758.zip) Reply to RAN2 LS on Number of UEs in RRC\_INACTIVE state with data transmission (S5-254084; contact: China Telecom) SA5 LS in Rel-19 PM\_KPI\_5G\_Ph4 To:RAN2 Cc:RAN3

[R2-2506826](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2506826.zip) Support for MINT in EPS (MINT\_Ph2) Google discussion Rel-19 [R2-2506190](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2506190.zip)

[R2-2506827](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2506827.zip) Introduction of MINT in EPS Google CR Rel-19 36.331 18.6.0 5155 1 B TEI19 [R2-2506192](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2506192.zip)

[R2-2506829](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2506829.zip) Introduction of MINT in EPS Google CR Rel-19 36.306 18.5.0 1924 1 B TEI19 [R2-2506193](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2506193.zip)

[R2-2506830](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2506830.zip) Introduction of MINT in EPS Google CR Rel-19 36.300 18.5.0 1431 1 B TEI19 [R2-2506194](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2506194.zip)

[R2-2507175](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507175.zip) Impacts of MINT-EPS feature on RAN2 specifications Lenovo discussion Rel-19 MINT\_Ph2

[R2-2507394](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507394.zip) Discussion on LS temporary suspension of trace production L.M. Ericsson Limited LS out Rel-19 To:SA5 Cc:RAN3

[R2-2507567](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2507567.zip) Introduction of MINT in EPS LG Electronics Inc., Nokia discussion Rel-19 MINT\_Ph2

[R2-2507568](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2507568.zip) CR to 36.331 Introduction of MINT in EPS LG Electronics Inc., Nokia CR Rel-19 36.331 19.0.0 5171 - B MINT\_Ph2

[R2-2507569](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2507569.zip) CR to 36.304 Introduction of MINT in EPS LG Electronics Inc. CR Rel-19 36.331 19.0.0 5172 - B MINT\_Ph2 Withdrawn

[R2-2507570](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2507570.zip) CR to 36.304 Introduction of MINT in EPS LG Electronics Inc., Nokia CR Rel-19 36.304 19.0.0 0886 - B MINT\_Ph2

[R2-2507571](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2507571.zip) CR to 36.306 Introduction of MINT in EPS LG Electronics Inc., Nokia CR Rel-19 36.306 19.0.0 1932 - B MINT\_Ph2

[R2-2507572](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2507572.zip) CR to 36.300 Introduction of MINT in EPS LG Electronics Inc., Nokia CR Rel-19 36.300 19.0.0 1437 - B MINT\_Ph2

# 9 NR Rel-20

## 9.1 AI/ML for PHY Ph2

(NR\_AIML\_air\_Ph2, leading WG: RAN1; REL-20; WID: [RP-252445](https://www.3gpp.org/ftp/tsg_ran/TSG_RAN/TSGR_109/Docs/RP-252445.zip))

Time budget: 0 TU

Tdoc Limitation: 0 tdoc

## 9.2 Ambient IoT Ph2

(Ambient\_IoT\_Solutions\_Ph2, leading WG: RAN1; REL-20; WID: [RP-252894](https://www.3gpp.org/ftp/tsg_ran/TSG_RAN/TSGR_109/Docs/RP-252894.zip))

Time budget: 0.5 TU

Tdoc Limitation: 1 tdoc

### 9.2.1 Organizational

[R2-2507032](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507032.zip) Work Plan for Solutions for Ambient IoT (Internet of Things) in NR Phase 2 Huawei, T-Mobile USA Work Plan Rel-20

* Noted

### 9.2.2 Topology 2

**Architecture Assumption**

[R2-2506930](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506930.zip) Discussion on topology 2 for A-IoT OPPO discussion Rel-20 Ambient\_IoT\_Solutions\_Ph2

*Proposal 1: RAN2 to agree to adopt RRC based solution for implementing Topology 2.*

- Xiaomi indicates that this is reflected in WID.

* Noted

**Reader-gNB Information Exchange: Contents of the AIOT procedure messages over Uu**

[R2-2506985](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506985.zip) Support of Topology 2 for A-IoT Xiaomi discussion Rel-20 Ambient\_IoT\_Solutions\_Ph2

*Proposal 11: Upon reception of A-IoT service request, the gNB signals the A-IoT paging related information (e.g. paging ID, etc.) to the UE reader via RRC dedicated signaling. FFS what specific information related to A-IoT paging needs to be signaled in Uu.*

*Proposal 12: In Topology 2, the R2D and D2R upper layer data is embedded in the DL and UL RRC messages as containers respectively, and transferred over Uu between the gNB and UE reader.*

- Qualcomm indicates that there are other proposals to introduce new messages so we should wait.

* Noted

[R2-2506963](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506963.zip) Discussion on Topology 2 vivo discussion Ambient\_IoT\_Solutions\_Ph2

Proposal 8: The RRC Inventory Request may at least include the following information:

*A-IoT Device Identification Requested;*

*Inventory Assistance Information: Expected D2R Message Size, Approximate Number of Target A-IoT Devices and Time Interval for report;*

*Follow-on Command Indication;*

*Optional A-IoT Resource allocation info.*

- Qualcomm asks what time interval is. Vivo explains that these are the information provided by CN to gNB. Qualcomm then would agree that we should provide this to reader.

* Noted

Discussion

*Expected D2R Message Size, Approximate Number of Target A-IoT Devices and Time Interval for report;*

- Xiaomi indicates that we have to be careful as there some information that can be transparently forwarded by the gNB and some that need to be transformed.

- Ericsson thinks that not all information needs to be sent. Xiaomi, Interdigital agrees with Ericsson. Interdigital also thinks we should revisit the information one by one.

- Nokia thinks that SA2 is discussing whether the information can be delivered to the reader so we can’t assume that the gNB is aware of this information. Ofinno explains that there are a few options including partial information, so we can only agree that some information will be passed from gNB to reader.

- Qualcomm thinks that the gNB has to understand the information and encodes the RRC messages.

**Resource Allocation: Trigger for Resource Allocation (CN only and/or UE request)**

[R2-2506943](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506943.zip) Discussion on Topology-2 for Ambient IoT CATT discussion Rel-20 Ambient\_IoT\_Solutions\_Ph2

Proposal 2b: RAN2 agrees to adopt Alternative 2 for triggering the gNB to allocate A-IoT resources to UE readers, i.e., BS configures/allocates the A-IoT radio resource to the UE reader, based on the service request from CN.

* Noted

[R2-2507454](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507454.zip) Initial Considerations for Topology 2 InterDigital France R&D, SAS discussion Rel-20

Proposal 5: Dynamic signalling from the intermediate UE to the network is supported to adapt the resource allocation/usage at the intermediate UE during a procedure. FFS what adaptation mechanisms to support, e.g., modify the timing of the resources, requesting more resources, extending the time usage of the resources, or indicating the non-usage of resources.

Discussion on gNB allocating resources

- Xiaomi thinks CN trigger should be baseline.

- Transsion asks if the allocation is done after selection. Xiaomi explains that the selection can be happen before and resources allocate is related to request from CN.

- ZTE Thinks that both CN and Reader requested should be supported. WE may have collisions so reader may need to request. Qualcomm also supports InterDigital proposal. Mediatek, Kyocera, Apple, Nokia and Vivo agrees and the reader has a better understanding of the radio situation with other devices, but there are cases at beginning where the basestation has a good idea. Kyocera indicates that the reader is responsible for scheduling.

- Samsung things it is too early to agree and gNB can handle it as the reader would report something to the gBN after the procedure is completed.

- Ericsson thinks that the baseline is the gNB but the reader can request. Interdigital thinks that outdoor UEs that are mobile it would be important to allower reader to request. LG also thinks that the gNB is not aware of the collision.

- CMCC thinks that if there are sub-sequent paging from reader then the UE reader can ask for more resources.

- Mediatek ask if the assumption is that there is a very close dynamic understanding from UE reader. Qualcomm had same question and if the UE reader is expected to provide reporting that is the same as UE provided assistance.

- Huawei thinks that this is linked to for how long the resources is available. We should discuss what kind of information from the UE reader is needed.

- Nokia thinks we can provide simple request from UE reader to gNB.

**Agreements**

1. gNB will provide AIoT information to the UE reader via RRC dedicated signalling based on NGAP AIoT information received from CN. FFS what information

2. gNB provides AIoT resource information to be used for AIoT interface transmissions to the reader via RRC dedicated signaling. The resource allocation can be triggered by CN request. UE reader may provide assistance information related to AIoT transmissions. FFS what the information may be useful to be provided to gNB. It is up to gNB how the information is used. It is understood that assistance information is not mandated for the gNB to determine resource allocation.

3. the reader schedules the AIoT interface transmissions within the resources allocated by the gNB.

**Resource Validity**

[R2-2507033](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507033.zip) Support for Device 1 operation in Deployment Scenario 2 with Topology 2 Huawei, HiSilicon discussion Rel-20

Proposal 7: Adopt option 1, i.e., “The resources remain valid until the network releases them explicitly” (FFS signaling details, e.g., by RRC reconfiguration or by message containing session complete/release-like info).

* Noted

[R2-2507212](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507212.zip) Discussion on Topology 2 for AIoT LG Electronics Inc. discussion Ambient\_IoT\_Solutions\_Ph2

Proposal 2. The following AIoT resource allocation methods should be supported.

The UE reader receives the AIoT radio resources configuration in RRC signalling. The AIoT radio resources remain valid until the network releases them explicitly.

The UE reader receives the AIoT radio resources configuration in RRC signalling, which configures a time period in which the corresponding resource can be used. The UE reader considers that the AIoT radio resources remain valid for that time period, unless the resource configuration is explicitly released by the network.

* Noted

Discussion

- Ericsson, Apple, Nokia, CATT and lenovo thinks that a timer is not needed, the gNB is always in control. Lenovo and CATT are not sure the gNB can set the time.

- Nokia asks if the reader can tell the reader that it has completed.

- Qualcomm thinks that we are going too much into detail, we need to decided if it is periodic resources or continuous or one shot. Mediatek thinks that we could have a one shot resource allocation, or we can have cases where readers can communicate with multiple devices. Huawei thinks that periodic is not likely and one shot doesn’t make sense. The assumption is that the network gives you recourses and the procedure should be completed.

- Vivo agrees that we can have one shot and periodic.

- Xioami thinks that anyways the gNB can release the connection whenever it wants. One shot is not really validity but rather transmission opportunity

- Interdigital explains that allocating resources continuously doesn’t make sense as there may be period of no transmission so the gNB can provide non-contigous finite resources.

* Continue discussion next meeting on how resource allocation looks like.

**Resource validity in Temporary Out of Connection**

[R2-2507429](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507429.zip) Aspects for Ambient IoT Topology 2 Ericsson discussion Rel-20

[Proposal 6 Adopt Option 1 in TR 38.169 for handing out of connection, i.e., the UE reader considers the resources as temporarily invalid during the temporary out of connection condition. The resource may become valid again after the UE recovers from the condition .](#_Toc210318123)

* Noted

[R2-2507173](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507173.zip) Rel-20 A-IoT: Topology 2 aspects Qualcomm Incorporated discussion Rel-20 Ambient\_IoT\_Solutions\_Ph2-Core

Proposal 10: The A-IoT resources configured by the serving cell are considered as being valid while the UE is ongoing HO or RLF event (i.e. until HO complete or end of RLF recovery procedure or until a validity timer expires).

* Noted

Discussion

- Qualcomm thinks that the RLF recovery is very short and the UE may recover in the same cell so the inference sholdn’t be a problem. Ericsson explains that the interference is among the UE readers.

- Huawei thinks that when we get HO command you stop the transmission. Qualcomm thinks that it should be after HO complete.

**Resource Granularity**

[R2-2506901](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506901.zip) Discussion on Topology 2 for A-IoT CMCC discussion Rel-20 Ambient\_IoT\_Solutions\_Ph2

Proposal 11: A-IoT radio resources for UE-readers should be allocated in an orthogonal manner, such that the resources are not shared with or interfered by other UEs.

[R2-2506963](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506963.zip) Discussion on Topology 2 vivo discussion Ambient\_IoT\_Solutions\_Ph2

RAN2 confirms that the A-IoT radio resource configuration is allocated per UE reader via dedicated RRC signalling. Finer configuration granularities, such as per A-IoT message or per A-IoT procedure, are excluded.

[R2-2506922](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506922.zip) Discussion for Topology 2 for Rel-20 Ambient IoT Lenovo discussion Rel-19

Proposal 4: RAN2 is suggested to further consider other resource granularity options (e.g., per transmission/pair) to support specific procedures (e.g., command procedure).

**Simultaneous Uu/AIOT**

[R2-2507348](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507348.zip) Initial consideration on Ambient-IoT topology 2 ZTE Corporation, Sanechips discussion Rel-20 Ambient\_IoT\_Solutions\_Ph2

Proposal 1: RAN2 to discuss whether to support both in-band and out-of band deployment for AIoT topology 2.

*Contributions on support for Deployment Scenario 2 with Topology 2 with intermediate UE as Reader under the following conditions. Only for traffic types DO-DTT and DT.*

[R2-2506766](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506766.zip) Discussion on TP2 in A-IOT Transsion Holdings discussion Rel-19

[R2-2506875](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506875.zip) Discussion on Topology 2 with intermediate UE as Reader NEC discussion Rel-20 Ambient\_IoT\_Solutions\_Ph2

[R2-2506886](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506886.zip) Discussion on Topology 2 for Ambient IoT China Telecom discussion Rel-20 Ambient\_IoT\_Solutions\_Ph2

[R2-2506914](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506914.zip) Discussion on A-IoT topology 2 Spreadtrum, UNISOC discussion Rel-20

[R2-2506943](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506943.zip) Discussion on Topology-2 for Ambient IoT CATT discussion Rel-20 Ambient\_IoT\_Solutions\_Ph2

[R2-2506956](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506956.zip) Discussion on A-IoT phase 2 deployment scenario Tejas Network Limited discussion Rel-20

[R2-2506968](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506968.zip) Discussion on Deployment Scenario 2 with Topology 2 in A-IoT SHARP Corporation discussion

[R2-2507038](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507038.zip) Discussion on A-IoT resource allocation for T2 HONOR discussion Rel-20 Ambient\_IoT\_Solutions\_Ph2

[R2-2507102](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507102.zip) Discussion on Topology 2 Apple discussion Rel-20 Ambient\_IoT\_Solutions\_Ph2

[R2-2507198](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507198.zip) RAN2 impacts to support D2T2 for DT and DO-DTT traffic Ofinno discussion Rel-20 Ambient\_IoT\_Solutions\_Ph2

[R2-2507211](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507211.zip) Discussion on Topology 2 for A-IoT KT Corp. discussion Rel-20 Ambient\_IoT\_Solutions\_Ph2

[R2-2507240](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507240.zip) Discussion on Ambient IoT Topology 2 ETRI discussion Rel-20

[R2-2507269](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507269.zip) Considerations for Deployment Scenario 2 with Topology 2 Panasonic discussion Rel-20

[R2-2507297](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507297.zip) Discussion on Topology 2 for AIoT Continental Automotive discussion Rel-20

[R2-2507318](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507318.zip) Discussion on Topology 2 for Ambient IoT Sony discussion Rel-20 Ambient\_IoT\_Solutions\_Ph2

[R2-2507458](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507458.zip) Ambient IoT aspects in Topology 2 Nokia discussion Rel-20

[R2-2507501](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507501.zip) Initial consideration of A-IoT radio resource management for Topology 2 Kyocera discussion Rel-20

[R2-2507513](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507513.zip) Discussion on Topology 2 for Ambient IoT TCL discussion

[R2-2507560](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507560.zip) Discussion on A-IoT resources for UE reader ASUSTeK discussion Rel-20 Ambient\_IoT\_Solutions\_Ph2

[R2-2507585](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507585.zip) Discussion on Topology 2 for Ambient IoT CEWiT discussion

[R2-2507619](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507619.zip) Initial discussion on introduction of Topology 2 NTT DOCOMO, INC. discussion Rel-20

[R2-2507651](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507651.zip) Discussion on requirements for UE as reader Rakuten Mobile, Inc discussion Late

## 9.3 AI/ML for mobility

(NR\_AIML\_Mob, leading WG: RAN2; REL-20; WID: [RP-252899](https://www.3gpp.org/ftp/tsg_ran/TSG_RAN/TSGR_109/Docs/RP-252899.zip))

Time budget: 0 TU

Tdoc Limitation: 0 tdoc

## 9.4 Mobility Enh Ph5

(NR\_Mob\_Ph5; leading WG: RAN2; REL-20; WID: [RP-252113](https://www.3gpp.org/ftp/tsg_ran/TSG_RAN/TSGR_109/Docs/RP-252113.zip))

time budget: 0 TU

Tdoc Limitation: 0 tdoc

## 9.5 XR Enhancements Ph4

(NR\_XR\_Ph4; leading WG: RAN2; REL-20; WID: [RP-252755](https://www.3gpp.org/ftp/tsg_ran/TSG_RAN/TSGR_109/Docs/RP-252755.zip))

Time budget: 0 TU

Tdoc Limitation:0 tdocs

## 9.6 SON/MDT Ph5

(NR\_SON\_MDT\_Ph5-Core; leading WG: RAN3; REL-19; WID: RP-251869)

Time budget: 0 TU

Tdoc Limitation: 0 tdocs

## 9.7 IoT NTN Ph4

(IoT\_NTN\_Ph4; leading WG: RAN2; REL-20; WID: [RP-252473](https://www.3gpp.org/ftp/tsg_ran/TSG_RAN/TSGR_109/Docs/RP-252473.zip)

Time budget: 0.5 TU

Tdoc Limitation: 1 tdocs

### 9.7.1 Organizational

[R2-2506706](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2506706.zip) Reply LS to SA4 on the RAN simulation assumptions for ULBC (C1-255650; contact: Qualcomm) CT1 LS in Rel-19 FS\_ULBC To:SA4 Cc:SA2, SA1, RAN1, RAN2, RAN4

[R2-2506716](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2506716.zip) Reply LS on the RAN simulation assumptions for ULBC (R1-2506541; contact: Qualcomm) RAN1 LS in Rel-19 FS\_ULBC To:SA4 Cc:RAN4, RAN2, SA2, CT1

[R2-2506732](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2506732.zip) Response LS on the RAN simulation assumptions for ULBC (R4-2511782; contact: Xiaomi) RAN4 LS in Rel-20 FS\_ULBC To:SA4 Cc:RAN2, RAN1, SA2

[R2-2506746](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2506746.zip) Reply LS on the RAN simulation assumptions for ULBC (S2-2507578; contact: Qualcomm) SA2 LS in Rel-20 FS\_ULBC To:SA4 Cc:RAN1, RAN2, RAN4, SA1, CT1

[R2-2506747](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2506747.zip) LS on issues related to support of IMS voice over NB-IoT NTN connected to EPC (S2-2507636; contact: Qualcomm) SA2 LS in Rel-20 FS\_5GSAT\_Ph4\_ARC To:RAN2, SA4, CT1, SA3, SA1, RAN1

[R2-2506754](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2506754.zip) LS on bundling period and SPS for ULBC (S4aA250258; contact: Qualcomm) SA4 LS in Rel-20 FS\_ULBC To:RAN2 Cc:RAN1

[R2-2506831](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506831.zip) Work Plan for IoT NTN Ph4 vivo Work Plan Rel-20 IoT\_NTN\_Ph4-Core

[R2-2507444](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507444.zip) [Draft] Reply LS on the RAN simulation assumptions for ULBC Qualcomm Incorporated LS out Rel-20 FS\_ULBC To:SA4 Cc:RAN1, SA2, CT1

[R2-2507445](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507445.zip) [Draft] Reply LS on issues related to support of IMS voice over NB-IoT NTN connected to EPC Qualcomm Incorporated LS out Rel-20 IoT\_NTN\_Ph4 To:SA2 Cc:RAN1, SA4, SA1, CT1

[R2-2507446](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507446.zip) [Draft] Reply LS on bundling period and SPS for ULBC Qualcomm Incorporated LS out Rel-20 FS\_ULBC To:SA4 Cc:RAN1

[R2-2507447](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507447.zip) Discussion on SA4 and SA2 LS replies on voice over NB-IoT Qualcomm Incorporated discussion Rel-20 IoT\_NTN\_Ph4

### 9.7.2 Other

Contributions should focus on down-selecting between CP and UP solutions for voice support over NB-IoT-NTN until RAN#110 and any responses to other WG LSs

[R2-2506832](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506832.zip) Discussion on Support of IMS Voice over NB-IoT NTN vivo discussion Rel-20 IoT\_NTN\_Ph4-Core

[R2-2506874](C:\\Users\\panidx\\OneDrive - InterDigital Communications, Inc\\Documents\\3GPP RAN\\TSGR2_131bis\\Docs\\R2-2506874.zip) Discussion on supporting IMS voice call over GSO for NB-IoT CATT discussion Rel-20 IoT\_NTN\_Ph4

[R2-2506882](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506882.zip) Discussion of NB-IoT voice over GEO China Telecom discussion Rel-20 IoT\_NTN\_Ph4

[R2-2506908](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506908.zip) Discussion on UP solution vs. CP solution for voice support over NB-IoT-NTN CMCC discussion Rel-20 IoT\_NTN\_Ph4

[R2-2506912](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506912.zip) Discussion on CP and UP solutions for GEO voice Spreadtrum, UNISOC discussion Rel-20

[R2-2506919](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506919.zip) Considerations on voice support over IoT-NTN Lenovo discussion Rel-19

[R2-2506945](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506945.zip) Discussion on support of IMS voice call over GSO Transsion Holdings discussion Rel-20

[R2-2506982](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506982.zip) Discussion on IMS voice over GSO Xiaomi discussion Rel-20 IoT\_NTN\_Ph4

[R2-2506991](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506991.zip) Discussion on IMS voice over GEO CSCN discussion Rel-20 IoT\_NTN\_Ph4

[R2-2507039](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507039.zip) Discussion on IoT-NTN to support IMS voice call HONOR discussion Rel-20 IoT\_NTN\_Ph4

[R2-2507049](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507049.zip) Discussion on voice support over NB-IoT NTN OPPO discussion Rel-20 IoT\_NTN\_Ph4

[R2-2507065](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507065.zip) General consideration on voice over NB-IoT NTN via GSO Huawei, HiSilicon discussion Rel-20 IoT\_NTN\_Ph4-Core

[R2-2507085](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507085.zip) Comparison of solutions for voice call support over NB-IoT NTN ZTE Corporation, Sanechips discussion Rel-20 IoT\_NTN\_Ph4-Core

[R2-2507125](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507125.zip) Discussion on voice over GEO Apple discussion Rel-20 IoT\_NTN\_Ph4

[R2-2507136](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507136.zip) Discussion on support of voice over NB-IoT-NTN via GEO Nokia, Nokia Shanghai Bell discussion Rel-20 IoT\_NTN\_Ph4

[R2-2507137](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507137.zip) Discussion on the Support of IMS Voice over NB-IoT NTN Connected to EPC MediaTek Inc. discussion

[R2-2507196](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507196.zip) UP Solution vs CP Solution for Voice Support over NB-IoT-NTN Sharp discussion Rel-20 IoT\_NTN\_Ph4

[R2-2507208](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507208.zip) Discussion on voice support over NT-IoT-NTN ETRI discussion Rel-20 IoT\_NTN\_Ph4

[R2-2507260](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507260.zip) Discussion on how to cupport voice call via IoT-NTN LG Electronics Inc. discussion Rel-20 IoT\_NTN\_Ph4

[R2-2507290](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507290.zip) Initial discussions on voice over NB-IoT NTN Samsung discussion Rel-20

[R2-2507324](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507324.zip) Consideration on IMT voice over IoT NTN InterDigital Communications discussion Rel-20

[R2-2507362](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507362.zip) Voice over GSO based on NB-IOT NTN NEC discussion Rel-20 IoT\_NTN\_Ph4-Core

[R2-2507448](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507448.zip) Discussion on CP and UP solutions Qualcomm Incorporated discussion Rel-20 IoT\_NTN\_Ph4

[R2-2507641](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507641.zip) NB-IoT NTN voice over GSO Ericsson discussion Rel-20 IoT\_NTN\_Ph4-Core

## 9.8 E-UTRA TN to NR NTN HO

(LTE\_TN\_NR\_NTN\_HO; leading WG: RAN2, Rel-20; WID [RP-252890](https://www.3gpp.org/ftp/tsg_ran/TSG_RAN/TSGR_109/Docs/RP-252890.zip))

Time budget: 0 TU

Tdoc Limitation: 0 tdocs

# 10 6GR Rel-20 - Study on 6G Radio Access Technology

*New SID: Study on 6G Radio; leading WG: RAN1; REL-20; started: Aug. 25; target: May. 27; SID: RP-251881*

*Time budget: 4 TUs*

*Tdoc limit:6. Co-sourced contributions will count towards tdoc limit.*

*Guidelines:*

***Proposal limit****: 7 proposals per contribution. Proposals should focus on addressing the issues that should be discussed, prioritized and addressed at this stage of the work (i.e. proposals on how to advance the work and technical areas to address). Observations to justify proposals, which are copied in conclusion section are recommended. Contributions should address lessons learned from 5G and justify the need/gains. Observations and Proposals should fit in one page in conclusion section at the end of contribution (i.e. reasonable length proposals and font size).*

***Inter-WG and Inter-TSGs issues****: Companies are encouraged to identify inter-WG and/or inter-TSG dependencies/decisions that impact RAN2 design. Intention is to coordinate closely with other WGs and prioritize accordingly.*

*NOTE: AIs will be further refined after RAN1#131bis*

*NOTE: As endorsed in RP-252909, section 1, RAN2 will wait for RAN Plenary study on migration options to start after March 206 and wait for further guidance on whether to consider 6G-6G DC and/or NR-6GR DC. For now the 6G study in RAN2 should focus on standalone deployment and enhancements.*

## 10.1 Organizational

*Reserved for rapporteur inputs, including work plan, skeleton TR and LSs*

[R2-2506760](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506760.zip) LS on Study on Modernization of Specification Format and Procedures for 6G (SP-251228; contact: Nokia, Samsung, CMCC, ETSI) SA LS in Rel-20 FS\_6GSpecs To:RAN1, RAN2, RAN3, RAN4, RAN5, SA1, SA2, SA3, SA4, SA5, SA6, CT1, CT3, CT4, CT6 Cc:RAN, CT

* Delegates are reminded about the ongoing Study on Modernization of Specification Format and Procedures for 6G and encouraged to participate to reflect the needs and ways of working of RAN2.
* Noted

[R2-2506761](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506761.zip) LS on Guidance on 6G data related work tasks (SP-251261; contact: CMCC SA LS in Rel-20 To:SA2, SA5 Cc:SA3, SA6, RAN, RAN2, RAN3

* Noted

[R2-2506904](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506904.zip) Work Plan for 6G SI RAN2 CMCC, NTT DOCOMO, AT&T, Vodafone Work Plan Rel-20 FS\_6G\_Radio

* AI/ML use cases are not starting in November

- Xiaomi asks about NTN as they don’t see it explicitly mentioned. CMCC explains that NTN Will be discussed as part of the different system functions and not separated. Interdigital thinks that we need to also agree on how much NTN specific things we need to do and maybe we will know what ambition we have in a few meetings.

