3GPP TSG-RAN WG2 Meeting #115 electronic R2-2108832

Online, Aug 16th - 27th, 2021

**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 [AT115-e][000]

Organizational

1. All organization emails and notes will be shared over the following email discussion throughout the meeting:

* [AT115-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 Zone UTC** | **Web Conference R2 - Main** | **Web Conference R2 - BO1** | **Web Conference R2 - BO2** |
| **Monday** |  |  |  |
| 12:15-13:05 | NR15 NR16 Main session (Johan) | NR16 Pos (Nathan) | **NR17 NTN, non-pos aspects (Sergio)**  **- [8.10.1]**  **- [8.10.2.1]**  **- [8.10.2.2]**  **- [8.10.2.3]** |
| 13:05-14:25 | NR15 NR16 Main session (Johan) | NR17 Multi-SIM (Tero) | **NR17 NTN (Sergio)**  **- [8.10.3.1]**  **- [8.10.3.2]**  **- [8.10.3.3]** |
| 14:25-15:45 | TEI17 (Johan) | 14:25 – 15:15: NR17 SL enh (Kyeongin)  15:15 – 15:45: NR17 Tero Early Items (will be specified in more detail) | LTE17 IoT (Brian) |
| **Tuesday** |  |  |  |
| 12:15-13:05 | NR17 QoE (Johan) | NR17 RAN Slicing (Tero) | NR17 Small Data Enh (Diana) |
| 13:05-14:25 | NR17 eIAB (Johan) | NR16 V2X (Kyeongin) | NR17 Small Data Enh (Diana) |
| 14:25-15:45 | NR17 ePowSav (Johan) | NR17 DCCA (Tero) | NR17 SL enh (Kyeongin) |
| **Wednesd** |  |  |  |
| 12:15-13:05 | NR17 eNPN (Johan) | **12:15-13:35: NR17 RedCap (Sergio)**  **- [8.12.1]**  **- [8.12.2.1] including outcome of [Post114-e] [105]**  **- [8.12.2.2]**  **- [8.12.3.1]**  **- [8.12.3.2]** | NR17 SL Relay (Nathan) |
| 13:05-14:25 | NR17 Multicast (Johan) | **13:35-14:25: NR17 CovEnh (Sergio)**  **- [8.19.1]**  **- [8.19.2]** | NR17 Pos (Nathan) |
| 14:25-15:45 | NR17 Multicast (Johan) | NR17 SONMDT (HuNan) | NR17 IIOT URLLC (Diana) |
| **Thursday** |  |  |  |
| 04:00-05:00 | NR17 feMIMO (Johan) | NR17 SL Relay (Nathan) | LTE16e IoT (Emre, Brian) |
| **Friday** |  |  |  |
| 04:00-05:00 | NR17 Other (Johan) | NR17 SL Relay (Nathan) | LTE All releases Misc (Tero) |

WEEK 2:

|  |  |  |  |
| --- | --- | --- | --- |
| **Time Zone UTC** | **Web Conference R2 - Main** | **Web Conference R2 - BO1** | **Web Conference R2 - BO2** |
| **Monday** |  |  |  |
| 12:15-13:05 | NR17 Other (Johan) | NR17 up to 71 GHz (Tero) | NR16 SONMDT (HuNan) |
| 13:05-14:25 | NR17 IoT NTN (Johan) | CB Tero | CB Kyeongin |
| 14:25-15:45 | NR15 NR16 Main session (Johan) | NR17 RACH indication / partitioning (Diana) | NR17 Pos (Nathan) |
| **Tuesday** |  |  |  |
| 12:15-13:05 | CB eNPN, ePowsav, QoE if needed (Johan) | **CB Sergio**  **- NTN CB session, including offline discussion outcomes** | CB Nathan |
| 13:05-14:25 | CB eIAB, TEI17 (Johan) | **CB Sergio**  **- Redcap CB session, including offline discussion outcomes**  **- CE offline discussion outcome (if any)**  **CB Diana** | CB Brian Emre |
| 14:25-15:45 | CB Multicast, IoT NTN (Johan) | CB Diana | CB Kyeongin |
| **Wednesd** |  |  |  |
| 04:00-05:00 | CB Multicast, feMIMO (Johan) | CB Tero | CB Nathan |
| **Thursday** |  |  |  |
| 04:00-05:00 | CB NR16 NR15 (Johan) | CB HuNan | CB TBD |
| **Friday** |  |  |  |
| 04:00-05:00 | CB TBD (Johan) | **CB Sergio/Diana** | CB Tero |

List and status of offline email discussions

NOTE: No offline email discussions will be kicked off before Monday Aug 16th, 07:00 UTC

* [AT115-e][105][RedCap] eDRX cycles (Vivo)

Initial scope: Based on company contributions in 8.12.3.1, discuss the expected behaviour for different (RAN and CN) eDRX cycles lengths, assuming eDRX cycle in INACTIVE <= 10.24s

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)

Initial deadline (for companies' feedback): Wednesday 2021-08-17 04:00 UTC

Initial deadline (for rapporteur's summary in R2-2108881): Wednesday 2021-08-17 08:00 UTC

Status: Not yet started

## 8.10 NR Non-Terrestrial Networks (NTN)

(NR\_NTN\_solutions-Core; leading WG: RAN2; REL-17; WID: RP-211557)

