3GPP TSG-RAN WG2 Meeting #118 electronic R2-2206152

Online, May 9th - 20th, 2022

**Agenda item: 10.2**

**Source: Vice Chairman (ZTE Corporation)**

**Title: Report from Break-out session on R17 NTN, REDCAP and CE**

**Document for: Approval**

General

Recording of voice or video at meetings is not used in 3GPP. This applies also to this e-Meeting. At this e-Meeting, no specific actions are taken to prevent the recording of web conferences. Companies that have concerns related to recordings, if any, may express those by email in the main meeting organizational thread [AT118-e][000]

Organizational

1. All organization emails and notes will be shared over the following email discussion throughout the meeting:
* [AT118-e][100] ****Organizational - NTN, REDCAP and CE session (RAN2 VC)****

Scope:

* + - Share plans for the meeting and list of ongoing email discussions for the sessions related to NTN, REDCAP and CE
		- Share meetings notes and agreements for review and endorsement

Schedule/Plan

WEEK 1:

|  |  |  |  |
| --- | --- | --- | --- |
| **Time ZoneUTC** | **Web Conference R2 - Main** | **Web Conference R2 - BO1** | **Web Conference R2 - BO2** |
| **Monday** |  |  |  |
| 12:30-13:15 | NR17 IoT NTN (Johan) | NR17 RAN Slicing (Tero) | NR17 SL enh (Kyeongin) |
| 13:15-14:00 | NR17 IoT NTN (Johan) | NR17 Small Data Enh (Diana) | NR17 SL enh (Kyeongin) |
| 14:00-14:45 | NR17 feMIMO (Johan) | NR17 Small Data Enh (Diana) | NR17 SL Relay (Nathan) |
| 14:45-15:30 | NR17 MGE (Johan) | NR17 RACH indication / partitioning (Diana) | NR17 SL Relay (Nathan) |
| **Tuesday** |  |  |  |
| 12:30-13:15 | NR17 feMIMO (Johan) | NR17 SONMDT (HuNan) | LTE17 IoT (Brian) |
| 13:15-14:00 | NR17 eIAB (Johan) | NR17 IIOT (Diana) | **NR17 RedCap (Sergio)****- 6.12.1: incoming LSs & Rapp CRs****- 6.12.2.1: offline [105] (NCD-SSB)****- 6.12.2.2: offline [109] (RRM relaxation);**  |
| 14:00-14:45 | NR17 ePowSav (Johan) | NR17 Pos (Nathan) | **NR17 NTN (Sergio)****- 6.10.1: incoming LSs & Rapp CRs, review of Rapp suggestions for RIL issues (**[**R2-2205448**](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2205448.zip)**)****- 6.10.3.1: offline [107] (System information)****- 6.10.3.2: offline [106] (CP issues)****- 6.10.3.2: offline [101] (RIL handling)** |
| 14:45-15:30 | TBD | NR17 Pos (Nathan) | **NR17 NTN (Sergio)****- 6.10.4: offline [108] (UE capabilities)****- 6.10.2: offline [104] (UP corrections)** |
| **Wednesd** |  |  |  |
| 04:00-05:00 | NR17 QoE (Johan) | LTE All releases, including LTE Rel-17 ASN.1 review (Tero) | NR17 Pos or SL Relay (Nathan) |
| **Thursday** |  |  |  |
| 04:00-05:00 | NR17 MBS (Johan) |  NR17 Multi-SIM (Tero)  | **NR17 RedCap (Sergio)****- 6.12.2.2: offline [102] (RIL handling), inter-RAT mobility from LTE to NR, RedCap Capability in the UERadioPagingInformation,** **RSRP threshold offset for 1Rx UE****- 6.12.4: offline [110] (UE capabilities)****NR17 CovEnh (Sergio)****- 8.19.1.1: Incoming LSs****- 8.19.2: offline [103] (RIL handling)** |
| **Friday** |  |  |  |
| 04:00-05:00 | NR17 MBS (Johan) | NR17 DCCA (Tero) | EUTRA legacy IoT (Emre/Brian) |

WEEK 2:

|  |  |  |  |
| --- | --- | --- | --- |
| **Time ZoneUTC** | **Web Conference R2 - Main** | **Web Conference R2 - BO1** | **Web Conference R2 - BO2** |
| **Monday** |  |  |  |
| 12:30-13:15 | NR17 ASN.1 review | NR17 SONMDT (HuNan) | LTE17 IoT (Brian) |
| 13:15-14:00 | NR17 ASN.1 review | NR17 IIOT (Diana) | NR17 Pos (Nathan) |
| 14:00-14:45 | NR17 UE caps  | NR17 RACH indication / partitioning (Diana) | CB Nathan |
| 14:45-15:30 | NR15 NR16 CB (Johan) | CB Diana | CB Nathan |
| **Tuesday** |  |  |  |
| 12:30-13:15 | NR17 TEI (Johan)CB MGE Johan | **CB Sergio (NR NTN)** | NR17 SL enh (Kyeongin) |
| 13:15-14:00 | CB MBS Johan | **CB Sergio (NR NTN)** | NR17 SL enh (Kyeongin) |
| 14:00-14:45 | CB IoT NTN Johan | NR17 up to 71 GHz (Tero) | CB Diana |
| 14:45-15:30 | CB ePowSav Johan | CB Tero (RAN slicing, LTE) | CB Diana |
| **Wednesday** |  |  |  |
| 12:30-13:15 | NR17 feMIMO | CB HuNan  | CB Brian Emre  |
| 13:15-14:00 | CB Johan | **CB Sergio (RedCap)** | CB Nathan |
| 14:00-14:45 | CB Johan | **CB Sergio (RedCap)** | CB Nathan  |
| 14:45-15:30 | CB Johan | CB Tero (DCCA, Multi-SIM) | CB Kyeongin |
| **Thursday** |  |  |  |
| 04:00-05:00 | CB Johan | CB TBD | CB TBD |
| **Friday** |  |  |  |
| 04:00-05:00 | CB Johan | CB TBD | CB TBD |

List and status of offline email discussions

NOTE: No offline email discussions will be kicked off before Sunday May 08th, 19:00 UTC

* [AT118-e][101][NTN] RRC CR (Ericsson)

Scope: continue the discussion on the NR NTN WI-specific RILs, also considering the submitted contributions

Intended outcome: Summary of the offline discussion with e.g.:

* List of proposals for agreement (if any)
* List of proposals that require online discussions
* List of proposals that should not be pursued (if any)

 Deadline (for companies' feedback): Monday 2022-05-16 16:00 UTC

 Deadline (for rapporteur's summary in R2-2206209): Monday 2022-05-16 18:00 UTC

Proposals marked "for agreement" in R2-2206209 not challenged until Tuesday 2022-05-17 08:00 UTC will be declared as agreed via email by the session chair (for the rest the discussion might continue online).

Status: ongoing

* [AT118-e][102][RedCap] RRC CR (Ericsson)

Initial scope: continue the discussion on the RedCap WI-specific RILs, also considering the submitted contributions

Initial intended outcome: Summary of the offline discussion with e.g.:

* List of resolved RILs
* List of RILs for online discussion
* List of RILs for further offline discussion

Deadline (for companies' feedback): Wednesday 2022-05-11 2000 UTC

Deadline (for rapporteur's summary in R2-2206192): Wednesday 2022-05-11 2200 UTC

Status: ongoing

* [AT118-e][103][CovEnh] RRC CR (Huawei)

Initial scope: continue the discussion on the CovEnh WI-specific RILs, also considering the submitted contributions

Initial intended outcome: Summary of the offline discussion with e.g.:

* List of resolved RILs
* List of RILs for online discussion
* List of RILs for further offline discussion

Deadline (for companies' feedback): Thursday 2022-05-12 0000 UTC

Deadline (for rapporteur's summary in R2-2206193): Thursday 2022-05-12 0200 UTC

Status: ongoing

* [AT118-e][104][NTN] UP corrections (Interdigital)

Updated scope: Continue the discussion on the functional aspects, based on [R2-2206194](file:///C%3A%5CData%5C3GPP%5CRAN2%5CInbox%5CR2-2206194.zip); discuss the LS to RAN1 on msg3 repetition and also treat UP related RILs “for discussion” (M411, M412, O358, X605, X610, X604, V307, Z550, Z351, I036, V308, O354) (also further confirm the UP related PropAgree/PropReject RILs)

Updated intended outcome:

1. Summary of the offline discussion on the functional aspects and LS content, with e.g.:
* List of proposals for agreement (if any)
* List of proposals that require online discussions
* List of proposals that should not be pursued (if any)
1. Summary of the offline discussion on the detailed (e.g. RIL related) issues

Deadline1 (for companies' feedback on functional aspects/LS): Friday 2022-05-13 00:00 UTC

Deadline1 (for rapporteur's summary in R2-2206207): Friday 2022-05-13 02:00 UTC

Deadline2 (for companies' feedback on detailed aspects): Monday 2022-05-16 20:00 UTC

Deadline2 (for rapporteur's summary in R2-2206212): Monday 2022-05-16 22:00 UTC

Proposals marked "for agreement" in R2-2206207 not challenged until Friday 2022-05-13 14:00 UTC will be declared as agreed via email by the session chair (for the rest the discussion might continue offline).

Proposals marked "for agreement" in R2-2206212 not challenged until Tuesday 2022-05-17 10:00 UTC will be declared as agreed via email by the session chair (for the rest the discussion might continue online).

Status: ongoing

* [AT118-e][105][RedCap] NCD-SSB aspects (ZTE)

Scope: Continue the discussion on NCD-SSB aspects, including a possible reply LS to [R2-2204486](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204486_R4-2207104.docx)

Intended outcome: Summary of the offline discussion with e.g.:

* Text/proposals for a possible reply LS to [R2-2204486](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204486_R4-2207104.docx)
* List of proposals for agreement (if any)
* List of proposals that require online discussions
* List of proposals that should not be pursued (if any)

 Deadline (for companies' feedback): Friday 2022-05-13 02:00 UTC

 Deadline (for rapporteur's summary in R2-2206204): Friday 2022-05-13 04:00 UTC

Proposals marked "for agreement" in R2-2206204 not challenged until Friday 2022-05-13 16:00 UTC will be declared as agreed via email by the session chair (for the rest the discussion might continue offline).

Status: ongoing

* [AT118-e][106][NTN] CP issues (Nokia)

Scope: continue the discussion based on [R2-2206196](file:///C%3A%5CData%5C3GPP%5CRAN2%5CInbox%5CR2-2206196.zip)

Intended outcome: Summary of the offline discussion with e.g.:

* List of proposals for agreement (if any)
* List of proposals that require online discussions
* List of proposals that should not be pursued (if any)

 Deadline (for companies' feedback): Friday 2022-05-13 04:00 UTC

 Deadline (for rapporteur's summary in R2-2206210): Friday 2022-05-13 06:00 UTC

Proposals marked "for agreement" in R2-2206210 not challenged until Friday 2022-05-13 18:00 UTC will be declared as agreed via email by the session chair (for the rest the discussion might continue offline).

Status: ongoing

* [AT118-e][107][NTN] System information (Huawei)

 Updated scope: continue the discussion based on [R2-2206197](file:///C%3A%5CData%5C3GPP%5CRAN2%5CInbox%5CR2-2206197.zip).

 Updated intended outcome: Summary of the offline discussion with e.g.:

* List of proposals for agreement (if any)
* List of proposals that require online discussions
* List of proposals that should not be pursued (if any)

 Deadline (for companies' feedback): Friday 2022-05-13 00:00 UTC

 Deadline (for rapporteur's summary in R2-2206208): Friday 2022-05-13 02:00 UTC

Proposals marked "for agreement" in R2-2206208 not challenged until Friday 2022-05-13 14:00 UTC will be declared as agreed via email by the session chair (for the rest the discussion might continue offline).

Status: ongoing

* [AT118-e][108][NTN] UE capabilities (Intel)

Scope: continue the discussion based on [R2-2206198](file:///C%3A%5CData%5C3GPP%5CRAN2%5CInbox%5CR2-2206198.zip)

Intended outcome: Summary of the offline discussion with e.g.:

* List of proposals for agreement (if any)
* List of proposals that require online discussions
* List of proposals that should not be pursued (if any)

 Deadline (for companies' feedback): Monday 2022-05-16 22:00 UTC

 Deadline (for rapporteur's summary in R2-2206211): Tuesday 2022-05-17 00:00 UTC

Proposals marked "for agreement" in R2-2206211 not challenged until Tuesday 2022-05-17 12:00 UTC will be declared as agreed via email by the session chair (for the rest the discussion might continue online).

Status: ongoing

* [AT118-e][109][RedCap] RRM relaxation (vivo)

Scope: Continue the discussion on RRM relaxation, based on the discussion [R2-2206199](file:///C%3A%5CData%5C3GPP%5CRAN2%5CInbox%5CR2-2206199.zip)

Summary of the offline discussion with e.g.:

* Text/proposals for a possible reply LS to [R2-2204487](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204487_R4-2207109.doc)
* List of proposals for agreement (if any)
* List of proposals that require online discussions
* List of proposals that should not be pursued (if any)

 Deadline (for companies' feedback): Friday 2022-05-13 02:00 UTC

 Deadline (for rapporteur's summary in R2-2206205): Friday 2022-05-13 04:00 UTC

Proposals marked "for agreement" in R2-2206205 not challenged until Friday 2022-05-13 16:00 UTC will be declared as agreed via email by the session chair (for the rest the discussion might continue offline).

Status: ongoing

* [AT118-e][110][RedCap] UE capabilities (Intel)

Initial scope: discuss incoming LSs on UE capabilities and other UE capabilities aspects based on contributions in 6.12.4 (and in other AIs, e.g. [R2-2204619](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204619%20Discussion%20on%20RAN4%20LS%20on%20FR2%20RedCap%20UE.docx), [R2-2205637](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205637-RedCap-PC7-331.docx), [R2-2205638](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205638-RedCap-PC7-306.docx))

Initial intended outcome: Summary of the offline discussion with e.g.:

* List of proposals for agreement (if any)
* List of proposals that require online discussions
* List of proposals that should not be pursued (if any)

Deadline (for companies' feedback): Wednesday 2022-05-11 1400 UTC

Deadline (for rapporteur's summary in R2-2206200): Wednesday 2022-05-11 1500 UTC

Proposals marked "for agreement" in R2-2206200 not challenged until Thursday 2022-05-12 0300 UTC will be declared as agreed via email by the session chair (for the rest the discussion will continue online).

Status: ongoing

* [AT118-e][111][NTN] Idle mode (ZTE)

 Initial scope: based on contributions in 6.10.3.1.1 discuss access barring and cell reselection issues

 Initial intended outcome: Summary of the offline discussion with e.g.:

* List of proposals for agreement (if any)
* List of proposals that require online discussions
* List of proposals that should not be pursued (if any)

 Deadline (for companies' feedback): Friday 2022-05-13 00:00 UTC

 Deadline (for rapporteur's summary in R2-2206201): Friday 2022-05-13 02:00 UTC

Proposals marked "for agreement" in R2-2206201not challenged until Friday 2022-05-13 14:00 UTC will be declared as agreed via email by the session chair (for the rest the discussion might continue offline).

Status: ongoing

* [AT118-e][112][NTN] Stage-2 CR (Thales)

 Scope: continue the discussion on the Stage-2 CR, also considering Stage-2 text proposals in submitted contributions

 Intended outcome: Agreeable Stage-2 CR

 Deadline (for companies' feedback): Thursday 2022-05-19 12:00 UTC

 Deadline (for final CR in R2-2206202): Friday 2022-05-20 08:00 UTC

Status: ongoing

* [AT118-e][113][RedCap] Stage-2 CR (Nokia)

 Scope: continue the discussion on the Stage-2 CR, also considering Stage-2 text proposals in submitted contributions

 Intended outcome: Agreeable Stage-2 CR

 Deadline (for companies' feedback): Thursday 2022-05-19 12:00 UTC

 Deadline (for final CR in R2-2206203): Friday 2022-05-20 08:00 UTC

Status: ongoing

* [AT118-e][114][NTN] Reply LSs to CT1 (CMCC)

 Initial scope: Discuss whether some minimal update to 38.304 is needed related to the CT1 LS on list of PLMNs not allowed to operate at the present UE location and the need/content of a reply LS for CT1 LS about NR satellite RAT type in UE NAS

 Initial intended outcome: Agreeable TP for a 38.304 CR on list of PLMNs not allowed to operate at the present UE location and reply LS to CT1 on NR satellite RAT type in UE NAS

 Deadline (for companies' feedback): Tuesday 2022-05-17 06:00 UTC

 Deadline (for rapporteur's summary in R2-2206206): Tuesday 2022-05-17 08:00 UTC

Status: ongoing

* [AT118-e][115][RedCap] eDRX corrections (Samsung)

Scope: Discuss eDRX corrections for 38.304, e.g. based on [R2-2205090](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205090.docx)

Summary of the offline discussion with agreeable proposals/TP for 38.304

Deadline (for companies' feedback): Tuesday 2022-05-17 22:00 UTC

Deadline (for rapporteur's summary in R2-2206213): Tuesday 2022-05-17 23:00 UTC

Proposals/TP marked "for agreement" in R2-2206213 not challenged until Wednesday 2022-05-18 11:00 UTC will be declared as agreed via email by the session chair.