- Oppo thinks that we have a lot of AI for 5G so we should start it a bit later than November.

- Tmobile thinks that use and deployment scenarios should be discussed in plenary.

- Nokia agrees that we should keep things in RAN and even new things should go to plenary first.

* We should not duplicate discussions from RAN

- Ericsson asks why there is a gap in security for two meetings as we might need to communicate with other WGs. CMCC explains is that there may be a point where we have to wait for their inputs after some discussion.

* RAN2 will ensure that discussions on security take place when LSs are sent regardless of Work plan.

- Qualcomm asks about data collection can be postponed at least until February and give SA2 some time to discuss. CMCC thinks that we can identify a few things in RAN and requirements.

- ZTE thinks we need to be flexible and not be too static as per workplan, so we should just note. Qualcomm agrees.

* Chair indicates that more sub-agenda items will be created in the future and confirms there is no official parallel sessions for 6G next year.

- Samsung thinks that for DC migration and DC the RAN can start earlier.

* Confirm understanding that for 5G NR to 6GR migrations even if work plan it is starting from August, we may start earlier depending on RAN guidance/assigned tasks.

- Oppo understands that these features are not exhaustive and more can come up.

* Confirm that this is not an exhaustive list of topics/features and the plan will be flexible and adjusted by chair when creating the agenda.
* Noted

[R2-2506903](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506903.zip) Draft skeleton of the TR 38.760-2 Study on 6G Radio RAN2 aspects CMCC discussion Rel-20 FS\_6G\_Radio

- Nokia thinks this is aligned with 4G and 5G so it is quite good, but we are missing security and we didn’t agree we have a data framework yet, section 9, so we should remove it. CMCC explains that it is in the study so this is to just capture the study part of data framework.

- Xiaomi asks why we need section 8 on identity and also deployment scenarios. CMCC explains that we had a separate section on 5G for identity. For deployment scenarios it is just to refer to what we have in the plenary to simplify the discussion in RAN2.

- Oppo asks why we have both section 9 on data framework and one on section 10.3 on AI data collection. CMCC thinks that section 9 is for multiple use cases data transfer framework and 10.3 is specific to AI.

- Oppo thinks that UP sections assumes that we have all the UP stack as it is. CMCC thinks that this can be updated.

- LG asks why ARQ and HARQ is a separate section and also multi-carrier framework . Also mobility can be under RRC. Also data framework and AI data management shouldn’t be duplicated.

- Ericsson thinks that this is a bit too early to accept a structure given that we have quite a bit of discussions. ZTE thinks that we should only discuss skeleton when we are ready with capturing TPs after a whle.

- Tmobile thinks that service aware RAN will deserve it’s own section and under 6G identities we should add an explanation. Also new section for FWA. CMCC thinks that service aware will impact specific functionalities so need for special section.

- Docomo thinks that multicarrier is not needed.

- Lenovo asks how we plan to capture things. Mediatek that perhaps the rapporteur can think of initially just capturing agreements in the annex. ZTE and CMCC thinks that we should follow our RAN2 way of working where not everything is captured, just things that we have consensus and agree to capture. Nokia and ZTE think that the TR is a stepping stone to stage 2 and we can capture why we did something. Qualcomm and Samsung agrees we shouldn’t capture everything but there will be some consensus solutions that we can capture, as we need to do some evaluation. Samsung things that we should be very careful on what we capture in the TR.

- Qualcomm thinks that it should be AI/ML for radio interface. Xiaomi agrees and we should capture at least the things that will be useful for normative phase.

* The TR skeleton will be revisited and revised after some pre-liminary discussions take place in RAN2
* RAN2 will not capture all the proposed solutions in the TR.
* Noted

## 10.2 General aspects

*Including contributions on principles, guidelines, new services, deployment scenarios and architectures, and other general aspects including UE capability framework, etc.*

*More detailed aspects related to energy efficiency and power savings can be discussed as part of UP/CP/Common design.*

**Design principles, services, architecture and requirements for 6GR (1hr)**

[R2-2506910](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506910.zip) General considerations on 6GR CMCC discussion Rel-20 FS\_6G\_Radio

*Critical Issues from 5G*

*Proposal 3: The following key issues from 5G commercialization must to be addressed:*

* *Protocol Complexity and Innovation Bottleneck*
* *The NR RRC configuration and UE capability framework has been criticized as overly complex, difficult to process and maintain on the gNB-UE both side, consuming excessive signaling overhead;*
* *Fixed and coupled protocol stack causes high complexity, high cost and performance limitation;*

- Xiaomi asks for what protocol stack we are referring to. CMCC explains it is UP but also CP for modular design.

* *Limitation on AI/sensing data collection and model transfer*
* *Fragmented access control mechanism, including cell barring, UAC and RRC connection rejection;*
* *Dispersed signaling configurations for mobility/measurement;*
* *Fragmented design of multi-carrier operation results in inefficient utilization of sparse spectrum, inflexible UL and DL carrier association.*

- Qualcomm thinks it is fragmented spectrum.

* Noted

[3mins]

[R2-2506949](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506949.zip) General aspects for 6G Radio protocol Samsung, Verizon discussion Rel-20 FS\_6G\_Radio

*Observation 7: 5G NR user plane protocol stack can be leveraged as a baseline while exploring enhancements for 6G, focusing on simplified designs, cross-layer optimization, and mechanisms to support immersive services.*

*Observation 10: RAN2 can begin studying 5G NR-6GR MRSS only after RAN1 makes progress on this aspect.*

- Nokia asks why we should wait for RAN1, we are confident that RAN1 will have it. Samsung things that RAN1 may need to make some progress for further details. Nokia thinks we can assume we have it for study item purposes. Qualcomm and ZTE also thinks that we should wait for RAN1 so we understand what MRSS mean.

*Observation 11: Inter-RAT handover with 5G should be handled through the core network. No immediate study by RAN2 is necessary.*

*Proposal 1: The design principles for 6G Radio protocol should encompass the following:*

1. *Optimized mobility framework to achieve the stringent latency and reliability requirements for emerging interactive and immersive applications;*

- Xiaomi asks if we would like better performance than NR. Samsung things that we can define the requirements from RAN study but we can design signaling to achieve this. Apple asks if immersive is referring to XR. Samsung things yes for now but it can evolve. Nokia clarifies that we shouldn’t discuss schemes that assume MRSS is not supported.

*(2) Optimized power and energy saving technologies to maximize energy efficiency for both UE and NW;*

- Lenovo asks what we mean by optimized, does it mean that 5G is the baseline. Samsung things that we can reduce the options and how to streamline the protocol.

*(3) Implementation-friendly and simplified UP Protocol to support high-speed and immersive traffic efficiently;*

- LG asks what is implementation friendly. Samsung things we need to keep in mind hardware processing and complexity.

*(4) Enhanced AS security to improve system stability by mitigating potential security threats;*

*(5) Scalable and forward-compatible protocols to accommodate diverse device types*

- Oppo thinks that we should wait for RAN plenary. Samsung things that the purpose of the proposal is a principle that when we design we should consider there various types.

*Proposal 2: RAN2 to await progress on 6G deployment scenarios and 6G RAN architecture from TSG RAN and RAN3 WG to identify associated 6G Radio protocol issues.*

- Vivo asks what deployment scenarios. Samsung explains that we have to make sure that RAN discussed deployment scenarios.

[3mins]

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[R2-2506855](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506855.zip) General considerations for 6G in RAN2 Huawei, HiSilicon discussion Rel-20 FS\_6G\_Radio

*Observation 4-1: Immersive communication services have a composite requirement, which means the high data rate, low latency and high reliability need to be satisfied simultaneously for a minimum number of users per TRP.*

*Observation 4-2：For the new AI services (e.g., AI agent), transforming data into tokens is becoming a popular approach for efficient transmission and processing compared to transmitting raw input data. Token based communication introduces numerous new requirements and unique characteristics.*

*Observation 6-1: Device types are being discussed in TSG RAN and RAN1 currently. RAN2 should await and align with the conclusions from TSG RAN and RAN1, and further identify the potential impacts to RAN2.*

*Proposal 1: RAN2 should maintain an open approach when discussing candidate technologies, supported by thorough evaluation and analysis.*

*Proposal 2: RAN2 should prioritize discussions on requirements and solutions for the 6G standalone scenario, including enhanced spectrum utilization and aggregation. Discussions regarding requirements and solutions specific to additional migration mechanisms should await decisions from the RAN plenary.*

*Proposal 4: RAN2's studies should consider the requirements of new application services emerging in the 6G era, such as immersive communication services and new AI services, by considering their characteristics.*

*Proposal 5: RAN2's studies should consider the requirements of new AI services to be served by networks/operators (e.g. digital twin).*

- Mediatek asks to what extent RAN2 needs to discuss requirements and how much RAN plenary. Huawei thinks that RAN plenary has some numbers but RAN2 needs to discuss some characteristics of mobile AI traffic. For AI we can discuss data collection part requirements.

- Interdigital ask what new requirements for AI services in CN for digital twin, QoS differention, data collection and termination, and sensing. Huawei confirms.

- Huawei clarifies that digital twin is a different services.

- Samsung thinks that RAN2 is not an expert group for AI mobile and data collection, so we need some inputs. Huawei thinks that RAN2 can discuss the traffic and SA2 is not an expert either.

- Ericsson thinks that we have 5G A mobile AI traffic characteristics study so how do we handle this. Huawei thinks that for 6G we also have tokenized traffic to consider.

* Noted

[3mins]

[R2-2506860](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506860.zip) Overview on 6G Radio Access Technology CATT discussion Rel-20 FS\_6G\_Radio

*Observation 1: The 6G network is designed as user-centric network to optimize the user experience, which involves, e.g., UE-specific service subscription, optimal mobility, smart link selection, customized energy saving, efficient control and scheduling.*

*Observation 2: 6GR design should consider some important KPIs, e.g., energy efficiency, spectrum efficiency, service continuity, latency and security.*

*Observation 5: 6G shall be able to support most of existing 5G services, including positioning services.*

*Observation 7: The RAN is responsible for determining the UE positioning methods to be supported within its functional scope.*

*Observation 13: Service Awareness is beneficial for addressing the data characteristics and service requirements of immersive communication, making it suitable as the information foundation for service transmission and scheduling.*

*Observation 14: RAN2 should consider the impacts of adaptive QoS introduced by immersive communication.*

*Observation 15: Multi-modality and other potential issues (e.g., FEC mechanisms) should be discussed in SA2 and RAN from the scratch.*

*Proposal 1: From RAN2 point of view, the design target of 6GR should take into account:*

* *User-centric network design for optimized user experience;*
* *Substantial gains in term of KPIs, e.g., energy efficiency, spectrum efficiency, service continuity, latency and security;*
* *Simplicity and efficiency design;*
* *Harmonized and integration of TN and NTN.*

*Proposal 3: In order to support location service in 6G, RAN2 further study positioning-related functions, architecture, and procedures, with collaboration from SA2 and RAN3 as needed.*

- Xiaomi thinks that RAN is discussing positioning so should we wait. Apple also thinks that it is not clear what we would discuss. CATT thinks that we can discuss the 6G architecture. Nokia thinks that we need to address the emergency call requirements and asks if RAN2 should lead the architecture, but we anyways need to confirm with SA2. CATT thinks that we can work closely with SA2 and RAN3 how to support positioning.

*Proposal 5: For immersive communication, the following aspects can be considered: service awareness, adaptive QoS, multi-modality, etc.*

[3mins]

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[R2-2507070](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507070.zip) How to make the best possible 6G Ericsson discussion Rel-20

*Proposal 1 For 6G, RAN2 should discuss and define the problem to understand if a solution is needed. If it is, only the best solution based on performance evaluations should be introduced.*

- Apple asks what evaluations we are referring to. Ericsson is not referring to simulations but more a pen and paper analysis. We should understand the real problem we are addressing before we start discussing the solution. Nokia thinks this is a good principle and keep it in mind. ZTE thinks that we also need to consider implementation complexity. Ericsson agrees.

*Proposal 2 3GPP should:*

* *avoid specifying several solutions/options for the same problem*
* *avoid overly complex solution, for example if 80 % of the performance comes from 20 % of the complexity, 3GPP should not chase the last 20% of the gain by adding the additional 80 % of the complexity.*
* *avoid specifying solutions which do not have a clear market demand, for example RAN2 should not do endless enhancements on top of a functionality that has not been implemented.*

*Proposal 3 Specify a single unified protocol stack for 6G addressing the targeted 6G use cases sufficiently well, where different use cases are supported by different configurations of the same unified protocol stack. Aim to limit use case-specific functionality. Do not specify any unjustified optimizations.*

- Qualcomm thinks that unified and modularization don’t work together. Ericsson thinks that we shouldn’t over optimize for things that will not be implemented.

*Proposal 4 RAN2 should develop a protocol stack to maximize performance over the Uu interface. RAN2 should not make an inferior design to accommodate for not-yet-agreed deployment scenarios, architectures or RAN internal interfaces.*

* Noted

[3mins]

[R2-2507079](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507079.zip) 6GR Design Nokia discussion Rel-20 FS\_6G\_Radio

*Proposal 1: 6GR shall be able to fulfil all regulatory requirements on emergency voice calls, positioning and PWS.*

*Proposal 2: 6GR shall support FWA in an optimised manner.*

- Vivo asks if this a RAN2 domain and what we can discuss. Nokia thinks that we want to be able to identify these types of devices from the RA procedure.

*Proposal 3: 6GR shall follow a bottom-up approach where a baseline addressing the minimum shared requirements across all services is first agreed, and only then additional functions can be added on top to address more advanced use cases and services.*

- Oppo thinks that for 5G we designed the services for eMBB. Is the proposal proposing that we identify all services and then design. Nokia explains that the bottom capability is IoT devices and not eMBB, so we shouldn’t have a design that would require removal of features to support a new feature like IoT.

- Mediatek thinks that these proposals are philosophical ideas but not sure what would be agreable for them.

- Lenovo thinks that this interesting approach as it is more like a modular approach.

- Ericsson thinks that this is from the plenary that we will have the minimum capabilities. For unified approach we just meant to not specify features for niche use cases and focus on features that apply to many use case.

- Fainity explains that RAN1 is also discussing the baseline and wonders if we should wait for RAN1 progress. Nokia thinks that we can work in parallel and we have an understanding on what minimum capability would mean. We should discuss in RAN2 on what is the minimum set and then feed it into RAN plenary. For example CA is not part of minimum capability. RAN4 is also discussing this.

- Huawei thinks that we should analyze the real requirements and then discuss functionality needed rather than taking 5G as a baseline.

- ZTE thinks that we are confusing minimum capability and system configuration, we need to separate these two. RAN2 design should be modular and configurable from system configuration perspective. Nokia agrees in theory it should work like this but in practice it didn’t happen like this. The configuration should assume from the beginning. ZTE thinks that we need RAN1 help to design the minimum initial access requirement.

- Xiaomi thinks that we should have a discussion on minimal capability from RAN2 perspective, e.g. what is a basic feature.

- CMCC thinks that the minimum capability set would also help us see if we can simplify the signaling structure.

- Vivo thinks that such design should not give a negative impact to eMBB, this is an important requirement.

*Proposal 4: 6GR radio protocols shall make it possible to implement parallel pipelines, burst-efficient data transfers, and zero-copy handling, all while keeping real-time workloads minimal.*

- LG thinks that even with current specifications we can have zero-copy handling via implementation. Nokia thinks that 5G already allows that but the worry is that we end up with a design that no longer achieves this.

*Proposal 5: 6GR uses the sub-layers of Layer 2 of 4G/5G as model baseline. Any consideration of merging sub-layers should stem from a thorough functional analysis, rather than being pursued as an objective in its own right.*

* Noted

[3mins]

[R2-2507205](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507205.zip) Views on 6G general aspects NTT DOCOMO INC.. discussion

Observation1: RAN will start the study in March 2026 and will make a decision by September 2026 whether expand WG SI scope to cover additional migration option(s). RAN will also task relevant RAN WGs for any specific technical analysis.

Proposal1: RAN2 study should be based on the above 6G RAN architecture and migration requirements captured in TR 38.914.

* The 6G RAN architecture shall support standalone RAN architecture.
* The 6G RAN shall support Multi-RAT Spectrum Sharing between 6GR and NR.
* The 6G RAN architecture shall support inter-RAT mobility between the 6GR and NR.
* The 6G RAN architecture shall support connectivity through multiple TRPs, either collocated or non-collocated.
* The 6G RAT shall support Spectrum Aggregation (e.g. Carrier Aggregation) for both uplink and downlink, and for both co-located and non-co-located TRPs.
* The 6G RAN architecture shall allow for control plane and user plane separation.
* The 6G RAN architecture shall support sharing of the RAN between multiple operators.
* The 6G RAN architecture shall allow for the operation of network slicing.
* The 6G RAN architecture shall be designed considering both terrestrial network and non-terrestrial network.
* The 6G RAN architecture shall support enhanced service awareness in RAN.
* The 6G RAN architecture shall allow non-public networks.

Proposal2: RAN2 should wait for liaison from RAN regarding additional migration options study.

[3mins]

[R2-2507371](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507371.zip) Overall framework for 6G from higher layer perspective NEC discussion Rel-20 FS\_6G\_Radio

Proposal 1: RAN2 aim to support the multiple services by the single technology framework based on the SA architecture, with some exceptions which require distinctive design, e.g. MBS, sildelink.

Proposal 2: RAN2 aim to support the different types of deployment scenarios including coverage node/cell, capacity node/cell, and wider coverage node/cell (NTN) from Day1.

Proposal 3: RAN2 study a feasibility of a new node type with zero always-on signal but uplink Rx is on for being adaptively waken-up

Proposal 4: RAN2 basically waits for RAN3 progress on RAN internal functional split. If the existence of RAN internal functional split would impact on radio protocol, RAN2 should be able to initiate the corresponding study.

[2mins]

[R2-2507303](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507303.zip) Design principles for 6G ZTE Corporation, Sanechips discussion

Proposal 1: RAN2 study should first focus on the required functionality in 6GR, and only once the functionality is stable, the overall protocol layer architecture and the distribution of functionality across the different protocol layers should be studied with an aim to avoid inter-layer redundancy/overhead for similar functionality

Proposal 2: Unique functionality should be developed for satisfying a given set of similar 6GR requirements by avoiding defining multiple solutions to satisfy requirements which are similar (e.g., mobility and multi-carrier operation).

Observation 1: Optimal support of CU/DU split and DC (including inter-RAT DC for migration) will have substantial impact on RAN2 protocol design

Proposal 3: Interim RAN2 decisions on overall protocol design (before the check points for DC and CU/DU split) should ensure an optimized operation for non-DC and non-CU/DU split architecture whilst ensuring forward compatibility with optimal support for both DC (MR-DC / 6G-DC) and CU/DU split.

Proposal 4: For 6GR, RAN2 study shall cover the use cases including NTN, HRLLC, SON/MDT, Slicing, Relays (including repeaters and RIS), UAV, HST, AI/ML and Sensing scenarios

Proposal 5: For the existing use cases in 5G, RAN2 study should identify at an early stage, functionality that can be reused from 5G as a baseline to minimize the additional work in these areas (e.g. for SON/MDT, TSN, Slicing – depending on SA2 output etc) and focus on functionality that needs to be studied from scratch for 6G (e.g. Sensing)

Proposal 6: The RAN2 protocol architecture for 6GR should support separation of CP/UP data transfer and functionality to transport signalling (Radio signalling and NAS signalling) and data (UP data, data for sensing/AI). The design should allow termination points for both data and signalling to be either in RAN or in CN.

Proposal 7: The support of shared SSB in MRSS will impact the design in RAN2 (e.g. for system information and initial access). RAN2 should postpone the discussion on MRSS-specific enhancements (e.g. shared reference signal or common signaling) pending input from RAN1.

[5mins]

[R2-2506950](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506950.zip) General aspects on RAN2 6G OPPO discussion Late

Proposal 1 For principles of 6GR RAN2 designs, consider new aspects, e.g., minimalist and essential design, eliminating redundant functions, enhanced security, native support for new emerging service, energy efficiency, on top of those which can be re-used from 5G NR principles. Endorse the following TP, as the principles/guidelines:

Proposal 2 R2 study 6G RAN architecture that is able to aggregate spectrum of 1) lower frequency which is to offer robust connection for coverage, together with 2) higher frequency which is to offer on-demand connection for capacity, covering both collocated and non-collocated scenarios.

Proposal 3 R2 study 6G spectrum aggregation architecture improvement on top of 4/5G design, e.g., in terms of 1) improved spectrum efficiency, 2) unified design of various aggregation solution(s), 3) dynamic load balance, and 4) improved link robustness. FFS on the applicable scenario (intra/inter-band, (non)collocated, RRC states and etc.)

[3mins]

[R2-2507387](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507387.zip) General considerations on 6GR China Unicom discussion Late

Proposal 3: During RAN2 study on support AI and sensing services, it shoud be considered that reusing the current computing infrastructure and stuty solutions for different distributed options of computing resources.

Proposal 4: As a comprehensive use case of AI/ML and sensing, digital twin should be further studied by RAN2.

[2min]

**Non-Terrestrial Networks (NTN) and 6GR (1hr)**

*TN/NTN harmonization and NTN capabilities*

[R2-2507644](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507644.zip) 6G Radio Access Technology general aspects for NTN THALES, Airbus, Echostar, Novamint, Fraunhofer IIS discussion Rel-20 FS\_6G\_Radio

*Proposal 1 Consider the support of a harmonized 6G radio interface design that supports further integration of terrestrial and non-terrestrial networks*

- Qualcomm ask what do you mean by further integration. Thales thinks it is more integrated and for example design procedures that are applicable to both TN and NTN to allow smooth mobility.