Time budget: 1.5 TU

Tdoc Limitation: 5 tdocs

Email max expectation: 5 threads

### 8.10.1 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.

Workplan

[R2-2107146](file:///C:\Data\3GPP\Extracts\R2-2107146-Rel17%20NR-NTN%20workplan%20updated%20v29.docx) Updated NR-NTN-solutions work plan THALES Work Plan Rel-17 NR\_NTN\_solutions

Incoming LSs

* UE location aspects

[R2-2106941](file:///C:\Data\3GPP\Extracts\R2-2106941_R3-212917.docx) Reply LS on UE location aspects in NTN (R3-212917; contact: Qualcomm) RAN3 LS in Rel-17 NR\_NTN\_solutions-Core, 5GSAT\_ARCH To:RAN2, SA2, SA3-LI, SA3, CT1

[R2-2106976](file:///C:\Data\3GPP\Extracts\R2-2106976_S3-212306.doc) Reply LS on UE location aspects in NTN (S3-212306; contact: Huawei) SA3 LS in Rel-17 NR\_NTN\_solutions-Core, 5GSAT\_ARCH To:RAN2, SA2, SA3-LI, RAN3 Cc:CT1

[R2-2107568](file:///C:\Data\3GPP\Extracts\R2-2107568%20draft%20LS%20on%20RAN3%20question.docx) [Draft] Reply LS on UE location aspects in NTN Qualcomm Incorporated LS out Rel-17 NR\_NTN\_solutions-Core, 5GSAT\_ARCH To:RAN3 Cc:SA2, CT1

* Multiple TACs

[R2-2106904](file:///C:\Data\3GPP\Extracts\R2-2106904_C1-213965.doc) LS reply on multiple TACs per PLMN (C1-213965; contact: Nokia) CT1 LS in Rel-17 5GSAT\_ARCH-CT, NR\_NTN\_solutions-Core To:RAN2, SA2 Cc:RAN3

[R2-2106966](file:///C:\Data\3GPP\Extracts\R2-2106966_S2-2104891.docx) LS Response to LS on multiple TACs per PLMN (S2-2104891; contact: Qualcomm) SA2 LS in Rel-17 5GSAT\_ARCH To:RAN2, CT1 Cc:RAN3

[R2-2107523](file:///C:\Data\3GPP\Extracts\R2-2107523%20Draft%20Response%20LS%20on%20Multiple%20TACs%20per%20PLMN.docx) Draft Response LS on Multiple TACs per PLMN Nokia, Nokia Shanghai Bell LS out Rel-17 NR\_NTN\_solutions-Core To:CT1, SA2 Cc:RAN3

* TA pre-compensation

[R2-2106924](file:///C:\Data\3GPP\Extracts\R2-2106924_R1-2106341.docx) Reply LS on TA pre-compensation (R1-2106341; contact: OPPO) RAN1 LS in Rel-17 NR\_NTN\_solutions-Core To:RAN2

* PDB for new 5QI

[R2-2106922](file:///C:\Data\3GPP\Extracts\R2-2106922_R1-2106331.docx) Reply LS on PDB for new 5QI (R1-2106331; contact: Ericsson) RAN1 LS in Rel-17 5GSAT\_ARCH, NR\_NTN\_solutions-Core To:SA2 Cc:RAN2, RAN3

* Noted
* On SA2 assumptions on architecture aspects

[R2-2106940](file:///C:\Data\3GPP\Extracts\R2-2106940_R3-212916.doc) Reply LS on SA WG2 assumptions from conclusion of study on architecture aspects for using satellite access in 5G (R3-212916; contact: Ericsson) RAN3 LS in Rel-17 NR\_NTN\_solutions-Core To:RAN2, SA2 Cc:SA3-LI, SA5

* Noted

Running CRs

[R2-2108829](file:///C:\Data\3GPP\RAN2\Inbox\R2-2108829.zip) Stg 2 Running CR\_38.300\_NR-NTN THALES draftCR Rel-17 38.300 16.6.0 NR\_NTN\_solutions R2-2106539 Late

[R2-2107732](file:///C:\Data\3GPP\Extracts\R2-2107732_Stage-3%20running%20304%20CR%20for%20NTN.docx) Stage-3 running 304 CR for NTN ZTE corporation, Sanechips draftCR Rel-17 38.304 16.5.0 B NR\_NTN\_solutions-Core

[R2-2108345](file:///C:\Data\3GPP\Extracts\38331_runningCR_R2-2108345_Stage3%20NTN.docx) Stage-3 running RRC CR for NTN Rel-17 Ericsson draftCR Rel-17 38.331 16.5.0 NR\_NTN\_solutions-Core

[R2-2108664](file:///C:\Data\3GPP\Extracts\R2-2108664%20(R17%20NTN%20WI%20AI%208.10.1)%20NTN%20MAC%20running%20CR_115e.docx) Stage 3 NTN running CR for 38.321 - RAN2#115 InterDigital draftCR Rel-17 38.321 16.5.0 NR\_NTN\_solutions-Core

### 8.10.2 User Plane

[R2-2107280](file:///C:\Data\3GPP\Extracts\R2-2107280_For8.10.2_UserPlanIssues_Samsung.doc) User Plane Issues and Enhancements for an NTN Samsung Research America discussion

[R2-2108663](file:///C:\Data\3GPP\Extracts\R2-2108663%20(R17%20NTN%20WI%20AI%208.10.2)%20MAC%20Open%20Issues_115e.docx) MAC open issues in NTN - RAN2#115 InterDigital discussion Rel-17 NR\_NTN\_solutions-Core