Status: to be started

* [AT118-e][116][RedCap] MAC aspects (XXX)

Scope: Discuss MAC aspects, e.g. based on contributions in 6.12.3.1

Summary of the offline discussion with agreeable proposals/TP for 38.321

Deadline (for companies' feedback): Tuesday 2022-05-17 22:00 UTC?

Deadline (for rapporteur's summary in R2-2206214): Tuesday 2022-05-17 23:00 UTC?

Proposals/TP marked "for agreement" in R2-2206214 not challenged until Wednesday 2022-05-18 11:00 UTC? will be declared as agreed via email by the session chair.

Status: to be started

## 8.10 NR Non-Terrestrial Networks (NTN)

(NR\_NTN\_solutions-Core; leading WG: RAN2; REL-17; WID: [RP-211557](file:///C%3A%5CData%5C3GPP%5Carchive%5CRAN%5CRAN%2392%5CTdocs%5CRP-211557.zip))

RAN2 parts of the WI has been declared 100% complete. The exception sheet in RP-220209 contains RAN4 impacts.

Tdoc Limitation: 8 tdocs

### 6.10.1 Organizational

LSs, rapporteur inputs and other organizational documents. Rapporteur inputs and other pre-assigned documents in this AI do not count towards the tdoc limitation.

#### 6.10.1.1 LS in

For LSes that need action: one tdoc by contact company to address the LS and potential reply is considered.

Rapporteur input may be provided.

SIB19 updating

[R2-2204468](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204468_R1-2202843.docx) Reply LS on NTN-specific SIB (R1-2202843; contact: Huawei) RAN1 LS in Rel-17 NR\_NTN\_solutions-Core To:RAN2

* Discussed in offline 107

[R2-2206041](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2206041.zip) Discussion on ambiguity of cell-specific K\_offset Huawei, HiSilicon discussion Rel-17 NR\_NTN\_solutions-Core

* Discussed in offline 107

Neighbour cell information

[R2-2204470](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204470_R1-2202873.docx) Reply LS to RAN2 on NR NTN Neighbour Cell and Satellite Information (R1-2202873; contact: Thales) RAN1 LS in Rel-17 NR\_NTN\_solutions-Core To:RAN2

* Discussed in offline 106

PLMNs not allowed

[R2-2204450](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204450_C1-222096.doc) LS on introducing the list of PLMNs not allowed to operate at the present UE location (C1-222096; contact: CMCC) CT1 LS in Rel-17 5GSAT\_ARCH-CT To:RAN2

[R2-2205158](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205158%20Impact%20on%20Cell%20selection%20re-selection%20by%20the%20new%20PLMN%20list%20from%20CT1.docx) Impact on Cell selection/re-selection by the new PLMN list from CT1 CMCC discussion Rel-17 NR\_NTN\_solutions-Core

Proposal 1: NAS is proposed to transmit the information of the list to the AS to facilitate the cell selection and re-selection.

Proposal 2: it is proposed that for Rel-17 UE in NTN, it also requires the following condition to consider a cell as suitable:

- The cell is not part of the list of " PLMNs not allowed to operate at the present UE location "; Or

- The cell is part of the list of " PLMNs not allowed to operate at the present UE location " , and either:

- the current UE location is out of the coverage of the geographical location is stored for the entry of this PLMN plus the distance stored for the entry of this PLMN; or

- the timer associated with the entry of this PLMN has expired.

- The cell selection criteria are fulfilled, see clause 5.2.3.2 in TS 38.304.

Proposal 3: if the UE detects a cell and the location of the UE fulfils the conditions related to the list of "PLMNs not allowed to operate at the present UE location", it shall not consider the cell as candidate cell for cell selection and re-selection in NTN.

* Ericsson thinks nothing needs to be done in AS. This is about PLMN selection which is done in NAS. Samsung/QC agrees. QC also thinks that CT1 did not ask RAN2 to do anything.
* Huawei thinks some parts of the TP from CMCC can be kept, i.e. to section 4.2 and indicate that a list of "PLMNs not allowed to operate at the present UE location should be maintained”.
* Intel wonders whether NAS needs AS to report UE location
* Continue offline to see whether some minimal update to 38.304 is needed, e.g. to the table in section 4.2

[R2-2205159](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205159%20draft%20Reply%20LS%20on%20introducing%20the%20list%20of%20PLMNs%20not%20allowed%20to%20operate%20at%20the%20present%20UE%20location.docx) draft Reply LS on introducing the list of PLMNs not allowed to operate at the present UE location CMCC LS out Rel-17 NR\_NTN\_solutions-Core To:CT1

[R2-2204509](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204509_C1-223045.docx) Emergency services and UE rejected with "PLMN not allowed to operate in the country of the UE’s location" (C1-223045; contact: OPPO)   CT1     LS in    Rel-17 5GSAT\_ARCH-CT      To:SA1, RAN2   Cc:SA2, SA3LI

* Oppo thinks that CT1 is asking SA1 to confirm. We do not need to do anything for now.
* Noted

NR satellite RAT type (moved from 6.10.1)

[R2-2205027](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205027%20Discussion%20on%20CT1%20LS%20about%20NR%20satellite%20RAT%20type%20in%20UE%20NAS.docx) Discussion on CT1 LS about NR satellite RAT type in UE NAS CMCC discussion Rel-17 NR\_NTN\_solutions-Core

Proposal 1: It is proposed to support that the NR satellite RAT type could be available to the NAS at the UE.

Proposal 2: It could be trusted that the UE value corresponds to the value provided to the AMF due to that the RAT type at the UE NAS is indicated by the UE AS itself.

Proposal 3: We kindly suggest RAN2 to agree the draft Reply LS in R2-2205028.

* HW thinks there is no need to forward RAT type to NAS and CT1 is not asking to do anything
* QC thinks we could draft a LS response
* Continue offline to check the need/content of a reply LS
* [AT118-e][114][NTN] Reply LSs to CT1 (CMCC)

 Initial scope: Discuss whether some minimal update to 38.304 is needed related to the CT1 LS on list of PLMNs not allowed to operate at the present UE location and the need/content of a reply LS for CT1 LS about NR satellite RAT type in UE NAS

 Initial intended outcome: Agreeable TP for a 38.304 CR on list of PLMNs not allowed to operate at the present UE location and reply LS to CT1 on NR satellite RAT type in UE NAS

 Deadline (for companies' feedback): Tuesday 2022-05-17 06:00 UTC

 Deadline (for rapporteur's summary in R2-2206206): Tuesday 2022-05-17 08:00 UTC

R2-2206206 [offline-114] Reply LSs to CT1 CMCC discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205028](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205028%20%5BDRAFT%5D%20Reply%20LS%20to%20CT1%20on%20NR%20satellite%20RAT%20type%20in%20UE%20NAS.docx) [DRAFT] Reply LS on NR satellite RAT type in UE NAS CMCC LS out Rel-17 NR\_NTN\_solutions-Core To:CT1 Cc:RAN3, SA2

UE location during initial access

[R2-2204496](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204496_R3-222861.docx) Reply LS on UE location during initial access in NTN (R3-222861; contact: Thales RAN3 LS in Rel-17 NR\_NTN\_solutions-Core To:RAN2 Cc:CT1, SA3, SA2

* Noted

Other

[R2-2204520](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204520_S2-2203242.docx) Reply LS on RAN Initiated Release due to out-of-PLMN area condition (S2-2203242; contact: Samsung) SA2 LS in Rel-17 NR\_NTN\_solutions-Core To:RAN3 Cc:CT1, RAN2

* Noted (no RAN2 action)

#### 6.10.1.2 Rapporteur CRs

CR Rapporteurs to provide input CRs, if needed.

[R2-2204627](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204627_NR-NTN%20Stg2%20CR_v00.docx) Support of UE location in Non-Terrestrial Networks THALES draftCR Rel-17 38.300 17.0.0 NR\_NTN\_solutions

* Revised in R2-2206202

R2-2206202 Support of UE location in Non-Terrestrial Networks THALES draftCR Rel-17 38.300 17.0.0 NR\_NTN\_solutions

[R2-2204628](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204628%20SAN%20for%20NTN%20based%20NG-RAN.docx) SAN for NTN based NG-RAN THALES discussion Rel-17 38.300 NR\_NTN\_solutions

* Discussed in offline 112
* [AT118-e][112][NTN] Stage-2 CR (Thales)

 Scope: continue the discussion on the Stage-2 CR, also considering Stage-2 text proposals in submitted contributions

 Intended outcome: Agreeable Stage-2 CR

 Deadline (for companies' feedback): Thursday 2022-05-19 12:00 UTC

 Deadline (for final CR in R2-2206202): Friday 2022-05-20 08:00 UTC

[R2-2205463](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2205463.zip) Correction for NR NTN WI Ericsson CR Rel-17 38.331 17.0.0 3088 - F NR\_NTN\_solutions-Core Late

Moved from 6.10.1

[R2-2206088](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2206088.zip) Summary of NTN RIL resolutions pre118 Ericsson discussion NR\_NTN\_solutions-Core

* Noted

[R2-2205448](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2205448.zip) NTN ASN1 RIL list Ericsson discussion NR\_NTN\_solutions-Core Late

Confirmation of RIL issues marked as “PropAgree” and “PropReject”

* Xiaomi thinks that X610, currently set to “Prop Reject” in the RIL list, should be “Prop Agree”

- Xiaomi thinks that V307 needs some rewording

- QC wonders about x604. This should also be checked.

- QC thinks Z550 should be discussed

* X610, X604, V307, Z550 can be further discussed in offline 104
* X618 can be discussed in offline 101
* All other RIL issues marked as “PropAgree” and “PropReject” are confirmed as a baseline (can further discuss the details)

### 6.10.2 User Plane

#### 6.10.2.1 Known Corrections

Corrections/clarifications for already known issues, e.g. details of support for blind Msg3 retransmission, details of TA reporting during RA (e.g. on when to send TA report if RA triggered by upper layers), implementation of HARQ RTT Timer extension (coordination with RRC spec), UE behaviour upon validity timer expiry (confirmation of WA)

[R2-2204556](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204556%20Correction%20on%20the%20TAR%20triggers%20based%20on%20RRC%20procedure.docx) Corrections on the TAR triggers based on RRC procedures in NR NTN vivo discussion NR\_NTN\_enh-Core

[R2-2204557](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204557%20On%20corrections%20on%20random%20access%20procedure%20in%20NR%20NTN.docx) On corrections on random access procedure in NR NTN vivo discussion NR\_NTN\_enh-Core

[R2-2204558](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204558%20On%20the%20corrections%20to%20DRX%20procedure%20and%20Timing%20Advance%20reporting%20procedure%20in%20TS%2038.321.docx) On corrections to DRX procedure and TA reporting procedure in TS 38.321 vivo discussion NR\_NTN\_enh-Core

[R2-2204656](file:///C%3A%5CData%5C3GPP%5CExtracts%5C38331_CR2984_%28Rel-17%29_R2-2204656%20TA%20report%20trigger.docx) TA report trigger in NTN Qualcomm Incorporated CR Rel-17 38.331 17.0.0 2984 - F NR\_NTN\_solutions-Core

[R2-2204657](file:///C%3A%5CData%5C3GPP%5CExtracts%5C38331_CR2985_%28Rel-17%29_R2-2204657%20NR%20NTN%20UL%20sync%20timer.docx) Handling the loss of UL synchronization Qualcomm Incorporated CR Rel-17 38.331 17.0.0 2985 - F NR\_NTN\_solutions-Core

[R2-2204733](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204733%20-%20Discussion%20on%20ra-ContentionResolutionTimer%20in%20NTN.doc) Discussion on ra-ContentionResolutionTimer in NTN OPPO discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2204734](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204734%20-%20left%20issue%20on%20TA%20report%20triggered%20SR.doc) left issue on TA report triggered SR OPPO discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2204735](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204735%20-%20Further%20discussion%20on%20validity%20timer%20impacts%20in%20NTN.doc) Further discussion on validity timer impacts in NTN OPPO discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2204748](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204748.docx) MAC operations about the validity timer expiry Spreadtrum Communications discussion Rel-17

[R2-2205134](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205134%20Corrections%20for%20TA%20report.docx) Corrections for TA report ASUSTeK discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205135](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205135%20Discussion%20on%20TP%20for%20blind%20Msg3%20retransmission.docx) Discussion on TP for blind Msg3 retransmission ASUSTeK discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205232](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205232%20UE%20Behavior%20upon%20Validity%20Timer%20Expiry.docx) UE Behavior upon Validity Timer Expiry CATT discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205240](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205240_Discussion%20on%20remaining%20issues_v3.docx) Discussion on remaining issues LG Electronics Inc. discussion NR\_NTN\_solutions-Core

[R2-2205358](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205358%20Clarification%20on%20contention%20Resolution%20timer%20behavior.doc) Clarification on contention Resolution timer behavior ZTE Corporation, Sanechips discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205359](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205359%20Consideration%20on%20RTT%20timer%20extension%20implementation.doc) Consideration on RTT timer extension implementation ZTE Corporation, Sanechips discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205403](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205403%20Remaining%20issues%20related%20to%20NTN%20validity%20timer.doc) Remaining issues related to NTN validity timer Xiaomi discussion Rel-17

[R2-2205477](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205477%20Discussion%20on%20Contention%20Resolution%20timer%20expiry.DOC) Discussion on Contention Resolution timer expiry Huawei, HiSilicon discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205478](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205478%20Further%20consideration%20on%20TA%20report%20MAC%20CE.DOC) Further consideration on TA report MAC CE Huawei, HiSilicon discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205596](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205596%20Further%20consideration%20on%20TA%20report.doc) Further consideration on TA report ZTE Corporation, Sanechips discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205694](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205694_6.10.2.1_MAC.docx) Discussion on MAC open issues Samsung Research America discussion NR\_NTN\_solutions-Core

[R2-2205702](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205702%20Consideration%20on%20validity%20timer%20related%20issues.doc) Consideration on validity timer related issues ZTE Corporation, Sanechips discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205720](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205720%20Discussion%20on%20user%20plane%20known%20issues%20for%20NR%20NTN.docx) Discussion on user plane known issues for NR NTN Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205721](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205721%20CR%20for%20Contention%20Resolution%20failure%2C%20SR%20and%20TA%20MAC%20CE%20report.docx) CR for Contention Resolution failure, SR and TA MAC CE report Nokia, Nokia Shanghai Bell CR Rel-17 38.321 17.0.0 1284 - F NR\_NTN\_solutions-Core

[R2-2205954](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205954%20%28R17%20NTN%20WI%20AI%206.10.2.1%29%20HARQ%20Timer%20Extension.docx) HARQ RTT timer extention InterDigital discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205955](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205955%20%28R17%20NTN%20WI%20AI%206.10.2.1%29%20TA%20Reporting.docx) TA Reporting during Random Access InterDigital discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205956](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205956%20%28R17%20NTN%20WI%20AI%206.10.2.1%29%20validity%20timer%20expiry.docx) UE behaviour upon validity timer expiry InterDigital discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205994](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205994%20-%20Known%20NR%20NTN%20user%20plane%20issues.docx) Known NR NTN user plane issues Ericsson discussion Rel-17 NR\_NTN\_solutions-Core

* [AT118-e][104][NTN] UP corrections (Interdigital)

Initial scope: based on contributions in 6.10.2, discuss corrections for TA reporting, msg3 retx, Contention Resolution timer, validity timer expiry, HARQ RTT timer extension and other general UP corrections

Initial intended outcome: Summary of the offline discussion with e.g.:

* List of proposals for agreement (if any)
* List of proposals that require online discussions
* List of proposals that should not be pursued (if any)

Deadline (for companies' feedback): Monday 2022-05-09 2000 UTC

Deadline (for rapporteur's summary in [R2-2206194](file:///C%3A%5CData%5C3GPP%5CRAN2%5CInbox%5CR2-2206194.zip)): Monday 2022-05-09 2200 UTC

Updated scope: Continue the discussion on the functional aspects, based on [R2-2206194](file:///C%3A%5CData%5C3GPP%5CRAN2%5CInbox%5CR2-2206194.zip); discuss the LS to RAN1 on msg3 repetition and also treat UP related RILs “for discussion” (M411, M412, O358, X605, X610, X604, V307, Z550, Z351, I036, V308, O354) (also further confirm the UP related PropAgree/PropReject RILs)

Updated intended outcome:

1. Summary of the offline discussion on the functional aspects and LS content, with e.g.:
* List of proposals for agreement (if any)
* List of proposals that require online discussions
* List of proposals that should not be pursued (if any)
1. Summary of the offline discussion on the detailed (e.g. RIL related) issues

Deadline1 (for companies' feedback on functional aspects/LS): Friday 2022-05-13 00:00 UTC

Deadline1 (for rapporteur's summary in R2-2206207): Friday 2022-05-13 02:00 UTC

Deadline2 (for companies' feedback on detailed aspects): Monday 2022-05-16 20:00 UTC

Deadline2 (for rapporteur's summary in R2-2206212): Monday 2022-05-16 22:00 UTC

Proposals marked "for agreement" in R2-2206207 not challenged until Friday 2022-05-13 14:00 UTC will be declared as agreed via email by the session chair (for the rest the discussion might continue offline).

Proposals marked "for agreement" in R2-2206212 not challenged until Tuesday 2022-05-17 10:00 UTC will be declared as agreed via email by the session chair (for the rest the discussion might continue online).

[R2-2206194](file:///C%3A%5CData%5C3GPP%5CRAN2%5CInbox%5CR2-2206194.zip) [offline-104] UP corrections Interdigital discussion Rel-17 NR\_NTN\_solutions-Core

For email agreement

Proposal 1a: The text proposals from corrections 3 and 8 are adopted and included in a TS 38.321 Rapporteur CR.