*Proposal 2 Study the 6G radio interface/access to support multi-orbit architecture and all the practical NTN deployment scenarios, orbits, and related service link characteristics in the table above.*

*Proposal 3 The 6G radio interface/access shall be defined to support the different NTN deployment architectures, e.g. transparent and multiple regenerative payloads with different 6G system functional splits between on board/on ground NTN nodes*

*Proposal 4 The 6G Radio design shall be able to support NTN with all the duplex modes, i.e. FDD, TDD and HD-FDD at the UE and the network level*

*Proposal 5 Study the support of the following services for NTN with 6G Radio*

* *Positioning, Navigation and Timing (PNT) services.*
* *Broadcast services over an intended area.*
* *Multicast services to a group of user equipment distributed over an intended area.*
* *PWS (Public Warning System) services over an intended area.*

*Proposal 6 RAN2 to study in priority the following NTN capabilities and services for the 6GR as part of the Rel-20 :*

* *GNSS independent NTN operation*
* *Extended coverage*
* *Flexible duplex mode support at UE level*
* *Support of HD-FDD at Network side*
* *Massive messaging capability*
* *Positioning, Navigation and Timing*
* *Enhanced network verified UE location service*
* *Seamless TN/NTN mobility in connected mode*
* *6G NTN coexistence with IoT-NTN and NR-NTN*
* *ICAS (Integrated Communication And Sensing)*
* *Broadcast , multicast services*

- CMCC thinks that these are RAN level requirements. Thales thinks that this are aspects that impact RAN2.

* Noted

[5mins]

[R2-2506992](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506992.zip) Discussion on the general aspects of 6G NTN CSCN discussion Rel-20 FS\_6G\_Radio

Observation 1: In the scenario of multi-beam cell, the cell may have irregular shape (i.e. non-circular) due to the inclusion of multiple circular beams within it.

Proposal 1: RAN2 to study the impacts on the irregular shape of NTN cells, for example, mobility.

Proposal 2: RAN2 to study a new case 2 with cell coverage in two consecutive periods partly overlap in multi-beam deployment.

Proposal 3: RAN2 to study a fine-grained signaling design for 6G NTN.

Proposal 4: RAN2 to study the impact of in-line interference between GEO and NGSO, for example, the blind zones.

Proposal 5: RAN2 to study energy-efficient design for 6G NTN (e.g., SSB periodicity extension, on-demand SSB).

* Noted

[2mins]

[R2-2507138](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507138.zip) Consideration of 6G NTN MediaTek Inc. discussion

Observation 1: HARQ feedback disabling is useful for 6G-NTN.

Observation 2: The SMTC timing adjustment could be further studied after measurement gap discussion.

Observation 3: Low overhead access methods, e.g., RACH-less HO/CHO, should be studied for 6G-NTN.

Observation 4: Time-based/Location-based mobility mechanisms are useful for 6G-NTN.

Observation 5: Cell-reselection or re-direction assistant information for TN-NTN mobility is useful for 6G-NTN, e.g., TN coverage information in an NTN cell and NTN-related information in a TN cell.

Observation 6: Satellite switch with re-sync (including hard switch and soft switch) is useful for 6G-NTN.

Observation 7: For initial satellite deployment and provision of IoT service, discontinuous coverage should be considered for 6G-NTN.

Observation 8: Store-and-forward should be considered for 6G-NTN.

Proposal 1: RAN2 should study the 5G-NTN specific features and evaluate which features should be included for 6G-NTN.

Proposal 2: Among 5G-NTN features, at least the following shall be considered for 6G-NTN:

- HARQ feedback disabling for DL/UL

- Low overhead access (e.g., RACH-less like), in particular for mobility

- Time-/Location-based mobility mechanism

- Assistant information for TN-NTN mobility

- Satellite switch with resync

- Discontinuous coverage

- Store and forward

Proposal 3: RAN2 should start to study the new 6G NTN deployment scenarios/requirement after approved by RAN plenary.

Proposal 4: Any 6G feature specific to NTN should be motivated with analysis.

* Noted

[4mins]

Discussion

- Vodafone asks that we should discuss the TN design and then understand what would need to be done for that specific functionality to support NTN while we are discussing TN in the same release. What is specific NTN related energy saving that are not going to be designed for TN, so if we design a TN specific energy efficient we should just take it.

- Qualcomm agrees with Vodafone, also we don’t even know what the baseline TN looks like yet.

- CATT thinks that we need to harmonize the design. Oppo thinks that we should have common design and for NTN specific features we should do it later. Nokia agrees with Oppo.

- CMCC thinks that we can discuss and consider TN and NTN within the specific function to make sure it meets the scenarios. Xiaomi agrees and we should learn from 5G.

- Ericsson thinks that we can consider bringing forward the problems we want solve and then discuss the solutions.

- Samsung also agrees with Qualcomm and even in RAN1 they don’t start discussing until February. Thales’ paper has a lot of additional NTN specific enhancements but perhaps we can take baby steps on the essential features like in Mediatek’s papers.

- LG agrees with CMCC.

- Huawei agrees we should have a harmonized design but the question is how we approach it. We should understand the essential feaure/requirements. ZTE agrees and there are common requirements and we can discuss the TN design and understand whether something different needs to be done for NTN. Vivo agrees with ZTE and Huawei, and we need to figure out what requirements we need to consider in harmonized design, for example for large RTT we can have larger timers. For NTN specific enhancement are needed.

- Dish agrees with CMCC and we should make sure that the configurations are considered for NTN from the beginning.

- Sharp also thinks a common design is important and TN should be the baseline.

- Interdigital also thinks common design is important, we should discuss what NTN specific things we would consider with TN, like what Mediatek has proposed. Vodafone also thinks we need to identify what are essential requirements.

- Apple, Honor, also thinks that for next meeting we can let people identify what is common with TN and what is NTN specific and whether it is an essential requirement.

For next meeting companies should identify essential requirements for NTN and identify which functionality should be considered in the common design with TN and what are NTN specific and whether they are essential.

**UE capabilities for 6GR (1hr)**

*Lessons learned and requirements*

[R2-2506773](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506773.zip) General Consideration on 6GR UE Capability Xiaomi discussion Rel-20 FS\_6G\_Radio

**Lesson learnt from 5G (1):** Due to the late start of UE capability discussion, there’s limited time for cross-WG coordination for an efficient and proper UE capability design (e.g., postpone of supporting a useful feature, unclear definition of granularity, etc).

**Proposal 1:** Study UE capability management, framework, signalling framework design as early as possible with tight and efficient coordination cross WGs (RAN1/4, RAN3/SA2).

**Lesson learnt from 5G (2):** Incomplete UE capability management solution in Day 1 may bring drawbacks to later releases, e.g., duplicate reporting over air interface, forward-compatibility issue, etc.

***Proposal 2:*** *Study UE capability management (e.g., entities storing UE radio capability, UE capability exchange between gNB and CN, UE capability exchange between gNBs, etc) based on the following principles:*

*- Support forward-compatibility for UE capability exchange between nodes;*

*- Minimize the frequency of UE reports its full capability during UE’s mobility;*

*- Minimize duplicate reporting of the same UE capability over the air interface.*

*Consider 5GNR UE capability management and retrieval framework as starting point for 6GR, including:*

*- Storing UE static capability at CN;*

*- RAN obtains UE capability from CN when available;*

*- RAN obtains UE capability from UE only when CN stored UE capability is not available or not complete.*

- Lenovo ask how the RAN knows that CN capabilities are not complete. Xiaomi thinks that we can solve it during study phase.

- Samsung things that we can discuss this in later phase. Xiaomi explains that we should learn from 5G and start early discussions so other WGs can trigger the work.

- Mediatek thinks that this has SA2 dependencies. Xiaomi thinks that RAN2 has the lead on capability so we have understand dependencies with other WGs and then trigger.

**Lessons learnt from 5G (3):** During 5GNR practice, there are some cases that network configurations are mismatch with UE capability (e.g., some capabilities don’t have any configuration defined, some capabilities are reported unnecessarily).

**Lesson learnt from 5G (4):** Temporary restriction on UE capability reporting in 5GNR misused UAI without clear network behaviour specified, which raises a risk for those capabilities being ignored by the network.

**Proposal 3:** UE capability framework design should follow the below principles:

- UE capabilities with signalling should be defined only if there’s a corresponding configuration provided by the network;

- UE should be aware of network supported features before UE capability reporting;

- UE should be allowed to perform AS-triggered UE capability update without network request, instead of using UAI;

- 6GNR UE capability granularity level should support sufficient UE flexibility based on the real deployment needs. 5GNR UE capability granularity levels are considered as starting point for further analysis;

**Lesson learnt from 5G (5):**

- Unnecessary political discussion on mandatory with capability signalling and optional with capability signalling.

- Complex approaches of defining reduced capabilities requires readers to have the basic understanding of the capability framework, in order to understand what capabilities are supported/not supported for different features/device types (if any).

**Lesson learnt from 5G (6):** 5GNR introduced different mechanisms to reduce capability message size, but didn’t efficiently and fundamentally solve the issue.

**Proposal 4:** Study 6GR UE capability signalling framework in the following aspects:

- Signalling categories (i.e., mandatory/optional with/without capability signalling) for 6GR, aiming for 1) a harmonized design for minimum mandatory capabilities of different device types (if any), 2) easy readability to understand what capabilities should be supported in order to support a device type (if any)/feature;

- Simplified method to reduce UE capability message size (e.g., signalling simplification, overhead reduction, avoid unnecessary capability reporting, etc);

**Lesson learnt from 5G (7):** Different components of UE capability are spread across different specifications, making it difficult to connect between signalling structure and field description and difficult to maintain for cross-spec alignment.

**Proposal 5:** Study the specification structure between 331/306/822 based on the following principle:

- Avoid split between ASN.1 and field description;

- Easy approach to identify capabilities (mandatory/optional) introduced for different features/device types (if any) in each release.

**Lesson learnt from 5G (8):** 6GR should avoid introducing multiple solutions for feature/device type (if any) early identification.

**Proposal 6:** Based on 6GR initial access procedure, study 1) how and from which step to differentiate device types (if any) within the harmonized system framework; 2) a unified and scalable approach for early feature identification with different purposes (e.g., early service identification, early capability acquisition, early information acquisition during state transition).

**Lesson Learnt from 4G (9):** Defining UE categories only by achievable throughput is not only challenging to introducing new UE categories in later releases due to marketing competition and singalling overhead, but likely to leave market fragmentation as well.

**Lesson learnt from 5G (10):** Introducing the lower end device type later than commercial devices limits the support of low-end device type.

**Proposal 7:** RAN2 to study higher layer parameters/factors of minimum mandatory capabilities.

Discussion

- Apple asks how we will solve these problems with the other WGs so we should have the study early on so we can inform other working groups.

[5mins]

[R2-2506988](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506988.zip) Considerations on UE capability signalling in 6G Qualcomm Incorporated discussion Rel-20 FS\_6G\_Radio

Observation 1: Band combination related UE capability parameters are the main contributor to UE capability size increase.

Observation 2: The size of featureSetCombinations (merely containing pointers to feature sets) becomes prominent factor when the number of supported band combination increases.

Observation 3: The Feature Set scheme serves the intended purpose to reuse the same set of UE capabilities across different band combinations.

-

Observation 4: Roughly the half of RF-parameters is baseband related UE capability parameters, which would be reuseable across band combinations.

Observation 5: “Multi-dimensional” aspect of UE capabilities, such as CC BW and MIMO-layers, leads to the advertisement of a large number of feature sets within each featureSetCombination (corresponding to one featureSetCombinationId).

- Qualcomm explains that this increases the number of features set combinations it supports. Ericsson hasn’t observed that many.

*Proposal 1: RAN2 to study solutions to reduce UE capability signalling overhead, considering the limitations of air interface, network interfaces and network storage.*

- Xiaomi asks what is meant by network storage as network stores the UE capabilities. Qualcomm explains that we introduced this segmentation but network cannot support all segments.

*Proposal 2: RAN2 to study more generic solution allowing the UE to update its radio capabilities within connected mode.*

- Nokia asks if this is for any UE capability or just within the UAI scope. Qualcomm would like to apply it to all. CATT asks if this would introduce requirements on the network side. Qualcomm’s preference is to have some network behaviour to honor UE capabilities.

- BT asks what is different with UAI. QC wants to avoid UAI and have a solution that can support any type of use cases. The goal is to have something that when the UE changes capability the network needs to adapt.

- Vodafone asks what happens when the connection changes, do these capabilities disappear. Qualcomm thinks that the UE capability stored in the network shouldn’t change.

- Nokia asks if the change is only applicable to RAN or also to the CN. QC explains it is only RAN.

- Oppo asks if the UE has already changed the capability or it plans to change it. If we change it already then current configuration will not work. QC agrees but we can follow the MUSIM solution.

- Ofinno thinks whats important is a clear network behaviour when capability changes.

- Transsion wants to clarify for what type of UEs. QC wants to make it generic so we don’t need to discuss every use case. ZTE doesn’t agree that this should apply to anything as this will cause a lot of complexity for the network.

- Samsung would like to solve the issue.

- Huawei thinks that if it is too dynamic it will cause network issues

*Proposal 3: RAN2 to study solutions allowing the UE to activate a feature capability after IODT with a given set of network vendor, while avoiding inter-operability problems due to the lack of IODT with other network vendors.*

- CMCC how RAN2 would do this as this is RAN5. Qualcomm thinks we can discuss solutions later.

- Oppo thinks this proposal is in a good direction.

- Lenovo asks how this is supposed to work. QC explains that the solutions are not all clear but we can ause something like RACS.

- Huawei thinks that this should be discussed in the plenary.

- Ericsson also thinks that we should look at some IODT problems and then if we can’t agree we can bring it to the plenary. CMCC thinks this is also related to plenary. Samsung thinks we can discuss in RAN2.

*Proposal 4: RAN2 to study RACS and its enhancements in coordination with SA2/CT1.*

- Fraunhofer asks why RACS wasn’t widespread as a solution. Qualcomm explains that it is because it was added in Rel-16, so if we do it from day one we get a chance to get deploy.

- Docomo is highly interested in RACS.

- Ericsson thinks it reduces the amount of time it has to update the capabilities, but this is how it should work with a properly configured CN. Ericsson thinks the problem is signaling the same things all the time and the unnecessary repetition. UEs don’t make use of the flexibility that we have designed with the signaling. They usually support same set of features in a band for example, and we don’t need to again and again repeat MIMO layers etc on those bands.

- Xiaomi thinks that we have to solve the issue of per band combination and work with RAN1/RAN4. WE need to understand what is the critical problem.

- Huawei thinks that RAN2 should study these different aspects of signaling.

- Interdigital also thinks that we should prioritise what we study first, as some aspects need progress right away if dependencies with other groups.

* Noted

[3mins]

[R2-2507126](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507126.zip) Initial considerations on UE capability framework in 6G Apple discussion Rel-20 FS\_6G\_Radio

*Observation 1: UE capability size and handling have become very inefficient due to the philosophy of pre-transferring of all the UE capabilities even when the NW might not use many of them.*

*Observation 2: NR has supported equivalent dynamic UE capability update in multiple topics via UAI/RRCReconfigurationComplete procedure.*

*Observation 2: NR has supported dynamic UE capability update in multiple topics via UAI/RRCReconfigurationComplete procedure.*

*Proposal 1: RAN2 should study how to reduce the signaling overhead by avoiding pre-provision of static configuration, and study efficient transfer of context aware capability transfer.*

*Proposal 2: RAN2 should study dynamic change of capability to make UE capability size manageable and effective.*

- Apple proposes that the starting point for use cases are the UAI cases and need for gap. Xiaomi thinks that the framework should be applicable to all, but of course we can discuss use cases like the current one and future ones. For example, we can consider the temporary capability change as a starting point of use cases, e.g. MIMO layer, BW, etc.

* Noted

**Agreements on UE capabilities for next meeting**

* For next meeting companies should focus on identifying the critical problems with UE capability framework and how to address them. Identify what actions to be triggered with other WGs.
* Companies can identify use cases to justify dynamic capability change in connected mode and analyse impacts to network side and network behaviour upon reception of updated capabilities. Understand if there is impact to other WGs.
* Companies can focus on the practical IODT problems in the field. Possible ways to address them.

[2mins]

[R2-2507607](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507607.zip) Consideration on 6G UE Capability ZTE Corporation discussion Rel-20 FS\_6G\_Radio

UE Capability Reporting Mechanism

Observation 1: Multiple UAI-based functionalities for UE radio capability update have been commercialized in 5G networks.

Proposal 1: The basic UE capability reporting procedure can be retained from 4G/5G, where the UE reports capabilities based on a network request. RAN2 to study how to optimize the filtering mechanism to enable additional granularity for the filtering of UE capabilities.

Proposal 2: Regarding dynamic capability updates, RAN2 should first discuss whether there are new scenarios in 6G that require enhancements to the current 5G UE capability update mechanism.

Proposal 3: For the 6G UE capability reporting, the UE should be able to report capabilities using both explicit and implicit methods. RAN2 to study how to optimize the RACS mechanism in 6G to improve its feasibility.

Proposal 4: Define different device types, with mandatory features specified for each device type per release version.

Proposal 5:  RAN2 to study more flexible structure for RF/baseband decoupling and DL/UL decoupling.

Proposal 6: For the 6G UE Capability structure, RAN2 to study how to avoid repeated reporting problem in the 5G.

Observation 7: Because of some problematic UEs, the network has to adopt conservative settings or disable the new features entirely for all of the UEs to prevent widespread issues, which can significantly hinder new feature commercialization.

Proposal 7: RAN2 should discuss mechanisms to enable network identification of UE/chipset information in 6G.

- Xiaomi thinks that the information is already in the CN so it can be shared with RAN. ZTE explains that it is difficult to achieve. Tmobile explains that this is an important problem in 5G and we should enable it in 6G. Qualcomm thinks that this is going into the solution domain. Apple thinks that we have similar issues on the device side so we should be open to provide information on both sides.

- Samsung thinks that the solution is clear but not really the problem.

[3mins]

**ISAC discussion**

[R2-2506772](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506772.zip) General considerations on RAN2 6G study Xiaomi discussion Rel-20 FS\_6G\_Radio

*Observation 5: In Rel-20 5GA ISAC SI, RAN3 starts the study on architecture, procedure in parallel with RAN1 without waiting for RAN1 input.*

*Observation 6: In Rel-16 NR positioning SI, RAN2 is the primary WG to lead the study on architecture, procedure in parallel with RAN1 without waiting for RAN1 input.*

*Lesson learnt from 5G (6): RAN2 is the primary working group (WG) responsible for studying the architecture, procedures, and protocols of NR positioning, working in parallel with RAN1.*

*Proposal 5: In 6G RAN2 study on ISAC, the role split should be:*

*- RAN2 leads the study on overall architecture, procedure for Sensing, in coordination with SA2, RAN3*

*- RAN2 is responsible for the protocol between UE and SF*

*- RAN3 is responsible for the study on interface/protocol between RAN and CN and internal RAN architecture, interface and protocol*

*- RAN2 can start the study on sensing architecture and procedures in Feb meeting, including: sensing function location; sensing node selection/management and procedure, etc., without waiting for RAN1 progress.*

* Noted

- Lenovo asks about what sensing mode we support and when the sensing function is located and depending on where it is located then it would change whether RAN2 should lead the discussion. Xiaomi thinks that SA2 is discussing the architecture.

- Mediatek thinks that in RAN2 we are going to make some assumptions given how SA2 works and the time it may take to make a decision. We assume the SF is in the CN somewhere. Xiaomi doesn’t agree with the assumption as there are two possible assumption. Interdigital thinks that we can progress some part of the work without knowing where it located. We can assume flexibility of where the termination point may be and this is also related to the data transfer discussions.

- Mediatek is concerned that RAN3 doesn’t have a responsibility in study for now. RAN2 should work on sensing function and sensing entity and start in a harmonized way.

- Apple agrees that RAN2 leads the study on overall architecture, procedure for Sensing, in coordination with SA2, RAN3, similar to positioning.

- Ericsson thinks that leading word is a bit misleading, as if it is gNB based it is RAN3, but if it is with UE involvement then it has to be RAN2. The main question is when do we start. Starting in April is good enough. Ericsosn thinks we should first discuss whether there is a need to have a protocol between the UE and sensing function in network. MEdiatek thinks that this is an agnostic question without having any dependencies on other groups.

- Docomo would like to understand what is the separation between the 10.3.3 and this agenda.

- Oppo would like to see some discussion in SA2 and RAN1. Mediatek is ok to start in April but we shouldn’t assume that we will decisions from SA2.

* RAN2 will start sensing study in April 2026

**Not treated**

[R2-2506767](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506767.zip) General discussion in 6G Transsion Holdings discussion

[R2-2506773](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506773.zip) General Consideration on 6GR UE Capability Xiaomi discussion Rel-20 FS\_6G\_Radio

[R2-2506797](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506797.zip) Considerations on 6GR general aspects vivo discussion Rel-20

[R2-2506806](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506806.zip) Views on 6GR Fainity Innovation discussion

[R2-2506893](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506893.zip) 6G General Aspects Sharp discussion Rel-20 FS\_6G\_Radio

[R2-2506917](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506917.zip) General considerations on 6GR Spreadtrum, UNISOC discussion Rel-20

[R2-2506975](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506975.zip) Enhancement of Public Safety Support Fraunhofer IIS, Fraunhofer HHI discussion

[R2-2506988](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506988.zip) Considerations on UE capability signalling in 6G Qualcomm Incorporated discussion Rel-20 FS\_6G\_Radio

[R2-2507132](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507132.zip) General considerations on 6GR Fujitsu discussion Rel-20 FS\_6G\_Radio

[R2-2507141](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507141.zip) Consideration on general aspects for 6G LG Electronics Inc. discussion Rel-20 FS\_6G\_Radio Withdrawn

[R2-2507147](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507147.zip) On 6GR UE capability MediaTek Inc. discussion Rel-20 FS\_6G\_Radio

[R2-2507176](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507176.zip) Discussion on general aspects on RAN2 study for 6GR Lenovo discussion Rel-20 FS\_6G\_Radio

[R2-2507184](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507184.zip) Scenarios and architectural principles for 6G RAN2 design Ofinno discussion Rel-20 FS\_6G\_Radio

[R2-2507185](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507185.zip) UE capability framework and key features for 6G Ofinno discussion Rel-20 FS\_6G\_Radio

[R2-2507201](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507201.zip) Discussions on General Aspects of 6GR Layer 2 Futurewei discussion Rel-20

[R2-2507307](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507307.zip) General consideration on 6GR ITL discussion Rel-20

[R2-2507312](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507312.zip) Design of 6GR Radio Protocols InterDigital discussion Rel-20 FS\_6G\_Radio

[R2-2507319](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507319.zip) Discussion on 6GR Rel-20 general aspects Sony discussion Rel-20 FS\_6G\_Radio

[R2-2507340](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507340.zip) Consideration on general aspects for 6G LG Electronics Inc. discussion Rel-20 FS\_6G\_Radio

[R2-2507361](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507361.zip) Single Frequency HetNet Deployment Scenario for 6GR Jio Platforms discussion Rel-20

[R2-2507393](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507393.zip) Discussion on general aspects for 6GR TCL discussion Rel-20

[R2-2507450](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507450.zip) 6G AI/ML Data Collection Requirements T-Mobile USA Inc. discussion Rel-20 FS\_6G\_Radio

[R2-2507502](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507502.zip) Consideration of general aspects and principles for 6G study Kyocera discussion Rel-20

[R2-2507506](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507506.zip) Views on 6GR design principles and strategies ETRI discussion

[R2-2507511](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507511.zip) Initial Considerations for 6GR Access Technology Hanbat National University discussion Rel-20

## 10.3 Radio protocol architecture

10.3.1 User plane

*Identification of essential user plane functions and considerations for user plane architecture.*

**UP architecture and functions**

[R2-2507250](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507250.zip) 6G Radio protocol architecture - User Plane Aspects Lenovo discussion Rel-20 FS\_6G\_Radio

*Observation 1: The 5G protocol stack has evolved with new optimizations and features added across various releases resulting in the duplication of functionalities across different protocol layers, leading to an overall complex protocol behaviour and inherent inefficiencies. For 6G, the aim should be therefore to streamline the protocol stack compared to 5G, by removing functionalities which are found to be inefficient/unnecessary or redundant.*

- Docomo asks what functions are duplicated. Lenovo explains, SN, windows, etc. that why the proposal is to first understand the functionality we support.

*Proposal 1: It is proposed that RAN2 first agree on the complete set of required functionalities for the protocol stack, and only afterwards discuss which protocol layer supports each functionality.*

*Observation 3: 5G protocol stack was generally designed in an information agnostic way, e.g. neither content of incoming data packet nor the contribution to application layer performance are considered during radio resource allocation. To some very limited extend application-layer awareness in AS was introduced for XR services.*

*Proposal 3: RAN2 should study support of native application-awareness at the Access Stratum.*

- Nokia thinks that we have QFI so what do you have in mind. Lenovo explains that all packets within a DRB and treated the same and there is no differentiation between the packets and dependencies of packets. For 6G we should be more flexible and maybe provide more meta data to enable this. Nokia so we are extending a bit what we did for XR.

- CMCC asks if this for UL or DL. Lenovo explains for both and of course we have some dependencies on SA.