#### 8.10.2.1 RACH aspects

[R2-2107314](file:///C:\Data\3GPP\Extracts\R2-2107314.docx) Discussion on UE Specific TA Report CATT discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2108453](file:///C:\Data\3GPP\Extracts\R2-2108453%20-%20Random%20Access%20timers%20and%20reporting%20information%20about%20UE%20specific%20TA%20pre-compensation%20in%20NTNs.docx) Random Access timers and reporting information about UE specific TA pre-compensation in NTNs Ericsson discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2107075](file:///C:\Data\3GPP\Extracts\R2-2107075%20-%20Discussion%20on%20RACH%20in%20NTN.doc) Discussion on RACH in NTN OPPO discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2107362](file:///C:\Data\3GPP\Extracts\R2-2107362%20TA%20report%20in%20Random%20access%20procedure.doc) TA report in Random access procedure Spreadtrum Communications discussion Rel-17

[R2-2107908](file:///C:\Data\3GPP\Extracts\R2-2107908%20Considerations%20on%20new%20criteria%20for%20RA%20type%20selection%20(Revision%20of%20R2-2105817).docx) Considerations on new criteria for RA type selection Lenovo, Motorola Mobility discussion Rel-17

[R2-2107972](file:///C:\Data\3GPP\Extracts\R2-2107972%20%20RACH%20Type%20selection%20and%20TA%20report.doc) RACH Type selection and TA report Beijing Xiaomi Mobile Software discussion Rel-17

[R2-2108114](file:///C:\Data\3GPP\Extracts\R2-2108114%20Further%20discussion%20on%20RACH%20issues%20for%20NR%20NTN.docx) Further discussion on RACH issues for NR NTN Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2108350](file:///C:\Data\3GPP\Extracts\R2-2108350%20Considerations%20on%20Random%20Access%20aspects.doc) Considerations on RACH aspects ZTE Corporation, Sanechips discussion Rel-17

[R2-2108609](file:///C:\Data\3GPP\Extracts\R2-2108609_Discussion%20on%20RACH%20and%20TA%20report%20aspects.docx) Discussion on RACH and TA report aspects LG Electronics Inc. discussion NR\_NTN\_solutions-Core

[R2-2108715](file:///C:\Data\3GPP\Extracts\R2-2108715%20Discussion%20on%20LCH-based%20RA%20type%20selection.docx) Discussion on LCH-based RA type selection ASUSTeK discussion Rel-17 NR\_NTN\_solutions-Core [R2-2105381](file:///C:\Data\3GPP\archive\RAN2\RAN2%23114\Tdocs\R2-2105381.zip)

#### 8.10.2.2 Other MAC aspects

The discussion will focus on possible different behaviours per UL HARQ process, including possible LCP restrictions.

[R2-2109031](file:///C:\Data\3GPP\RAN2\Inbox\R2-2109031.zip) [Pre115-e][101][NTN] Summary of AI 8.10.2.2 - Other MAC aspects Interdigital discussion Rel-17 NR\_ NTN\_solutions-Core

Likely agreeable

Proposal 7: Confirm the RAN2 working assumption that offset to drx-HARQ-RTT-TimerUL length is equal to UE-gNB RTT.

Proposal 9: Confirm the RAN2 working assumption that for HARQ processes with DL HARQ feedback enabled, the drx-HARQ-RTT-TimerDL length is increased by an offset equal to UE-gNB RTT.

Needs discussion

Proposal 1: A HARQ process can be optionally configured as having UL HARQ retransmission state “enabled” or “disabled”. Configuration is semi-static and signalled via RRC. The decision and criteria to enable/disable UL HARQ retransmission for a HARQ process is under network control.

Proposal 2: If a HARQ process is not configured with an UL HARQ retransmission state, the network may schedule according to any scheme (i.e. as in legacy).

Proposal 3: RAN2 to discuss definition of “enabled” and “disabled” UL HARQ retransmission state (i.e. supported network scheduling strateg(ies) and corresponding UE behaviour).

Proposal 4: A new LCP restriction is introduced in NTN.

Proposal 5: RAN2 to discuss details of new LCP restriction, e.g. if LCP restriction maps LCH to HARQ process ID or UL HARQ retransmission state, and if LCP restriction is optionally configurable (i.e. it may not apply UL grant assigned to HARQ process(es) not configured with an UL HARQ retransmission state).

Proposal 6: The following behaviours are supported for drx-HARQ-RTT-TimerUL in NTN per HARQ process: 1) Timer length is extended by offset; 2) Timer disabled (i.e. not started).

Proposal 8: For HARQ process(es) not configured with an UL HARQ retransmission state, drx-HARQ-RTT-TimerUL (unless explicitly configured with a different behaviour) and drx-RetransmissionTimerUL behave as per legacy (i.e. as per configuration in DRX-config).

Lower priority

Proposal 10: RAN2 may further discuss how drx-RetransmissionTimerDL is handled in HARQ feedback disabled case by taking related RAN1 agreements into account.