* Agreed

Proposal 1b: T\_TA shall be updated to TTA in “5.4.8 Timing Advance Reporting”.

* Agreed

Proposal 2: Do not introduce an explicit configuration to support blind Msg3 retransmission in NTN. (18/19)

* Agreed

Proposal 4: RAN2 confirms that upon validity timer expiry in NR NTN, UE shall suspend uplink transmission and acquire SIB-19, flushing HARQ buffers. (18/20)

* Agreed

Proposal 5: A new T3XX timer is introduced in RRC specification with duration ntn-UlSyncValidityDuration. Details of timer handling to be addressed in CP discussion (consensus)

* Agreed

Proposal 6: RRC indicates to lower layers when T3XX timer has expired or is restarted. (16/20)

* Agreed

Agreements via email – from offline 104:

1. The text proposals from corrections 3 and 8 in [R2-2206194](file:///C%3A%5CData%5C3GPP%5CRAN2%5CInbox%5CR2-2206194.zip) are adopted and included in a TS 38.321 Rapporteur CR.

2. T\_TA shall be updated to TTA in “5.4.8 Timing Advance Reporting”.

3. Do not introduce an explicit configuration to support blind Msg3 retransmission in NTN.

4. Upon validity timer expiry in NR NTN, UE shall suspend uplink transmission and acquire SIB-19, flushing HARQ buffers.

5. A new T3XX timer is introduced in RRC specification with duration ntn-UlSyncValidityDuration. Details of timer handling to be addressed in CP discussion

6. RRC indicates to lower layers when T3XX timer has expired or is restarted.

For online discussion

Proposal 3: Msg3 repetition functionality is not supported in Rel-17 NTN. FFS if update to RRC is needed to clarify NW is not expected to configure this feature for NTN UE. (11/19)

* QC thinks that for RAN2 there might be no impact but we don’t know for RAN1.
* Ericsson thinks we need to solve this in the MAC spec
* Send an LS to RAN1 asking whether, from RAN1 perspective, msg3 repetition can be supported for Rel-17 NR NTN.
* Further discuss offline if there would be any RAN2 showstopper

Proposal 7: RAN2 to confirm setting of drx-HARQ-RTT-Timer-DL/UL length, including when timer is extended by UE-gNB RTT, is specified in RRC and when to start/stop timer is specified in MAC.

* Ericsson thinks specifying this in RRC would change the RRC/MAC interaction
* Continue offline

Proposal 8: If HARQ RTT Timer extension is handled in RRC, RAN2 to decide whether timer extension is captured via 1) procedural text in “5.3.5.5.5 MAC entity configuration” (12/17); or 2) the field description of drx-HARQ-RTT-TimerDL/UL (11/17).

* Continue offline

Postponed to Phase 2

Proposal 1c: RAN2 to further discuss corrections 1, 2, 4, 5, and 7.

R2-2206207 [offline-104] UP corrections – second round Interdigital discussion Rel-17 NR\_NTN\_solutions-Core

R2-2206212 [offline-104] UP corrections – third round Interdigital discussion Rel-17 NR\_NTN\_solutions-Core

#### 6.10.2.2 Other

Contributions on any other UP issues.

[R2-2204559](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204559%20Miscellaneous%20corrections%20on%20TS%2038.321%20for%20NR%20NTN.docx) Miscellaneous corrections on TS 38.321 for NR NTN vivo discussion NR\_NTN\_enh-Core

[R2-2205231](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205231%20The%20Modification%20of%20TA%20Reporting%20Triggering%20Condition.docx) The Modification of TA Reporting Triggering Condition CATT discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205340](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205340.doc) CG enhancements in NTN Sony discussion Rel-17 NR\_NTN\_solutions-Core [R2-2200911](file:///C%3A%5CData%5C3GPP%5Carchive%5CRAN2%5CRAN2%23116bis%5CTdocs%5CR2-2200911.zip)

[R2-2205360](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205360%20Discussion%20on%20co-existence%20of%20Msg3%20repetition%20and%20NTN.doc) Discussion on co-existence of Msg3 repetition and NTN ZTE Corporation, Sanechips discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205722](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205722%20On%20other%20user%20plane%20issues%20for%20NR%20NTN.docx) On other user plane issues for NR NTN Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205995](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205995%20-%20Other%20NR%20NTN%20user%20plane%20issues.docx) Other NR NTN user plane issues Ericsson discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205999](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205999_Correction%20to%20NR%20NTN%20epoch%20time%20definition.docx) Correction to NR NTN epoch time definition Sequans Communications discussion Rel-17 NR\_NTN\_solutions-Core

* Discussed in offline 112

### 6.10.3 Control Plane

#### 6.10.3.1 Idle/inactive mode aspects

##### 6.10.3.1.1 Known Corrections

Corrections/clarifications for already known issues, e.g. location based cell reselection, access barring (UE behavior), SIBxx processing (details on UE operation)

cell-specific k\_offset (moved here from 6.10.3.2.1)

[R2-2204714](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204714%20Discussion%20on%20neighbor%20cell%27s%20epoch%20time%20and%20Koffset%27s%20ambiguity%20issue.doc) Discussion on neighbour cell's epoch time and Koffset's ambiguity issue OPPO discussion Rel-17 NR\_NTN\_solutions-Core

* Discussed in offline 107

[R2-2205650](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205650%20Cell-specific%20K_offset%20ambiguity.docx) Cell-specific K\_offset ambiguity Apple discussion Rel-17 NR\_NTN\_solutions-Core

* Discussed in offline 107

SIB19 processing and updating aspects

Moved here from 6.10.3.2.1

[R2-2204749](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204749%20Discussion%20on%20SIB%20X%20acquiring%20procedure.doc) Discussion on SIB X acquiring procedure Spreadtrum Communications discussion Rel-17

* Discussed in offline 107

[R2-2205234](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205234%20Discussion%20on%20the%20parameters%20influencing%20SI%20modification%20proc....docx) Discussion on the parameters influencing SI modification procedure CATT discussion Rel-17 NR\_NTN\_solutions-Core

* Discussed in offline 107

[R2-2205301](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205301%20Discussion%20on%20SIB19%20processing%20and%20updating.doc) Discussion on SIB19 processing and updating Huawei, HiSilicon discussion Rel-17 NR\_NTN\_solutions-Core

* Discussed in offline 107

Moved here from 6.10.3.1.2

[R2-2205303](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205303%20%5BH803%5D%20Discussion%20on%20on-demand%20SIB%20for%20NTN.doc) [H803] Discussion on on-demand SIB for NTN Huawei, HiSilicon discussion Rel-17 NR\_NTN\_solutions-Core

* Discussed in offline 107

[R2-2205528](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205528%20Resolving%20open%20NTN%20issues%20for%20IDLE%20mode.docx) Resolving open NTN issues for IDLE mode Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_NTN\_solutions-Core

* Discussed in offline 107

Moved here from 6.10.3.2.1

[R2-2205651](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205651%20Epoch%20time%20and%20validity%20timer%20expiry.docx) Epoch time and validity timer expiry Apple discussion Rel-17 NR\_NTN\_solutions-Core

* Discussed in offline 107

[R2-2205696](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205696_6.10.3.1.1_SIB.docx) Open issues on acquiring SIB Samsung Research America discussion NR\_NTN\_solutions-Core

* Discussed in offline 107

Moved here from 6.10.3.2.2

[R2-2205700](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205700_6.10.3.2.2_epochTime.docx) RILs on epoch time Samsung Research America discussion NR\_NTN\_solutions-Core

* Discussed in offline 107

[R2-2205754](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205754_RIL%20H803%20TS38.300%20Clarification%20on%20SIB19%20Provisioning.docx) RIL# H803/TS38.300: Clarification on SIB19 Provisioning NEC Telecom MODUS Ltd. Discussion

* Discussed in offline 107
* [AT118-e][107][NTN] System information (Huawei)

Initial scope: discuss incoming LS in [R2-2204468](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204468_R1-2202843.docx) and a possible reply LS on cell-specific k\_offset ambiguity (considering [R2-2206041](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2206041.zip), [R2-2204714](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204714%20Discussion%20on%20neighbor%20cell%27s%20epoch%20time%20and%20Koffset%27s%20ambiguity%20issue.doc), [R2-2205650](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205650%20Cell-specific%20K_offset%20ambiguity.docx)). Also discuss SIB19 processing and updating aspects (e.g. based on relevant proposals in [R2-2205234](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205234%20Discussion%20on%20the%20parameters%20influencing%20SI%20modification%20proc....docx), [R2-2205301](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205301%20Discussion%20on%20SIB19%20processing%20and%20updating.doc), [R2-2205528](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205528%20Resolving%20open%20NTN%20issues%20for%20IDLE%20mode.docx), [R2-2205696](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205696_6.10.3.1.1_SIB.docx), [R2-2205651](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205651%20Epoch%20time%20and%20validity%20timer%20expiry.docx), [R2-2204749](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204749%20Discussion%20on%20SIB%20X%20acquiring%20procedure.doc), [R2-2205700](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205700_6.10.3.2.2_epochTime.docx), [R2-2205303](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205303%20%5BH803%5D%20Discussion%20on%20on-demand%20SIB%20for%20NTN.doc) and [R2-2205754](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205754_RIL%20H803%20TS38.300%20Clarification%20on%20SIB19%20Provisioning.docx))

Initial intended outcome: Summary of the offline discussion with e.g.:

* Text/proposals for a possible reply LS to [R2-2204468](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204468_R1-2202843.docx)
* List of proposals for agreement (if any)
* List of proposals that require online discussions
* List of proposals that should not be pursued (if any)

Deadline (for companies' feedback): Tuesday 2022-05-10 0800 UTC

Deadline (for rapporteur's summary in [R2-2206197](file:///C%3A%5CData%5C3GPP%5CRAN2%5CInbox%5CR2-2206197.zip)): Tuesday 2022-05-10 1000 UTC

 Updated scope: continue the discussion based on [R2-2206197](file:///C%3A%5CData%5C3GPP%5CRAN2%5CInbox%5CR2-2206197.zip).

 Updated intended outcome: Summary of the offline discussion with e.g.:

* List of proposals for agreement (if any)
* List of proposals that require online discussions
* List of proposals that should not be pursued (if any)

 Deadline (for companies' feedback): Friday 2022-05-13 00:00 UTC

 Deadline (for rapporteur's summary in R2-2206208): Friday 2022-05-13 02:00 UTC

Proposals marked "for agreement" in R2-2206208 not challenged until Friday 2022-05-13 14:00 UTC will be declared as agreed via email by the session chair (for the rest the discussion might continue offline).

[R2-2206197](file:///C%3A%5CData%5C3GPP%5CRAN2%5CInbox%5CR2-2206197.zip) [offline-107] System Information Huawei discussion Rel-17 NR\_NTN\_solutions-Core

For easy agreement

Proposal 1: Ephemeris, common TA parameters and epoch time can be updated without invoking the SI modification procedure.

* Agreed

Note: The proposal is revised based on offline comments. Original wording: The validity duration applies only to ephemeris and common TA parameters including the epoch time, and other parameters in SIB19 follow the normal SI modification procedure.

(22/22) Proposal 2: Remove the FFS in the field description of t-Service : FFS" This field is excluded when determining changes in system information, i.e. changes of t-Service should neither result in system information change notifications nor in a modification of valueTag in SIB1."

* Agreed

(16/22) Proposal 3: Add “validity duration” to Proposal 1.

* Continue offline

(21/22) Proposal 4: The issue of possible ambiguity of cell-specific K\_offset raised by RAN1 can be handled by gNB implementation

* Agreed

(19/21) Proposal 6: If the UE acquires SIB19 before validity timer expiry, there is no need for the UE to suspend or stop the validity timer

* Continue offline

(22/22) Proposal 8: On-demand SIB19 is not supported for UEs in RRC\_IDLE/RRC\_INACTIVE state.

* Vivo is ok with this but wonders if we need to clarify anything in the specs. Huawei thinks this is covered by p10
* Agreed

(19/21) Proposal 9: On-demand SIB19 is not supported for UEs in RRC\_CONNECTED state.

* TTP support on demand SIB19 for connected state
* Continue offline

Proposal 10: Add a clarification in the field description of si-BroadcastStatus that “This field can only be set to broadcasting for SIB19 in an NTN cell.”

* NEC thinks the wording should refer to SI, not to SIB. HW agrees on the rewording.
* Ericsson thinks it’s not necessary to limit the NW implementation.
* QC wonders about the cost for the UE to support this.
* LG thinks that CA/DC is not supported
* Continue offline

(21/21) Proposal 11: The changes to Stage 2 spec in R2-2205754 are not pursued.

* Agreed

(20/22) Proposal 12: [C216] and [C217] are rejected.

* CATT has some concerns
* Nokia thinks this is in line with RAN1 agreement
* Agreed

For further discussion

Proposal 5: Regarding ephemeris, common TA parameters, epoch time (and validity duration, if P3 can be agreed), RAN2 determines the correct understanding of NW behaviour:

- (10/20) Option 1): NW cannot trigger SI modification when the parameters are changed and validity timer has not expired.

- Revised Option 1): The parameters are not changed for the validity duration and SI modification procedure is not used to update them.

- (10/20) Option 3): UE consider the parameters as valid during validity duration, but the NW is still allowed to proactively trigger the SI modification if there is change.

* Continue offline

Proposal 7: If the UE acquires SIB19 before validity timer expiry, RAN2 to discuss which option is preferred:

- (12/22) Option 3) If epoch time is future, the UE applies the parameters until epoch time; if epoch time is past/present, UE applies the parameters immediately.

- (15/22) Option 4) When to apply latest parameters is left to UE implementation

* Continue offline

(14/20) Proposal 13: During HO, the target cell’s epoch time (i.e. SFN and subframe number) is based on target cells’ timing.

* Continue offline

Agreements:

1. Ephemeris, common TA parameters and epoch time can be updated without invoking the SI modification procedure.
2. Remove the FFS in the field description of t-Service : FFS" This field is excluded when determining changes in system information, i.e. changes of t-Service should neither result in system information change notifications nor in a modification of valueTag in SIB1."
3. The issue of possible ambiguity of cell-specific K\_offset raised by RAN1 can be handled by gNB implementation
4. On-demand SIB19 is not supported for UEs in RRC\_IDLE/RRC\_INACTIVE state.
5. The changes to Stage 2 spec in R2-2205754 are not pursued.
6. [C216] and [C217] are rejected.

R2-2206208 [offline-107] System Information – second round Huawei discussion Rel-17 NR\_NTN\_solutions-Core

access barring and cell reselection (to be discussed in offline 111)

[R2-2205571](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205571_Left%20over%20issues%20in%20idle%20and%20inactive%20mode%20in%20NTN_v0.docx) Left over issues in idle and inactive mode in NTN ZTE corporation, Sanechips discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2204592](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204592%20Discussion%20on%20remaining%20issue%20of%20NTN%20idelinactive%20mode_Final.doc) Discussion on remaining issue of NTN idel/inactive mode Transsion Holdings discussion Rel-17

Moved from 6.10.3

[R2-2205110](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205110%20Remaining%20issues%20on%20idle_inactive%20mode%20and%20RRC%20aspects_v0.1.DOCX) Remaining issues on idle/inactive mode and RRC aspects LG Electronics France discussion Rel-17 NR\_NTN\_solutions-Core

* Revised in [R2-2206035](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2206035.zip)

[R2-2206035](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2206035.zip) Remaining issues on idle/inactive mode and RRC aspects LG Electronics France discussion Rel-17 NR\_NTN\_solutions-Core [R2-2205110](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205110%20Remaining%20issues%20on%20idle_inactive%20mode%20and%20RRC%20aspects_v0.1.DOCX) Late

access barring (to be discussed in offline 111)

[R2-2204563](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204563%20Remaining%20issue%20on%20access%20barring%20for%20NTN.docx) Remaining issue on access barring for NTN vivo discussion NR\_NTN\_enh-Core

[R2-2204658](file:///C%3A%5CData%5C3GPP%5CExtracts%5C38331_CR2986_%28Rel-17%29_R2-2204658%20NTN%20TN%20barring.docx) TN NTN barring mechanism Qualcomm Incorporated CR Rel-17 38.331 17.0.0 2986 - F NR\_NTN\_solutions-Core

[R2-2205237](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205237%20Discussion%20on%20the%20access%20barring%20in%20NTN.docx) Discussion on the access barring in NTN CATT discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205302](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205302%20Discussion%20on%20access%20barring.doc) Discussion on access barring Huawei, HiSilicon discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205753](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205753_NTN%20Access%20barring%20and%20UE%20behaviour.docx) NTN Access barring and UE behaviour NEC Telecom MODUS Ltd. discussion

[R2-2205865](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205865%20NR%20NTN%20Idle%20mode%20issues.docx) NR NTN idle mode issues Ericsson discussion NR\_NTN\_solutions-Core

cell reselection (to be discussed in offline 111)

[R2-2204709](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204709%20Discussion%20on%20location-based%20cell%20reselection%20in%20NTN.doc) Discussion on location-based cell reselection in NTN OPPO discussion Rel-17 NR\_NTN\_solutions-Core

Moved here from 6.10.3.1.2

[R2-2205029](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205029%20Discussion%20on%20cell%20reselection.docx) Discussion on cell reselection CMCC discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205094](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205094.docx) Remaining issue on idle/inactive mode ITL discussion Rel-17

[R2-2205236](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205236%20Further%20Discussion%20on%20Cell%20Reselection.docx) Further Discussion on Cell Reselection CATT discussion Rel-17 NR\_NTN\_solutions-Core Withdrawn

[R2-2205371](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205371%20Discussion%20on%20remaining%20issues%20on%20RRC%20idle%20mode.doc) Discussion on remaining issues on RRC idle mode Xiaomi discussion

[R2-2205405](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205405%20Further%20Discussion%20on%20Cell%20Reselection.docx) Further Discussion on Cell Reselection CATT discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205533](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205533.docx) Cell reselection with distance threshold Samsung discussion

[R2-2205740](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205740_%20Distance%20based%20cell%20reselection.docx) Distance based cell reselection NEC Telecom MODUS Ltd. discussion

* [AT118-e][111][NTN] Idle mode (ZTE)

 Initial scope: based on contributions in 6.10.3.1.1 discuss access barring and cell reselection issues

 Initial intended outcome: Summary of the offline discussion with e.g.:

* List of proposals for agreement (if any)
* List of proposals that require online discussions
* List of proposals that should not be pursued (if any)

 Deadline (for companies' feedback): Friday 2022-05-13 00:00 UTC

 Deadline (for rapporteur's summary in R2-2206201): Friday 2022-05-13 02:00 UTC

Proposals marked "for agreement" in R2-2206201 not challenged until Friday 2022-05-13 14:00 UTC will be declared as agreed via email by the session chair (for the rest the discussion might continue offline).