- docomo likes this proposal

* Noted

[2 min]

[R2-2507200](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507200.zip) On 6G User Plane NTT DOCOMO, INC. discussion Rel-20

*Observation 1. As a first step for discussing the 6GR User Plane architecture from scratch, it is appropriate to evaluate the necessity of the Layer 2 functions defined in the NR User Plane.*

*Proposal 1. 6G Layer 2 supports the following functions, using NR as a baseline and applying modifications or optimizations as needed: header compression (ROHC and UDC), security protection for UP/CP data, in-sequence delivery, discarding of outdated data, ARQ, (re)segmentation, multiplexing, HARQ and MAC CE.*

*Proposal 2. RAN2 studies which sublayer supports each legacy function and order of the functions to be processed in Layer 2.*

*Proposal 3. RAN2 studies whether SDAP sublayer can be merged to PDCP sublayer, i.e., PDCP can support mapping between QoS Flow and DRB, coordinating with other WGs.*

- Mediatek thinks that only the required functions are needed to be considered for SDAP and Reflective QoS is never deployed but it is still using up a header.

- Samsung asks if the itnentino is to remove the SDAP functions or just move them to PDCP. Docomo explains it is to move.

- Ofinno asks how we can merge since there is not a one to one mapping for SDAP and PDCP.

- Nokia clarifies that this not only for reflective QoS but also for QoS flow mapping.

* Noted

[2 min]

[R2-2506809](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506809.zip) Discussion on 6G user plane enhancements Qualcomm France discussion Rel-20

*Observation 1. 6G MAC should address the shortcomings in NR’s RACH design (e.g. RACH partitioning) and aim for a more resource efficient and adaptive design.*

*Observation 2. 6G can benefit from lower uplink latency and better support for increasingly more diverse traffic. These objectives can be achieved by enhancements that are more QoS-aware, more adaptive and better coordinated with upper layers such as RLC.*

*Proposal 1. The following MAC functions are supported in 6G:*

*- Functions related to random access, including CBRA and CFRA;*

*- Functions related to UL scheduling, including SR, BSR, DSR, LCP, HARQ, CG, PHR;*

*- Functions related to bandwidth management, including BWP, CA;*

*- Functions related to link management, including BFD/R, UL timing;*

*- Functions related to energy savings, including UE DRX and cell DTX/DRX.*

- Huawei asks how we can progress discussion on some of these procedures as we depend on RAN1. Qualcomm explains that this just refer to functions and we can still discuss these procedures.

- Vivo asks what is the intention with the RA partitioning. For power savings we need to discuss further as this is very specific. Qualcomm explains that we at least know about these two schemes and when we have more we can consider.

- Oppo asks what about LP-WUS. What about BW managements. Qualcomm thinks that LP-WUS is RAN1 led topic so it will depend on eventual what RAN1 will depend on.

- Ericsson thinks that this is surprising that we have to wait for RAN1 for RA and scheduling. RAN2 should discuss overall system and inform RAN1 on what matters. And we should coordinate earlier on the power saving mechanism.

- Apple ask if these functions are mandatory or optional. Qualcomm thinks that these functionalities should be mandatory if RAN2 decides to include them.

* Noted

Discussions

- LG indicates that architecture and protocol decisions depend on DC, so we should focus on standalone.

- Samsung asks based on what can we discuss the functionalities and understand the necessity of the functionality.

- Huawei thinks that this is align with the bottom up approach.

- CMCC would prefer not to go one by one, but rather find out what we require for new requirements.

- ZTE thinks that we should identify what functionality is needed for new requirements and which ones we can use from 5G. We should prioritize the functionalities that address new use cases/services. We should avoid spending time on minor enhancements to existing functionalities. Vivo agrees with ZTE and we should discuss requirements for the new services.

- Mediatek reminds everyone of the 80-20 rule from Ericsson.

- Transsion thinks that the QoS model is not clear in SA2.

- Ericsson is a bit concerned the problems that we had. We should understand what is not working and what we should change. It is good to have simulation results to provide the benefit.

- LG wants to clarify that this should be for data and not for AI/ML. ZTE thinks that protocol layer should enable data transfer and any data is data.

[2 mins]

**UP processing**

[R2-2506854](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506854.zip) On 6G user plane architecture considerations and user plane functions MediaTek UK discussion Rel-20

Proposal 2: 6G user plane is designed to be hardware-processing friendly while keeping memory requirements low.

- example, fixed headers

- Interdigital asks if there is any recommendations. Mediatek thinks that anything related to data transfer it should be a simple as possible and deterministic. The piping of data should be very simple and efficient.

- Ericsson thinks another consideration is moving the data the least amount of time across the layers. Mediatek points out it is important to minimize data movement.

- Mediatek would like to have similar design so we can benefit from economies of scale.

- Apple agrees and encourages companies to identify what functions are processing heavy and complex and how we can simplify.

- Vivo asks what are the principles to decide whether it is friendly or not. Mediatek thinks that one principle is that we have good justification for it.

- ZTE asks whether we have any examples of things that weren’t processing friendly. MEdiatek explains that we have done a very good job in 5G and we should keep those principles in mind. But there may be some things related to memory and timers.

- Huawei thinks we shouldn’t sacrifice other KPIs for this.

- Sharp thinks that we already made headers fixed and that’s why we had removed concatenation in RLC. The only flexible headers remaining are in MAC. MEdiatek thinks that 5G was very good and 6G will be better.

* Noted

[2 mins]

[R2-2507216](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507216.zip) User plane functions for 6G Samsung discussion FS\_6G\_Radio

Observation 1. User plane protocol has been tested and proven to be stable over decades.

Observation 2. UP protocol was already optimized by removing redundant functions.

Observation 3. Data pre-processing was allowed to support high data rates in NR.

Proposal 1. Data pre-processing is allowed in 6G user plane protocol the same as in NR.

Proposal 2. To study how to further utilize data pre-processing in 6G user plane protocol.

Proposal 3. At least one post-concatenation function is mandatory in 6G user plane protocol.

Proposal 4. To study pre-concatenation function in 6G user plane protocol.

[3 mins]

[R2-2506940](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506940.zip) Discussion on 6GR User Plane functions and architecture Huawei, HiSilicon discussion FS\_6G\_Radio

Observation1-1: From the processing complexity point of view, the design target is to ensure that the Layer2 does not become a bottleneck between the user experienced data rate it provides to Layer 3 and the uplink data rate that physical layer provides.

Proposal5: RAN2 to study the potential directions for increased spectral efficiency from the perspective of, e.g., L2 header size reduction, PDCP concatenation.

Proposal6: RAN2 to study the potential directions of processing complexity reduction from the perspective of e.g., PDCP concatenation, PDCP/RLC Tx/Rx operation, and MAC PDU formats.

[2mins]

**QoS and framework**

[R2-2506891](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506891.zip) Service Aware RAN RAN2 consideration T-Mobile USA Inc. discussion

*Observation 1: Lack of application-level performance visibility in RAN.*

*Observation 2: Coarse granularity of the 5G QoS framework.*

*Observation 3: Limited ability of RAN to optimize resources for new service types.*

- Samsung asks what is the exact limitation from resource perspective. Tmobile explains hat from application point of view RAN has no idea and it cannot adjust.

*Observation 4: Necessity of treating XR, AI, and other emerging services as primary in 6G.*

*Accordingly:*

*Proposal 1: RAN2 should study enhancements to the Radio Interface architecture and protocols with service awareness as a design principle, including novel scheduling methodologies.*

- Docomo asks what are novel scheduling methodologies you have in mind. Tmobile explains that it is mainly referring to scheduling to be more efficient.

- Huawei asks what other services other than XR do you have in mind and what are the traffic characteristics. Tmobile explain XR is one, AI applications, and we can discuss further.

- Vivo asks if this means that we need application visibility in RAN. From 5G we learned that we needed some parameters and which layer. Tmobile this is intending to open the discussion and we can continue looking at the solutions.

- MEdiatek agrees and asks if they consider only operator managed services or in general. Tmobile explains that it is more general.

- ZTE thinks that we should identify dependencies with other groups and we should separate UL and DL in the discussions. For DL do we assume we have something and work in RAN2, and for UL we should work with CT1. Tmobile thinks we can work closely with SA2.

* Noted

[R2-2507313](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507313.zip) Requirements for L2 protocols InterDigital discussion Rel-20 FS\_6G\_Radio

*Observation 2.1-1: Interactive AI-based services are uplink heavy, latency sensitive and data sessions are characterized by periodic and/or irregular data bursts with varying volumes and inter-burst interval.*

*Proposal 1: The 6GR QoS framework shall support uplink transfer of delay critical bursts of varying volumes and inter-burst interval in a resource efficient manner (e.g., without overprovisioning of radio resources).*

- Xiaomi asks what is the delay requirement for these types of services. Interdigital thinks that some of this examples have provided targets of 200ms, but this depends on use cases.

- Apple wonders whether we are going to introduce a new scheduling mechanism or if we can use some of the existing solutions can handle these requirements. Interdigital explains the intention is to first understand the requirements and then we can look at solutions on how to achieve this at the end.

- Mediatek thinks that this is more related to scheduling and wonders how QoS can help. Interdigital explains that we use QoS similar to XR to understand the priority of the packets and achieve resource efficiency.

*Observation 2.4.4-1: Advanced immersive applications and/or codecs can adapt in rate and/or modality to implement graceful QoE degradation.*

*Proposal 6: 6GR QoS framework supports QoS ranging for QoE and/or rate-based adaptations e.g., the UE autonomously selects parameters within the NW-configured range of values.*

- Lenovo asks what type of parameters you have in mind and the motivation. Interidigtla explains it is general but one example can be PDCP discard and the UE can apply a timer within a configure value range based on traffic.

- Qualcomm asks what is QoE, what metric is it, will we specify something or is it a subjective metric. Interdigital doesn’t think that we will specify spefic metrics.

*Proposal 7: 6GR QoS framework support service-based differentiation and sub-flow granularity e.g., based on L2 application-level awareness.*

- Oppo asks if the AI based service whether we consider all types including tokenized AI. Interdigital explains that we only had limited examples to show that AI application generate a lot more UL traffic but we can study other services.

- Fujitsu asks what sub-flow refers to here as it has SA2 relationship. Interdigital thinks that RAN2 should first discuss and define what RAN needs for RAN awareness and then discuss with other groups.

Discussion

- Nokia thinks it is fine to study these but we shouldn’t do this in isolation of SA2 and SA4. And for tokenized traffic we need to wait for SA4 to tell us that this is something out there. Interdigital agrees that we can get traffic characterization from SA4 and the main point was that for some initial discussions in RAN we don’t need to involve SA2 immediately.

- Ericsson thinks that the framework is not bad but rather that it is not fully used. So we should look into the problems before going into the sub-flows.

- Qualcomm understand that service-awareness is important but has some concerns on UE complexity perspective. We shouldn’t introduce different solutions for every application as this creates fragmentation. We should strive to have unified solutions. Also RAN alone doesn’t have much idea on the application level. We should be careful and aim to design something that is applicable to all applications.

- ZTE thinks that we should do this in conjunction with SA2 and we should rely on a standardized mechanism for both UL and DL and learn from problems we have had in XR. ZTE points out that we have more dynamic QoS and every QoS changes require NAS re-negotiation. So we should try to handle it in RAN with some information from SA.

- Huawei thinks that we need to understand what are the services, AI services and immersive so far. We should have a standardized way to handle these services.

- CMCC thinks we should look into tokenized AI.

- Vivo thinks we should discuss this from the beginning and we shouldn’t just enable the awareness, and study mechanism to support this. We should at least identify the requirements and what RAN needs.

- Apple thinks that we need to know how to take advantage of this awareness.

- Samsung would like to avoid the problem with coordination in RAN and SA.

- Lenovo thinks that one lesson learned that that in some cases we thought it was beneficial but SA4 told us otherwise, so we should be careful.

- ZTE as part of study RAN with cooperation (when needed) with SA4 should identify what is needed and indicate to SA2 what is required from RAN perspective.

- Xioami asks how to avoid overlap with XR 5GA and this topic. Huawei explains that the 5GA is limited to UL traffic.

- Ericsson suggest that we can move the study of mobile AI traffic characteristics into 6G.

[3 mins]

[R2-2506808](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506808.zip) General considerations on RAN2 6G UP design Beijing Xiaomi Mobile Software discussion Rel-20

[Lesson from 5G-10] 5G doesn't allow differentiated QoS fulfilment for distinct PDU set types within a QoS flow.

[Lesson from 5G-11] 5G cannot well support the synchronization dependency among QoS flows.

Proposal 5: 6G should consider the service awareness techniques introduced in 5G for XR as a start point, and strive to further improve the QoS experience with the following consideration:

- Support Service Aware QoS handling and finer QoS granularity;

- Support the correlation requirement (e.g. sync requirement) among different QoS flows;

[3mins]

[R2-2507113](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507113.zip) Views on Directions of 6G User Plane Enhancements Apple discussion Rel-20 FS\_6G\_Radio

Proposal 5: RAN2 should study (based on coordination with SA) how differentiated radio treatment can be provided to packets within the same QoS flow/DRB, to accommodate the characteristics of some emerging use cases in 6G.

Proposal 6: RAN2 should study how 6G user plane protocols can be enhanced to prevent or reduce the delay of more critical QoS flows(s) caused by head of line blocking issues within a DRB.

[2mins]

[R2-2507615](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507615.zip) 6GR Common Aspects Nokia, Nokia Shanghai Bell discussion Rel-20 FS\_6G\_Radio

From 10.3.3

Proposal 1: the QoS framework of 6G is based on that of 5G, with a control of uplink QoS flows that shall allow absolute prioritisation, guarantee a bit rate, avoid starvation, adjust the priority based on the looming possibility of discard, and enforce bit rate limits, while being observable.

[2 mins]

**UP latency**

[R2-2506854](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506854.zip) On 6G user plane architecture considerations and user plane functions MediaTek UK discussion Rel-20

*Observation 1: Latency associated with eMBB data transfer will be an increasingly important metric to serve emerging use-cases during 6G’s lifetime.*

*Proposal 1: 6G user plane is designed to reduce the latency associated with eMBB data transfer compared to NR.*

- Nokia asks what is the root cause. Mediatek explains that our data rates don’t matter anymore and our pipeline is good enough. What the differentiator with 6G is latency and every user can get the service right away. We should streamline our protocol to achieve this.

- Apple indicates that IMT requirements will not change for latency and what really matters at the end is the end to end latency that matters, but the air interface is a small part. Mediatek explains that UL initiation of traffic is subject to delays from configuration to transmission etc. Ericsson, Docomo, agrees with Mediatek and has same observation and it is many times we have 20-40 ms delay.

- Docomo explains that latency would give operators a motivation to deploy and monetize 6G.

- LG thinks that both radio interface and end-to-end delay should be considered.

- Interdigital agrees and what we have learned from 5G is also the time it takes to get a grant from SR/BR and transmit etc. ZTE agrees and we should find a way to reduce the latency.

* Noted

[2 mins]

[R2-2506940](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506940.zip) Discussion on 6GR User Plane functions and architecture Huawei, HiSilicon discussion FS\_6G\_Radio

Proposal1: RAN2 user plane design shall support the targeted 6G KPI requirements (e.g., user experienced data rate, latency, reliability, composite requirement) and new service requirements (e.g., AI traffic and immersive communications).

* Noted

[2 mins]

**Scheduling**

[R2-2507071](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507071.zip) User plane: Let's keep it simple! Ericsson discussion Rel-20

*Observation 5 Indications to manage queueing latency in RAN to transport layer are subject to delays considering 5G’s need for pre-processing.*

*Observation 6 The latency introduced by the SR/BSR procedure to obtain the initial grant in NR is the dominant contributor to delay and hence limits the end-to-end performance of UL- and DL-heavy applications.*

*Proposal 2 Study support for faster queue management as an integral component of 6G RAN (e.g. based on queue indications).*

*Proposal 3 Study means to reduce latency and improve accuracy for uplink buffer information reporting and thereby decrease latency and enhance e2e performance.*

*Proposal 4 Study uplink* *scheduling framework to ensure QoE fairness with fine-grained control over QoS characteristics among LCH(s).*

* Noted

[3mins]

[R2-2506850](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506850.zip) Discussion on the 6G user plane features OPPO discussion Rel-20 FS\_6G\_Radio

*Observation 5: In 5G, UL transmission via DG provides flexible scheduling without the waste of reserved uplink resources of PUSCH, but with more UL scheduling latency due to the SR/BSR/DCI transmission/reception. The UL transmission via CG is of low latency but may cause resource waste due to pre-configuration. The UL transmission via RACH MsgA/Msg3 supports diverse scenarios and RRC state but has unnecessary overhead (e.g., preamble transmission) and latency for initial access and UL scheduling.*

*Proposal 5: For UL scheduling schemes in 6G, RAN2 studies to: 1) support 5G UL scheduling schemes as the baseline, i.e., DG and type-1/type-2 CG. 2) further investigate* *UL scheduling schemes for contention-based CG resources for fast access.*

- Docomo thinks 1) is very important. Nokia asks if we need both type-1 and type2 or can we consider a more unified scheme. Oppo thinks that these are for different pruposes and type 1 is more deterministic. Qualcomm thinks the second one should be studied further.

- Qualcomm wonders if we should continue studying SPS since there was no deployment.

* Noted

[2 mins]

Discussion on contention based UL resource

- ZTE, Mediatek agrees as it is beneficial to address the latency related to SR/BSR delays. Huawei thinks that RAN2 cannot agree to this alone as there needs to be simulations from RAN1.

- Apple thinks that we discussed SR/BSR latency in 5G and this is why we introduced CG, so doesn’t see the motivation to have yet another scheme.

- Interdigital sees the benefit of contention based UL resource. This can be beneficial for SR/BSR, small data and fast access and wonders if this is for connected mode or can it be for other modes, like inactive. ZTE Thinks that we should first design the channel and then discuss where it can be used. Ericsson explains that according to simulation this contention based channel is best for SR/BSR.

- Ericsson doesn’t think RAN1 can simulate this and we would have to do it in RAN2 to understand how useful it is and system performance.

- LG is also supportive of this contention based UL resource, as network doesn’t have to provide dedicated grant to all UEs.

- Sony thinks that this I related to resource efficiency.

[R2-2506894](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506894.zip) Initial Considerations for 6GR User Plane Sharp discussion Rel-20 FS\_6G\_Radio

Observation 5: BSR and DSR have duplication which results in signalling overhead or even inefficiency.

Proposal 5: RAN2 to study a unified buffer status reporting including total buffered data volume and delay status of the buffered data.

[2 mins]

**L2 re-transmission**

[R2-2506798](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506798.zip) Considerations on 6GR user plane vivo discussion Rel-20

Proposal 5: Study solutions to better support new emerging services with low latency and high reliability requirements than NR. Effective feedback to enable fast ARQ-like L2 retransmission should be considered.

* Noted

[2 mins]

[R2-2507113](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507113.zip) Views on Directions of 6G User Plane Enhancements Apple discussion Rel-20 FS\_6G\_Radio

Proposal 3: RAN2 should study to investigate if L2 ARQ efficiency can be enhanced in 6GR based on tight coordination with HARQ.

* Noted

[2 mins]

[R2-2507157](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507157.zip) 6G UP design Nokia, Nokia Shanghai Bell discussion

Proposal 4: The RLC in 6G should be built on Rel-19 RLC, incorporating Rel-19 XR mechanisms. RAN2 further study if 6G RLC supports avoidance of redundant retransmission under reliable HARQ or faster retransmission using HARQ feedback, where such considerations require coordination with RAN1.

* Noted

[2 mins]

[R2-2507127](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507127.zip) Considerations on User plane for 6G LG Electronics Inc. discussion Rel-20 FS\_6G\_Radio

Proposal 3 Introduce per-packet transmission mode suitable for mixed type packet flow

a. Whether to perform retransmission is determined per packet basis

b. Single DRB supports both lossless and lossy transmission

* Noted

[2 mins]

**Agreements on UP**

1. RAN2 first discuss/agree on the required functionalities for the protocol stack, and only afterwards discuss which protocol layer supports each functionality. Discussions should focus on standalone architecture, until told otherwise by plenary. When discussing functionalities companies should focus on identifying the problems being address or new requirements.

2. UP design should aim to be hardware-processing friendly while keeping memory requirements low and minimize data movements across protocol layer.

3. 6G user plane should aim to reduce the radio and end-to-end latency for general services (including eMBB)

4. Study potential benefits and standardized mechanisms for applications/service-awareness in the RAN (e.g. immersive communications, AI mobile traffic). Understand the issues and shortcoming with the current NR QoS. Aim to look at a general framework.

5. Support at least the following scheduling schemes: dynamic grant and configured grant. Further study configured grant.

6. Study need for scheduling enhancements to address the SR/BSR/DSR latency

7. Study how to improve L2 ARQ latency/efficiency in 6GR based on tight coordination with HARQ. Study should identify enhancements needed for HARQ and L2 ARQ.

[R2-2506768](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506768.zip) Discussion on user plan in 6G Transsion Holdings discussion

[R2-2506798](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506798.zip) Considerations on 6GR user plane vivo discussion Rel-20

[R2-2506808](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506808.zip) General considerations on RAN2 6G UP design Beijing Xiaomi Mobile Software discussion Rel-20

[R2-2506809](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506809.zip) Discussion on 6G user plane enhancements Qualcomm France discussion Rel-20

[R2-2506828](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506828.zip) Discussion on User Plane for 6G RAN TCL discussion Rel-20

[R2-2506845](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506845.zip) 6GR UP Architecture and Functions CATT discussion Rel-20 FS\_6G\_Radio

[R2-2506850](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506850.zip) Discussion on the 6G user plane features OPPO discussion Rel-20 FS\_6G\_Radio

[R2-2506854](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506854.zip) On 6G user plane architecture considerations and user plane functions MediaTek UK discussion Rel-20

[R2-2506883](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506883.zip) Consideration of User Plane Functions for 6GR China Telecom discussion Rel-20 FS\_6G\_Radio

[R2-2506894](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506894.zip) Initial Considerations for 6GR User Plane Sharp discussion Rel-20 FS\_6G\_Radio

[R2-2506905](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506905.zip) Consideration on 6GR User Plane CMCC discussion Rel-20 FS\_6G\_Radio

[R2-2506913](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506913.zip) Discussion on user plane protocol of 6GR Spreadtrum, UNISOC discussion Rel-20

[R2-2506938](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506938.zip) 6GR User plane aspects Fujitsu discussion Rel-20 FS\_6G\_Radio

[R2-2506940](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506940.zip) Discussion on 6GR User Plane functions and architecture Huawei, HiSilicon discussion FS\_6G\_Radio

[R2-2506952](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506952.zip) Considerations for ARQ-less 6G user plane KT Corp. discussion Rel-20 FS\_6G\_Radio

[R2-2507034](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507034.zip) Discussion on User plane for 6GR HONOR discussion Rel-20 FS\_6G\_Radio

[R2-2507071](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507071.zip) User plane: Let's keep it simple! Ericsson discussion Rel-20

[R2-2507113](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507113.zip) Views on Directions of 6G User Plane Enhancements Apple discussion Rel-20 FS\_6G\_Radio

[R2-2507127](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507127.zip) Considerations on User plane for 6G LG Electronics Inc. discussion Rel-20 FS\_6G\_Radio

[R2-2507157](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507157.zip) 6G UP design Nokia, Nokia Shanghai Bell discussion

[R2-2507186](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507186.zip) Overview of User Plane Ofinno discussion Rel-20 FS\_6G\_Radio

[R2-2507200](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507200.zip) On 6G User Plane NTT DOCOMO, INC. discussion Rel-20

[R2-2507202](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507202.zip) Discussions on 6G User Plane Futurewei discussion Rel-20

[R2-2507216](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507216.zip) User plane functions for 6G Samsung discussion FS\_6G\_Radio

[R2-2507241](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507241.zip) Discussion on User Plane Design for 6GR ETRI discussion Rel-20

[R2-2507250](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507250.zip) 6G Radio protocol architecture - User Plane Aspects Lenovo discussion Rel-20 FS\_6G\_Radio

[R2-2507302](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507302.zip) 6G User plane functionality and dependencies ZTE Corporation, Sanechips discussion

[R2-2507313](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507313.zip) Requirements for L2 protocols InterDigital discussion Rel-20 FS\_6G\_Radio

[R2-2507320](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507320.zip) Discussion on 6GR Rel-20 User plane aspects Sony discussion Rel-20 FS\_6G\_Radio

[R2-2507333](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507333.zip) Discussion on Radio Protocol Architecture – User Plane Rakuten Mobile, Inc discussion Rel-20

[R2-2507372](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507372.zip) Overview of 6G User Plane protocol architecture NEC discussion Rel-20 FS\_6G\_Radio

[R2-2507389](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507389.zip) Discussion on user plane functions Tejas Network Limited discussion Rel-20

[R2-2507461](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507461.zip) Considerations for 6G User Plane Functions and Protocols CEWiT discussion

[R2-2507512](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507512.zip) Initial Considerations to Support User Plane Function in the AI-native RAN Architecture Hanbat National University discussion Rel-20

[R2-2507542](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507542.zip) Discussion on 6G User Plane design ASUSTeK discussion Rel-20

[R2-2507575](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507575.zip) Discussion on 6G AS User plane design Google Korea LLC discussion FS\_6G\_Radio

[R2-2507579](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507579.zip) Considerations on User Plane for 6GR KDDI Corporation discussion

[R2-2507645](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507645.zip) 6G User Plane design aspects for NTN THALES, Airbus, Echostar, Novamint, Fraunhofer IIS discussion Rel-20 FS\_6G\_Radio

#### 10.3.2 Control plane

*RRC modelling, connection management, initial and system access, including system information, paging etc..*

**RRC State Model**

[R2-2506900](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506900.zip) Discussion on 6G control plane CMCC discussion Rel-20 FS\_6G\_Radio

*Observation 3: CONNECTED and IDLE states are well commercialized in 4G and 5G.*

*Observation 4: RRC\_INACTIVE has not been widely enabled in 5G networks due to the following reasons: 1) Network planning complexity for RAN Notification Area (RNA); 2) Limited power saving gain compared to RRC\_IDLE; 3) Lack of use cases requiring low state transition delay.*

*Proposal 6: CONNECTED and IDLE mode are supported for 6G. RAN2 should further study two candidate RRC state architecture evolution paths:*

*Option 1 – Evolve and Simplify the RRC\_INACTIVE State;*

*Option 2 – Introducing a new power-saving state paradigm including a lightweight RRC\_CONNECTED sub-state.*

- Interdigital asks if there is a difference from a functional point of view between these two options. CMCC clarifies that for option 2 the UE doesn’t release the connection.