[R2-2107076](file:///C:\Data\3GPP\Extracts\R2-2107076%20-%20Discussion%20on%20UL%20HARQ%20retransmission%20in%20NTN.doc) Discussion on UL HARQ retransmission in NTN OPPO discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2107315](file:///C:\Data\3GPP\Extracts\R2-2107315.docx) Discussion on HARQ Aspects and UL Scheduling Enhancement in NTN CATT discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2107361](file:///C:\Data\3GPP\Extracts\R2-2107361%20Discussion%20on%20HARQ%20and%20LCP%20remaining%20issues.doc) Discussion on HARQ and LCP remaining issues Spreadtrum Communications discussion Rel-17

[R2-2107449](file:///C:\Data\3GPP\Extracts\R2-2107449%20Impact%20on%20DRX%20timers%20with%20UL%20and%20DL%20HARQ%20enhancement%20in%20NTN.docx) Impact on DRX timers with UL/DL HARQ enhancement in NTN vivo discussion

[R2-2107450](file:///C:\Data\3GPP\Extracts\R2-2107450%20Impact%20on%20LCP%20with%20disabled%20UL%20HARQ%20retransmission.docx) Impact on LCP with disabled UL HARQ retransmission in NTN vivo discussion

[R2-2107563](file:///C:\Data\3GPP\Extracts\R2-2107563%20LCP%20in%20UL%20HARQ.doc) LCP restriction for an UL HARQ process Qualcomm Incorporated, Huawei, HiSilicon, Xiaomi, Samsung discussion Rel-17 NR\_NTN\_solutions-Core [R2-2105431](file:///C:\Data\3GPP\archive\RAN2\RAN2%23114\Tdocs\R2-2105431.zip)

[R2-2107632](file:///C:\Data\3GPP\Extracts\._R2-2107632%20HARQ%20Management%20and%20LCP%20Restrictions%20for%20NTN.docx) HARQ Management and LCP Restrictions in NTN Apple discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2107790](file:///C:\Data\3GPP\Extracts\R2-2107790%20Co-existence%20issue%20of%20BSR%20over%20CG%20and%20BSR%20over%202-step%20RACH.docx) Co-existence issue of BSR over CG and BSR over 2-step RACH PANASONIC R&D Center Germany discussion [R2-2105498](file:///C:\Data\3GPP\archive\RAN2\RAN2%23114\Tdocs\R2-2105498.zip)

[R2-2107909](file:///C:\Data\3GPP\Extracts\R2-2107909%20BSR%20with%20configured%202-step%20RACH%20and%20CG.docx) BSR with configured 2-step RACH and CG Lenovo, Motorola Mobility discussion Rel-17

[R2-2107986](file:///C:\Data\3GPP\Extracts\R2-2107986%20%20Consideration%20on%20HARQ%20aspects.doc) Consideration on HARQ aspects Beijing Xiaomi Mobile Software discussion Rel-17

[R2-2108115](file:///C:\Data\3GPP\Extracts\R2-2108115%20Discussion%20on%20remaining%20MAC%20issues%20for%20NR%20NTN.docx) Discussion on remaining MAC issues for NR NTN Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2108318](file:///C:\Data\3GPP\Extracts\R2-2108318%20On%20Disabling%20uplink%20HARQ%20retransmission%20and%20Associated%20LCP%20Impacts.docx) On disabling uplink HARQ retransmission and associated LCP impacts MediaTek Inc. discussion [R2-2105250](file:///C:\Data\3GPP\archive\RAN2\RAN2%23114\Tdocs\R2-2105250.zip)

[R2-2108319](file:///C:\Data\3GPP\Extracts\R2-2108319%20Round%20trip%20delay%20offset%20for%20configured%20grant%20timer.docx) Round trip delay offset for configured grant timer MediaTek Inc. discussion

[R2-2108351](file:///C:\Data\3GPP\Extracts\R2-2108351%20Considerations%20on%20HARQ%20aspects.doc) Considerations on HARQ aspects ZTE Corporation, Sanechips discussion Rel-17

[R2-2108452](file:///C:\Data\3GPP\Extracts\R2-2108452%20-%20On%20DRX%20LCP%20HARQ%20SR%20BSR%20and%20configured%20scheduling.docx) On DRX, LCP, HARQ, SR/BSR, and configured scheduling Ericsson discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2108544](file:///C:\Data\3GPP\Extracts\R2-2108544%20Discussion%20on%20LCP%20Restrictions%20and%20CG%20Impact%20in%20NTN.docx) Discussion on LCP Restrictions and CG Impact in NTN CMCC discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2108608](file:///C:\Data\3GPP\Extracts\R2-2108608_Discussion%20on%20other%20MAC%20aspects_r1.DOCX) Discussion on other MAC aspects LG Electronics Inc. discussion NR\_NTN\_solutions-Core

[R2-2108610](file:///C:\Data\3GPP\Extracts\R2-2108610%20Consideration%20on%20LCP%20in%20NTN.DOC) Consideration on LCP in NTN Huawei, HiSilicon discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2108611](file:///C:\Data\3GPP\Extracts\R2-2108611%20Discussion%20on%20TA%20report.doc) Discussion on TA report Huawei, HiSilicon discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2108661](file:///C:\Data\3GPP\Extracts\R2-2108661%20(R17%20NTN%20WI%20AI%208.10.2.2)%20HARQ%20UL%20Retransmission.docx) UL HARQ retransmission InterDigital discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2108662](file:///C:\Data\3GPP\Extracts\R2-2108662%20(R17%20NTN%20WI%20AI%208.10.2.2)%20Impacts%20of%20UE-gNB%20RTT.docx) Impact of UE-gNB RTT determination on MAC InterDigital discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2108716](file:///C:\Data\3GPP\Extracts\R2-2108716%20Discussion%20on%20UL%20retransmission%20and%20DRX%20RTT%20timer.docx) Discussion on UL retransmission and DRX RTT timer ASUSTeK discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2108768](file:///C:\Data\3GPP\Extracts\R2-2108768.docx) HARQ Retransmission Enabling/Disabling for CG aspects ITL discussion Rel-17