R2-2206201 [offline-110] Idle mode ZTE Corporation discussion Rel-17 NR\_NTN\_solutions-Core

assistance for SMTC adjustment

[R2-2205530](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205530%20Assistance%20information%20for%20UE-based%20SMTC%20adjustment%20in%20idle%20and%20inactive%20mode.docx) Assistance information for UE-based SMTC adjustment in idle and inactive mode Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_NTN\_solutions-Core

* Discussed in offline 106

[R2-2206029](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2206029%20UE%20based%20SMTC%20adjustment.doc) UE based SMTC adjustment LG Electronics Inc. discussion Rel-17

* Discussed in offline 106

38.304 CRs

[R2-2205531](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205531%20Rel-17%20NTN%20corrections%20to%2038.304.docx) Rel-17 NTN corrections to 38.304 Nokia, Nokia Shanghai Bell CR Rel-17 38.304 17.0.0 0245 - F NR\_NTN\_solutions-Core

38.331 CRs

[R2-2205691](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205691_SMTC4.docx) Adding SMTC4 for idle/inactive state Apple CR Rel-17 38.331 17.0.0 3114 - F NR\_NTN\_solutions-Core

Other

[R2-2205573](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205573.docx) Reporting UE location to the Network in NTN Samsung R&D Institute UK discussion

##### 6.10.3.1.2 Other

Contributions on any other idle/inactive mode issues.

[R2-2205471](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2205471.zip) RIL V313 and PLMN aspects Ericsson discussion NR\_NTN\_solutions-Core Late

* Discussed in offline 101

#### 6.10.3.2 RRC aspects

##### 6.10.3.2.1 Known Corrections

Corrections/clarifications for already known issues, e.g. RRC signaling for: HARQ RTT timer extension, assistance information (e.g., differential propagation delay) for SMTC configuration and neighbor cell satellite information; further details for measurement/location reports; CHO configuration after T2 expiry

[R2-2204560](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204560%20%5BV320%5D%20CGI%20reporting%20in%20R17%20NR%20NTN.docx) [V320] CGI reporting in R17 NR NTN vivo discussion NR\_NTN\_enh-Core

* Discussed in offline 101

[R2-2204562](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204562%20%5BV313%5D%20On%20the%20issue%20for%20RAN%20area%20code%20configuration%20in%20NR%20NTN.docx) [V313] On the issue for RAN area code configuration in NR NTN vivo discussion NR\_NTN\_enh-Core

* Discussed in offline 101

[R2-2204713](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204713%20RTT%20timer%20extension.doc) Discussion on implementing HARQ RTT timer extension OPPO discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2204717](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204717%20%5BO358%5D%20NTN%20RRC%20correction.docx) [O358] NTN RRC correction OPPO draftCR Rel-17 38.331 17.0.0 F NR\_NTN\_solutions-Core

[R2-2204718](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204718%20%5BO355%5D%20NTN%20RRC%20correction.docx) [O355] NTN RRC correction OPPO draftCR Rel-17 38.331 17.0.0 F NR\_NTN\_solutions-Core

[R2-2204719](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204719%20%5BO354%5D%20NTN%20RRC%20correction.docx) [O354] NTN RRC correction OPPO draftCR Rel-17 38.331 17.0.0 F NR\_NTN\_solutions-Core

[R2-2204720](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204720%20%5BO350%5D%20NTN%20RRC%20correction.docx) [O350] NTN RRC correction OPPO draftCR Rel-17 38.331 17.0.0 F NR\_NTN\_solutions-Core

[R2-2204750](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204750%20Acquiring%20the%20ephemeris%20of%20neighbour%20cell.doc) Acquiring the ephemeris of neighbour cell Spreadtrum Communications discussion Rel-17

[R2-2205230](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205230%20Correction%20on%20HARQ%20RTT%20Timer%20extension%20in%20TS38.331.docx) Correction on HARQ RTT Timer extension in TS38.331 CATT draftCR Rel-17 38.331 17.0.0 NR\_NTN\_solutions-Core

[R2-2205305](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205305%20Discussion%20on%20time/location%20based%20mobility.doc) Discussion on time/location based mobility Huawei, HiSilicon discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205342](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205342.doc) Event triggered location reporting in NTN Sony discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205401](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205401%20Further%20details%20for%20coarse%20location%20report%20for%20NR%20NTN.doc) Further details for coarse location report for NR NTN Xiaomi discussion Rel-17

[R2-2205402](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205402%20Introducing%20NTN%20validity%20timer%20in%20RRC.doc) [RIL]X601/O350/M403: Introducing NTN validity timer in RRC Xiaomi discussion Rel-17

* Revised in [R2-2206057](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2206057.zip)

[R2-2206057](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2206057.zip) [RIL]X601/O350/M403: Introducing NTN validity timer in RRC Xiaomi, MediaTek discussion Rel-17

[R2-2205404](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205404%20Discussion%20on%20Neighbor%20Cell%20Satellite%20Information.docx) Discussion on Neighbor Cell Satellite Information CATT discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205574](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205574%20Coarse%20location%20format.docx) Coarse location format Ericsson discussion NR\_NTN\_solutions-Core

[R2-2205958](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205958%20%28R17%20NTN%20WI%20AI%206.10.3.2.1%29%20TAR%20configuration.docx) Configuration of Timing Advance reporting in TS 38.331 InterDigital discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2206030](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2206030%20Propagation%20delay%20difference%20reporting.doc) Propagation delay difference reporting LG Electronics Inc. discussion Rel-17 Late

[R2-2206090](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2206090.zip) [O350][X601][L014][L015][M403]Correction on maintenance of validity timer Huawei, HiSilicon CR Rel-17 38.331 17.0.0 3167 - F NR\_NTN\_solutions-Core

* [AT118-e][101][NTN] RRC CR (Ericsson)

Initial scope: continue the discussion on the NR NTN WI-specific RILs, also considering the submitted contributions

Initial intended outcome: Summary of the offline discussion with e.g.:

* List of resolved RILs
* List of RILs for online discussion
* List of RILs for further offline discussion

Deadline (for companies' feedback): Tuesday 2022-05-10 0800 UTC

Deadline (for rapporteur's summary in [R2-2206191](file:///C%3A%5CData%5C3GPP%5CRAN2%5CInbox%5CR2-2206191.zip)): Tuesday 2022-05-10 1000 UTC

Scope: continue the discussion on the NR NTN WI-specific RILs, also considering the submitted contributions

Intended outcome: Summary of the offline discussion with e.g.:

* List of proposals for agreement (if any)
* List of proposals that require online discussions
* List of proposals that should not be pursued (if any)

 Deadline (for companies' feedback): Monday 2022-05-16 16:00 UTC

 Deadline (for rapporteur's summary in R2-2206209): Monday 2022-05-16 18:00 UTC

Proposals marked "for agreement" in R2-2206209 not challenged until Tuesday 2022-05-17 08:00 UTC will be declared as agreed via email by the session chair (for the rest the discussion might continue online).

[R2-2206191](file:///C%3A%5CData%5C3GPP%5CRAN2%5CInbox%5CR2-2206191.zip) [offline-101] RRC CR Ericsson discussion Rel-17 NR\_NTN\_solutions-Core

Proposal 1 RAN2 to agree on resolution of E017 as presented in R2-2205463

* Lenovo would like not to use “shall”
* Continue offline

Proposal 2 RAN2 to conclude reject on RIL V313

* Agreed

Proposal 3 RAN2 to conclude reject on RIL V320

* Vivo cannot agree on this
* Continue offline

Proposal 4 RAN2 to conclude on the operation of triggering event D1

* Agreed

Proposal 5 RAN2 to agree on report on leave for event D1

* Agreed

Agreements:

1. RIL V313 is rejected
2. RAN2 to conclude on the operation of triggering event D1
3. report on leave for event D1 is agreed

R2-2206209 [offline-101] RRC CR – second round Ericsson discussion Rel-17 NR\_NTN\_solutions-Core

CHO @ T2 expiry; assistance information for SMTC and neighbour cell information (to be discussed in offline 106)

[R2-2204561](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204561%20%5BV319%5D%5BV305%5D%5BV310%5D%20Remaining%20issues%20on%20signalling%20design%20and%20corresponding%20procedures%20for%20neighbor%20cell%20assistance%20information%20in%20NR%20NTN.docx) [V319][V305][V310] Remaining issues on signalling design and corresponding procedures for neighbour cell assistance information in NR NTN vivo discussion NR\_NTN\_enh-Core

[R2-2204659](file:///C%3A%5CData%5C3GPP%5CExtracts%5C38331_CR2987_%28Rel-17%29_R2-2204659%20CHO%20after%20T2.docx) Time-based CHO after T2 Qualcomm Incorporated CR Rel-17 38.331 17.0.0 2987 - F NR\_NTN\_solutions-Core

[R2-2204660](file:///C%3A%5CData%5C3GPP%5CExtracts%5C38331_CR2988_%28Rel-17%29_R2-2204660%20IDLE%20mode%20info.docx) Assistance information for IDLE mode measurements in NTN Qualcomm Incorporated CR Rel-17 38.331 17.0.0 2988 - F NR\_NTN\_solutions-Core

[R2-2204663](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204663%20SMTC%20and%20MG.doc) SMTC and MG configuration Qualcomm Incorporated discussion Rel-17 NR\_NTN\_solutions-Core [R2-2202564](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2202564%20SMTC%20and%20MG.doc)

[R2-2204715](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204715%20Discussion%20on%20assistance%20infomration%20for%20IDLE%20mode%20and%20CONNECTED%20mode%20measurement.doc) Discussion on assistance information for IDLE mode and CONNECTED mode measurement OPPO discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2204963](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204963%20Remaining%20issues%20of%20provisioning%20neighbor%20cell%20satellite%20information.docx) Remaining issues of provisioning neighbor cell satellite information Lenovo discussion Rel-17

[R2-2204964](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204964%20Remaining%20details%20of%20UE%20assistance%20reporting%20and%20CHO.docx) Remaining details of UE assistance reporting and CHO Lenovo discussion Rel-17

[R2-2205225](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205225%20Remaining%20issues%20of%20NTN%20CHO.docx) Remaining issues of NTN CHO Xiaomi Communications discussion Rel-17

[R2-2205233](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205233%20Discussion%20on%20Neighbor%20Cell%20Satellite%20Information.docx) Discussion on Neighbor Cell Satellite Information CATT discussion Rel-17 NR\_NTN\_solutions-Core Withdrawn

[R2-2205235](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205235%20Further%20Discussion%20on%20CHO.DOCX) Further Discussion on CHO CATT discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205304](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205304%20Discussion%20on%20SMTC%20and%20gaps.doc) Discussion on SMTC and gaps Huawei, HiSilicon discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205341](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205341.doc) CHO configuration after T2 expiry Sony discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205372](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205372%20Assistance%20information%20for%20neighbour%20cell%20measurement.doc) Assistance information for neighbour cell measurement Xiaomi discussion

[R2-2205436](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205436%20CHO%20configuration%20discarded%20or%20retained%20after%20T2%20expiry.docx) RIL: M404, V318, Z550 CHO configuration discarded or retained after T2 Ericsson discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205438](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205438%20SMTC%20for%20RRC_IDLE%20and%20RRC_INACTIVE%20state%20in%20NR%20NTN.docx) SMTC for RRC\_IDLE and RRC\_INACTIVE state in NR NTN Ericsson discussion NR\_NTN\_solutions-Core

[R2-2205529](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205529%20Resolving%20open%20NTN%20issues%20for%20CONNECTED%20mode.docx) Resolving open NTN issues for CONNECTED mode Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205589](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205589%20SMTC%20Offset%20and%20Change%20Rate.docx) SMTC Offset and Change Rate Google Inc. discussion Rel-17

[R2-2205697](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205697_6.10.3.2.1_CHO.docx) Discussion on CHO open issues Samsung Research America discussion NR\_NTN\_solutions-Core

[R2-2205698](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205698_6.10.3.2.1_SMTC.docx) Discussion on SMTC open issues Samsung Research America discussion NR\_NTN\_solutions-Core

[R2-2205957](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205957%20%28R17%20NTN%20WI%20AI%206.10.3.2.1%29%20CHO%20config%20after%20T2.docx) Time-based CHO configuration after T2 InterDigital discussion Rel-17 NR\_NTN\_solutions-Core

* [AT118-e][106][NTN] CP issues (Nokia)

Initial scope: based on contributions in 6.10.3, discuss CHO @ T2 expiry; assistance information for SMTC and neighbour cell information/ephemeris

Initial intended outcome: Summary of the offline discussion with e.g.:

* List of proposals for agreement (if any)
* List of proposals that require online discussions
* List of proposals that should not be pursued (if any)

Deadline (for companies' feedback): Tuesday 2022-05-10 0800 UTC

Deadline (for rapporteur's summary in [R2-2206196](file:///C%3A%5CData%5C3GPP%5CRAN2%5CInbox%5CR2-2206196.zip)): Tuesday 2022-05-10 1000 UTC

Scope: continue the discussion based on [R2-2206196](file:///C%3A%5CData%5C3GPP%5CRAN2%5CInbox%5CR2-2206196.zip)

Intended outcome: Summary of the offline discussion with e.g.:

* List of proposals for agreement (if any)
* List of proposals that require online discussions
* List of proposals that should not be pursued (if any)

 Deadline (for companies' feedback): Friday 2022-05-13 04:00 UTC

 Deadline (for rapporteur's summary in R2-2206210): Friday 2022-05-13 06:00 UTC

Proposals marked "for agreement" in R2-2206210 not challenged until Friday 2022-05-13 18:00 UTC will be declared as agreed via email by the session chair (for the rest the discussion might continue offline).

[R2-2206196](file:///C%3A%5CData%5C3GPP%5CRAN2%5CInbox%5CR2-2206196.zip) [offline-106] CP issues Nokia discussion Rel-17 NR\_NTN\_solutions-Core

Proposals for agreement:

Proposal 1: During CHO recovery in NTN the UE checks if the timer T2 has not expired before it can use CHO configuration for recovery. FFS if the same principle applies to location-based CHO triggering event.

* Oppo wonders what the implication is in the spec, shall we say that the UE removes the configuration? Nokia thinks this is a valid question.
* Vivo thinks this is related to whether the UE releases the configuration.
* QC thinks there is no need to release the configuration to implement p1.
* Agreed. FFS the stage-3 details (i.e. whether the UE releases the configuration)

Proposal 2: Common TA and Kmac of the neighbour cell are used to support IDLE/Inactive UEs in NTN to perform SMTC adjustments.

* Continue offline

Proposal 4: The following IEs/parameters are broadcast for neighbour cell in NTN:

Ephemeris,

DL and UL polarization,

Epoch time of assistance information

Validity duration

* Samsung wonders about the validity duration
* Agreed, where the configuration is per cell. FFS how to handle the validity timer for neighbour cell. FFS if epoch time can be same or different. FFS about other parameters.

Proposal 6: Support the signaling overhead reduction for the orbital part of the neighbour cell ephemeris, at least for the case of cells belonging to the same satellite, or satellite orbit. FFS on the Stage-3 details.

* Continue offline

Proposals for discussion:

Proposal 3: Discuss further if neighbour’s SMTC assistance information for IDLE/Inactive mode is provided via new SIB or via SIB19.

* Continue offline

Proposal 5: Discuss further if neighbour cell’s assistance information for NTN is provided via new SIB or via SIB19.

* Continue offline

Agreements:

1. During CHO recovery in NTN the UE checks if the timer T2 has not expired before it can use CHO configuration for recovery. FFS if the same principle applies to location-based CHO triggering event. FFS the stage-3 details (i.e. whether the UE releases the configuration)
2. The following IEs/parameters are broadcast per neighbour cell in NTN:

 Ephemeris,

 DL and UL polarization,

 Epoch time of assistance information

 Validity duration

 FFS how to handle the validity timer for neighbour cell. FFS if epoch time can be same or different. FFS about other parameters

R2-2206210 [offline-106] CP issues – second round Nokia discussion Rel-17 NR\_NTN\_solutions-Core

##### 6.10.3.2.2 Other

Contributions on any other RRC issues.