- Huawei asks if there is paging complexity with RRC INACTIVE. CMCC explains that we should avoid having a complicated paging procedure to guarantee commercialization.

- Kyocera asks if we have option 1 we don’t need option 2. CMCC hopes that we should only have one at the end, but we can study both.

* Noted

[3min]

[R2-2507146](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507146.zip) On 6G RRC design Nokia discussion Rel-20 FS\_6G\_Radio

*Proposal 3: Study how to enable energy-efficient RRC states and low-latency state transitions in 6G. Baseline 6G RRC states should be based on 5G IDLE, INACTIVE and CONNECTED functionalities.*

*Proposal 4: Study how to enable energy-efficient user plane transmissions of small packets from INACTIVE state in 6G, using NR SDT design as baseline.*

- Xiaomi thinks that the functionalities are the most important part of the discussion and asks what enhancements are needed on top for those states. Nokia explains that we want to discuss what we want to achieve, low latency, energy efficiency, and accessing the network.

- Vivo asks if we want to consider SDT from beginning or wait until RRC states are stable. Nokia thinks that we need to solve the problem of energy efficient small data transmission.

- CATT asks that low latency is not just for transition. Nokia explains that we need to fullfill IMT requirements for latency and see if we can do real things.

- Tmobile agrees with Nokia’s view

* Noted

[2min]

[R2-2507072](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507072.zip) Controlling the 6G access stratum Ericsson discussion Rel-20

*Proposal 3: 6GR can use the same RRC states as 5G (RRC\_IDLE, RRC\_INACTIVE, RRC\_CONNECTED).*

*Proposal 4: Study methods to address shortcomings and improve RRC\_INACTIVE, such as simplified RNA configuration, relaxed requirement on Xn connectivity, and improved I-RNTI format.*

- Oppo asks how we can achieve the inactive fast transitions without the Xn connectivity. Ericsson explains that we can do paging in different ways, either CN or RAN relayed via CN.

- Huawei asks if the Xn connectivity requires involvement from SA or RAN3. Ericsson confirms it requires RAN3.

- Samsung asks what is the multiple types of paging. Ericsson clarifies that we can keep RAN paging but we should simplify it.

* Noted

[2min]

[R2-2507433](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507433.zip) Control Plane for 6GR InterDigital, Inc. discussion Rel-20 FS\_6G\_Radio

*Proposal 3: Define the 6G state model with:*

*1. Idle: Initial attach/recovery only.*

*2. Semi-connected/inactive: Default low-power state with stored UE context, RAN-based paging, UE controlled mobility.*

*3. Connected: High-throughput state with full network-controlled mobility and bearer setup.*

*Proposal 4: Introduce fast transition between Semi-connected/Inactive and Connected states targeting sub-10 ms resume latency, using a stored UE context in the semi-connected state.*

- Apple asks if recovery should also be in inactive as it happens quite a bit. Interdigital agrees and the point is that there will be cases in idle where recovery is needed, and there will be recovery in other states.

- Lenovo asks if paging and tracking area will be in inactive. Interdigital explains that initial attach is for idle and then the UE can go to inactive for further procedures. Transion asks if idle is only for attached.

- Xiaomi asks how we can guarantee that the network doesn’t send to idle.

* Noted

[2min]

[R2-2506857](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506857.zip) Energy efficient and unified RRC state modelling Huawei, HiSilicon discussion Rel-20 FS\_6G\_Radio

*Observation 4: 6G IDLE state is still needed for the UE’s initial power-on phase.*

*Proposal 6: 6GR design should maximize UEs in 6G CONNECTED state, rather than releasing them to 6G IDLE state.*

*Observation 5: Simple RRC state modelling simplifies the network operation for UE management. 6GR should avoid introducing unnecessary RRC state, i.e., each additional RRC state should be first well justified.*

*Proposal 7: 6GR design should simplify RRC state modelling: starting from or focusing on essential RRC states, i.e., 6G CONNECTED state and 6G IDLE state.*

- ZTE asks what is the motivation and how we can achieve the fast transitions. Huawei thinks that if the UE can do both stay in connected and enjoy power saving, the UE can stay in CONNECTED. ZTE asks what about mobility.

- Ericsson asks if we are in connected is it still NW controlled mobility. Huawei thinks that we can consider to support both NW based and UE based mobility.

- Nokia asks what happens to UE when in connected mode and it is doing UE based mobility. How do we manage the context. Huawei thinks that these are all questions we need to consider.

* Noted

[2min]

[R2-2507270](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507270.zip) RRC states and connection management for 6GR Panasonic discussion Rel-20

Proposal 1: For 6GR RRC state design, consider 2-state RRC modeling by unifying RRC\_IDLE and RRC\_INACTIVE into a single RRC non-connected state.

- LG asks if we can transmit data in non-connected state. Panasonic thinks that we should consider data transmission in idle, keep context.

- Vivo asks how we can unify these in two states given that we have cases where we have context and we don’t. Panasonic thinks we can do both.

- Fraunhofer asks how we can avoid signaling overhead and transitions.

* Noted

Discussions

*- Idle mode*

*- Connected mode*

*- Inactive state: low latency transitions, energy efficient, UE based mobility, UE context, small data transfer*

- Qualcomm explains that we introduced inactive for fast transition so we still need and for that we need UE context. Paging and RNA are some problematic. Don’t like starting with Connected and going to connected.

- Apple thinks this other state should have UE based mobility and focus assuming that 6G UEs will stay more inactive state than in idle mode.

- ZTE thinks that for MT traffic we need paging.

- Huawei thinks from UE behavior inactive is no UE data kind of state.

- Fainity asks if this will apply to all device types.

- Jio thinks that we shouldn’t sacrifice the flexibility of inactive.

- Mediatek wonders if there is a reduced idle mode functionality if that would imply less mobility management involvement from CN. InterDigital confirms.

- Sharp thinks that inactive is an important state and we can merge with connected.

- LG describes history, we went from 4states in HSPA to 2 states in LTE because transitions were too complicated. In NR we realized that there were shortcoming in LTE with state transitions so we introduced inactive. It is not a good idea to introduce a Connected mode sub-states as it introduces complexity.

- Oppo explains that standalone was introduced in china but yet inactive wasn’t deployed.

- CMCC thinks companies need to think what is missing in idle mode and connected mode. For example, in connected mode we don’t have power saving mode, so we should think how to support this.

- Samsung thinks that main complication in NR is that inactive is optional so we should consider making it mandatory.

- Docomo thinks we should study inactive enhancements. ZTE explains that it is a mandatory feature with IoT bit. The reason why they were not using is the lesson learned from 5G, we made it mandatory for the UE, optional for network, and we made mistake to not enable small data so it wasn’t use.

- Xiaomi explains that we used inactive for the 20ms requirement and we need it again.

**Agreements**

Continue study

- Idle mode –

- Connected mode –

- Inactive mode or sub-state: Should support at least on these functions: UE based mobility (e.g. cell selection/reselection), UE context and identification and energy efficient for both UE and NW. Further study fast transitions, data transfer, further improvements to UE identification, and RNA management and paging/wake-up simplifications/enhancements. We can consider the pros/cons of different modelling, after having some discussions on the functionality.

**RRC Signalling Design and Reconfigurations**

[R2-2506957](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506957.zip) Control plane architecture and 6G RRC protocol design MediaTek Inc. discussion Rel-20

*Observation 4 The UE configuration structure in 5G RRC signalling has become complex due to incremental addition of new features.*

*Observation 5 UE configuration structure has an inter-WG dependency to RAN1/RAN4, since significant part of the UE configuration parameters are defined by RAN1/RAN4.*

*Observation 6 Delta signalling introduces ambiguities in RRC signalling, which are sources of security vulnerabilities. The required effort by the UE vendors to build devices which are robust against exploitation of the ambiguities is very high.*

*Proposal 6 RAN2 to study from the beginning improved UE configuration structure for 6G RRC as compared to 5G RRC, with a focus on simplicity and maintainability upon future extensions (such as new feature additions).*

*Proposal 7 RAN2 to study from the beginning more usable mechanisms for delta signalling for 6G RRC as compared to previous generations, with a focus on implementation robustness and simplicity rather than specification convenience.*

- Qualcomm wonders if the delta signaling are not useful or if there is something we can do to make it better. Mediatek explains that it is used and there are things we can do to make it less ambiguous.

- Fujistu asks how there is security vulnerabilities if RRC message is protected.

- Xiaomi thinks that the principal should be applicable in general and not just in delta signaling.

- Vivo asks how we solve the problem of inter-WG dependencies. Mediatek thinks we should design the format in such a way that we don’t need to change when RAN1/4 adds something new or when we add new features.

- Nokia thinks we have to study how to improve the RRC structure. Delta signaling makes things complicated but it is helpful since it minimizes. So study how to give configuration to UEs efficiently while keeping the size small.

- ZTE asks what is robustness mean. Mediatek explains is to avoid the vulnerabilities introduced by NR delta signaling.

* Noted

[3min]

[R2-2507111](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507111.zip) Views on Directions of 6G Control Plane Enhancements Apple discussion Rel-20 FS\_6G\_Radio

Observation 2: Most of UE dedicated configurations are same for UEs with the same capabilities in the same deployment.

Observation 3: By providing partial/delta configuration based on the reference configuration, the RRC message size can be reduced, thereby saving the system resources and reducing UE processing time.

Proposal 3: RAN2 study on 6G RRC configuration model focuses on the following aspects:

 1) Reducing configuration latency (e.g. RAN node that decides the config can directly send it.)

 2) Reducing RRC configuration size (e.g. based on reference configuration)

 3) Ensuring configuration validity (e.g. Do not provide configurations that may change in advance)

* Noted

[3min]

[R2-2507172](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507172.zip) Views on Control Plane for 6G Qualcomm Incorporated discussion Rel-20 FS\_6G\_Radio

*Proposal 1: ASN.1 is used for encoding of RRC signaling for 6G air interface.*

*Proposal 2: RAN2 will study possible enhancements aimed at reducing duplication, increasing efficiency and improving readability of ASN.1 for RRC signaling.*

*Proposal 3: As a design goal, RAN2 will aim for modular design of RRC for 6G, e.g. consisting of baseline module and additional vertical-specific/use-case-specific modules.*

- Ericsson supports modular design but doesn’t understand how we can do it for use cases as we specify functions. We should consider modularizing based on features, functions, etc. Qualcomm was thinking that eMBB and IoT had different ASN.1 signaling, but the goal is that not one size fits all. Memory footprint for ASN.1 should be smaller for IoT devices for example.

- Huawei is good with modular design, but given modular design we may end up doing duplication and that introduces problems.

- CMCC also thinks this is important.

- Samsung is ok but is not sure what how it looks like. Xiaomi explains that for SLPP we did use this modular design.

- Vivo would like to ensure that eMBB is not impacted.

- ZTE Thinks that when we design this modular we need to consult RAN1/RAN4 on how to define.

*Proposal 4: 6G design will allow the UE to keep/apply the good (part of) configuration and avoid re-establishment procedure.*

- LG asks what is the intention, shouldn’t the network provide a good configuration. Qualcomm thinks thinks that the networks always have good intention but it’s not always possible, as the network is not always aware of the capability and temporary we could not be operating at 100% capability.

- ZTE thinks the intention is ok but at the end of the day we need to have an awareness on the network side what configuration the UE has applied. Qualcomm confirms and this is just a starting principle but we would need to discuss different solutions. The intention is that the UE shouldn’t be forced to go to RLF.

- Ericsson thinks this would be a risky direction as we so far have relied on the network configuring the UE properly. If there is something that causes bad network configuration we should address the root cause of that issue.

- Nokia thinks that we should study how to do an efficient RRC re-establishment failure, but before we do this we should understand the issue and according to some explanations it seems to be more linked to dynamic capabilities. Qualcomm thinks in addition to more efficient, the aim should also be to reduce the number of re-establishments.

- Xiaomi ask if this is related to modularization. Qualcomm thinks that indeed we can make a connection there as if we have good modularization we could use it, for example indicate which model can be applied.

- Interdigital thinks that we can minimize the re-establishment failures and modularization can help. Apple also supports this direction and if we have a good structure it helps.

- Mediatek has some sympathy for the proposal, but points out that we have spoken this since UMTS, with partial failure, and some of the issues were related to the network knowing.

- Jio thinks this is a good proposal and the network should know so it is avoided in future.

- Transsion thinks that this can be linked to the dynamic capability change.

- CMCC thinks that this is a rare case in 5G and this adds new complexities. Huawei thinks that we need to study use cases, for example target network may not understand the configuration of the source configuration and we may be able to address the issue with modular.

- Samsung would like to first understand when this situation happens and then we can discuss the solution.

- Qualcomm encourages companies to speak to their IODT teams and when it comes to UEs we get unexpected configurations.

* For next meeting, can study the reasons why these failures happens and understand the root cause of the problem.
* Noted

**Agreements**

* 1. ASN.1 is used for encoding of RRC signaling for 6G air interface (same as NR).
  2. Study overall RRC structure, configuration improvements, improve readability of ASN.1 for RRC signalling
  3. Study how to efficiently, reliably and unambiguously configure UEs while keeping signalling size small (e.g. improvements to delta signaling or no delta signaling).
  4. RAN2 will study modular design of RRC for 6G. Further study how to modularize RRC e.g. based on features, functions, verticals, etc.

[3min]

**Spectrum Aggregation**

[R2-2507072](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507072.zip) Controlling the 6G access stratum Ericsson discussion Rel-20

Proposal 6 Study a single framework for spectrum aggregation based on carrier aggregation, enhanced with fast setup of additional carriers, flexible combining of UL/DL carriers and improved resiliency.

- Vivo asks if this is for all states or only for connected state.

- ZTE asks which WG would be the responsible for the downselection of framework. Ericsson thinks that we should focus on the realistic deployments where we can get the most gains. For WG we should have our own analysis of the whole framework and RAN2 should be responsible for the signaling.

- Apple thinks that from R2 point of view we already support flexibility combining of UL/DL and also what is further enhancmeents on fast setup. Ericsson thinks that we should design something that is feasible from other WG perspective and if what we have for NR works then we can use it.

- Xiaomi asks if this includes UL only carrier. Ericsson thinks that it is similar to SUL which wasn’t too successful as it didn’t have a DL for synchronization etc. Ericsson thinks that the idle mode UE would have to know that there is another carrier so it would impact SI, so we can at least discuss those aspects together with RAN4. Qualcomm thinks that we should not couple idle and connected mode.

- Ericsson explains that we look mainly at collocated deployments as they are cheaper but it isn’t always possible to have co-llocated deployements. For collocated we should focus on doing it in CA based solution with single MAC control.

* Noted

[2min]

[R2-2506799](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506799.zip) Considerations on 6GR control plane vivo discussion Rel-20

*Observation 1: The cell model of single cell with multi-carriers (SCMC) is not only enabling the operators to utilize fragmented spectrums with potential NES gain (e.g., SIB is transmitted only on anchor carrier), but also beneficial for the UE’s power saving to camp on SCMC when the anchor carrier is deployed in low bands.*

*Proposal 3: 6GR shall study single cell with multi-carriers (SCMC) to aggregate multiple carriers in the same or different bands as a single cell, with the assumption of same/diverse coverage and co-located/non-co-located deployment among the carriers.*

- Ericsson explains that RAN4 thinks that this related to measurement gap, for RAN2 related to system information, etc. We need to understand the problem. Vivo explains that because bw is limited some SI on some carriers won’t be transmitted.

- Qulcomm asks if we are aggregating across FRs. Vivo From RAN2 perspective we should do everything. Qualcomm is concerned that we have a single cell across FRs, not like normal aggregation.

- LG asks if we have multiple carriers why don’t we map the carriers to a cell, otherwise it is complicated so what is the real problem.

- Xiaomi thinks that question is whether all the carriers can transmit a SSB.

- CMCC thinks that we have deployed CA and it works very well, but for idle mode we should optimize the idle mode and limit the signalling overhead.

- Mediatek thinks the problem is in connected mode and it is connected to the configuration required for every cell. So if you aggregate multiple spectrum we have significant overhead from configuration point of view. We should optimize more for aggregating multiple pieces of spectrum.

- Interdigital points out that we have done this in NB-IoT where we have introduced anchor carrier and the main reason was the limited BW. Whether we have the same problem in 6G is not clear.

- Ericsson and Apple thinks that those are the problem we should address but not jump into conclusion on how to address them.

- LG thinks that single cell is a modelling issue anyways, we should avoid the overhead channels for multicarrier.

[2min]

[R2-2507232](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507232.zip) Considerations for 6G Control Plane Samsung, Verizon discussion FS\_6G\_Radio

Observation 4: Conventional Carrier Aggregation with many carriers is less efficient in signalling and resource management aspects.

Proposal 4: For efficient usage of fragmented frequency spectrum, the single cell concept with fragmented carriers is supported. The N-carrier Single Cell (NSC) consists of DL/UL anchor carriers and one or more DL/UL non-anchor carrier(s). The initial access is performed on the anchor carrier of the NSC.

[2 min]

**Agreements on Spectrum aggregation**

1 Study spectrum aggregation of multiple pieces of spectrum and understand the issues that need to be addressed.

2 Study how to use UL and DL spectrum more efficiently (e.g. decoupling of UL and DL, etc). Understand the deployment scenarios and problems to address

**System Information**

[R2-2507146](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507146.zip) On 6G RRC design Nokia discussion Rel-20 FS\_6G\_Radio

Proposal 5: Study how to enable energy-efficient system information transmission and paging operation to allow good power saving possibilities for both networks and UE. Baseline design should be based on 5G-A network and UE energy saving operation.

* Noted

[2min]

[R2-2507232](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507232.zip) Considerations for 6G Control Plane Samsung, Verizon discussion FS\_6G\_Radio

Observation 5: On-demand SI and area-specific SIB introduced in NR are beneficial for sustainability.

*Proposal 5: SI broadcast framework is inherited from NR, and further improvements of the SI broadcast can be studied for sustainability, e.g., Spatial SI broadcast, On-demand MIB/SIB1/area-specific SIB1, finer granularity of SI change notification, transmit only the information relevant to schedule the changed SIBs instead of transmitting the entire SIB, reference configuration for SIB and so on.*

- Mediatek would like to understand if we don’t send the information in the SIBs what would happen if a new UE arrives in a cell that the SIBis not broadcasted. Samsung thinks that we can use ondemand SI and there are benefits in certain rural area.

- Qualcomm asks if spatial SI is used only for ondemand SI. Qualcomm asks if the intention is to put some information area specific and some cell specific. Samsung confirms that there are both types.

- ZTE asks about on-demand MIB whether they need to be discussed together with ondemand SSB. Samsung is open to all scenarios.

* Noted

[R2-2506856](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506856.zip) Discussion on 6G control plane Huawei, HiSilicon discussion Rel-20 FS\_6G\_Radio

*Observation 1-1: The current SI scheduling mechanism has become overly complex due to multiple enhancements aimed at better utilizing time-domain opportunities however at late stage.*

*Observation 1-2: The current SI scheduling mechanism restricts the network's ability to enter sleep mode for energy saving.*

*Observation 1-3: As the typical implementation for SI acquisition in 5G, UE needs to re-acquire SIBs upon cell change even if the SIBs of the new cell are the same with the stored versions. It causes unnecessary SI broadcast signaling and energy consumption for both UE and network.*

- Fujitsu asks if this is only for SIB1 or other SIBS as well. Huawei indicates that this is for other SIBs and in the real world it is difficult coordinate the area specific SIBs.

*Proposal 1: 6G System information design should consider energy saving friendly (for both network and UE) SI scheduling/acquisition mechanism.*

*Observation 2-1: In 5G, the SIB1 size limitation may prevent the network from enabling certain features in some scenarios.*

*Proposal 2: RAN2 should study the issues related to SIB size restriction (especially for SIB1).*

- Xiaomi thinks that the size itself should first be decided by RAN1. Is there something specific RAN2 should discuss in parallel. Huawei thinks that we can wait or we can study if some information can be split and moved out.

- CATT asks if the intention of splitting SIB1 would also help for energy saving.

- Vivo asks what criteria can we use to determine the SIB1 split. Huawei explains that we can keep the mandatory information in SIB1.

- Nokia thinks that we can study in RAN2 and give RAN1 recommendation on available payload. How can we split and how does it help. Huawei explains that there are somethings that can be studied in RAN1 and splitting would imply that different information can be scheduled in different time slots.

- Apple thinks that we can study how to minimize the SIB1 design or avoid the transmission. LG we can think of an approach to split between common channels similar to the split with SIB1 and SIB2. We need to understand what is the expected size for SIB1.

- Interdigital thinks that there are two issues in NR, always on SIB1 and size of SIB1 due to all the optionality of features. If we simplify the system the size should also decrease. If we have ondemand SIB1 then do we need to reduce the size.

* Noted

[2min]

[R2-2507069](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507069.zip) Consideration on 6G control plane ZTE Corporation, Sanechips discussion Rel-20 FS\_6G\_Radio

*Proposal 3: The concept of RMSI, cell and area specific system information, SI modification indication via paging and on demand system information should be inherited from 5G while the following enhancements should be studied for 6G system information design:*

*- Network energy saving for system information (e.g., on-demand SI, cell DTX/DRX)*

*- Security protection for system information (e.g., integrity protection; pending input from SA3)*

*- Support for various device types (e.g., whether separate SSB/MIB/SIB are required for different device types; pending input from RAN1)*

- Ericsson asks if the intention is to have a separate design. ZTE explain that it is not the target to have different designs but we should keep an eye.

*- Support for 5G–6G MRSS (e.g., whether joint SSB/MIB/SIB can be considered; pending input from RAN1)*

- Apple asks why do we need to care. ZTE indicates that if we have separate SIBs then we don’t need to care but if it is the same SIB that would have an impact on the SIB design. Apple thinks we can wait for RAN1.

- Nokia thinks that RMSI was a term that RAN1 came up with because they didn’t know about SIB1.

* Noted

[2min]

[R2-2506887](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506887.zip) SSB Transmission Consideration in 6GR T-Mobile USA; Ericsson discussion (moved from 10.2)

*Observation 1 The 20ms SSB periodicity in NR illustrates how lean carrier design enables substantial network energy savings relative to LTE, primarily by reducing always-on transmissions.*

*Observation 2 For broadcast transmissions, full benefits of lean design can be achieved if sparsity can be maintained across all transmissions and receptions on the same time scale for any carrier.*

*Proposal 1 Study mechanisms to extend the default SSB periodicity and to introduce on-demand SSB transmissions with the goal to establish sparsity across all transmissions targeting UEs in both connected and non-connected states in the first 6GR release.*

*Observation 3 The 20ms default SSB periodicity in NR in cells supporting initial access, remains a key limiting factor that restricts network’s ability to transition into deep sleep states.*

*Observation 4 Blind initial cell searches are rare in practice, as most UEs leverage prior knowledge, such as PLMN scanning logic, during cell search.*

*Observation 5 Constraining adjustments to the default SSB periodicity based on the assumption that UEs frequently perform blind searches is not justified.*

*Proposal 2 Extended values for default SSB periodicity should be considered for UEs in idle/inactive modes when studying 6GR features.*

*Proposal 3 Study on-demand SSB transmission for both connected and non-connected UEs.*

- CATT asks why do you need to send on-demand SSB in connected. Ericsson clarifies that on-demand doesn’t necessarily mean that the UE requests anything. The network would know when the transmission is needed.