#### 8.10.2.3 RLC and PDCP aspects

[R2-2108317](file:///C:\Data\3GPP\Extracts\R2-2108317_RLC%20and%20PDCP%20timers%20extension.docx) RLC and PDCP timers extension NEC Telecom MODUS Ltd. discussion [R2-2106016](file:///C:\Data\3GPP\archive\RAN2\RAN2%23114\Tdocs\R2-2106016.zip)

[R2-2108451](file:///C:\Data\3GPP\Extracts\R2-2108451%20-%20On%20RLC%20and%20PDCP%20for%20NTNs.docx) On RLC and PDCP for NTNs Ericsson discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2108460](file:///C:\Data\3GPP\Extracts\R2-2108460_On%20RLC%20t-Reassembly%20for%20NTN.docx) On RLC t-Reassembly for NTN Sequans Communications discussion Rel-17 NR\_NTN\_solutions-Core [R2-2106055](file:///C:\Data\3GPP\archive\RAN2\RAN2%23114\Tdocs\R2-2106055.zip)

### 8.10.3 Control Plane

#### 8.10.3.1General aspects

Including Earth fixed/moving beams related issues, TAC update and LCS aspects

LCS aspects

[R2-2108848](file:///C:\Data\3GPP\RAN2\Docs\R2-2108848.zip) [Pre115-e][102][NTN] Summary of AI 8.10.3.1 - LCS aspects only Qualcomm discussion Rel-17 NR\_NTN\_solutions-Core

Observation 1. If SA3 replies with concern on reporting UE location with any granularity during initial access, RAN2 will revisit agreement/solution for reporting UE location during initial access.

Proposal 1 RAN2 decide on definition of coarse UE location information, whether it is (1) GNSS coordinates (i.e., X MSB bits out of 24 bits of longitude/latitude or GNSS coordinates with ~2km accuracy) or (2) v2x like zone ID or (3) virtual cell identifier or (4) the detected TN cell CGI.

Proposal 2 The coarse location information is reported in Msg5, i.e., via RRCSetupComplete/RRCResumeComplete message.

Proposal 3 For coarse UE location reporting during initial access, the location granularity (i.e., accuracy to be 2 km radius or x>2 km radius) is indicated to UE via SIB.

Proposal 4 RAN2 decide if any enhancements to validate the UE’s coarse location information is needed.

Proposal 5 RAN2 decide whether the UE reports coarse UE location information (as defined by proposal 1) or full GNSS coordinates to gNB in RRC\_CONNECTED, i.e., after AS security has been established.

Proposal 6 After AS security is established, gNB can obtain a GNSS-based location information from the UE using existing signalling method, i.e., by configuring includeCommonLocationInfo in the corresponding reportConfig.

Proposal 7 Periodic reporting and location-based event triggered reporting are configured by gNB to obtain UE location update of mobile UEs in RRC\_CONNECTED.

Proposal 8 RAN2 discuss whether UE location reporting upon request from the gNB is necessary.

[R2-2107077](file:///C:\Data\3GPP\Extracts\R2-2107077%20UE%20locations.doc) Discussion on UE location aspects in NTN OPPO discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2107150](file:///C:\Data\3GPP\Extracts\R2-2107150_Virtual_Cell_Fraunhofer.docx) Virtual cells for network verified UE position in NTN networks Fraunhofer IIS; Fraunhofer HHI; Thales discussion

[R2-2107284](file:///C:\Data\3GPP\Extracts\R2-2107284_For8.10.3.1_AreaManagement_SamsungThalesRakutenMobileApple.doc) Area Management in an NTN Samsung Research America, Thales, Rakuten Mobile, and Apple discussion [R2-2106072](file:///C:\Data\3GPP\archive\RAN2\RAN2%23114\Tdocs\R2-2106072.zip)

[R2-2107316](file:///C:\Data\3GPP\Extracts\R2-2107316.docx) Further Discussion on LCS and TAC aspects in NTN CATT discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2107343](file:///C:\Data\3GPP\Extracts\R2-2107343%20Discussion%20on%20V2X-like%20zone%20ID.doc) Discussion on V2X-like zone ID Huawei, HiSilicon discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2107567](file:///C:\Data\3GPP\Extracts\R2-2107567%20discussion%20on%20LS%20reply.docx) Discussion on RAN3 LS reply on UE location Qualcomm Incorporated discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2107346](file:///C:\Data\3GPP\Extracts\R2-2107346%20Draft%20reply%20LS%20on%20UE%20location%20aspects%20in%20NTN.doc) Draft Reply LS on UE location aspects in NTN Huawei, HiSilicon LS out Rel-17 NR\_NTN\_solutions-Core To:SA3 Cc:CT1, SA2, SA3-LI, RAN3

[R2-2108606](file:///C:\Data\3GPP\Extracts\R2-2108606_TAC%20update%20and%20UE%20location%20report.docx) TAC update and UE location report ZTE corporation, Sanechips discussion Rel-17 NR\_NTN\_solutions-Core

TAC update

[R2-2107520](file:///C:\Data\3GPP\Extracts\R2-2107520%20On%20Tracking%20Area%20Code%20handling%20for%20NTN.docx) On Tracking Area Code handling for NTN Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2107345](file:///C:\Data\3GPP\Extracts\R2-2107345%20Draft%20reply%20LS%20on%20multiple%20TACs%20per%20PLMN.doc) Draft Reply LS on multiple TACs per PLMN Huawei, HiSilicon LS out Rel-17 NR\_NTN\_solutions-Core To:CT1 Cc:SA2, RAN3