Event D1

Moved here from 6.10.3.2.1

[R2-2205224](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205224%20%5BX704%5D%20Correction%20for%20Event%20D1.docx) [X704] Correction for Event D1 Xiaomi Communications discussion Rel-17

* Discussed in offline 101

[R2-2205621](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205621%20%5BNTN%5D%20%5BL011%5D%20TP%20on%20MR%20triggered%20by%20event%20D1.docx) [L011] TP on MR triggered by event D1 LG Electronics France discussion

* Discussed in offline 101

[R2-2206069](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2206069.zip) [H801] Corrections on eventD1 Huawei, HiSilicon CR Rel-17 38.331 17.0.0 3155 F NR\_NTN\_solutions-Core

* Discussed in offline 101

[R2-2204661](file:///C%3A%5CData%5C3GPP%5CExtracts%5C38331_CR2989_%28Rel-17%29_R2-2204661%20Report%20SMTC%20error.docx) Reporting SMTC issue in measurement results Qualcomm Incorporated CR Rel-17 38.331 17.0.0 2989 - F NR\_NTN\_solutions-Core

[R2-2204716](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204716%20connected%20mode%20measurement%20start.doc) Discussion on connected mode measurement start OPPO discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205030](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205030%20Discussion%20on%20SMTC%20and%20MG%20configuration%20for%20connected%20mode%20in%20NTN.docx) Discussion on SMTC and MG configuration for connected mode in NTN CMCC discussion Rel-17 NR\_NTN\_solutions-Core Revised

[R2-2205226](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205226%20Discussion%20on%20performing%20measurements%20for%20NTN%20CHO.docx) Discussion on performing measurements for NTN CHO Xiaomi Communications discussion Rel-17

[R2-2205592](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205592%20NTN%20SIB19%20missing.docx) Essential system information missing for NTN Interdigital, Inc. discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205623](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205623%20%5BNTN%5D%20%5BL014%5D%20TP%20on%20Ul%20sync%20assist%20info%20validity.docx) [L014] TP on Ul sync assist info validity LG Electronics France discussion

[R2-2206036](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2206036.zip) Discussion on SMTC and MG configuration for connected mode in NTN CMCC discussion Rel-17 NR\_NTN\_solutions-Core [R2-2205030](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205030%20Discussion%20on%20SMTC%20and%20MG%20configuration%20for%20connected%20mode%20in%20NTN.docx) Late

[R2-2206068](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2206068.zip) [H800] Discussion on condEventD1 Huawei, HiSilicon discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2206112](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2206112.zip) [H024] Adding a conditional presence to ntn-UlSyncValidityDuration Huawei, HiSilicon CR Rel-17 38.331 17.0.0 3172 - F NR\_NTN\_solutions-Core

### 6.10.4 UE capabilities

#### 6.10.4.1 Known remaining issues

Corrections/clarifications for already known issues, e.g. structure, IoT bits, Fixed Dish type UE without GNSS module but with GNSS coordinates

[R2-2204662](file:///C%3A%5CData%5C3GPP%5CExtracts%5C38331_CR2990_%28Rel-17%29_R2-2204662%20NTN%20UE%20capability.docx) NTN UE capability signalling Qualcomm Incorporated CR Rel-17 38.331 17.0.0 2990 - F NR\_NTN\_solutions-Core

[R2-2204843](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204843%20Discussion%20on%20remaining%20issues%20on%20NTN%20UE%20capabilities.docx) Discussion on remaining issues on NTN UE capabilities Intel Corporation, THALES discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205306](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205306%20Discussion%20on%20UE%20capabilities%20for%20NTN.doc) Discussion on UE capabilities for NTN Huawei, HiSilicon discussion Rel-17 NR\_NTN\_solutions-Core

Moved from 6.10.4

[R2-2205572](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2205572.zip) On NTN capabilities Ericsson discussion NR\_NTN\_solutions-Core Late

[R2-2205593](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205593%20NTN-only%20UE.docx) NTN-only UE Interdigital, Inc. discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2205701](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205701_6.10.4.1_UEcapability.docx) Open issues on UE capabilities Samsung Research America discussion Rel-17 NR\_NTN\_solutions-Core

* [AT118-e][108][NTN] UE capabilities (Intel)

Initial scope: discuss UE capabilities based on contributions in 6.10.4

Initial intended outcome: Summary of the offline discussion with e.g.:

* List of proposals for agreement (if any)
* List of proposals that require online discussions
* List of proposals that should not be pursued (if any)

Deadline (for companies' feedback): Tuesday 2022-05-10 0800 UTC

Deadline (for rapporteur's summary in [R2-2206198](file:///C%3A%5CData%5C3GPP%5CRAN2%5CInbox%5CR2-2206198.zip)): Tuesday 2022-05-10 1000 UTC

Scope: continue the discussion based on [R2-2206198](file:///C%3A%5CData%5C3GPP%5CRAN2%5CInbox%5CR2-2206198.zip)

Intended outcome: Summary of the offline discussion with e.g.:

* List of proposals for agreement (if any)
* List of proposals that require online discussions
* List of proposals that should not be pursued (if any)

 Deadline (for companies' feedback): Monday 2022-05-16 22:00 UTC

 Deadline (for rapporteur's summary in R2-2206211): Tuesday 2022-05-17 00:00 UTC

Proposals marked "for agreement" in R2-2206211 not challenged until Tuesday 2022-05-17 12:00 UTC will be declared as agreed via email by the session chair (for the rest the discussion might continue online).

[R2-2206198](file:///C%3A%5CData%5C3GPP%5CRAN2%5CInbox%5CR2-2206198.zip) [offline-108] UE capabilities Intel discussion Rel-17 NR\_NTN\_solutions-Core

List of proposals for agreement:

Proposal 1: RAN2 to confirm “The discussion on whether existing TN capabilities need separate NTN capabilities or IoT bits is focused on per-UE capabilities”.

* Whether existing TN capabilities need separate NTN capabilities or IoT bits is focused on per-UE capabilities

Proposal 2: Add separate IoT bits to convey a subset of UE Radio Access Capability Parameters differently for NR NTN. It also implies that other per-UE UE capabilities not within this list are applicable to both TN and NTN.

* Agreed

Proposal 3: at least the following existing TN UE capabilities need separate IoT bits for NTN:

1) mac-Parameters;

2) phy-Parameters;

3) measAndMobParameters;

4) fdd-Add-UE-NR-Capabilities;

5) fr1-Add-UE-NR-Capabilities

6) SON/MDT related capabilities.

7) at least inactiveState

=> Agreed

Proposal 4: “ntn-ScenarioSupport-r17 is used for both essential and optional NTN capabilities”.

* Agreed

Proposal 6: NTN-only UE is not supported.

* Intel received a comment to add that “NTN-capable UEs also support TN mandatory features”
* Continue offline

Proposal 7: The SMTC enhancements (event-triggered assistance information reporting, 2 SMTC in parallel) are optional for GSO capable UE.

* Continue offline

List of proposals that require online discussions:

Proposal 5: postpone the discussion on UEs without GNSS receiver to Release 18.

* Continue offline

Proposal 8: the following spec change is used to capture RAN2 agreement “Incorporate event-triggered TA reporting feature into TA reporting UE capability defined in RAN1 feature list”.

uplink-TA-Reporting-r17

Indicates whether the UE supports UE reporting of information related to TA pre-compensation, i.e., event-triggered TA reporting in RRC connected mode and TA reporting during initial access in RRC\_IDLE/RRC\_INACTIVE. UE indicating support of this feature shall also indicate support of uplinkPreCompensation-r17 for this band.

* Continue offline

Agreements:

1. Whether existing TN capabilities need separate NTN capabilities or IoT bits is focused on per-UE capabilities
2. Add separate IoT bits to convey a subset of UE Radio Access Capability Parameters differently for NR NTN. It also implies that other per-UE UE capabilities not within this list are applicable to both TN and NTN.
3. Proposal 3: at least the following existing TN UE capabilities need separate IoT bits for NTN:

 1) mac-Parameters;

 2) phy-Parameters;

 3) measAndMobParameters;

 4) fdd-Add-UE-NR-Capabilities;

 5) fr1-Add-UE-NR-Capabilities

 6) SON/MDT related capabilities.

 7) at least inactiveState

4. “ntn-ScenarioSupport-r17 is used for both essential and optional NTN capabilities”.

R2-2206211 [offline-108] UE capabilities – second round Intel discussion Rel-17 NR\_NTN\_solutions-Core

#### 6.10.4.2 Other

Contributions on any other issues.

[R2-2204842](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204842%20Clarification%20on%20TA%20reporting%20UE%20capability.docx) Clarification on TA reporting UE capability Intel Corporation draftCR Rel-17 38.306 17.0.0 F NR\_NTN\_solutions-Core

## 8.12 Reduced Capability

(NR\_redcap-Core; leading WG: RAN1; REL-17; WID: [RP-211574](file:///C%3A%5CData%5C3GPP%5Carchive%5CRAN%5CRAN%2392%5CTdocs%5CRP-211574.zip))

WI is considered as 100% complete from RAN2 perspective. Exception Sheet in RP-220965 contains RAN4 items.

Tdoc Limitation: 5 tdocs

### 6.12.1 Organizational

LSs, rapporteur inputs and other organizational documents. Rapporteur inputs and other pre-assigned documents in this AI do not count towards the tdoc limitation.

#### 6.12.1.1 LS in

For LSes that need action: one tdoc by contact company to address the LS and potential reply is considered.

Rapporteur input may be provided.

NCD-SSB

[R2-2204486](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204486_R4-2207104.docx) LS on NCD-SSB issues for RedCap UE (R4-2207104; contact: Ericsson) RAN4 LS in Rel-17 NR\_redcap-Core To:RAN2

* Discussed in offline 105

[R2-2206019](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2206019%20-%20%5BDRAFT%5D%20Reply%20LS%20on%20NCD-SSB%20issues%20for%20RedCap%20UE.docx) [DRAFT] Reply LS on NCD-SSB issues for RedCap UE Ericsson LS out Rel-17 NR\_redcap-Core To:RAN4

* Discussed in offline 105

RRM relaxation

[R2-2204487](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204487_R4-2207109.doc) LS on RRM relaxation for Redcap (R4-2207109; contact: vivo) RAN4 LS in Rel-17 NR\_redcap-Core To:RAN2

* Discussed in offline 109

[R2-2204620](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204620%20Discussion%20on%20RAN4%20LS%20on%20RRM%20Relaxation%20for%20RedCap.docx) Discussion on RAN4 LS on RRM Relaxation for RedCap Futurewei Technologies, Xiaomi Communications, OPPO, Vivo, Ericsson, Qualcomm discussion Rel-17 NR\_redcap-Core

* Discussed in offline 109

[R2-2204810](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204810_%5BDraft%5D%20Reply%20LS%20to%20RAN4%20on%20RRM%20relaxation.doc) [Draft] Reply LS to RAN4 on RRM relaxation vivo LS out Rel-17 NR\_redcap-Core To:RAN4

* Discussed in offline 109

FR2

[R2-2204502](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204502_R4-2206545.doc) LS on FR2 RedCap UE (R4-2206545; contact: Ericsson) RAN4 LS in Rel-17 NR\_redcap-Core To:RAN2 Cc:RAN1

* Discussed in offline 110

[R2-2204619](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204619%20Discussion%20on%20RAN4%20LS%20on%20FR2%20RedCap%20UE.docx) Discussion on RAN4 LS on FR2 RedCap UE Futurewei Technologies discussion Rel-17 38.306 NR\_redcap-Core

* Discussed in offline 110

[R2-2206020](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2206020%20-%20%5BDRAFT%5D%20Reply%20LS%20on%20%20FR2%20RedCap%20UE.docx) [DRAFT] Reply LS on FR2 RedCap UE Ericsson LS out Rel-17 NR\_redcap-Core To:RAN4 Cc:RAN1

* Discussed in offline 110

RSRP threshold offset for 1Rx UE

[R2-2204475](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204475_R4-2206951.docx) LS on configuring margin for 1 Rx RedCap UEs (R4-2206951; contact: Ericsson) RAN4 LS in Rel-17 NR\_redcap-Core To:RAN2

* Nokia thinks there are many other threshold offsets which are needed.
* Mediatek wonders whether this should be fixed or a configurable parameter
* RAN2 understands that an offset is needed. FFS if fixed or configurable

[R2-2206018](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2206018%20-%20%5BDRAFT%5D%20Reply%20LS%20on%20configuring%20margin%20for%201%20Rx%20RedCap%20UEs.docx) [DRAFT] Reply LS on configuring margin for 1 Rx RedCap UEs Ericsson LS out Rel-17 NR\_redcap-Core To:RAN4

Coordination between gNBs

[R2-2204410](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204410_R3-221396.docx) LS reply on the coordination between gNBs supporting RedCap UEs (R3-221396; contact: Ericsson) RAN3 LS in Rel-17 NR\_redcap-Core To:RAN2

* ZTE thinks that more information might need to be added and then we need to ask RAN3 to do so
* Ericsson wonders if this refers to HD-FDD. ZTE confirms
* Nokia thinks that RAN3 is discussing this already
* Noted (can come back if we realize we need to communicate something that RAN3 does not know yet)

Operation with and without SSB

[R2-2204422](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204422_R1-2202886.docx) LS on operation with and without SSB for RedCap UE (R1-2202886; contact: Ericsson) RAN1 LS in Rel-17 NR\_redcap-Core To:RAN2, RAN4

* Noted

UE capabilities from RRM perspective

[R2-2204476](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204476_R4-2206977.docx) Reply LS on UE capabilities for RedCap from RRM perspective (R4-2206977; contact: Ericsson) RAN4 LS in Rel-17 NR\_redcap-Core To:RAN2 Cc:RAN1

* Noted

#### 6.12.1.2 Rapporteur CRs

CR Rapporteurs to provide input CRs, if needed.

[R2-2205784](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205784%20-%20RedCap%20corrections%20in%20TS%2038300.docx) Corrections on RedCap in TS 38.300 Nokia, Nokia Shanghai Bell, Huawei CR Rel-17 38.300 17.0.0 0464 - F NR\_redcap-Core

* Revised in R2-2206203

R2-2206203 Corrections on RedCap in TS 38.300 Nokia, Nokia Shanghai Bell, Huawei CR Rel-17 38.300 17.0.0 0464 1 F NR\_redcap-Core

* [AT118-e][113][RedCap] Stage-2 CR (Nokia)

 Scope: continue the discussion on the Stage-2 CR, also considering Stage-2 text proposals in submitted contributions

 Intended outcome: Agreeable Stage-2 CR

 Deadline (for companies' feedback): Thursday 2022-05-19 12:00 UTC

 Deadline (for final CR in R2-2206203): Friday 2022-05-20 08:00 UTC

[R2-2206021](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2206021.zip) Miscellaneous corrections for RedCap WI Ericsson CR Rel-17 38.331 17.0.0 3151 - F NR\_redcap-Core Late

[R2-2206022](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2206022.zip) RedCap WI ASN1 RIL list Ericsson discussion Rel-17 NR\_redcap-Core Late

* Discussed in offline 102

[R2-2206023](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2206023%20-%20Miscellaneous%20corrections%20for%20RedCap%20WI%20-%20TS%2038.304.docx) Miscellaneous corrections for RedCap WI Ericsson CR Rel-17 38.304 17.0.0 0252 - F NR\_redcap-Core

[R2-2204811](file:///C%3A%5CData%5C3GPP%5CExtracts%5C38.321_CR1238_%28Rel-17%29_R2-2204811_Miscellaneous%20CR%20on%20TS%2038.321%20for%20RedCap.docx) Miscellaneous CR on TS 38.321 for RedCap vivo CR Rel-17 38.321 17.0.0 1238 - F NR\_redcap-Core

### 6.12.2 Control Plane

#### 6.12.2.1 NCD-SSB aspects

Corrections/clarifications on NCD-SSB aspects

[R2-2204544](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204544%20Handover%20to%20BWP%20without%20CD-SSB.docx) Handover to BWP without CD-SSB ZTE Corporation, Sanechips discussion Rel-17 NR\_redcap-Core

[R2-2204547](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204547%20Discussion%20on%20serving%20cell%20measurements%20on%20NCD-SSB.docx) Discussion on serving cell measurements on NCD-SSB ZTE Corporation, Sanechips discussion Rel-17 NR\_redcap-Core

[R2-2204812](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204812_Discussion%20on%20NCD-SSB%20for%20RedCap%20UEs.docx) Discussion on NCD-SSB for RedCap UEs vivo, Guangdong Genius discussion Rel-17 NR\_redcap-Core

[R2-2205038](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205038%20Discussion%20on%20NCD-SSB%20aspects%20for%20RedCap%20UE.DOC) Discussion on NCD-SSB aspects for RedCap UE Huawei, HiSilicon discussion Rel-17 NR\_redcap-Core

[R2-2205285](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205285%20%5BJ002%5D%20Clarification%20on%20reference%20value%20in%20connected%20RRM%20relaxation%20critrion.doc) [J002] Clarification on reference value in connected RRM relaxation critrion Sharp discussion Rel-17

[R2-2205522](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205522%20Aspects%20related%20to%20use%20of%20NCD-SSB.docx) Aspects related to the use of NCD-SSB MediaTek Inc. discussion Rel-17 NR\_redcap-Core