- Ericsson thinks for mobility the network is aware and can provide SSB transmissions.

* Noted

[2mins]

[R2-2507433](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507433.zip) Control Plane for 6GR InterDigital, Inc. discussion Rel-20 FS\_6G\_Radio

*Proposal 1: Support on-demand System Information, including SSB transmission without SIB1 (SIB1-less), multi-carrier aware access, and cases where SSB may not always be present.*

- Nokia asks if the UE would measure multiple carriers. Interdigital explains that it is something similar to NBIoT where only one carrier is broadcasting information and the device can access other carriers.

- Qualcomm asks how can the UE get scheduling information without SIB1. Interidigital explains that we consider some UL signalling to request.

- Docomo asks if the UE can receive paging in carriers where SIBs are not transmitted. Interdigital explains that it can be possible similar to NB-IoT.

- Transsion ask how the UE discover the cell if the SSB is not presented. Interdigital thinks that the assumption that the cell is completely off but rather that the periodicity may be long or on demand.

* Noted

[1min]

Discusionn

enable energy-efficient system information transmission and paging operation to allow good power saving possibilities for both networks and UE

6G System information design should consider energy saving friendly (for both network and UE) SI scheduling/acquisition mechanism.

SSB periodicity

SIB1 size

- Lenovo has done some test to understand how much paging is done and found out that it is over designed. System information is very stable and doesn’t change very much and we should design something that is useful in the field. Xiaomi agrees with Lenovo and we should not do a very complex design.

- CATT thinks that from network perspective the most important part is the energy efficiency, on demand SIBx. CMCC thinks we should include SSBs as the savings would be limited with only ondemand SIB. Ericsson indicates that the periodicity of SSB is also very important.

- Mediatek points out the flexibility and extensibility of scheduling design and we should study.

- Nokia thinks that we should ensure that we communicate with RAN1 to tell them what we need.

- Samsung thinks that SI update is important.

- BT would like to understand the impact of this schemes on the UE.

- Ericsson thinks we should ensure public warning system can be delivered. LG thinks that we haven’t yet agreed that it would be transmitted by SIBs. Ericsson clarifies that it doesn’t mean that, we just have to make sure that requirements are met.

- Thales thinks that we should consider NTN

Area SIBs

**Agreements on System Information**

- System information design should consider energy efficiency and low complexity for both network and UE.

**-** System information design should ensure that the public warning requirements are met.

**-** Study RAN2 aspects of system information designs (e.g. on-demand SIB and SSB, periodicity of SSBs)

**-** Study how to improve flexibility and extensibility of scheduling SI design

- Study mechanisms to improve SI update mechanism

- Study aspects related to SIB1 size. Understand the issues and desired content/size from RAN2 point of view.

- Study areas specific SIB design. Understand 5G pain points and what improvements can be considered.

NOTE: this is a starting list

**Paging**

[R2-2507111](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507111.zip) Views on Directions of 6G Control Plane Enhancements Apple discussion Rel-20 FS\_6G\_Radio

*Proposal 6: RAN2 study on 6G paging focuses on network energy saving (e.g. non-uniformed PO distribution), UE power saving (e.g. subgroup and WUS based paging), UE implementation simplification (e.g. single PO set to monitor paging), and user experience improvement (e.g. carrying richer MT paging info).*

- Xiaomi asks if this WUS is LPWUS or a general. Apple explains it is general.

- Vivo asks if we add more info in paging do we need to consider security aspects. Apple is open to look at the security for paging.

* Noted

[2min]

[R2-2507172](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507172.zip) Views on Control Plane for 6G Qualcomm Incorporated discussion Rel-20 FS\_6G\_Radio

*Proposal 5: RAN2 studies the feasibility of unifying IDLE and Inactive state procedures from the following aspects:*

*- Unified location area management*

*- Unified paging procedure*

*- UE context storage in RAN and/or CN*

- CATT doesn’t think that context storage is RAN2 scope and the context storage depends on the RRC state.

- Honor asks which node triggers the paging. Qualcomm thinks that is up to discussion.

* Noted

[2min]

[R2-2506900](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506900.zip) Discussion on 6G control plane CMCC discussion Rel-20 FS\_6G\_Radio

*Observation 2: In 5G, the enhancements of paging mechanism are essential in following scenarios:*

*In scenarios involving high frequency bands and massive device connections, paging capacity constraints emerge, resulting in increased paging delay.*

*In multi-carrier scenario, sending the same paging message across all carriers within a Tracking Area (TA) incurs excessive overhead.*

*In NTN scenario with multiple SSB periodicity, the paging mechanism fails to adapt to multiple SSB periodicity, potentially leading to paging failures or unnecessary paging monitoring.*

*Proposal 5: 6G paging should consider the following enhancements:*

*In multi-carrier scenario, paging message can be transmitted on either one or more carriers respectively to alleviate paging overhead or increase paging capacity for different purposes.*

- Apple asks how it works and whether paging can be done in multiple carriers. Interdigital explains that in NBIoT the UE can be paged in other carriers and it is simple.

- Qualcomm would like to avoid cases where the UE has to measure multiple carriers. Also never heard that paging capacity is the problem. We should first know what is the problem and UE complexity is more important. CMCC agrees that complexity is important to avoid and we can rely on UEs to perform measurements in anchor carrier.

- Lenovo thinks that we should avoid having to announce whether UE is anchor or other carrier.

- LG sees the benefit from the energy saving perspective.

- Nokia agrees capacity is not the main issue, unless we are dealing with some other different devices and we should consider random access capacity.

- Ericsson asks if this is for same band or different band. CMCC thinks that both cases should be studied.

* Companies can continue thinking for next meeting what is the actual problem and how to solve it in a simple way.

*In NTN scenario, the paging mechanism can adapt to the SSB periodicity by configuring multiple sets of paging parameters corresponding to different SSB periodicity.*

* Noted

[2min]

**Agreements**

* Paging design should consider energy efficiency and simplity for both UE and Network.

**Initial Access and random access**

[R2-2507072](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507072.zip) Controlling the 6G access stratum Ericsson discussion Rel-20

Proposal 5 Study a common random-access procedure for all UEs (including lowest-complexity UEs), with a baseline assumption of 4-step RA, CBRA/CFRA, a simplified and generic Msg1 indication framework, and a larger MSG3 size in the cell edge.

[2min]

[R2-2507574](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507574.zip) Discussion on 6G AS control plane design Google Korea LLC discussion FS\_6G\_Radio

Proposal 6: The 2-step RACH procedure should be considered the baseline for initial access in addition to the 4-step RACH procedure.

[2min]

[R2-2506846](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506846.zip) Discussion on 6GR control plane OPPO discussion Rel-20 FS\_6G\_Radio

Proposal 3 For 6G initial access, RAN2 study schemes to reduce always-on signal transmission/reception by enabling adaptive/on-demand triggering of related signal (e.g., SSB, SIB, RACH, Paging).

[Proposal 5 For 6G initial access, RAN2 study the scheme(s) for flexible offloading/re-distribution (e.g., for RACH, Paging) across frequency-domain resources.](#_Toc210319952)

[2min]

[R2-2507069](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507069.zip) Consideration on 6G control plane ZTE Corporation, Sanechips discussion Rel-20 FS\_6G\_Radio

Proposal 1: A unified multi-cell/carrier coordinated initial access procedure should be supported for efficient utilization of network resources, e.g. spectrum, time and spatial domain resources, satellite orbits, to provide overall coverage, high throughput with reduced energy consumption at both network and UE side.

[2min]

**Not treated**

[R2-2506769](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506769.zip) Discussion on control plan in 6G Transsion Holdings discussion

[R2-2506774](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506774.zip) Discussion on 6GR control plane protocol design Xiaomi discussion Rel-20 FS\_6G\_Radio

[R2-2506819](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506819.zip) Overview of 6GR Control Plane CATT discussion Rel-20 FS\_6G\_Radio

[R2-2506859](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506859.zip) 6G Radio protocol architecture Lenovo discussion FS\_6G\_Radio

[R2-2506884](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506884.zip) Discussion on control plane aspects in 6GR China Telecom discussion Rel-20 FS\_6G\_Radio

[R2-2506890](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506890.zip) RAN2 Enhancements Considerations for Fixed Wireless Access T-Mobile USA Inc. discussion

[R2-2506891](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506891.zip) Service Aware RAN RAN2 consideration T-Mobile USA Inc. discussion

[R2-2506932](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506932.zip) Initial Considerations on RRC Protocol Architecture for 6GR TCL discussion

[R2-2507035](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507035.zip) Considerations of Control plane for 6G Radio HONOR discussion Rel-20 FS\_6G\_Radio

[R2-2507073](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507073.zip) RRC, ASN.1 and other signalling aspects for 6G Ericsson discussion Rel-20

[R2-2507096](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507096.zip) RRC Signaling Framework with more close integration with the slices Panasonic discussion Rel-20

[R2-2507131](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507131.zip) Initial consideration on Control plane aspects in 6G Fujitsu discussion Rel-20 FS\_6G\_Radio

[R2-2507142](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507142.zip) Consideration on control plane aspects for 6G LG Electronics Inc. discussion Rel-20 FS\_6G\_Radio Withdrawn

[R2-2507182](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507182.zip) Discussion on RRC state for 6G ETRI discussion

[R2-2507187](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507187.zip) Control Plane aspects for 6G Ofinno discussion Rel-20 FS\_6G\_Radio

[R2-2507203](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507203.zip) Discussions on 6G Control Plane Futurewei discussion Rel-20

[R2-2507321](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507321.zip) Discussion on 6GR Rel-20 Control plane aspects Sony discussion Rel-20 FS\_6G\_Radio

[R2-2507332](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507332.zip) Discussion on Radio Protocol Architecture – Control Plane Rakuten Mobile, Inc discussion Rel-20

[R2-2507341](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507341.zip) Consideration on control plane aspects for 6G LG Electronics Inc. discussion Rel-20 FS\_6G\_Radio

[R2-2507373](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507373.zip) Overview of 6G Control Plane aspects NEC discussion Rel-20 FS\_6G\_Radio

[R2-2507392](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507392.zip) Discussion on 6GR Control Plane Fraunhofer IIS, Fraunhofer HHI discussion

[R2-2507466](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507466.zip) Initial consideration for RRC modeling in 6GR Kyocera discussion

[R2-2507503](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507503.zip) Initial consideration for 6G initial access aspects Kyocera discussion Rel-20

[R2-2507556](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507556.zip) Discussion on basic procedures of control plane for 6GR TCL discussion

[R2-2507578](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507578.zip) Considerations on Control Plane for 6GR KDDI Corporation discussion

[R2-2507646](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507646.zip) 6G Control Plane design aspects for NTN THALES, Airbus, Echostar, Novamint, Fraunhofer IIS discussion Rel-20 FS\_6G\_Radio

#### 10.3.3 Common User plane and Control plane

*Access stratum security aspects, in alignment with requirements from SA3.*

*Transfer of various type of data (including AI/ML data, sensing, etc. ) and general AI/ML framework considerations.*

*NOTEs: Detailed AI/ML use case specific proposals are not expected in this meeting. Specific technical details/procedures related to sensing are not expected until RAN1 starts 6G sensing work.*

**Data Collection/Management/Transfer**

*Principles and requirements*

[R2-2507514](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507514.zip) Considerations on 6G AI/ML Data Collection and Management AT&T Labs, Inc discussion

*Proposal 1: The following core principles are followed to design an AI/ML framework for 6GR air interface:*

* *A unified flexible LCM framework for model management, model transfer, model training, and model testing*
* *A unified data collection framework to enhance management efficiency*
* *Network visibility to drive innovation while proactively addressing security and privacy concerns*
* *Network control over data collection to ensure network performance is not impacted while providing potential new value opportunities via hosting/routing/augmenting the data*
* *Scalability to accommodate various emerging and future use cases.*

*Proposal 2: AI/ML framework in 6GR should support multiple termination points for AI/ML data within the network with MNO visibility*

*Proposal 3: 6GR is designed to differentiate AI/ML data management traffic from user plane traffic and control plane traffic*

*Proposal 5: For 6GR, study the feasibility of a unified, service-agnostic data collection framework. All requirements proposed for AI/ML specific data collection framework are applicable for the unified framework.*

- Xiaomi asks what use case and data types they have in mind. AT&T indicates AI/ML data

- Oppo asks if we need to consider more than functionality based LCM and model based. ATT thinks we can fold both in the same framework.

- ZTE asks what unified is, is it different services, use cases, working group. We should first clarify the requirement and then see how we can build a unified framework. ATT thinks that the work has to be done with other groups but we don’t want to consider on use case bases like in 5G.

* Noted

[3 mins]

[R2-2506909](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506909.zip) Consideration on general AI/ML framework and data collection CMCC discussion Rel-20 FS\_6G\_Radio

*Proposal 2: 6G RAN should support large volume of data transmission (e.g. for model training) and model transfer/delivery, as well as avoid duplicated data collection and reporting.*

- Apple asks where the requirement comes from. CMCC explains that we studied both CP and UP solution and is concerned that the RRC is not sufficient to carry large data. And some data can be kept in the RAN.

- CATT thinks that avoiding duplicate data collection is related to how many UEs the network selects for data collection. CMCC thinks that we can’t always avoid but we can target to minimize it.

*Proposal 4: A unified RAN data collection framework should be supported for diversified data collected from 6G new services, e.g. AI and sensing.*

- Qualcomm asks how we can do all this unification. CMCC would like to reuse the framework as much as possible, and of course if at the end of the study we can’t unify everything we can adjust. There are some data that doesn’t need to go to the CN. Qualcomm thinks that we should first understand the requirement then framwork.

*Proposal 5: The following requirements in 5G-A can be taken as starting point for AI data collection and transfer in 6G:*

* *The data collected is secured and data integrity and confidentiality for that data is ensured.*
* *User data privacy, anonymity and user consent is respected.*
* *The MNO has full control of the standardized data collection transfer process and can manage data transfer to the server for UE side data collection, without the need of Service Level Agreement (SLA) for this purpose. This includes initiating, terminating, and fully managing data transfer.*
* *MNO has full visibility for standardized data.*
* *The design is future-proof and extendable.*

- Apple asks if this is mainly applicable for AI/ML or also for sensing. CMCC thinks we can start with AI/ML and we can wait for sensing as we don’t know all the requirements/details

*Proposal 6: It is proposed to follow 5G-A mechanism that the user consent can be configured by OAM.*

- LG asks if user consent is dependent on use cases. CMCC confirms that it depends on the type of information and sensitive information from the UE. In R18 SA3 introduced user consent based on OAM.

[3 mins]

Discussion on requirements

* *The data collected is secured and data integrity and confidentiality for that data is ensured.*
* *User data privacy, anonymity and user consent is respected.*
* *The MNO has full control of the standardized data collection transfer process and can manage data transfer to the server for UE side data collection, without the need of Service Level Agreement (SLA) for this purpose. This includes initiating, terminating, and fully managing data transfer.*
* *MNO has full visibility for standardized data.*
* *The design is future-proof and extendable.*

- Xiaomi thinks that these requirements are only for AI/ML data types. Apple thinks that this is only for standardized data.

- Huawei thinks that it natural that we continue with the AI/ML but we should also consider the requirements for all other use cases like sensing.

- Fraunhaufer wonders if we should also talk about UE power consumption.

- Nokia thinks that we should exclude the transparent (ex. 1a) and we shouldn’t spend any time in 3GPP discussion. Samsung doesn’t think the intention is to spend time on discussing thinks that are not 3GPP specific but we can’t capture that we rule out transparent tranfer.

- Qualcomm would like to separate the use cases for UE sided or network sided data collection.

- Vivo thinks that we can take these as baseline.

- Interdigital think that when we think about requirements we should not focus on a simple use cases but we should think of having generic requirements that can apply to multiple use case.

- Verizon thinks that these requirements apply to both network and UE side data collection.

- Dish thinks that this requirement is important and it should be applicable to all data in the network. BT agrees that data is data and we should apply it to both UE side and NW side.

- Qualcomm thinks that we should study non-standarized data collection.

- Oppo wonders which part is not applicable to network sided. Apple thinks that there may be some UE privacy difference. We should capture that the transparent solution is not precluded. Xiaomi and Samsung think that we can capture transparent non-3GPP solution are supported like for 5GA.

- Ericsson thinks that we should study the termination points and it is important that we unify the solutions across multiple working groups. Mediatek thinks that termination points are related to data consumers and also depend on other working groups.

- Nokia thinks that for unification we need to discuss which particular aspects we are unifying.

- ZTE would like to understand if this IP based or non-IP based and who will decide.

- Apple is concerned that the third sub-bullet is outside of our term of references.

* Noted

[R2-2507153](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507153.zip) Qualcomm's Views on 6G AI/ML Framework for RAN2 QUALCOMM Europe Inc. - Italy discussion Rel-20 FS\_6G\_Radio

*Proposal 3: 6G Requirements for UE data collection for network use-cases: [Qualcomm 7153]*

* *The UE data collection for network use-cases should have minimal impact to the UE battery, CPU and APU Processing and memory utilization.*
* *UE data collection for network use-cases should have minimal impact to UE power saving features such as DRX, inactive state, and other NES features.*

- Lenovo ask what this means. Qualcomm wants to avoid request for data collection that has impact on the features.

* *There should be minimal interruptions and minimum retransmissions of data, whether due to mobility or other reasons.*
* Lenovo asks if we would have a new requirement as this is up to the network scheduling. Qualcomm thinks the point is to not create retransmission just because of design that require moving of points.
* *The UE should be able to postpone requests for UE data collection for network use-cases based on UE internal considerations.*
* Ericsson ask what they had in mind with this. CMCC thinks that the network would never want to impact UE performance so the UE should follow network. Qualcomm thinks that if we can put a requirement on the network that it shall release configuration when the user has low battery for example. Docomo thinks that we are open to thinking further but this may have impacts.
* *There should be a way to differentiate any data collection traffic to avoid charging the user.*
* *User data privacy, anonymity and user consent is ensured (not a RAN2 requirement).*
* Noted

[2 mins]

|  |
| --- |
| **Agreements**  1. Study the standardized data collection framework with these requirements as a baseline at least for AI/ML   * The data collected is secured and data integrity and confidentiality for that data is ensured. * User data privacy, anonymity and user consent is respected. * The MNO has full control of the standardized data collection transfer process and can manage data transfer to the server for UE side data collection, without the need of Service Level Agreement (SLA) for this purpose * This includes initiating, terminating, and fully managing data transfer. * MNO has full visibility for standardized data. * The design is future-proof and extendable. * The UE data collection should minimize impact to the UE battery, UE processing and memory utilization. * UE data collection should minimize impact to user traffic transmission and power saving features   These requirements can apply to both UE and NW sided data collection. FFS if some don’t apply to both.  2. Study further requirements of other non-AI/ML use cases/services and understand if we can have more common requirements across different use cases.  3. Study termination points (i.e. understand who are producers, consumers of the data, data collection points. Understand requirements of use cases sensing, aI/ml, son/mdt, QoE etc) and protocol used for data transfer (e.g. IP vs. non-IP).  4. Study model transfer/delivery requirements/functions |

* For next meeting companies can consider at least the following aspects:
* Diverse types of data and its services/use case scenarios (e.g., AI/ML related data, sensing data, QoE, SON/MDT, etc);
  + For each type of data, study:
  + Applicable use case(s)
  + End point pairs (i.e., producer and consumer), including UE and RAN, UE and CN, RAN and CN, RAN and OAM;
  + Data size in a single reporting and total data size
  + Frequency of data reporting;
  + QoS requirements (e.g., latency, priority, GBR, packet error rate, etc);

[R2-2506775](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506775.zip) Consideration on 6GR data transfer, AI/ML framework and security Xiaomi discussion Rel-20 FS\_6G\_Radio

*Proposal 2: Study data collection and transfer in the following aspects:*

* *Diverse types of data and its services/use case scenarios (e.g., AI/ML related data, sensing data, QoE, SON/MDT, etc);* 
  + *For each type of data, study:*
  + *Applicable use case(s)*
  + *End point pairs (i.e., producer and consumer), including UE and RAN, UE and CN, RAN and CN, RAN and OAM;*
  + *Data size in a single reporting*
  + *Frequency of data reporting;*
  + *QoS requirements (e.g., latency, priority, GBR, packet error rate, etc);*
* *For SON/MDT, QoE related data, assumption on data size/latency/frequency used in 5GNR can be considered as baseline for 6GR SON/MDT, QoE related data;*
* *For AI/ML related data, assumption on data size/latency/frequency used in 5GNR can be considered as baseline for 6GR AI/ML related data;*
* *In terms of data transfer framework for sensing related data, RAN2 needs to wait for further input from RAN1 evaluation on measurement metrics (e.g., data size, reporting frequency, QoS, etc) and RAN2 study on sensing architecture/protocol (e.g., producer, consumer);*
* *NOTE: Coordination with RAN1, RAN3 and SA is expected.*

- Apple thinks that some data are actual measurements and not data. Xiaomi thinks that we would need to just understand the different use cases and we can conclude which one is a measurement and which one is not.

[2 mins]

[R2-2507602](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507602.zip) AIML Framework and Data Transfer Design MediaTek USA discussion Rel-20

Proposal 1 (objective of data transfer design): It shall be possible to avoid high Uu load due to non-RT data transfer, e.g. by specific network control. L2 enhancements for Uu efficiency of non-RT file transfer can be considered. Once TSG RAN has settled the scope for 6G UE sensing, sensing cases might need to be analyzed for further impact to Data transfer objective (FFS).

Proposal 5: For data collection from the UE for UE-side purpose including model training and vendor performance monitoring, it shall be possible to collect vendor-specific data.

[2 mins]

[R2-2507114](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507114.zip) Views on Directions of 6G AI/ML general framework and data transfer Apple discussion Rel-20 FS\_6G\_Radio

Proposal 3: For 6G NW-side data collection:

* Data transfer is terminated in RAN as 5G, and no need to be unified with UE-side data collection.
* Take 5G logging measurement framework as baseline and study its enhancement (e.g. support data collection across all RRC states).

Proposal 4: Due to potential overlapping with 6G “data transfer” and 5G UE-side data collection, postpone the RAN2 discussion on 6G UE-side data collection after their conclusion is clear.

Proposal 5: As one lesson learnt in 5G, RAN2 leaves the discussion on visibility and controllability requirements on 6G UE-side data collection and model transfer to RAN plenary and SA1/SA3.

Proposal 6: RAN2 discuss the detailed list of all data transport tasks for services belonging to “data transfer” in 6G RAN study before deciding whether a unified “data transfer” solution in RAN2 for different 6G services is feasible.

[2 mins]

[R2-2506763](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506763.zip) Initial consideration for 6GR AI OPPO discussion Rel-20

Proposal 5: 6G data framework should study whether/how to unify the data transfer design between UE-side data collection and network-side data collection. The additional common parts can be studied case by case when identified.

[1 min]

*Model transfer requirements*

[R2-2507583](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507583.zip) Guidelines for 6G AI\_ML for the air interface model delivery options BT Plc, T-Mobile USA, Orange, Deutsche Telekom, Turkcell, Verizon, Vodafone, KDDI discussion (Moved from 10.2)

Proposal 1: RAN2 should focus the AI/ML for the air interface study on 3GPP solutions only.

Proposal 2: 3GPP AI model transfer solutions for the air interface should be deeply studied by 3GPP as part of 6G Study Item.

Proposal 3: The AI model transfer solution shall consider at least the below requirements:

* Size: from RAN2 point of view, aim to support various sizes of the model parameter transfer (FFS on model size);
* Continuity: service continuity of model transfer during UE mobility needs to be supported;
* Controllability: NW decides on if and when to transfer over the air interface;
* Latency: relaxed latency requirement and infrequent update;

Proposal 4: RAN2 needs to perform the study based on at least the following principles for the AI model transfer:

* Model transfer/delivery: traffic should be transferred at a different priority, e.g., lower than user traffic.
* Differentiability: model transfer/delivery traffic should be differentiated from other user traffic.
* Security: there should be a guarantee that models are transferred securely, in a NW-aware manner, such that untrusted models cannot be downloaded.
* Addressability: Models need to be addressable such that the UE can request the transfer/delivery of a specific one

[3 mins]

*Architecture (if time allows)*

[R2-2506786](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506786.zip) Considerations on 6G data transfer and AI framework CATT, CBN discussion Rel-20 FS\_6G\_Radio

Observation 1: There are some limitations based on legacy CP/UP solution for large volumes of data in both UL and DL of 5G AI/ML, to study new mechanism to avoid the issues that arise in 5G is necessary.