[R2-2107360](file:///C:\Data\3GPP\Extracts\R2-2107360%20Discussion%20on%20TAC%20update%20in%20NTN.doc) Discussion on TAC update in NTN Spreadtrum Communications discussion Rel-17

[R2-2107564](file:///C:\Data\3GPP\Extracts\R2-2107564%20TAC%20update.doc) Tracking area update timing Qualcomm Incorporated discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2107729](file:///C:\Data\3GPP\Extracts\R2-2107729%20Discussion%20on%20the%20remaining%20issue%20on%20TAC%20update.docx) Discussion on the remaining issue on TAC update vivo discussion

[R2-2108323](file:///C:\Data\3GPP\Extracts\R2-2108323_TAU_NR-NTN.DOCX) On Soft-switch based Tracking Area Updates in NR-NTN MediaTek Inc. discussion [R2-2105252](file:///C:\Data\3GPP\archive\RAN2\RAN2%23114\Tdocs\R2-2105252.zip)

Other

[R2-2107131](file:///C:\Data\3GPP\Extracts\R2-2107131.docx) Signalling Solution for Feeder Link Switching of NTN VODAFONE Group Plc discussion

[R2-2107281](file:///C:\Data\3GPP\Extracts\R2-2107281_For8.10.3.1_TrackingAreas_EllipticalBeam_Samsung.doc) Remaining Beam Issues in an NTN: Tracking Area Management and Elliptical Beams Samsung Research America discussion

R2-2107633 NTN Area Management Apple discussion Rel-17 NR\_NTN\_solutions-Core Withdrawn

#### 8.10.3.2 Idle/Inactive mode

Idle/inactive mode specific issues.

Cell selection and reselection

[R2-2107733](file:///C:\Data\3GPP\Extracts\R2-2107733_Further%20consideration%20on%20cell%20selection%20and%20reselection%20in%20NTN.docx) Further consideration on cell selection and reselection in NTN ZTE corporation, Sanechips discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2108320](file:///C:\Data\3GPP\Extracts\R2-2108320_Cell-Reselection_NR-NTN.docx) On Cell Re-selection in NR-NTN MediaTek Inc. discussion [R2-2105251](file:///C:\Data\3GPP\archive\RAN2\RAN2%23114\Tdocs\R2-2105251.zip)

[R2-2107078](file:///C:\Data\3GPP\Extracts\R2-2107078%20NTN%20Idle%20inactive%20mode%20procedures.doc) Discussion on idle/inactive mode procedures in NTN OPPO discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2107282](file:///C:\Data\3GPP\Extracts\R2-2107282_For8.10.3.2_CellReselection_SI_Paging_NeighborSearch_Samsung.doc) Cell Reselection, System Information, Paging Enhancements, and Power-Efficient Neighbor Cell Search for an NTN Samsung Research America discussion

[R2-2107317](file:///C:\Data\3GPP\Extracts\R2-2107317.docx) Further Discussion on the Leftover Issues of IDLE/INACTIVE CATT discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2107344](file:///C:\Data\3GPP\Extracts\R2-2107344%20Discussion%20on%20cell%20reselection.doc) Discussion on cell reselection Huawei, HiSilicon discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2107359](file:///C:\Data\3GPP\Extracts\R2-2107359%20Discussion%20on%20stop%20serving%20time%20of%20NTN%20cell.doc) Discussion on stop serving time of NTN cell Spreadtrum Communications discussion Rel-17

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[R2-2107448](file:///C:\Data\3GPP\Extracts\R2-2107448%20Remaining%20issues%20on%20cell%20reselection%20for%20NTN.docx) Remaining issues on cell reselection for NTN vivo discussion

moved here from 8.10.3

[R2-2107634](file:///C:\Data\3GPP\Extracts\._R2-2107634%20Cell%20Selection%20And%20Cell%20Reselection%20Solutions%20for%20Non%20Terrestrial%20Networks.docx) Cell Selection and Cell Reselection Solutions for Non Terrestrial Networks Apple discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2107845](file:///C:\Data\3GPP\Extracts\R2-2107845%20Remaining%20issues%20in%20NTN%20Idle%20mode.DOC) Remaining issues in NTN Idle mode LG Electronics Inc. discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2107853](file:///C:\Data\3GPP\Extracts\R2-2107853_NTN_reselection.doc) Issues of cell reselection for prioritizing TN over NTN ITRI discussion NR\_NTN\_solutions-Core

[R2-2108064](file:///C:\Data\3GPP\Extracts\R2-2108064.doc) Idle mode enhancement in NTN Sony discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2108170](file:///C:\Data\3GPP\Extracts\R2-2108170%20Cell%20selection%20and%20reselection%20enhancements%20for%20NTN.doc) Cell selection and reselection enhancements for NTN Xiaomi discussion

[R2-2108234](file:///C:\Data\3GPP\Extracts\R2-2108234_NTN%20to%20TN%20in%20Idle%20or%20Inactive%20mode%20mobility.docx) NTN to TN mobility in Idle/Inactive mode NEC Telecom MODUS Ltd. discussion