[R2-2205636](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205636_ncd-ssb_handover.docx) Discussion on NCD-SSB handling at handover Apple discussion Rel-17 NR\_redcap-Core

[R2-2205771](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2205771.zip) About paging monitoring in BWP#0 without CD-SSB ZTE Corporation, Sanechips discussion Rel-17 NR\_redcap-Core Late

Moved here from 6.12.2.2.1

[R2-2206032](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2206032%20Further%20discussion%20on%20SI%20acqusition%20in%20RedCap-specific%20BWP.docx) Further discussion on SI acquisition in RedCap-specific BWP Qualcomm Incorporated discussion Rel-17 NR\_redcap-Core

Moved here from 6.12.2.2.1

[R2-2206033](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2206033%20Measurement%20object%20configuration%20with%20NCD-SSB.docx) Measurement object configuration with NCD-SSB Qualcomm Incorporated discussion Rel-17 NR\_redcap-Core

[R2-2206143](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2206143.zip) [Pre118-e][105][RedCap] Summary of AI 6.12.2.1 on NCD-SSB aspects ZTE Corporation report Rel-17 NR\_redcap-Core

* Discussed in offline 105
* [AT118-e][105][RedCap] NCD-SSB aspects (ZTE)

Initial scope: Continue the discussion on NCD-SSB aspects, based on [R2-2206143](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2206143.zip), including a possible reply LS to [R2-2204486](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204486_R4-2207104.docx)

Initial intended outcome: Summary of the offline discussion with e.g.:

* Text/proposals for a possible reply LS to [R2-2204486](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204486_R4-2207104.docx)
* List of proposals for agreement (if any)
* List of proposals that require online discussions
* List of proposals that should not be pursued (if any)

Deadline (for companies' feedback): Tuesday 2022-05-10 0800 UTC

Deadline (for rapporteur's summary in [R2-2206195](file:///C%3A%5CData%5C3GPP%5CRAN2%5CInbox%5CR2-2206195.zip)): Tuesday 2022-05-10 1000 UTC

Scope: Continue the discussion on NCD-SSB aspects, including a possible reply LS to [R2-2204486](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204486_R4-2207104.docx)

Intended outcome: Summary of the offline discussion with e.g.:

* Text/proposals for a possible reply LS to [R2-2204486](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204486_R4-2207104.docx)
* List of proposals for agreement (if any)
* List of proposals that require online discussions
* List of proposals that should not be pursued (if any)

 Deadline (for companies' feedback): Friday 2022-05-13 02:00 UTC

 Deadline (for rapporteur's summary in R2-2206204): Friday 2022-05-13 04:00 UTC

Proposals marked "for agreement" in R2-2206204 not challenged until Friday 2022-05-13 16:00 UTC will be declared as agreed via email by the session chair (for the rest the discussion might continue offline).

[R2-2206195](file:///C%3A%5CData%5C3GPP%5CRAN2%5CInbox%5CR2-2206195.zip) [offline-105] NCD-SSB aspects ZTE Corporation discussion Rel-17 NR\_redcap-Core

Proposals for easy agreements:

Proposal 4: (16/17) For the first measurement related question in R2-2204486, reply to RAN4 with the following RAN2 understandings.

• CD-SSB and/or multiple NCD-SSBs can be configured for serving cell measurements, with the restriction that only one SSB (CD-SSB or NCD-SSB) can be used for serving cell measurements at a given time.

• The SSB used for serving cell measurements may be changed upon BWP switching.

• The outcome of Proposal 1.

* ZTE clarifies that the only change with respect to the original proposal is “at a given time” in the first sub-bullet
* Regarding the second sub-bullet wonders if it’s up to the NW or to the UE. ZTE thinks this is discussed in p1
* Continue offline

Proposal 5: (16/17) For the second measurement related question in R2-2204486, reply to RAN4 with the following RAN2 understandings.

• From RAN2 signalling point of view, the NW and the UE always know which SSB is the reference SSB to be used for serving cell measurements at a given point in time. This reference SSB can be used to define intra-frequency measurements. This reference SSB may change with BWP switching.

* Continue offline

Proposal 6: (16/17) From RAN2 perspective, handover scenario 1 is supported.

• Scenario 1: Handover to a target cell’s specific Redcap BWP associated with NCD-SSB directly other than to the initial BWP associated with CD-SSB (i.e. UE directly sync to the NCD-SSB and perform RACH on that BWP)

* Continue offline

Proposal 8: (15/17) From RAN2 perspective, handover scenario 2 is not supported.

• Scenario 2: Handover to a target cell’s initial BWP and further switch to the specific Redcap BWP to send the RACH (i.e. UE first sync to the CD-SSB and then autonomously switch to first active BWP to perform RACH)

* Continue offline

Proposal 9: (17/17)During handover, if dedicatedSIB1-Delivery IE is not included in the handover command and the first active BWP in the target cell does not contain CD-SSB, UE is expected to acquire SI only within the first active BWP either from CSS for SIBs or via dedicated signaling (same as legacy)

* Ericsson wonders if the UE needs to do anything if dedicatedSIB1-Delivery IE is not included in the handover command
* Vivo agrees as this is legacy behaviour
* QC thinks that in legacy is too open ended. The intention of this proposal is to limit the possibilities
* Continue offline

Proposal 10: (17/17)RAN2 confirm that RedCap UEs in RRC Connected only need to support the following three options for acquiring SI update or ETWS/CMAS message in a dedicated DL BWP that does not contain CD-SSB:

• From CSS for SIBs configured within this DL BWP;

• Via dedicated signaling;

• Switched by network (either DCI or RRC) to an initial DL BWP where SIBs are sent.

* Agreed

Proposal 11: (15/16) Clarify in the RRC field description that the paging search space is configured in an initial BWP only if that BWP includes the CD-SSB.

* Continue offline

Proposal 12: (15/15) RAN2 confirms for a separate initial DL BWP which does not contain CD-SSB and CORESET#0, the BWP will not be configured for paging no matter the RedCap UE is in RRC\_IDLE/INACTIVE or RRC\_CONNECTED state

* Intel understands the intention but suggests to reword the proposal. ZTE thinks we can provide a longer justification in the reply LS but the proposal is ok as it is
* Continue offline

Proposal 13: (15/15) Reply to RAN1 and explain there is no need to support paging connected RedCap UEs in case the separate initial DL BWP does not contain CD-SSB and CORESET#0.

* Continue offline

Proposal 14: (17/17) In Rel-17, from UE perspective, one configured BWP can only contain up to one SSB (CD-SSB or NCD-SSB).

* Continue offline

Proposals for online discussion:

Proposal 1: (15/18) RAN2 confirms when RedCap UE’s activate BWP contains NCD-SSB, the UE can be configured to perform serving cell measurements on CD-SSB.

* Continue offline

Proposal 2: (11 vs 5 vs 2) For how to indicate serving cell MO for RedCap UE, to adopt solution A-1.

 Solution A-1: Reuse existing servingCellMO IE (based on the assumption that RRCReconfiguration is always needed (e.g. to reconfigure UE CBW) when switching from a BWP associated with CD-SSB and a BWP associated with NCD-SSB).

* Continue offline

Proposal 3: (13/17) For neighbour cell measurements, the existing RRM mechanism is applied, further enhancement is not needed.

* Continue offline

Proposal 7: (14/17) For scenario 1, in handover command, if the first active BWP is associated with NCD-SSB, the smtc field included reconfigurationWithSync is configured according to the NCD-SSB of target cell.

Proposal 15: To discuss whether only one NCD-SSB can be configured (per-UE) in Rel-17 (revisit previous RAN2 agreement).

* Continue offline

Agreements:

1. RedCap UEs in RRC Connected only need to support the following three options for acquiring SI update or ETWS/CMAS message in a dedicated DL BWP that does not contain CD-SSB:

 • From CSS for SIBs configured within this DL BWP;

 • Via dedicated signaling;

 • Switched by network (either DCI or RRC) to an initial DL BWP where SIBs are sent.

R2-2206204 [offline-105] NCD-SSB aspects – second round ZTE Corporation discussion Rel-17 NR\_redcap-Core

BWP operation without bandwidth restriction and NCD SSB support for all UEs

[R2-2205512](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205512.docx) Discussion on BWP operation without bandwidth restriction and NCD SSB Vodafone GmbH, Deutsche Telekom, Qualcomm discussion Rel-17

* To be discussed in Wednesday 2022-05-18 GTW session

#### 6.12.2.2 Other CP aspects

##### 6.12.2.2.1 Known Corrections

Corrections/clarifications for already known issues (non NCD-SSB related), eg. inter-RAT mobility from LTE to NR, capability for support for Rx branches inclusion in the UERadioPagingInformation inter-node message

ASN.1 review related papers (to be discussed in offline 102)

[R2-2204725](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204725%20%5BO374%5D%20RedCap%20IFRI.docx) [O374] correction on RedCap UE’s cell barring OPPO draftCR Rel-17 38.331 17.0.0 F NR\_redcap-Core

[R2-2205770](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205770%20Consideration%20on%20RedCap%20access%20indication.docx) Consideration on RedCap access indication ZTE Corporation, Sanechips discussion Rel-17 NR\_redcap-Core

[R2-2206059](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2206059.zip) [X115]38.331 Corrections on UE's behaviour of getting SIB1 for Redcap Xiaomi Communications draftCR Rel-17 38.331 17.0.0 NR\_redcap-Core

[R2-2206060](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2206060.zip) [X119][X114]Discussion on PDCCH-ConfigCommon for Redcap Xiaomi Communications discussion

[R2-2206061](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2206061.zip) [X119][X114]38.331 Corrections on PDCCH-ConfigCommon for Redcap Xiaomi Communications draftCR Rel-17 38.331 17.0.0 NR\_redcap-Core

[R2-2206062](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2206062.zip) [X120]38.331 Corrections on Need code of RedCap-specific initial DL BWP for handover Xiaomi Communications draftCR Rel-17 38.331 17.0.0 NR\_redcap-Core

* [AT118-e][102][RedCap] RRC CR (Ericsson)

Initial scope: continue the discussion on the RedCap WI-specific RILs, also considering the submitted contributions

Initial intended outcome: Summary of the offline discussion with e.g.:

* List of resolved RILs
* List of RILs for online discussion
* List of RILs for further offline discussion

Deadline (for companies' feedback): Wednesday 2022-05-11 2000 UTC

Deadline (for rapporteur's summary in [R2-2206192](file:///C%3A%5CData%5C3GPP%5CRAN2%5CInbox%5CR2-2206192.zip)): Wednesday 2022-05-11 2200 UTC

[R2-2206192](file:///C%3A%5CData%5C3GPP%5CRAN2%5CInbox%5CR2-2206192.zip) [offline-102] RRC CR Ericsson discussion Rel-17 NR\_redcap-Core

For agreement:

Proposal 1 The following RILs are agreed: H506, V163, H509, H514, Z033, H515, M608, H517, V161, Z034, H522 (as captured in R2-2206021)

Proposal 2 The following RILs are agreed: V168, V169 (as captured in R2-2206021)

Proposal 4 The following RIL is agreed: H705 (as captured in R2-2206021).

Proposal 6 The following RILs are not pursued: X115, X112, V165, H525, H526.

Proposal 7 The following RILs are agreed: X110, X111.

Proposal 9 O374 is not pursued.

Proposal 10 V162 is agreed with the following change; replace “consider“ with “perform

Proposal 11 X116 is not pursued.

Proposal 13 RIL 510 is agreed.

Proposal 14 FW001 is agreed.

Proposal 15 S952 is not pursued

Proposal 18 Z035 is agreed with the following change:

"The NW configures SSB-based RA (and hence RACH-ConfigCommon) only for UL BWPs if the linked DL BWPs (same bwp-Id as UL-BWP) are the initial DL BWPs or DL BWPs containing the SSB associated to the initial DL BWP or for RedCap UEs DL BWPs associated with nonCellDefiningSSB."

Proposal 21 V164 is not pursued.

Proposal 22 H513 and H516 are not pursued.

Proposal 23 H518 is not pursued.

Proposal 24 X119-2 is not pursued.

Proposal 27 V166 is not pursued.

Proposal 28 Number of Rx supported by a RedCap UE is provided in UERadioPagingInformation.

For discussion:

Proposal 3 Discuss H704.

Proposal 5 For H520 wait until the related discussion in offline 105 is concluded.

Proposal 8 Discuss I051 and N016.

Proposal 12 H507 is agreed in principle; discuss how to implement the change, i.e., NOTE and/or normative text.

Proposal 16 Discuss H511/ C271 regarding whether the parameter should indicate “allow” or “reject”.

Proposal 17 For H512 wait until the related discussion in offline 105 is concluded.

Proposal 19 Discuss Z036, N107, and H523.

Proposal 20 Discuss X119-1.

Proposal 25 Discuss X114.

Proposal 26 Discuss S953.

Proposal 29 Regarding the indication for DRX support in idle and inactive mode; wait until the related discussion in offline 110 is concluded.

Proposal 30 Discuss whether UEs configured with eDRX should consider stored system information to be invalid after 24 hours.

RRM relaxation

[R2-2204736](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204736%20-%20%5BO372%5D%20Discussion%20on%20prohibit%20timer%20for%20UAI%20for%20RRM%20relaxation%20fulfilment%20indication.doc) [O372] Discussion on prohibit timer for UAI for RRM relaxation fulfilment indication OPPO discussion Rel-17 NR\_redcap-Core

* Discussed in offline 105

[R2-2204737](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204737%20-%20%5BO377%5D%20Correction%20to%2038.331%20on%20UAI%20for%20RRM%20relaxation%20fulfilment%20indication.doc) [O377] Correction to 38.331 on UAI for RRM relaxation fulfilment indication OPPO draftCR Rel-17 38.331 17.0.0 F NR\_redcap-Core

* Discussed in offline 105

All following docs moved here from 6.12.2.2.2

[R2-2204815](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204815_Coexistence%20of%20Rel-16%20and%20Rel-17%20RRM%20Relaxation%20Criteria.docx) Coexistence of Rel-16 and Rel-17 RRM relaxation criteria vivo, Guangdong Genius discussion Rel-17 NR\_redcap-Core

* Discussed in offline 105

[R2-2205089](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205089.doc) Co-existence of Rel-16 and Rel-17 RRM relaxation Samsung discussion Rel-17

* Discussed in offline 105

[R2-2205091](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205091.docx) Correction on RRM relaxation in RRC\_CONNECTED (RIL#:951) Samsung CR Rel-17 38.331 17.0.0 3045 - F NR\_redcap-Core

* Discussed in offline 105

[R2-2205284](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205284%20%5BJ001%5D%20Correction%20on%20Srxlev%20in%20connected%20RRM%20relaxation%20critrion.doc) [J001] Correction on Srxlev in connected RRM relaxation critrion Sharp, Huawei, HiSilicon discussion Rel-17

* Discussed in offline 105
* [AT118-e][109][RedCap] RRM relaxation (vivo)

Initial scope: discuss incoming LS in [R2-2204487](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204487_R4-2207109.doc) and the need/content of a possible reply LS (also considering [R2-2204620](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204620%20Discussion%20on%20RAN4%20LS%20on%20RRM%20Relaxation%20for%20RedCap.docx)). Also discuss corrections for RRM relaxation based on [R2-2204736](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204736%20-%20%5BO372%5D%20Discussion%20on%20prohibit%20timer%20for%20UAI%20for%20RRM%20relaxation%20fulfilment%20indication.doc), [R2-2204737](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204737%20-%20%5BO377%5D%20Correction%20to%2038.331%20on%20UAI%20for%20RRM%20relaxation%20fulfilment%20indication.doc), [R2-2204815](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204815_Coexistence%20of%20Rel-16%20and%20Rel-17%20RRM%20Relaxation%20Criteria.docx), [R2-2205089](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205089.doc), [R2-2205091](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205091.docx), [R2-2205284](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205284%20%5BJ001%5D%20Correction%20on%20Srxlev%20in%20connected%20RRM%20relaxation%20critrion.doc).

Initial intended outcome: Summary of the offline discussion with e.g.:

* Text/proposals for a possible reply LS to [R2-2204487](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204487_R4-2207109.doc) (if needed)
* List of proposals/CRs for agreement (if any)
* List of proposals that require online discussions
* List of proposals that should not be pursued (if any)

Deadline (for companies' feedback): Tuesday 2022-05-10 0800 UTC

Deadline (for rapporteur's summary in [R2-2206199](file:///C%3A%5CData%5C3GPP%5CRAN2%5CInbox%5CR2-2206199.zip)): Tuesday 2022-05-10 1000 UTC

Scope: Continue the discussion on RRM relaxation, based on the discussion [R2-2206199](file:///C%3A%5CData%5C3GPP%5CRAN2%5CInbox%5CR2-2206199.zip)

Summary of the offline discussion with e.g.:

* Text/proposals for a possible reply LS to [R2-2204487](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204487_R4-2207109.doc)
* List of proposals for agreement (if any)
* List of proposals that require online discussions
* List of proposals that should not be pursued (if any)

 Deadline (for companies' feedback): Friday 2022-05-13 02:00 UTC

 Deadline (for rapporteur's summary in R2-2206205): Friday 2022-05-13 04:00 UTC

Proposals marked "for agreement" in R2-2206205 not challenged until Friday 2022-05-13 16:00 UTC will be declared as agreed via email by the session chair (for the rest the discussion might continue offline).