Observation 3: From QoS requirement aspect, introduction of a new plane can more flexibly address diverse QoS requirements for large amount data transfer and avoid the repetitive discussion process caused by defining e.g. new SRBs.

Observation 4: From data generation and routing aspect, compared with legacy SRB/DRB, introduction of a new plane can more flexibly configure different start and terminate points of data transmission on the network side, and the delay due to data forwarding via intermediate node can be avoided.

Observation 5: From use case scalability aspect, introduction of a new plane can unify design for large size data transmission of multiple use cases, and future-proof for use cases added in later releases.

Proposal 2: RAN2 to support the data transfer via a RAN data plane for 6G large amount of new service data.

[2 mins]

[R2-2507092](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507092.zip) Considerations for AI/ML and sensing in 6G Samsung discussion Rel-20 FS\_6G\_Radio

Proposal 3. Study the following RAN2 impact from the introduction of service plane, in close and timely coordination with SA2 and RAN3.

* Whether/how to introduce new RB(s), minimizing impact to traffic on existing RB(s)
* How to support NW-side visibility/controllability for data transfer
* How to support UE-gNB and/or UE-CN interaction
* Whether/how to support security for 6G-supported data
* Whether/what other use-cases (e.g., SON, MDT, QoE, Positioning, or new 6G services) can be supported over service plane

Proposal 4. Data transfer over service plane supports both NW-side data collection and standardized UE-side data collection for AI/ML model training.

[2 mins]

[R2-2506763](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506763.zip) Initial consideration for 6GR AI OPPO discussion Rel-20

Proposal 4: For 6G data transfer, the outcome from B5G study can be considered as the baseline and RAN2 study should focus on the following scenarios:

* Scenario 1: UE transfers collected data to OAM, i.e. collected data is terminated at OAM, via RAN using CP/UP.
* Scenario 2: UE transfers collected data to RAN, i.e. collected data is terminated at RAN, via CP/UP.

[2 mins]

*Inter-WG group coordination*

[R2-2507081](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507081.zip) Discussions on AIML framework and data transfer NTT DOCOMO, INC. discussion

Proposal 6: RAN2 shall coordinate with RAN3 and SA WGs on following issues:

* SA1: The data transfer requirements of emerging use cases like sensing.
* RAN3, SA2, SA5: The QoS requirements for new services and E2E solution for data transfer and/or data collection, new plane and/or RAN-CN interface.
* RAN3, SA3, SA5: The security and UE consent of model and data transfer and/or data collection solutions, e.g. MAC CE encryption and integrity protection.

[2 mins]

**AIML**

*LCM framework and requirements [30 mins]*

[R2-2506800](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506800.zip) Considerations on 6GR AI framework vivo discussion Rel-20

*Observation 1: While 5G introduced AI/ML functions through a use-case-specific approach, its fragmentation and lack of coordination make it unsuitable for the AI-native vision of 6G. highlighting the urgent need for a generic, extensible, and unified framework.*

*Observation 2: UE capability transfer and applicability determination are primary procedures to determine whether an AI/ML model/functionality can be viewed as practical from the deployment entity’s perspective, especially for the case of UE-sided model.*

*Proposal 1: RAN2 aims to design a generic and extensible 6G AI/ML framework, enabling new AI/ML use cases to be easily introduced and integrated, and supporting both one-sided models (including UE-sided and NW-sided models) and two-sided models.*

- Apple thinks it is too early to think of a unified framework. ZTE doesn’t think it should consider the network sided model. Nokia thinks that we develop principles that allow us to apply functions to multiple use cases.

*Proposal 2: 6G AI/ML signaling framework should support at least the following functions/procedures:*

* *UE AI/ML Capabilities Exchange;*
* *Applicable Functionality Reporting;*
* *Inference Configuration and Reporting;*
* *Performance Monitoring Configuration and Reporting;*
* *Functionality (De-)Activation and Fallback/Switching to the non-AI/ML Functionality;*
* *Data collection, both UE-side Data Collection and NW-side Data Collection;*
* *Model Delivery/Transfer.*

- Apple thinks that we didn’t study this in 5G so we should remove it.

- LG indicates that we are considering dynamic capability reporting so we can use the same framework. Vivo thinks that we can share it amongst multiple use cases. Nokia thinks that we should discuss this as the network should be able to reject a model transfer. Interdigital thinks that the last two bullets can be removed.

- NEC asks what is the relationship of this LCM with the unified SA framework. Vivo explains that we are trying to unify the radio related LCM aspects.

- MEdiatek would like to reduce the interactions between the network and UE for UE sided and have some autonomy.

- Qualcomm thinks that every feature we add in 6G should be future compatible with AI/ML and we assume that every feature may have AI/ML.

- BT thinks that we should keep model transfer in the list.

**Agreements on LCM**

Study 6G AI/ML LCM framework that supports at least the following functions/procedures:

* UE AI/ML Capabilities Exchange;
* Applicable Functionality Reporting;
* Inference Configuration and Reporting;
* Performance Monitoring Configuration and Reporting;
* Functionality (De-)Activation and Fallback/Switching to the AI/ML/non-AI/ML Functionality*;*

[3 mins]

[R2-2506786](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506786.zip) Considerations on 6G data transfer and AI framework CATT, CBN discussion Rel-20 FS\_6G\_Radio

Proposal 4: For 6G AI/ML framework, develop an enhanced LCM framework to enable future-proof framework applicable to diverse emerging use cases, incorporating:

* Advanced training techniques, e.g. online training
* Continuity of AI/ML features

[1 min]

[R2-2506775](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506775.zip) Consideration on 6GR data transfer, AI/ML framework and security Xiaomi discussion Rel-20 FS\_6G\_Radio

Proposal 4: 6GR AI/ML framework should follow the below principles:

* Mitigate the requirement for UEs to maintain excessive models or parameters;
* Avoid on-device training.
* Ensure robust user privacy protection.

[1 min]

*L2/L3 AIML Use Cases (If time allows)*

[R2-2507314](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507314.zip) Framework for AI/ML and Transfer of Various Data Types InterDigital discussion Rel-20 FS\_6G\_Radio

Proposal 5: Prioritize evaluation of use cases where no conventional alternative exists or AIML offers significant improvements to system performance.

Proposal 6: Establish a set of complexity metrics for AI/ML evaluation, including normalized FLOPs, space complexity, and derived energy consumption profiles.

[2 mins]

[R2-2507229](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507229.zip) Views on common user plane and control plane ZTE Corporation, Sanechips discussion FS\_6G\_Radio

Proposal 7: RAN2 to conduct a case by case study on 6G AI/ML use cases and the use case proponent shall provide the following aspects for the use case discussion: 1) Use case description, including the motivation, justification; 2) Performance gain, including the methodology for the gain evaluation; 3) Specification impact, including the evaluations based on each compnent of the LCM.

[1 min]

**AS security**

*LSs*

[R2-2506743](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506743.zip) LS on Early Alignment on Access Stratum security aspects (RP-252891; contact: Vodafone) RAN LS in Rel-20 FS\_6G\_Radio To:SA Cc:RAN2, RAN3, SA3, SA2

* Noted

[R2-2506762](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506762.zip) Reply to LS on Early Alignment on Access Stratum security aspects (SP-251268; contact: Vodafone) SA LS in Rel-20 To:RAN, SA3, RAN2, RAN3 Cc:SA2

* Noted

*Security for MAC CEs & Other L2 Control*

[R2-2506896](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506896.zip) Initial Considerations for 6GR UP/CP Common Aspects Sharp discussion Rel-20 FS\_6G\_Radio

*Proposal 1: RAN2 to study security protection (i.e. ciphering and integrity protection) of control messages (e.g. MAC CE, PDCP/RLC control PDUs).*

*Proposal 2: RAN2 to study a unified security framework for data and control messages.*

- Lenovo asks what kind of risks there is with MAC CE, is it only DOS. Sharp explains that we may have to consider replay attacks but SA3 is the main expert. Lenovo asks if there has been an analysis on the severity of the problem. Vodafone thinks that this also depends on the type of MAC CEs and that’s the discussion that SA3 should take.

- CMCC asks for all data and control need ciphering and integrity. Sharp thinks that at least for control integrity protection should be necessary.

- Vivo reminds that we already identified issues in 5G and SA3 acknowledged it but they didn’t do anything in 5G. Should we first wait for SA3 to acknowledge that MAC control has an issue.

* Noted

[2 mins]

[R2-2506937](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506937.zip) Discussion on Security Requirements in 6GR CMCC discussion Rel-20 FS\_6G\_Radio

*Observation 1: There’s no security protection mechanism on 5G MAC CE, including LTM Cell Switch Command.*

*Observation 2: Supporting security protection on MAC CE from 6G day1 could facilitate to the smoother discussion across various 6G topics.*

*Observation 3: With security protection function centralized in one layer like PDCP, it may introduce extra inter-layer interactions and extra time delay, and it may results in confusion at the UE between MAC CE and other data.*

*Proposal 2: The MAC layer should be responsible for security protection operation on MAC CE:*

* *Not all types of MAC CEs will require security protection;*
* *Detailed security functions to be supported at the MAC layer, such as ciphering, integrity protection and other potential functions should be further discussed in RAN2 and SA3.*
* Noted

[2 min]

[R2-2507074](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507074.zip) Common user and control plane aspects for 6G Ericsson discussion Rel-20

*Observation 1: Working groups tend to map control elements to their channels rather than choosing the channel offering the required properties in terms of robustness, message size and security.*

*Proposal 2: Study placement of access stratum security for data and signalling while avoiding having security in multiple layers.*

- Xioami asks where the multiple layer problem comes from. Ericsson explains that would be a problem if we MAC layer security so we should first analyse whether we need to use MAC for the signals that need security. Xiaomi indicates that if we have CU/DU split then we’d have to move PDCP to DU to do security. Ericsson assumes no CU/DU split but we don’t know how the split will look. RAN3 should consider the impact to our protocols and RAN2 should be involved.

- LG asks how can we do SI security if it doesn’t pass PDCP.

* Noted

[2 min]

Discussion

- Qualcomm thinks that first we need to understand the RAN2 involvement in the security. The real question is do we have to do security for L2 control and how can we decide if we don’t know about MAC CEs yet. Also security should be in the node where the data originates. Fujitsu agrees that security should be in the same node where data is originated.

- Vodafone points out that we know how generally MAC CEs look like so that can be a baseline for understanding how it may look like in 6G. Is it a big complexity if we have security in MAC for control and PDCP. Nokia agrees with Vodafone that we do have an idea of what MAC control looks like.

- Verizon thinks that we have to assume the CU/DU split as we have deployments that we want to use for 6G. Docomo agrees.

- ZTE thinks that we have good reasons why we put some signaling in lower layers for some radio level requirements. Now we have security requirements and we shouldn’t change our radio requirements because of security. We need to understand which of the L2 message need to meet these requirements. We shouldn’t move anything to upper layers.

- Mediatek thinks that we should first look at the functionalities and we should avoid duplication, so we should try to have a goal for a unified solution.

- Sharp thinks from UE perspective we should avoid having too much duplication.

- Huawei also thinks it is not urgent to have these discussion and we should wait for DU/CU split to have these discussions. Also even for now it is not clear which MAC control would have these problem and it may not be worth to have security on MAC layer only for LTM for example. Apple doesn’t thinks we should wait as we have some proposals that may require security and we should ask SA3.

- Lenovo thinks DU/CU is deployed. We should avoid having duplicated solution, but even if we have security in two layers it is not duplication as we can use same type.

- Interdigital thinks that we already determined that we had a problem in 5G for LTM so we should ensure that this is fixed in 6G from the beginning and even if we don’t have DU/CU split it doesn’t matter as higher layer processing is still high so we will still need MAC control for fast changes. Xiaomi agrees, but we are also discussing unifying mobility so we may need to wait. Oppo agrees and even in LTE we don’t have CU/DU split.

- Vivo thinks that this would introduce cross layer signaling if we want to do things in the same layer.

- LG doesn’t think we should change security we have today and the question is really whether we need security for some of MAC control signaling. Samsung thinks that some information is moved to lower layers and that’s a motivation.

- Docomo thinks that this discussion is needed to have here in RAN2 and we shouldn’t just wait for SA3. Mediatek agrees and because this has hardware implication it should be resolved as soon as possible.

- Transsion thinks we can wait.

- ZTE thinks that we can categorize broad categories of signalling and we indicate to SA3 that these are the types of signaling that we are studying to put in lower layers. Vodafone is concerned that if we try to categorize all MAC CEs it may take a long time. The question is if we come to the conclusion that we may need L2 control what are the security implication. Qualcomm thinks that if we want to be proactive, if such control information needs to be protected it should not be done as data. Oppo thinks that it would be good to inform SA3 that we we are studying L2 and L3 signaling.

- Xiaomi thinks that the question is whether certain information we send is security sensitive.

- ZTE thinks that we don’t know what type of security SA3 will design for us, but they have to first discuss and then we can discuss here.

- Mediatek thinks that SA3 needs to know what information is carried so we can do an analysis on the current MAC CEs for now. If we go in the direction of having a full stack on the DU that would bring it’s own problems.

- Ericsson is afraid that SA3 might say that everything should be secure and that increased delays. ZTE indicates that we have to indicate that from radio perspective overhead and processing is important.

- Ericsson asks if some information in L1 like CSI, etc may need security and if it does we shouldn’t have secuiryt in multiple layers. Those type of sensitive information should be sent by L2.

* Send LS to SA3 to indicate the existing 5G MAC CE information and that some of these control information may be carried over in 6G L2. Ask them what information would require security. Explain RAN2 concerns of overhead (size and mobility security context exchange) and processing. Please identify only critical information that needs to be secure and what type of security (i.e. integrity, ciphering).
* Indicate that if there are information that critical to be protected RAN2 and SA3 should work jointly to develop a solution.
* Nice to get a response as soon as possible.
* [POST131bis][018][6G] LS to SA3 on security (Vodafone)

Intended outcome: Approve LS to SA3

Deadline: 1 week

*False base station and Integrity for Broadcast/System Information (SIB/SI)*

[R2-2507226](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507226.zip) Discussion on access stratum security aspects KT Corp. discussion

Proposal 2. Security protection function to avoid cyberattacks should be considered in 6G SI.

[R2-2507218](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507218.zip) Considerations for Energy Saving and AS Security in 6GR Samsung, Verizon discussion Rel-20 FS\_6G\_Radio

Observation 7: In 5G NR, system information broadcast is prone to potential threats from False Base Stations.

Proposal 7: RAN2 to study enhanced AS layer security to protect broadcast system information message and mitigate threat from false base stations.

[2 min]

[R2-2506937](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506937.zip) Discussion on Security Requirements in 6GR CMCC discussion Rel-20 FS\_6G\_Radio

Observation 4: Although SA3 studied the security design of system information during the SI stage, the final NR specification does not capture the security protection of system information.

Observation 5: A key question to SA3 regarding system information security is whether the system information in 6G network is genuinely faces security threats or what are new potential risks.

Proposal 1: RAN2 is proposed to incorporate the security protection for MAC CEs and System Information as a requirement for subsequent alignment between SA3 and RAN2, and send LS to SA3 to clarify RAN2’s requirements. The detail solution should be determined by SA3.

[2 mins]

[R2-2506787](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506787.zip) Considerations on 6G AS security CATT discussion Rel-20 FS\_6G\_Radio

Proposal 5: Enhance the integrity protection of broadcasting system information in 6G Day 1.

Proposal 6: Apply integrity protection only for essential system Information.

[2 mins]

*Inter-WG Coordination*

[R2-2506775](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506775.zip) Consideration on 6GR data transfer, AI/ML framework and security Xiaomi discussion Rel-20 FS\_6G\_Radio

Proposal 7: RAN2 waits for SA3’s input on requirements for access stratum security before starting any related study.

[2 mins]

[R2-2507229](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507229.zip) Views on common user plane and control plane ZTE Corporation, Sanechips discussion FS\_6G\_Radio

Observation 2 : The solution for the transmission of low layer command (e.g. legacy MAC CE based and/or DU terminated local RRC based) will impact the discussion in SA3 for the security protection of low layer command.

Proposal 1: RAN2 should identify the type of lower layer signalling that is likely to be specified for 6G and convey this information to SA3 and RAN2 should study the format for the transmission of lower layer signalling (e.g. MAC CE based or Local RRC based), and inform SA3 the corresponding conclusion.

[2 mins]

[R2-2507397](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507397.zip) Early alignment on the air interface security Vodafone GmbH discussion Rel-20

Proposal: It is proposed that this RAN 2 meeting sends an LS to SA3 with the following action:

RAN2 kindly ask SA3 to provide security requirements for RRC Layer and below (e.g. MAC) by June 2026, and RAN2 invites SA3 to engage in early dialogue to facilitate this.

[R2-2507398](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507398.zip) Draft LS on Early Alignment on Access Stratum security aspects Vodafone GmbH LS out Rel-20 To:SA3 Cc:RAN 1,RAN 3, SA 2

[2 min]

**Network and UE Energy Efficiency**

*Design targets*

[R2-2506855](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506855.zip) General considerations for 6G in RAN2 Huawei, HiSilicon discussion Rel-20 FS\_6G\_Radio (moved from 10.2)

Observation 3-1: Energy-saving features typically require support from both UEs and networks. The earlier these energy-saving features are supported, the more UEs and networks will be able to adopt them—thus allowing the intended energy-saving gains to be achieved and maximized.

Proposal 3: 6GR should support Energy Saving features from Day-1. RAN2 should strive to develop solutions that address both network energy efficiency and UE power saving, to enhance their chance of being commercialized.

* Noted

[1 min]

[R2-2507074](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507074.zip) Common user and control plane aspects for 6G Ericsson discussion Rel-20

Observation 8: Network energy saving techniques introduced in NR can provide limited benefits due to backwards compatibility constraint and limited UE support. 6G’s NES functionality must hence be specified and implemented by UEs and networks from day one.

Proposal 5: Network energy efficiency should be considered as a key requirement for all features developed for 6G. Configuration options (e.g. placement of reference signals and paging occasions) that optimize energy efficiency should be the primary/mandatory choice

* Noted

[1 min]

[R2-2507133](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507133.zip) Initial consideration on 6GR CP/UP common aspects Fujitsu discussion Rel-20 FS\_6G\_Radio

Proposal 3: RAN2 to study and decide fundamental and essential power saving functions in Day1 (both NW and UE side).

Proposal 4: RAN2 to study efficient mechanism to enable independent or joint power saving between UE and NW.

* Noted

[1 min]

Discussion

RAN2 should strive to develop solutions that address both network energy efficiency and UE power saving

- Lenovo asks if we have solutions in mind that can do both. Apple explains that there were things like DTX/DRX.

- Interdigital thinks that we need to strike a balance between UE and network energy saving. We can look at network energy saving first and then see how it impacts the UE.

- Xiaomi thinks that we can do some analysis in RAN2 on things that don’t require RAN1.

- Mediatek thinks that we need to consider both sides. Qualcomm would like to ensure that it doesn’t impact performance.

Design goal

1. Strive to develop solutions that consider network energy efficiency and UE power saving

*Alignment of power saving features*

[R2-2507615](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507615.zip) 6GR Common Aspects Nokia, Nokia Shanghai Bell discussion Rel-20 FS\_6G\_Radio

*Proposal 4: RAN2 to discuss and decide which UE power saving features are inherited from 5G to 6G while avoiding specifying multiple features for the same purpose.*

- Lenovo supports this but wonders how we approach this and what would be the criteria.

* Noted

[2 mins]

[R2-2507074](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507074.zip) Common user and control plane aspects for 6G Ericsson discussion Rel-20

*Observation 9: Studies have shown significant reduction in the network energy consumption if default SSB periodicity is extended to at least 160 ms.*

*Observation 11: To extend the deep sleep opportunities for improving network energy savings, adaptations of common channel and signalling transmissions/receptions, such as paging and random-access occasions, should be coordinated accordingly.*

*Proposal 4: Study LP-WUS and RRM neighbour cell measurement relaxation for IDLE/INACTIVE and review and align the toolbox of LP-WUS, C-DRX, SCell (de-)activation and PDCCH-switching features for CONNECTED mode.*

- Vivo asks what is the intention of studying in RAN2. Ericsson thinks that we can study them all and then we can downselect the features we already have.

- ZTE asks how we can align these features. Ericsson thinks that should be part of the study and see which functions we want to align.

- Nokia asks what is the basic assumption on the SSB periodicity

* Noted

[2 mins]

[R2-2507180](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507180.zip) Energy efficiency and AS security for 6GR InterDigital discussion Rel-20 FS\_6G\_Radio

Proposal 2: For energy efficiency in control channel monitoring, the following features are assumed from day-1 for all UEs: LP-WUS/WUR, C-DRX, PDCCH skipping, and cell DTX/DRX.

* Noted

[1 mins]

[R2-2507113](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507113.zip) Views on Directions of 6G User Plane Enhancements Apple discussion Rel-20 FS\_6G\_Radio *(moved from 10.3.1)*

Proposal 7: RAN2 should study how C-DRX flexibility can be enhanced to improve UE power efficiency.

* Noted
* For next meeting companies are encouraged to identify what UE/NW power saving features can be considered and improved in 6G while avoiding specifying multiple features for the same purpose. Focus on solutions that have RAN2 impacts.

[1 mins]

*Time domain*

[R2-2507218](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507218.zip) Considerations for Energy Saving and AS Security in 6GR Samsung, Verizon discussion Rel-20 FS\_6G\_Radio

Observation 1: 5G networks face inherent limitations in energy efficiency due to fundamental trade-offs between power savings and QoS requirements, always-on signaling, and lack of harmonization between UE and network power-saving technologies.

Observation 3: In 5G NR, Cell DTX/DRX were introduced to enhance network energy efficiency in the RRC Connected state but were not extended to Idle and Inactive Modes, leaving untapped potential for energy savings.

Proposal 1: RAN2 should study a unified Cell DTX/DRX mechanism that works in RRC Connected, Idle and Inactive Modes.

[2 mins]

[R2-2507340](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507340.zip) Consideration on general aspects for 6G LG Electronics Inc. discussion Rel-20 FS\_6G\_Radio *(moved from 10.2)*

Proposal 5: Study Cell DTX/DRX for 6G, focusing on significantly reducing downlink and uplink activity during OFF periods (and potentially achieving complete suspension when feasible), in order to maximize network energy saving while minimizing UE experience degradation.

[2 mins]

*Frequency domain*

[R2-2507615](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507615.zip) 6GR Common Aspects Nokia, Nokia Shanghai Bell discussion Rel-20 FS\_6G\_Radio

Proposal 3: From day one 3GPP should design 6G energy saving mechanisms taking into account joint network and UE optimizations for both coverage and capacity layers, single and multiple carrier deployments and allowing reduced transmissions of always-on signals.

[2 mins]

[R2-2507218](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507218.zip) Considerations for Energy Saving and AS Security in 6GR Samsung, Verizon discussion Rel-20 FS\_6G\_Radio

Observation 2:5G networks also encountered challenges from increasing network complexity due to mixed deployments and heterogeneous device integration, as well as compatibility gaps arising from the gradual development of new features.

Proposal 2: RAN2 should study carrier separation architecture from 6GR's initial phase, focusing on network deployment strategies and UE initial access procedures to optimize both network energy efficiency and UE power consumption.