[R2-2108235](file:///C:\Data\3GPP\Extracts\R2-2108235_NTN%20Neighbour%20Cell%20information.docx) NTN Neighbour Cell information NEC Telecom MODUS Ltd. discussion

moved here from 8.10.3.1

[R2-2108281](file:///C:\Data\3GPP\Extracts\R2-2108281%20NTN%20Idle%20mode.docx) Idle mode aspects for NTN Ericsson discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2108412](file:///C:\Data\3GPP\Extracts\R2-2108412%20NTN%20Indication.docx) NTN type and scenario indication Convida Wireless discussion

[R2-2108413](file:///C:\Data\3GPP\Extracts\R2-2108413%20NTN%20cell%20(re)selection%20enhancements.docx) NTN Cell (re)selection enhancements Convida Wireless discussion

[R2-2108526](file:///C:\Data\3GPP\Extracts\R2-2108526 Discussion on location assisted cell reselection.docx) Discussion on location assisted cell reselection CMCC, Huawei, HiSilicon discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2108779](file:///C:\Data\3GPP\Extracts\R2-2108779.docx) NTN Idle/Inactive mode cell re-selection ITL discussion Rel-17

Ephemeris data and provision

[R2-2107630](file:///C:\Data\3GPP\RAN2\Docs\R2-2107630.zip) On NTN Ephemeris Definitions and Signaling Apple discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2107910](file:///C:\Data\3GPP\Extracts\R2-2107910%20Considerations%20on%20ephemeris%20provision%20for%20NTN%20(Revision%20of%20R2-2105818).docx) Considerations on ephemeris provision for NTN Lenovo, Motorola Mobility discussion Rel-17

#### 8.10.3.3 Connected mode

Connected mode specific issues.

CHO and NTN-TN mobility aspects

R2-2109025 [Pre115-e][103][NTN] Summary of AI 8.10.3.3 - CHO and NTN -TN mobility aspects only Ericsson discussion NR\_NTN\_solutions-Core

[R2-2107079](file:///C:\Data\3GPP\Extracts\R2-2107079%20NTN%20connected%20mode%20mobility.doc) Discussion on mobility management for connected mode UE in NTN OPPO discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2107283](file:///C:\Data\3GPP\Extracts\R2-2107283_For8.10.3.3_HandoverEnhancements_Samsung.doc) Remaining Issues on Handover and Neighbor Search for an NTN Samsung Research America discussion [R2-2106071](file:///C:\Data\3GPP\archive\RAN2\RAN2%23114\Tdocs\R2-2106071.zip)

[R2-2107318](file:///C:\Data\3GPP\Extracts\R2-2107318.docx) Discussion on NTN CP left issues CATT discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2107447](file:///C:\Data\3GPP\Extracts\R2-2107447%20Discussion%20on%20CHO%20related%20aspects%20for%20NTN.docx) Discussion on CHO related aspects for NTN vivo discussion

[R2-2107457](file:///C:\Data\3GPP\Extracts\R2-2107457%20Discussion%20of%20CHO%20in%20NTN.doc) Consideration of location reporting in NTN CHO China Telecommunication discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2107519](file:///C:\Data\3GPP\Extracts\R2-2107519%20Further%20discussion%20on%20CHO%20in%20NTN.docx) Further discussion on CHO in NTN Rakuten Mobile, Inc discussion Rel-17

[R2-2107522](file:///C:\Data\3GPP\Extracts\R2-2107522%20Even%20further%20thoughts%20on%20mobility%20in%20NTN.docx) Even further thoughts on mobility in NTN Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2107565](file:///C:\Data\3GPP\Extracts\R2-2107565%20CHO.doc) Open issues in CHO Qualcomm Incorporated discussion Rel-17 NR\_NTN\_solutions-Core [R2-2105433](file:///C:\Data\3GPP\archive\RAN2\RAN2%23114\Tdocs\R2-2105433.zip)

[R2-2107631](file:///C:\Data\3GPP\Extracts\._R2-2107631%20On%20NTN%20Conditional%20Handovers.docx) On NTN Conditional Handovers Apple discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2107704](file:///C:\Data\3GPP\Extracts\R2-2107704.docx) Discussion on NTN-TN service continuity KT Corp. discussion

[R2-2107846](file:///C:\Data\3GPP\Extracts\R2-2107846%20Remaining%20issues%20for%20NTN%20connected%20mode%20mobility.DOC) Remaining issues for NTN connected mode mobility LG Electronics Inc. discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2107912](file:///C:\Data\3GPP\Extracts\R2-2107912%20Execution%20condition%20for%20CHO%20in%20NTN%20v1.0.doc) Execution condition for CHO in NTN Lenovo, Motorola Mobility discussion Rel-17

[R2-2108017](file:///C:\Data\3GPP\Extracts\R2-2108017%20Discussion%20on%20connected%20mode%20aspects%20for%20NTN.docx) Discussion on connected mode aspects for NTN Xiaomi Communications discussion

[R2-2108065](file:///C:\Data\3GPP\Extracts\R2-2108065.docx) Signaling storm during HOs and Timer based trigger details Sony discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2108100](file:///C:\Data\3GPP\RAN2\Docs\R2-2108100.zip) Service continuity between NTN and TN Turkcell, Hughes/EchoStar, Network Systems, Thales, BT Plc, Vodafone, ESA, Inmarsat, Aselsan discussion Rel-17

moved here from 8.10.3.1

[R2-2108329](file:///C:\Data\3GPP\Extracts\R2-2108329%20-%20Mobility%20for%20TN-NTN%20scenarios.docx) Mobility for NTN-TN scenarios MediaTek Inc. discussion [R2-2105253](file:///C:\Data\3GPP\archive\RAN2\RAN2%23114\Tdocs\R2-2105253.zip)