[R2-2206199](file:///C%3A%5CData%5C3GPP%5CRAN2%5CInbox%5CR2-2206199.zip) [offline-109] RRM relaxation vivo discussion Rel-17 NR\_redcap-Core

Proposals for easy agreement

Proposal 1: [To agree] [16/16] RAN2 send an LS to RAN4 to clarify the following [Detailed wording may be updated when drafting reply LS]:

• Simultaneous configuration of R16 not-at-cell-edge criterion and R17 stationary criterion for idle/inactive mode is a valid configuration from the network’s PoV, where the network supports RRM relaxation for both R16 and R17 UEs in idle/inactive mode.

• From signalling’s PoV, any R16 RRM relaxation criterion and any R17 RRM relaxation criterion for idle/inactive mode can be configured in a same cell at a same time, as independent criteria (i.e., without requiring a UE to fulfil both the R16 and the R17 criteria in order to relax its RRM measurements).

• If combined with a not-at-cell-edge criterion, the R17 stationary criterion can only be combined with the R17 not-at-cell-edge criterion, not with the R16 one.

* Samsung would like to check with RAN4 if their discussion is only based on RAN2 feedback. Vivo is fine to further discuss this in the reply LS
* Agreed with the addition that “detailed wording may be updated when drafting reply LS”

Proposal 2: [To agree] [16/16] In the LS sent, RAN2 also request RAN4 to consider supporting cases #8 and #9 [Detailed wording could be discussed when drafting reply LS].

* Agreed

Proposal 4: [To agree] [15/15] RAN2 to send a reply LS to RAN4, the detailed content in the LS is further discussed based on the conclusions of DP1/2(/3/4).

* Agreed

Proposal 5: [To agree] [13/15] When the type of measured SSB is changed, the UE won’t set the value of SrxlevRefStationaryConnected to the current Srxlev value of the serving cell, i.e. no change to the current specification.

* Continue offline

Proposal 6: [To agree] [14/17] No prohibit timer will be introduced for UAI for RRM relaxation fulfilment status indication.

* Continue offline

Proposal 7: [To agree] [14/14]: Other changes (i.e. changes in section 5.3.7.2, 5.3.7.3, 5.3.13.2) on UAI for RRM relaxation fulfilment indication in R2-2204737 is agreeable and merged into RRC CR.

* Agreed

Proposal 8: [To agree] [15/15]: Other changes (i.e. changes in section 5.7.4.2) on UAI for RRM relaxation fulfilment indication in R2-2205091 is agreeable and merged into RRC CR. FFS on which one is better “if it is configured to do so” or “if it was configured to do so”.

* Agreed

Proposals need further online discussion:

Proposal 3: [To discuss] [8 vs. 7] RAN2 to discuss whether to remove the NOTE2 in clause 5.2.4.9.0 in TS 38.304, i.e., NOTE2: It is up to UE implementation which relaxation method to perform based on the “allowed” cases as specified in TS 38.133 [8] for RRC Idle/Inactive if multiple methods are configured.

* Continue offline

Proposal 9: [To discuss] [10 vs 6]: Change the Srxlev in stationary criterion to SS-RSRP and agree the TP in R2-2205284.

* Continue offline

Agreements:

1. RAN2 send an LS to RAN4 to clarify the following [Detailed wording may be updated when drafting reply LS]:

 • Simultaneous configuration of R16 not-at-cell-edge criterion and R17 stationary criterion for idle/inactive mode is a valid configuration from the network’s PoV, where the network supports RRM relaxation for both R16 and R17 UEs in idle/inactive mode.

 • From signalling’s PoV, any R16 RRM relaxation criterion and any R17 RRM relaxation criterion for idle/inactive mode can be configured in a same cell at a same time, as independent criteria (i.e., without requiring a UE to fulfil both the R16 and the R17 criteria in order to relax its RRM measurements).

 • If combined with a not-at-cell-edge criterion, the R17 stationary criterion can only be combined with the R17 not-at-cell-edge criterion, not with the R16 one.

1. In the LS, RAN2 also request RAN4 to consider supporting cases #8 and #9 [Detailed wording could be discussed when drafting reply LS].
2. Changes in section 5.3.7.2, 5.3.7.3, 5.3.13.2 on UAI for RRM relaxation fulfilment indication in R2-2204737 are agreeable and merged into RRC CR.
3. Changes in section 5.7.4.2 on UAI for RRM relaxation fulfilment indication in R2-2205091 are agreeable and merged into RRC CR. FFS on which one is better “if it is configured to do so” or “if it was configured to do so”.

R2-2206205 [offline-109] RRM relaxation – second round vivo discussion Rel-17 NR\_redcap-Core

inter-RAT mobility from LTE to NR

[R2-2204814](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204814_%5BV170%5D%20Discussion%20on%20Inter-RAT%20Mobility%20from%20LTE%20to%20NR%20for%20RedCap.doc) [V170] Discussion on Inter-RAT Mobility from LTE to NR for RedCap vivo, Guangdong Genius discussion Rel-17 NR\_redcap-Core

Proposal1: A new trigger for RRC re-establishment procedure should be captured, i.e. if a RedCap UE finds the serving NR cell doesn’t support RedCap after inter-RAT handover from LTE.

[R2-2205904](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205904%20-%20RedCap%20eNB%20to%20gNB%20handover.docx) Handover from E-UTRA from legacy eNB to legacy gNB Ericsson discussion Rel-17 NR\_redcap

Proposal 1 It is up to network implementation to avoid handover attempts from source eNB to legacy gNB that does not support RedCap.

[R2-2204723](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204723%20RedCap%20HO.doc) Discussion on inter-RAT mobility from LTE to NR OPPO discussion Rel-17 NR\_redcap-Cor

[R2-2204929](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204929_RRC%20open%20issues%20on%20Rel17%20RedCap%20WI.docx) RRC open issues on Rel17 RedCap WI Intel Corporation discussion Rel-17 NR\_redcap

[R2-2205036](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205036%20Inter-RAT%20mobility%20from%20LTE%20to%20NR_v1.doc) Inter-RAT mobility from LTE to NR Huawei, HiSilicon discussion Rel-17 NR\_redcap-Core

RedCap Capability in the UERadioPagingInformation

[R2-2204724](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204724%20RedCap%20Capability%20in%20inter-node%20message.doc) Discussion on including RedCap UE’s capability in the UERadioPagingInformation inter-node message OPPO discussion Rel-17 NR\_redcap-Core

Proposal 1 Capabilities for support for Rx branches and HD-FDD-only are included in the UERadioPagingInformation inter-node message.

[R2-2204813](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204813_%5BV166%5D%20Including%20RedCap%20Capability%20in%20the%20UERadioPagingInformation%20Inter-Node%20Message.doc) [V166] Including RedCap Capability in the UERadioPagingInformation Inter-Node Message vivo, Guangdong Genius discussion Rel-17 NR\_redcap-Core

[R2-2205037](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205037%20Paging%20capability%20and%20cell%20selection%20related%20to%20R4%20LS.docx) Paging capability and cell selection related to R4 LS Huawei, HiSilicon discussion Rel-17 NR\_redcap-Core

Withdrawn

R2-2205047 Correction on the DRX cycle of the UE for eDRX NEC CR Rel-17 38.321 17.0.0 1249 - F NR\_redcap-Core Withdrawn

##### 6.12.2.2.2 Other

Contributions on any other CP issues.

ASN.1 review related papers (to be discussed in offline 102)

[R2-2204541](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204541_SI%20Request%20for%20Redcap%20UEs%20%28RIL%20%23S953%29.doc) [S953] SI Request for RedCap UEs Samsung Electronics Co., Ltd discussion Rel-17 NR\_redcap-Core

[R2-2204819](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204819_UE%20Capability%20and%20System%20Information%20for%20eDRX.doc) UE Capability and System Information for eDRX vivo, Guangdong Genius discussion Rel-17 NR\_redcap-Core

[R2-2204936](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204936%20-%20I051%20support%20of%20RedCap%20based%20on%20intraFreqReselectionRedCap.docx) I051 support of RedCap based on intraFreqReselectionRedCap Intel Corporation discussion Rel-17 NR\_redcap

[R2-2204979](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204979.docx) Cell reselection priority for RedCap (RIL#: S952) Samsung discussion Rel-17 NR\_redcap-Core

[R2-2205523](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205523%20SIB%20validity%20with%20eDRX.docx) SIB validity with eDRX MediaTek Inc. discussion Rel-17 NR\_redcap-Core

[R2-2205783](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205783%20Miscellaneous%20RedCap%20corrections%20in%2038.331.docx) Miscellaneous RedCap corrections Nokia, Nokia Shanghai Bell CR Rel-17 38.331 17.0.0 3117 - F NR\_redcap-Core

[R2-2205785](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205785%20HD-FDD%20support%20in%20system%20information%20for%20RedCap.docx) HD-FDD RedCap support in system information Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_redcap-Core

[R2-2206080](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2206080.zip) [H507] Corrections on cell re-selection measurements during RRC setup/resume Huawei, HiSilicon CR Rel-17 38.331 17.0.0 3161 F NR\_redcap-Core

[R2-2206081](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2206081.zip) [H511] Corrections on redcapAccessRejected Huawei, HiSilicon CR Rel-17 38.331 17.0.0 3162 F NR\_redcap-Core

[R2-2206082](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2206082.zip) [H513 H516 H520 H524 H525 H526 H527] Corrections on RedCap initial BWP Huawei, HiSilicon CR Rel-17 38.331 17.0.0 3163 F NR\_redcap-Core

RSRP threshold offset for 1Rx UE

[R2-2205786](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205786%20RSRP%20thresholds%20for%20RedCap.docx) RSRP thresholds for 1 Rx RedCap Ues Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_redcap-Core

Proposal 1: RedCap UE with 1 Rx branch applies offset to the RSRP thresholds which are applicable to RedCap

Proposal 2: RedCap UE with 1 Rx branch applies offset at least to the following RSRP thresholds: rsrp-ThresholdSSB, rsrp-ThresholdCSI-RS, msgA-RSRP-ThresholdSSB, msgA-RSRP-Threshold, rsrp-ThresholdBFR, cg-SDT-RSRP-ThresholdSSB, sdt-RSRP-Threshold

Proposal 3: RedCap UE with 1 Rx branch applies offset to REL-16 low mobility and/or not at cell edge conditions.

[R2-2206024](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2206024%20-%20Configuring%20margin%20for%201%20Rx%20RedCap%20UEs.docx) Configuring margin for 1 Rx RedCap UEs Ericsson discussion Rel-17 NR\_redcap-Core

*Proposal 1 Introduce a configurable parameter in SIB1 that indicates RSRP offset for UEs with 1 Rx branch.*

Observation 3 Coverage compensation for 1Rx RedCap UEs is not fully beneficial if idle mode procedures are not updated accordingly.

Observation 4 With no RedCap specific cell (re-)selection criteria, 1 Rx RedCap UEs would experience a smaller cell size than 2 Rx RedCap and legacy UEs.

Observation 5 Introducing cell (re)selection compensation for 1 Rx RedCap UEs does not add complexity in Rel-17; if introduced in later releases, backwards compatibility issues would arise if done in later releases.

Proposal 3 Support optional configuration of RedCap specific Qrxlevmin\_1Rx and Qqualmin\_1Rx.

Stage 2 CRs

[R2-2204816](file:///C%3A%5CData%5C3GPP%5CExtracts%5C38.300_CR0446_%28Rel-17%29_R2-2204816_Correction%20on%20RLM%20for%20RedCap.docx) Correction on RLM for RedCap vivo, Guangdong Genius CR Rel-17 38.300 17.0.0 0446 - F NR\_redcap-Core

* Discussed in offline 113

38.304 CRs

eDRX

[R2-2205090](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205090.docx) Corrections on eDRX Samsung CR Rel-17 38.304 17.0.0 0242 - F NR\_redcap-Core

* [AT118-e][115][RedCap] eDRX corrections (Samsung)

Scope: Discuss eDRX corrections for 38.304, e.g. based on [R2-2205090](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205090.docx)

Summary of the offline discussion with agreeable proposals/TP for 38.304

Deadline (for companies' feedback): Tuesday 2022-05-17 22:00 UTC

Deadline (for rapporteur's summary in R2-2206213): Tuesday 2022-05-17 23:00 UTC

Proposals/TP marked "for agreement" in R2-2206213 not challenged until Wednesday 2022-05-18 11:00 UTC will be declared as agreed via email by the session chair.

R2-2206213 [offline-115] eDRX corrections Samsung discussion Rel-17 NR\_redcap-Core

[R2-2204928](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204928_38.304_draftCR_eDRX.docx) Draft 38.304 CR for the eDRX handling Intel Corporation draftCR Rel-17 38.304 17.0.0 F NR\_redcap

Moved from 6.12.2.2.1

[R2-2205150](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205150_Correction%20on%20DRX%20cycle%20of%20the%20UE%20for%20eDRX.docx) Correction on DRX cycle of the UE for eDRX NEC CR Rel-17 38.304 17.0.0 0243 - F NR\_redcap-Core

[R2-2205769](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205769%20Corrections%20on%20eDRX.docx) Corrections on eDRX ZTE Corporation, Sanechips draftCR Rel-17 38.304 17.0.0 F NR\_redcap-Core

[R2-2205337](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205337%20Other%20CP%20aspects%20for%20DRX%20cycle.docx) Other CP aspects for DRX cycle LG Electronics Finland discussion NR\_redcap-Core

Cell barring

[R2-2205613](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205613_38.304%20%20Corrections%20on%20Redcap%20UE%27s%20behavior%20on%20cellbar.docx) 38.304 Corrections on Redcap UE's behavior on cellbar Xiaomi Communications,Huawei, HiSilicon draftCR Rel-17 38.304 17.0.0 NR\_redcap-Core

Draft LS out

[R2-2205039](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205039%20%5BDraft%5D%20LS%20on%20the%20maximum%20PTW%20length%20of%20IDLE%20eDRX.DOCX) [Draft] LS on the maximum PTW length of IDLE eDRX Huawei, HiSilicon LS out To:RAN3, CT1

### 6.12.3 User Plane

#### 6.12.3.1 MAC aspects

[R2-2204817](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204817_Discussion%20on%20MAC%20aspects%20for%20RedCap.doc) Discussion on MAC aspects for RedCap vivo, Guangdong Genius discussion Rel-17 NR\_redcap-Core

[R2-2205040](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205040%20Discussion%20on%20MAC%20RACH%20related%20issues%20for%20RedCap%20UE.DOCX) Discussion on MAC RACH related issues for RedCap UE Huawei, HiSilicon discussion Rel-17 NR\_redcap-Core

[R2-2205487](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205487%20Corrections%20on%20BWP%20operation%20for%20RedCap%20UE.docx) Corrections on BWP operation for RedCap UE LG Electronics Inc. discussion Rel-17 NR\_redcap-Core

* [AT118-e][116][RedCap] MAC aspects (XXX)

Scope: Discuss MAC aspects, e.g. based on contributions in 6.12.3.1

Summary of the offline discussion with agreeable proposals/TP for 38.321

Deadline (for companies' feedback): Tuesday 2022-05-17 22:00 UTC?

Deadline (for rapporteur's summary in R2-2206214): Tuesday 2022-05-17 23:00 UTC?

Proposals/TP marked "for agreement" in R2-2206214 not challenged until Wednesday 2022-05-18 11:00 UTC? will be declared as agreed via email by the session chair.

R2-2206214 [offline-116] MAC aspects XXX discussion Rel-17 NR\_redcap-Core

### 6.12.4 UE capabilities

#### 6.12.4.1 Known remaining issues

Corrections/clarifications for already known issues, e.g. those not concluded in the discussion for [R2-2203563](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2203563%20_Report%20of%20AT117-107-2nd-v17_Summary2.docx).

[R2-2204738](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204738%20-%20Clarification%20on%20HD-FDD%20support%20for%20RedCap.doc) Clarification on HD-FDD support for RedCap OPPO discussion Rel-17 NR\_redcap-Core

[R2-2204818](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204818_Discussion%20on%20capability%20for%20RedCap.doc) Discussion on capability for RedCap vivo, Guangdong Genius discussion Rel-17 NR\_redcap-Core

[R2-2204925](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204925%20_Open%20issues%20on%20RedCap%20capabilities.docx) Open issues on RedCap capabilities Intel Corporation discussion Rel-17 NR\_redcap

[R2-2204926](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204926-%20Draft%2038.306%20CR%20for%20the%20RedCap%20capablities.docx) Draft 38.306 CR for the RedCap capablities Intel Corporation draftCR Rel-17 38.306 17.0.0 F NR\_redcap

[R2-2204927](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204927-%20Draft%2038.331%20CR%20for%20the%20RedCap%20capablities.docx) Draft 38.331 CR for the RedCap capablities Intel Corporation draftCR Rel-17 38.331 17.0.0 F NR\_redcap

Moved here from 6.12.2.2.2

[R2-2205637](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205637-RedCap-PC7-331.docx) RedCap UE power class 7 signaling Apple CR Rel-17 38.331 17.0.0 3107 - F NR\_redcap-Core

[R2-2205638](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205638-RedCap-PC7-306.docx) RedCap UE power class 7 signaling Apple CR Rel-17 38.306 17.0.0 0724 - F NR\_redcap-Core

[R2-2205787](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205787%20UE%20capabilities%20for%20RedCap.docx) On RedCap UE capabilities Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_redcap-Core

[R2-2206025](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2206025%20-%20Introduction%20of%20FR2%20RedCap%20UE%20-%20TS%2038.304.docx) Introduction of FR2 RedCap UE Ericsson CR Rel-17 38.304 17.0.0 0253 - F NR\_redcap-Core

[R2-2206026](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2206026%20-%20Introduction%20of%20FR2%20RedCap%20UE%20-%20TS%2038.306.docx) Introduction of FR2 RedCap UE Ericsson CR Rel-17 38.306 17.0.0 0739 - F NR\_redcap-Core

[R2-2206027](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2206027%20-%20Introduction%20of%20FR2%20RedCap%20UE%20-%20TS%2038.331.docx) Introduction of FR2 RedCap UE Ericsson CR Rel-17 38.331 17.0.0 3152 - F NR\_redcap-Core

* [AT118-e][110][RedCap] UE capabilities (Intel)

Initial scope: discuss incoming LSs on UE capabilities and other UE capabilities aspects based on contributions in 6.12.4 (and in other AIs, e.g. [R2-2204619](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204619%20Discussion%20on%20RAN4%20LS%20on%20FR2%20RedCap%20UE.docx), [R2-2205637](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205637-RedCap-PC7-331.docx), [R2-2205638](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205638-RedCap-PC7-306.docx))

Initial intended outcome: Summary of the offline discussion with e.g.:

* List of proposals for agreement (if any)
* List of proposals that require online discussions
* List of proposals that should not be pursued (if any)

Deadline (for companies' feedback): Wednesday 2022-05-11 1400 UTC

Deadline (for rapporteur's summary in R2-2206200): Wednesday 2022-05-11 1500 UTC

Proposals marked "for agreement" in [R2-2206200](file:///C%3A%5CData%5C3GPP%5CRAN2%5CInbox%5CR2-2206200.zip) not challenged until Thursday 2022-05-12 0300 UTC will be declared as agreed via email by the session chair (for the rest the discussion will continue online).