[2 mins]

**Not treated**

[R2-2506770](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506770.zip) Discussion on energy efficient in 6G Transsion Holdings discussion

[R2-2506801](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506801.zip) Considerations on 6G data collection and data transfer vivo, NTT DOCOMO, INC. discussion Rel-20

[R2-2506851](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506851.zip) Discussion on the RAN2-related 6G security aspects OPPO discussion Rel-20 FS\_6G\_Radio

[R2-2506892](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506892.zip) AI RAN RAN2 consideration T-Mobile USA Inc. discussion Withdrawn

[R2-2506897](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506897.zip) 6GR AI/ML Framework Sharp discussion Rel-20 FS\_6G\_Radio

[R2-2506911](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506911.zip) Discussion on data transfer and general AIML framework for 6G Spreadtrum, UNISOC discussion Rel-20

[R2-2506918](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506918.zip) Discussion on transfer of various type of data and general AI/ML framework Transsion Holdings discussion Rel-20

[R2-2506955](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506955.zip) Discussion on data transfer and AI/ML framework in 6G Huawei, HiSilicon discussion Rel-20 FS\_6G\_Radio

[R2-2506974](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506974.zip) Support for Location Dependent Data Collection Fraunhofer IIS, Fraunhofer HHI discussion

[R2-2507036](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507036.zip) Discussion on Common User plane and Control plane for 6GR HONOR discussion Rel-20 FS\_6G\_Radio

[R2-2507128](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507128.zip) Considerations on Common User plane and Control plane for 6G LG Electronics Inc. discussion Rel-20 FS\_6G\_Radio

[R2-2507188](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507188.zip) Overview of Common User Plane and Control Plane Ofinno discussion Rel-20 FS\_6G\_Radio

[R2-2507204](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507204.zip) Discussions on 6G Common Aspects of UP and CP Futurewei discussion Rel-20

[R2-2507225](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507225.zip) Discussion on data transfer design to support various type of data KT Corp. discussion

[R2-2507239](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507239.zip) Considerations on Common User plane and Control plane for 6G AI/ML and Sensing LG Electronics Inc. discussion Rel-20

[R2-2507268](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507268.zip) Discussion on the radio protocols for transfer of various type of data ITRI discussion NR\_newRAT-Core

[R2-2507291](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507291.zip) Considerations for 6G unified CP and UP designs for TN and NTN Lenovo discussion Rel-20 FS\_6G\_Radio

[R2-2507293](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507293.zip) 6GR Common User Plane and Control Plane aspects Lenovo discussion

[R2-2507317](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507317.zip) Discussion on common user plane and control plane for 6GR ITL discussion Rel-20

[R2-2507322](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507322.zip) Discussion on 6GR Rel-20 Common UP & CP aspects Sony discussion Rel-20 FS\_6G\_Radio

[R2-2507335](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507335.zip) Data Plane for AI-ML data collection Rakuten Mobile, Inc discussion Rel-20

[R2-2507357](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507357.zip) Enhancements on New Type of Data in 6G Jio Platforms discussion Rel-20

[R2-2507374](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507374.zip) Transfer of various data and AIML framework NEC discussion Rel-20 FS\_6G\_Radio

[R2-2507388](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507388.zip) Consideration on general AI/ML framework and data transfer China Unicom discussion Late

[R2-2507425](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507425.zip) On AIML data transfer, interface protocols, framework Nokia discussion Rel-20 FS\_6G\_Radio

[R2-2507449](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507449.zip) On 6G AS security NTT DOCOMO, INC. discussion Rel-20 Withdrawn

[R2-2507486](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507486.zip) AI-Native Radio Protocols for 6G Qualcomm Incorporated discussion

=> Revised in [R2-2507655](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507655.zip)

[R2-2507655](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507655.zip) AI-Native Radio Protocols for 6G Qualcomm Incorporated, MediaRek Inc. discussion

[R2-2507515](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507515.zip) Considerations on 6GR general AI/ML framework TCL discussion

[R2-2507543](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507543.zip) Discussion on 6G AIML framework ASUSTeK discussion Rel-20

[R2-2507545](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507545.zip) Discussion on 6G Data Collection and Management Futurewei Technologies discussion Rel-20

[R2-2507564](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507564.zip) Discussion on Common User plane and Control plane ETRI discussion Rel-20

[R2-2507580](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507580.zip) Initial Considerations on the Impact of AS Security and New Services on 6G Common CP and UP China Telecom discussion Rel-20 FS\_6G\_Radio

## 10.4 Mobility

*General mobility principles, types (e.g. L3, CHO, LTM, RLM/RLF, cell reselection), and measurements. Including Inter-RAT and intra-RAT mobility.*

**Mobility framework and targets**

[R2-2507075](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507075.zip) 6G Mobility Ericsson discussion Rel-20

[*Observation 5 The mobility procedures in NR serve different purposes, but in the end multiple options have been specified addressing similar requirements.*](file:///C:\Users\brian.martin\AppData\Local\Temp\850fabff-b2c5-4912-8da9-a7448a615c40_R2-2507075(1).zip.R2-2507075(1).zip\R2-2507075%20-%206G%20Mobility.docx#_Toc210400719)

*Proposal 3 The mobility framework in 6G supports both short interruption time and high robustness in the first release.*

- Lenovo as what short is, is it the 0ms interruption and if so do you think this is really needed. Ericsson thinks that we can aim as close to 0 but we don’t want to have multiple solutions. Xiaomi thinks that the important requirement is to ensure seamless HO for application, but we should have target on robustness. Ericsson thinks that conditional framework provides high robustness.

[*Proposal 4 6G mobility has a single framework that supports: - both conditional and immediate execution - both UL and DL pre-synchronization - operation with and without candidate pre-configurations - short and flexible execution command*](file:///C:\Users\brian.martin\AppData\Local\Temp\850fabff-b2c5-4912-8da9-a7448a615c40_R2-2507075(1).zip.R2-2507075(1).zip\R2-2507075%20-%206G%20Mobility.docx#_Toc210400727)

- Samsung asks what is this short and flexible execution. Ericsson thinks that RRC can handle the short execution without MAC CE.

* Noted

[3 min]

[R2-2507385](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507385.zip) Initial Thoughts on 6G MMM (Mobility, Measurements and Migration) Nokia discussion Rel-20 FS\_6G\_Radio

*Proposal 1: Study a 6GR unified handover (UHO) procedure unifying selected mobility procedures defined in 5G and 5G-Advanced. The study shall consider the following aspects:*

*• both UE and NW implementation aspects of the handover procedure.*

*• eMBB use-case shall be well addressed.*

*• the value added by each procedure to baseline UHO procedure.*

- ZTE asks eMBB is the most important. Nokia confirms it is the baseline.

- Vivo asks if configuration should also be unified. Nokia explains that the intention to avoid what happened in 5G and we had a lot of mobility features added throughout the releases.

*Proposal 2: Study procedures to enable interruption time reduction during mobility, ensure robustness and high cell edge throughput. In particular RAN2 considers the following:*

*• For interruption time reduction consider early DL synchronization, early UL synchronization and early decoding.*

- Mediatek asks this is the considering LTM like procedures. Nokia doesn’t want to limit the discussion yet to LTM even though we like the LTM, but we have RACH-less so we should consider all of them.

*• For ensuring mobility robustness study the procedures that show clear gains versus complexity.*

*• For ensuring high cell edge throughput prioritize procedures that offers the highest gains.*

- ZTE points out that for 0ms interruption can be achieved by beam level so when we talk about cell level mobility we can focus on nearly 0ms.

- Mediatek asks what is prioritized procedures. Nokia explains we should not consider marginal gains and high complexity, so we should focus on solutions with high gains.

* Noted

[3min]

[R2-2506858](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506858.zip) Discussion on 6GR mobility designs Huawei, HiSilicon other Rel-20 FS\_6G\_Radio

*Observation 1: 6GR mobility and beam management framework should jointly consider practical deployment scenarios, handover performance and UE/NW implementation complexity from day 1.*

*Observation 2: UE and network implementation complexity is a critical factor in commercial adoption of mobility solutions.*

*Proposal 2: The 6GR handover procedure should be designed based on the following targets:*

* Simplification and unification;*

* Minimization latency/interruption time/data loss;*

- CATT asks about the data loss. Huawei explains the intentions is to minimize but no data loss may not always be necessary.

* Enhancement of robustness.*

* Noted

[2min]

[R2-2507169](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507169.zip) Consideration on 6G Mobility ZTE Corporation discussion Rel-20 FS\_6G\_Radio

*Observation 3 Seamless handover can be achieved by a combination of mTRP and L3 HO/LTM in 6G, e.g. beam-level mobility based on mTRP within “super” cell and LTM across “super” cells.*

- Sony asks what is super cell. ZTE explains that in the real field we group TRPs in super cells to minimize amount of handovers and we should consider some form of inter-TRP mobility.

- Xiaomi indicates that we don’t need paging so why. ZTE explains that the common channels need to change and the current framework requires a full configuration, but we only to change a sub-set of configuration.

- Oppo thinks that beam level mobility is RAN1. ZTE thinks that cell is not yet defined as we beam level is also mobility. Oppo thinks that RAN1 needs to be discussed. ZTE thinks that RAN2 should also study and understand what are the scenarios and then understand the RAN1 centric ones and coordinate.

- Samsung agrees with ZTE and RAN1 and RAN2 have same target and come up with different solutions so we should consider this together in 6G.

- Lenovo is concerned that we are doing things without understand the problems.

- Huawei thinks that we can start discussions on overall mobility and worry about the split later.

- CMCC understands that within hyper cell the UE will perform beam level and only perform cell level across hyper cell.

*Proposal 2 For mobility in RRC\_CONNECTED, RAN2 to consider the following requirements in 6G mobility design:*

*• Low interruption time, e.g. nearly 0ms interruption time;*

*• Robustness improvement;*

*• Throughput improvement, e.g. avoid throughput degradation during mobility;*

*• Unified and simplified signalling design.*

* Noted

[2min]

Discussion

Interruption time target, robustness, unified.

- Huawei thinks that the problem was not that they weren’t added from day on but rather that they weren’t integrated. Also measurement reporting is complicate and RAN1 and RAN2 were working on similar things. Maybe faster RACH procedure can help and we may not need RACHless.

- Apple asks about this single framework, what is unified, layer, trigger?. Ideally we shouldn’t have subsequent enhancements after day1. ZTE thinks that the first one is configuration and procedure and the other part is measurements. Mediatek agrees with ZTEs explanation, but we need to take a step back and understand what is the problem. In 5G it was difficult to enhance as there were a lot of dependencies and separate pieces of functionality. We can maybe have a system where we can introduce enables a bit more easily. Future extensibility is important so we should consider what we may introduce in the future.

- Qualcomm thinks that we should aim to support RACH-less for UL synch.

- Jio doesn’t want to give up on DAPS.

- LG asks whether this

- Interdigital is aligned with a single framework and we should move away from harmony as harmony in music is multiple voices at once.

- Docomo and CMCC think interruption time is not the most important but rather service continuity and ensure the throughput doesn’t go. ZTE agrees and one solution is early CSI acquisition.

- ZTE thinks that robustness is very important.

- Mediatek thinks that we need to simplify parametrization. Apple thinks that architecture will impact the mobility procedure, for example do we need a key change for every mobility. Ericsson agrees with Apple and we need to first understand what is mobility and all the different aspects.

- Nokia thinks that we can wait until next meeting to understand what is unified.

- Vivo thinks that when we discuss unified we should provide some requirements to RAN1.

- LG Thinks that unified that from a configuration perspective is one step.

- Huawei is concerned that early DL and UL

*For interruption time reduction consider early DL synchronization, early UL synchronization*

6G mobility has a single framework that supports: - both conditional and immediate execution - both UL and DL pre-synchronization - operation with and without candidate pre-configurations - short and flexible execution command

**Agreements**

1 Study mobility with the following requirements in 6G mobility design:

- Minimize interruption time and ensure service continuity (i.e. minimize throughput degradation during mobility). Consider complexity and gains when discussing solutions.

- Robustness of mobility procedures

- Energy efficiency for both UE and NW

2 Study aspects related to mobility (e.g. early DL/UL synchronization, UE configuration processing, pre-configurations, conditional handover, early CSI acquisition)

[R2-2506899](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506899.zip) Consideration on the mobility in 6GR CMCC discussion Rel-20 FS\_6G\_Radio

Observation 1: An interim milestone is set as TSG#113 (September/2026) for RAN plenary to make a decision on additional migration option(s), including 6G-6G DC, therefore, RAN2 can focus on mobility solutions for standalone architecture before that time.

Observation 2: L3 measurement based immediate HO can achieve almost 99% HO success probability on FR1, and it makes sense to take it as baseline of 6G mobility.

Observation 3: CHO can avoid the deterioration of UE experience and handover successful probability, even in high speed scenario.

Proposal 1: For 6G mobility, it is proposed to take L3 measurement based immediate HO as baseline, besides, RACH-less HO,CHO and (C)LTM are supported from 6G day 1.

Observation 4: The minimum interruption time of LTM can almost be 13ms, while L3 measurement based immediately HO latency is also tens of milliseconds e.g., 20ms, the benefits of LTM seems not so attractive.

Proposal 2: The following aspects should be considered in 6G mobility design:

1. Support both beam level and cell level measurement results based mobility, and study a unified 6G measurement framework;

2. Pursue a unified mobility configuration and procedure to avoid redundancy in RRC configuration, and LTM can be taken as baseline;

3. Further study to reduce mobility interruption time, e.g., to achieve ms-level mobility interruption time.

* Noted

[2min]

[R2-2507135](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507135.zip) Views on Mobility and RRM for 6G Qualcomm Incorporated discussion Rel-20 FS\_6G\_Radio

Proposal 2: 6G should support both intra-6G mobility to a prepared cell (i.e., via pre-configuring UE with one or more candidate cell configurations before the cell switch) and intra-6G mobility to a non-prepared cell (i.e., cell switch to a target cell whose configuration is not provided prior to the cell switch) from day-1.

Observation 3: RACH-less handover is supported in NR for intra-gNB handovers (for both TN and NTN), but was specified for inter-gNB handovers only in case of NTN and mobile IAB-DU migration procedure. Also, unlike RACH-less LTM, RACH-less handover doesn’t support early UL/DL sync procedures.

Proposal 3: 6G should support both “RACH-less” intra-6G mobility (e.g., via early DL/UL sync towards target/candidate cells) and RACH-based intra-6G mobility.

[2min]

**Measurement Framework**

[R2-2507135](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507135.zip) Views on Mobility and RRM for 6G Qualcomm Incorporated discussion Rel-20 FS\_6G\_Radio

*Observation 4: 5G measurement framework is quite fragmented and supports different measurement resource and reporting framework for L1/L3 measurements, serving/neighboring cells, SSB vs. CSI-RS.*

*Proposal 4: 6G should strive to support a unified measurement configuration framework e.g., via unification of measurement resource configuration structure (for L1/L3 measurements, for xserving/neighbor cells/beams, for different types of RS) and unification of measurement report configuration structure.*

- Xiaomi asks what about the reporting. Qualcomm explains that we can discuss reporting later.

- CATT asks how can we unify given that CSI measurements are in RAN1 scope.

- Apple thinks that this a good intention but this should come much later as we don’t yet know the L1 reference signals and what L2/L3 reference signals should be. Qualcomm thinks that this is a design goal. Apple thinks that we should go one step further and consider future design and then design the other WGs.

- ZTE thinks that we can unify the measurement configuration but the reporting configuration will depend on the CU/DU split. Qualcomm thinks we can unify by sending the report to CU. ZTE won’t to avoid increasing network implementation complexity.

* Noted

[2min]

[R2-2507562](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507562.zip) Mobility for 6GR MediaTek Inc. discussion

*Proposal 3: RAN2 assumes that separate type of mobility RSs are used for IDLE and CONNECTED mode mobility procedure. RAN2 should discuss the impact to mobility procedure based on this assumption.*

- Interdigital thinks that this may be premature and what do you think the impacts are. Mediatek thinks that just the configuration part. Xiaomi thinks that this is RAN1 business. Ericsson explains that this is more about the modelling from RAN2 point of view. The reference signal locations can be different in the two states, so we need to account for this in RAN2.

*Proposal 4: RAN2 should aim to have a harmonized framework/procedure for different use cases. Considering the following direction:*

*• Measurement of Beam Management (BM) and CONNECTED mode mobility should be based on the same RS.*

*• Unified measurement report (e.g. in MAC-CE). No separate reporting in L1 and L3.*

*• Report per RS – FFS on beam consolidation*

* Noted

[2min]

[R2-2507385](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507385.zip) Initial Thoughts on 6G MMM (Mobility, Measurements and Migration) Nokia discussion

*Proposal 3: RAN2 to study how to reduce measurement overhead and scheduling limitations when compared to 5G. Gap-assisted measurements should consider the following aspects:*

*• non-uniform gap pattern to support efficient gap-based measurements of deactivated serving cells or for load balancing*

*• dynamic network-controlled gap use*

*• gap distribution in time and resource domain across UEs to enable efficient scheduling at the network.*

*Proposal 4: Study RRM measurements framework for different RRC states under single objective to simplify and unify measurement configurations. Consider reusing measurement results across RRC states and idle mode measurements for fast CA setup in 6G Day One.*

* Noted

[2min]

Discussion

- Ericsson agrees that we should look at all the RSs and aim to create a single framework.

- Xiaomi thinks that we should identify the lesson learned and pain point from 5G design. Apple and Nokia indicate that there was RAN4 papers on measurement gap. Apple thinks that measurement gap was a big mess and we have to acknowledge that this may happen again in 6G so we should address a future proof way of handling the measurement gap. ZTE thinks that RAN4 has this topic as highest priority.

- Qualcomm thinks that we should think of a signaling framework that accounts for different services, e.g. measurement, positioning, MUSIM gap. Mediateks agrees that there were problems and even if RAN4 is discussing we can also look and highlight the problem.

**Cell Reselection**

[R2-2507217](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507217.zip) Study on 6G Mobility Framework Samsung, Verizon discussion Rel-20 FS\_6G\_Radio

Proposal 6: NR cell reselection framework is the baseline of 6G cell reselection framework.

[2min]

[R2-2506899](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506899.zip) Consideration on the mobility in 6GR CMCC discussion Rel-20 FS\_6G\_Radio

Proposal 3: For mobility in RRC\_IDLE/INACTIVE, i.e., cell reselection, both single cell associate with one carrier and single cell with multiple carriers (hyper cell) are considered.

[1min]

[R2-2507143](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507143.zip) Consideration on mobility aspects for 6G LG Electronics Inc. discussion Rel-20 FS\_6G\_RadioProposal 5 Study enhanced cell reselection for network to enable camping cell distribution efficiently and to support network slicing in a simpler but fully functional manner.

[1min]

[R2-2506885](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506885.zip) Discussion on mobility aspects in 6GR China Telecom discussion Rel-20 FS\_6G\_Radio

Proposal 2: Slice aware cell reselection for 6GR shall be considered and the design in NR could be taken as a starting point for further study.

[1min]

**Inter-RAT**

[R2-2507294](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507294.zip) Discussion on 6G mobility NTT DOCOMO, INC. discussion Rel-20

Proposal 7: For interworking between 6GR and NR, cell reselection, handover, and redirection can be the solution as baseline. The points RAN2 should discuss are following.

* SIB for cell reselection. (e.g., whether extending SIB5 or introducing new SIB in NR spec.)
* Inter-RAT measurement configuration.

[2mins]

**NTN (will only treat NTN related papers in General section this meeting)**

[R2-2507647](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507647.zip) 6G Mobility aspects for NTN THALES, Airbus, Echostar, Novamint, Fraunhofer IIS discussion Rel-20 FS\_6G\_Radio

Proposal 2 Study a design for 6G procedures supporting TN to NTN and NTN to TN mobility for UEs in Idle and Connected mode.

Proposal 3 Study mobility mechanisms for 6G satellite networks (NTN to NTN), at both idle and connected modes. The study should address:

• Inter-beam mobility

• Inter-cell mobility

• Inter-satellite mobility

Proposal 5 Consider the support of idle and connected mode mobility between

• 6G NTN and NR NTN

• 6G NTN and LTE TN

• 6G TN and 5G NR-NTN

Proposal 6 The 6G radio interface/access shall be defined to support multi-connectivity or Dual Connectivity between two NTN accesses (e.g. GSO and NGSO based) as well as between 6G NTN and 6G TN with simultaneous traffic flow in both/different access links.

[R2-2506776](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506776.zip) Discussion on 6G mobility Xiaomi discussion Rel-20 FS\_6G\_Radio

Lesson learnt from 5G (6): 5G NTN-NTN lacks the support of the multi-orbit scenarios, and mobility between NTN and TN (including cell reselection procedure) has not been sufficiently addressed in 5G.

Proposal 7: In 6G RAN2 study on mobility for NTN scenario, 5G NTN mobility solution can be used as starting point. RAN2 further study, including:

- Incorporation of orbital information of the target cell in HO and cell reselection procedures for multi-orbit scenarios.

- Development of optimized NTN-TN mobility solutions to support seamless service continuity and efficient mobility in integrated NTN-TN deployments.

[R2-2506771](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506771.zip) Discussion on mobility in 6G Transsion Holdings discussion

[R2-2506802](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506802.zip) Considerations on 6GR mobility vivo discussion Rel-20

[R2-2506811](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506811.zip) Discussion on 6GR Mobility CATT discussion Rel-20 FS\_6G\_Radio

[R2-2506853](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506853.zip) Discussion on measurement and mobility framework for 6GR TCL discussion

[R2-2506889](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506889.zip) Views on 6G Mobility Fainity Innovation discussion

[R2-2506898](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506898.zip) Initial Consideratioins for 6GR Mobility Sharp discussion Rel-20 FS\_6G\_Radio

[R2-2506916](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506916.zip) General considerations on mobility for 6GR Spreadtrum, UNISOC discussion Rel-20

[R2-2506939](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506939.zip) Initial consideration on 6GR Mobility Fujitsu discussion Rel-20 FS\_6G\_Radio

[R2-2506973](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2506973.zip) On 6G-Mobility Fraunhofer HHI, Fraunhofer IIS discussion

[R2-2507037](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507037.zip) Discussion on Mobility management for 6GR HONOR discussion Rel-20 FS\_6G\_Radio

[R2-2507095](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507095.zip) Initial considerations on 6G Mobility OPPO discussion Rel-20 FS\_6G\_Radio

[R2-2507120](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507120.zip) Planning for 6G Mobility Study Apple discussion Rel-20 FS\_6G\_Radio

[R2-2507143](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507143.zip) Consideration on mobility aspects for 6G LG Electronics Inc. discussion Rel-20 FS\_6G\_Radio

[R2-2507189](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507189.zip) Key considerations for mobility in 6G Ofinno discussion Rel-20 FS\_6G\_Radio

[R2-2507206](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507206.zip) Discussions on 6G Mobility Futurewei discussion Rel-20

[R2-2507221](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507221.zip) Discussion on 6G Mobility and measurement Lenovo discussion Rel-20 FS\_6G\_Radio

[R2-2507247](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507247.zip) Discussion on 6G mobility ETRI discussion Rel-20 FS\_6G\_Radio

[R2-2507278](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507278.zip) Considerations for 6G mobility design Panasonic discussion Rel-20

[R2-2507292](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507292.zip) Views on Mobility for 6GR KDDI Corporation discussion Rel-20

[R2-2507323](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507323.zip) Discussion on 6GR Rel-20 mobility aspects Sony discussion Rel-20 FS\_6G\_Radio

[R2-2507336](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507336.zip) Discussion on mobility aspects of 6G Radio Access Technology Rakuten Mobile, Inc discussion Rel-20

[R2-2507365](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507365.zip) Cell-Pair Specific Inter-RAT Mobility Configuration Jio Platforms discussion Rel-20

[R2-2507366](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507366.zip) Fundamentals of 6G Mobility Jio Platforms discussion Rel-20

[R2-2507375](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507375.zip) Overview of mobility procedures in 6G NEC discussion Rel-20 FS\_6G\_Radio

[R2-2507391](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507391.zip) Discussion on 6G Mobility framework Tejas Network Limited discussion Rel-20

[R2-2507432](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507432.zip) Connected Mobility for 6GR InterDigital, Inc. discussion Rel-20 FS\_6G\_Radio

[R2-2507463](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507463.zip) 6G Mobility Framework CEWiT discussion

[R2-2507487](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507487.zip) Discussion on 6G Mobility Google discussion Rel-20

[R2-2507500](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507500.zip) Consideration of mobility for 6G study Kyocera discussion Rel-20

[R2-2507544](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507544.zip) Discussion on 6G Mobility design ASUSTeK discussion Rel-20

[R2-2507584](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507584.zip) High level requirements for 6GR mobility BT plc discussion

# 11 Breakout session reports

No documents shall be submitted to this AI or its sub-AIs. It is only for at-meeting-generated contents.

## 11.1 Session on R18 and R19 Mobility

[R2-2507701](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507701.zip) Report from session on R18 SL, R18/19 MOB, and R19 NES Session chair (Ericsson) Report

## 11.2 Session on Rel-18 MIMO, Rel-19 MIMO, LPWUS, SBFD, NR Others

[R2-2507702](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507702.zip) Report from session on Rel-18 MIMO, Rel-19 MIMO, LPWUS, SBFD, NR Others Vice Chairman (CATT) Report

## 11.3 Session on NES, NR NTN and IoT NTN

[R2-2507703](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507703.zip) Report from session on NES, NR NTN and IoT NTN Session chair (ZTE) Report

## 11.4 Session on positioning and sidelink relay

[R2-2507704](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507704.zip) Report from session on positioning and sidelink relay Session chair (MediaTek) Report

## 11.5 Session on XR and LTE-based 5G Broadcast

[R2-2507705](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507705.zip) Report from session on XR and LTE-based 5G Broadcast Session chair (Huawei) Report

## 11.6 Session on maintenance and SON/MDT

[R2-2507706](file:///C:\Users\panidx\OneDrive%20-%20InterDigital%20Communications,%20Inc\Documents\3GPP%20RAN\TSGR2_131bis\Docs\R2-2507706.zip) Report from session on maintenance and SON/MDT Session chair (Ericsson) Report