[R2-2206200](file:///C%3A%5CData%5C3GPP%5CRAN2%5CInbox%5CR2-2206200.zip) [offline-110] UE capabilities Intel discussion Rel-17 NR\_redcap-Core

For agreement:

Proposal 1: Easy agreement (13/15):

For extended long DRX for RRC\_INACTIVE, introduce a new capability bit extendedDRX-r17 covering DRX values of 2.56s, 5.12s and 10.24s;

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Definitions for parameters** | **Per** | **M** | **FDD-TDD DIFF** | **FR1-FR2 DIFF** |
| ***extendedDRX-Cycle-r17***Indicates whether UE in RRC\_INACTIVE supports the extended DRX values of 256, 512 and 1024 radio frames as specified in TS 38.331 [9]. The UE may indicate support for eDRX in RRC\_INACTIVE only if it supports eDRX in RRC\_IDLE. | UE | No | No | No |

* Nokia thinks that P1 and P2 needs to be discussed together as it was discussed in the e-mail discussion. According to proposal 1 companies seems to agree to have separate optional UE capabilities for IDLE and INACTIVE eDRX. We think that similar flexibility is needed for the network side (Proposal 2). It would not be very constructive to mandate the network to support INACTIVE eDRX in case IDLE eDRX is supported. It should be noted that there can be large amount of cells in the notification area and cells can be even from different vendor in case of NW sharing and it is possible that not all the cells supports both IDLE and INACTIVE eDRX. In addition IOT testing may not available at the same time for both IDLE and INACTIVE eDRX. Therefore our proposal would be to agree p1 together with modified p2:

Proposal 2: Introduce separate bits in SIB1 to indicate whether IDLE eDRX and/or INACTIVE eDRX are enabled.

* Continue online

Proposal 3: Easy agreement (13/15):

Rel-17 RRM relaxation for RRC\_CONNECTED Ues is captured in TS38.306 as optional feature with capability signaling, i.e. introduce a capability bit on this;

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Definitions for parameters | Per | M | FDD-TDD DIFF | FR1-FR2 DIFF |
| ***rrm-RelaxationRRC-ConnectedRedCap-r17***Indicates whether UE supports Rel-17 relaxed RRM measurements in RRC\_CONNECTED as specified in TS 38.331 [9]. | UE | No | No | No |

* Agreed

Proposal 5: Easy agreement (14/14):

To add Separate initial UL BWP for RedCap Ues and Separate initial DL BWP for RedCap Ues in the field description of supportOfRedCap-r17

|  |  |  |  |
| --- | --- | --- | --- |
| ***supportOfRedCap-r17***Indicates that the UE is a RedCap UE with comprised of at least the following functional components:* Maximum FR1 RedCap UE bandwidth is 20 MHz;
* Maximum FR2 RedCap UE bandwidth is 100 MHz;
* Support of RedCap early indication based on Msg1, MsgA and Msg3 for random access;
* Separate initial UL BWP for RedCap Ues;
* Separate initial DL BWP for RedCap Ues .

A RedCap UE shall set the field to *supported*. | UE | No | No |

* Agreed

Proposal 6: Easy agreement (14/14): Full-duplex FDD is an optional feature for RedCap Ues.

* Agreed

Proposal 7: Easy agreement (13/14): halfDuplexRedCapAllowed-r17 is kept in SIB1 and corresponding FFS “—FFS whether halfDuplexRedCapAllowed is kept, remove also from related procedure” is removed. FFS on whether further clarification is needed since HD-FDD is per band capability.

* Agreed

Proposal 8: Easy agreement (12/14): Capture RAN4 agreements as

* *For FR1, 1 DL MIMO layer if 1 Rx branch is supported, and 2 DL MIMO layers if 2 Rx branches are supported; For FR2, either 1 or 2 DL MIMO layers can be supported, while 2 Rx branches are always supported. For FR1 and FR2, UE features and corresponding capabilities related to more than 2 UE Rx branches ~~and~~ or more than 2 DL MIMO layers, as well as UE features and capabilities related to more than 2 UE Tx branches ~~and~~ or more than 2 UL MIMO layers are not supported by RedCap UEs;*

- Huawei is not sure on “1 DL MIMO layer for FR2 2RX UE”. There is still on-going discussion on this in R4 offline [103-e][133] NR\_RedCap Issue 3-2. We suggest to add “Capture RAN4 agreements as (can be revisited based on R1/4 latest conclusion)”.

* Continue online

Proposal 9: Easy agreement: introduce new UE power class pc7 as

Ue-PowerClass-v1700 ENUMERATED {pc5,pc6, pc7} OPTIONAL,

* Agreed

Proposal 10: Easy agreement, The changes in R2-2206025 is not pursued.

* Agreed

Proposal 12: Easy agreement, Add abbreviation CPAC in TS38.306..

* Agreed

Proposal 13: Easy agreement, to update No to CY for supportOfRedCap-r17. i.e.

|  |  |  |  |
| --- | --- | --- | --- |
| ***supportOfRedCap-r17***Indicates that the UE is a RedCap UE with comprised of at least the following functional components:* Maximum FR1 RedCap UE bandwidth is 20 MHz;
* Maximum FR2 RedCap UE bandwidth is 100 MHz;
* Support of RedCap early indication based on Msg1, MsgA and Msg3 for random access;

A RedCap UE shall always set the capability to “supported”.  | UE | ~~No~~ CY | No |

* Agreed

Proposal 14: Easy agreement, remove the EN “Editor’s Note: May be updated based on latest RAN1 and RAN4 agreements.”

* Agreed

Online discussion:

Proposal 2: For discussion, RAN2 to discuss whether introduce separate bits in SIB1 to indicate whether IDLE eDRX and/or INACTIVE eDRX are enabled.

Proposal 4: For discussion (6/14):

Remove “A RedCap UE shall set the field to supported. Editor’s Note: FFS on whether the change is needed.” From the field description of shorts and am-WithShortSN and capture “A RedCap UE shall set the field to supported” in the RAN2 Chairman notes .

Proposal 11: For discussion, reportAddNeighMeasForPeriodic-r16 is not applied for RedCap UEs since it is related to CA operation. Remove It is optional for RedCap Ues. From the field description.

#### 6.12.4.2 Other

Contributions on any other issues.

## 8.19 Coverage Enhancements

(NR\_cov\_enh-Core; leading WG: RAN1; REL-17; WID: [RP-211566](file:///C%3A%5CData%5C3GPP%5Carchive%5CRAN%5CRAN%2392%5CTdocs%5CRP-211566.zip))

WI has been declared 100% complete

Tdoc Limitation: 2 tdoc

Common aspects related to RACH indication (in MSG1) / RACH partitioning shall be submitted to 6.18

### 6.19.1 Organizational

Rapporteur input, incoming LS etc.

#### 6.19.1.1 LS in

For LSes that need action: one tdoc by contact company to address the LS and potential reply is considered.

Rapporteur input may be provided.

From RAN4

[R2-2204444](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204444_R4-2206537.docx) Reply LS on Maximum duration for DMRS bundling (R4-2206537; contact: Qualcomm) RAN4 LS in Rel-17 NR\_cov\_enh To:RAN1, RAN2

[R2-2204505](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204505_R4-2206580.docx) Reply LS on Length of Maximum duration (R4-2206580; contact: China Telecom) RAN4 LS in Rel-17 NR\_cov\_enh-Core To:RAN1, RAN2

From RAN1

[R2-2204463](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204463_R1-2202829.docx) Reply LS on UL BWP with PRACH resources only for RACH with Msg3 repetition (R1-2202829; contact: ZTE) RAN1 LS in Rel-17 NR\_cov\_enh-Core To:RAN2

* Noted?

[R2-2204469](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204469_R1-2202867.doc) Reply LS on Stage 2 description for Coverage Enhancements (R1-2202867; contact: China Telecom) RAN1 LS in Rel-17 NR\_cov\_enh-Core To:RAN2

* Noted?

#### 6.19.1.2 Rapporteur CRs

CR Rapporteurs to provide input CRs, if needed.

Moved here from 6.19.1

[R2-2205069](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2205069.zip) Report of [Pre118-e][103][CovEnh] 38331 CR and rapporteur resolutions (Huawei) Huawei, HiSilicon discussion Rel-17 NR\_cov\_enh-Core Late

* Discussed in offline 103

[R2-2205070](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2205070.zip) Correction for NR coverage enhancements (CR rapporteur) Huawei, HiSilicon CR Rel-17 38.331 17.0.0 3039 - F NR\_cov\_enh-Core Late

### 6.19.2 General

All aspects, including possible corrections/TPs for the running CRs.

Stage 2 CRs

[R2-2205842](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205842%20Corrections%20on%20MSG3%20repetition.docx) Corrections on MSG3 repetition Nokia, Nokia Shanghai Bell CR Rel-17 38.300 17.0.0 0467 - F NR\_cov\_enh-Core

[R2-2204726](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204726%20stage-2%20correction.docx) Stage-2 correction on CE OPPO CR Rel-17 38.300 17.0.0 0443 - F NR\_cov\_enh-Core

BWP with only CE RACH resources

[R2-2205841](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205841%20CE%20RACH%20only%20BWP%20handling.docx) CE RACH only BWP handling Nokia, Nokia Shanghai Bell CR Rel-17 38.321 17.0.0 1289 - F NR\_cov\_enh-Core

[R2-2205068](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205068%20Discussion%20on%20the%20leftover%20issues%20for%20CE-specific%20RACH.DOCX) Discussion on the leftover issues for CE-specific RACH Huawei, HiSilicon discussion Rel-17 NR\_cov\_enh-Core

[R2-2205851](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205851%20Further%20issues%20on%20coverage%20enhancements.docx) Further issues on coverage enhancements Ericsson discussion NR\_cov\_enh

[R2-2206034](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2206034%20On%20BWP%20configured%20with%20RACH%20resources%20only%20for%20Msg3%20repetition.docx) On BWP configured with RACH resources only for Msg3 repetition Qualcomm Incorporated discussion Rel-17 NR\_cov\_enh-Core

CFRA with PUSCH repetition

[R2-2205852](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205852%20On%20CFRA%20Msg3%20repetition.docx) On CFRA Msg3 repetitions Ericsson discussion NR\_cov\_enh

Proposal 1 CFRA for Msg3 (PUSCH scheduled by RAR) is only applicable to reconfiguration with sync.

Proposal 2 Introduce a flag in CFRA configuration where UE should be considered to have requested repetitions if present applicable for reconfiguration with sync.

Proposal 3 Take the RRC excerpt as a baseline for introducing Msg3 repetitions for CFRA.

[R2-2204837](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204837%20Discussion%20on%20CFRA%20PUSCH%20with%20Repetition.docx) Discussion on CFRA PUSCH with Repetition vivo discussion Rel-17 NR\_cov\_enh-Core [R2-2202981](file:///C%3A%5CData%5C3GPP%5Carchive%5CRAN2%5CRAN2%23117%5CTdocs%5CR2-2202981.zip)

Proposal 1: CFRA PUSCH with repetition is supported for PDCCH order and reconfiguration with sync.

Proposal 2: To support CFRA PUSCH with repetition:

1> separate ROs with CBRA preamble partition for CovEnh are configured along with shared ROs;

2> Msg3 PUSCH repetition check is done before the selection of SSB;

3> UE transmits the CF preamble on separate RO if Msg3 PUSCH repetition conditions are fulfilled.

4> RAR is interpreted in Msg3 PUSCH repetition method if 3> is performed.

38.321 CRs

[R2-2204739](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2204739%20-%20Correction%20to%2038.321%20on%20redundancy%20version%20for%20Msg3%20repetition.doc) Correction to 38.321 on redundancy version for Msg3 repetition OPPO CR Rel-17 38.321 17.0.0 1227 - F NR\_cov\_enh-Core

[R2-2205067](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2205067%20Clarification%20on%20Msg3%20repetition%20RV%20determination%20to%20MAC%20spec.doc) Clarification on Msg3 repetition RV determination to MAC spec Huawei, HiSilicon CR Rel-17 38.321 17.0.0 1251 - F NR\_cov\_enh-Core

* [AT118-e][103][CovEnh] RRC CR (Huawei)

Initial scope: continue the discussion on the CovEnh WI-specific RILs, also considering the submitted contributions

Initial intended outcome: Summary of the offline discussion with e.g.:

* List of resolved RILs
* List of RILs for online discussion
* List of RILs for further offline discussion

Deadline (for companies' feedback): Thursday 2022-05-12 0000 UTC

Deadline (for rapporteur's summary in [R2-2206193](file:///C%3A%5CData%5C3GPP%5CRAN2%5CInbox%5CR2-2206193.zip)): Thursday 2022-05-12 0200 UTC

CE RIL issues (class 1 and 2)

Proposal 1(7/7): RIL I025 is agreed and Z121 is modified: Change the field name of repK-r17 to repK-v1700.

Proposal 2(7/7): RIL Z122 is agreed: Change the note of field descriptions of pusch-FrequencyHoppingInterval : For unpaired spectrum, the UE is not expected to be configured the value of s6, s8, s12, s14 and s16.

Proposal 3(7/7): RIL I039 is agreed: For pucch-RepetitionNrofSlots-r17, change Need Code to Need R.

Proposal 4(7/7): RIL I038 is agreed: For numberOfSlots-TBoMS-r17, change Need Code to Need R.

Proposal 5(5/7): RIL E058 is agreed: Add the following sentence to the field descriptions of numberOfSlots-TBoMS: Number of slots allocated for TB processing over multi-slot PUSCH for DCI format 0\_1/0\_2. If a number of repetitions K is configured by numberOfRepetitions or numberOfRepetitionsExt, the network configures numberOfSlots-TBoMS (N) and K such that N\*K ≤ 32 (see TS 38.214 [19], clause 6.1.2.1).

CE Cross-WI RIL issues (class 1 and 2)

Proposal 6(6/7): RIL N104 is agreed from CE session perspective: Change the Need Code from Need S to Need R for relevant CE parameters including pucch-DMRS-Bundling-r17, pucch-WindowRestart-r17, pusch-DMRS-Bundling-r17 and pusch-WindowRestart-r17.

Proposal 7(6/7): RIL E146 is agreed from CE session perspective: Rename covEnh to msg3-Repetitions and change the description to “indicates that msg3 repetition is signaled as part of this feature combination”. FFS whether to implement this RIL into CE RRC CR or RA partitioning RRC CR.

CE RILs issues (class 0)

Proposal 8(7/7): Class 0 RIL Issue 378, 379 and 380 are agreed and captured into the CE RRC CR.

CE other RRC open issues

Proposal 9(7/7): Change to “the maximum duration for DMRS bundling for PUCCH/PUSCH as specified in TS 38.306 [26]” in the field description of pucch-TimeDomainWindowLength and pusch-TimeDomainWindowLength.

Proposal 10(7/7): Add n1 into the value range of pucch-RepetitionNrofSlots-r17.

Proposal 11: To discuss how to implement the remaining CE-RACH parameters in terms of numberOfMsg3Repetitions and mcs-Msg3Repetition

Option 1: Per RA partition configuration: To add them in the field of featureSpecificParameters-r17 with conditional presence indicating it can be only present if CE is present in the feature combination

Option 2: Common/Per RA configuration (separate RO): To add them in IE RACH-ConfigCommon and explicitly indicate these parameters are only used for CE feature

Option 3: Common configuration: To add them in IE BWP-UplinkCommon and explicitly indicate these parameters are only used for CE feature

[R2-2206193](file:///C%3A%5CData%5C3GPP%5CRAN2%5CInbox%5CR2-2206193.zip) [offline-103] RRC CR Huawei discussion Rel-17 NR\_cov\_enh

## Summary

Agreed CRs

Approved LSs out

[POST118-e] Email discussions

Short

Long