[R2-2108341](file:///C:\Data\3GPP\Extracts\R2-2108341%20Connected%20mode%20aspects%20for%20NTN.docx) Connected mode aspects for NTN Ericsson discussion NR\_NTN\_solutions-Core

[R2-2108528](file:///C:\Data\3GPP\Extracts\R2-2108528%20Discussion%20on%20NTN-TN%20mobility%20.docx) Discussion on NTN-TN mobility CMCC discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2108607](file:///C:\Data\3GPP\Extracts\R2-2108607_Further%20consideration%20on%20CHO%20in%20NTN.docx) Further consideration on CHO in NTN ZTE corporation, Sanechips discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2108717](file:///C:\Data\3GPP\Extracts\R2-2108717%20Discussion%20on%20location-based%20measurement%20event%20triggering.docx) Discussion on location-based measurement event triggering ASUSTeK discussion Rel-17 NR\_NTN\_solutions-Core

SMTC and measurement gaps

[R2-2108286](file:///C:\Data\3GPP\Extracts\R2-2108286%20Remaining%20Issues%20on%20SMTC%20and%20measurement%20Gap%20configuration%20for%20NTN.docx) Remaining Issues on SMTC and measurement Gap configuration for NTN CMCC,Ericsson,ZTE Corporation,Huawei,CATT,Lenovo, Motorola Mobility discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2107521](file:///C:\Data\3GPP\Extracts\R2-2107521%20Further%20views%20on%20SMTC%20configurations%20for%20NTN.docx) Further views on SMTC configurations for NTN Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_NTN\_solutions-Core [R2-2105000](file:///C:\Data\3GPP\archive\RAN2\RAN2%23114\Tdocs\R2-2105000.zip)

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[R2-2107566](file:///C:\Data\3GPP\Extracts\R2-2107566%20SMTC%20and%20MG.doc) SMTC and MG enhancements Qualcomm Incorporated discussion Rel-17 NR\_NTN\_solutions-Core [R2-2105434](file:///C:\Data\3GPP\archive\RAN2\RAN2%23114\Tdocs\R2-2105434.zip)

[R2-2107878](file:///C:\Data\3GPP\Extracts\R2-2107878%20Measurement%20window%20enhancements%20for%20NTN%20cell.doc) Measurement window enhancements for NTN cell LG Electronics Inc. discussion Rel-17

[R2-2107911](file:///C:\Data\3GPP\Extracts\R2-2107911%20UE%20assistance%20for%20measurement%20gap%20and%20SMTC%20configuration%20in%20NTN%20(Revision%20of%20R2-2105819).docx) UE assistance for measurement gap and SMTC configuration in NTN Lenovo, Motorola Mobility discussion Rel-17

[R2-2108067](file:///C:\Data\3GPP\Extracts\R2-2108067.docx) SMTC enhancement in NTN Sony discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2108198](file:///C:\Data\3GPP\Extracts\R2-2108198%20Remaining%20Issues%20on%20SMTC%20and%20measurement%20Gap%20configuration%20for%20NTN.docx) Discussion on UE feedback based SMTC and GAPS measurement configuration Rakuten Mobile, Inc discussion Rel-17 [R2-2105389](file:///C:\Data\3GPP\archive\RAN2\RAN2%23114\Tdocs\R2-2105389.zip)

[R2-2108326](file:///C:\Data\3GPP\Extracts\R2-2108326%20Efficient%20Configuration%20of%20SMTC%20and%20Measurement%20Gaps%20in%20NR-NTN.docx) Efficient Configuration of SMTC and Measurement Gaps in NR-NTN MediaTek Inc. discussion

Other

[R2-2107987](file:///C:\Data\3GPP\Extracts\R2-2107987%20%20Consideration%20on%20RRC%20release.doc) Consideration on RRC release Beijing Xiaomi Mobile Software discussion Rel-17

[R2-2108066](file:///C:\Data\3GPP\Extracts\R2-2108066.doc) Cell coverage spillage over multiple countries issue in NTN Sony discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2108527](file:///C:\Data\3GPP\Extracts\R2-2108527%20Signaling%20overhead%20reduction%20for%20connected%20mobility.docx) Signaling overhead reduction for connected mobility CMCC discussion Rel-17 NR\_NTN\_solutions-Core

## 8.12 Reduced Capability

(NR\_redcap-Core; leading WG: RAN1; REL-17; WID: RP-211574)

Time budget: 1 TU

Tdoc Limitation: 4 tdocs

Email max expectation: 4 threads

### 8.12.1 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.

Workplan

[R2-2108276](file:///C:\Data\3GPP\Extracts\R2-2108276%20-%20Revised%20WI%20work%20plan%20for%20RedCap.docx) Revised WI work plan for RedCap Ericsson discussion NR\_redcap-Core

Incoming LSs

[R2-2106905](file:///C:\Data\3GPP\Extracts\R2-2106905_C1-213966.doc) Reply LS on introducing extended DRX for RedCap UEs (C1-213966; contact: Qualcomm) CT1 LS in Rel-17 NR\_redcap-Core To:RAN2 Cc:SA2, RAN3

[R2-2106921](file:///C:\Data\3GPP\Extracts\R2-2106921_R1-2106329.docx) LS on RAN1 agreements on RAN2-led features for RedCap (R1-2106329; contact: NTT DOCOMO) RAN1 LS in Rel-17 NR\_redcap-Core To:RAN2

[R2-2106964](file:///C:\Data\3GPP\Extracts\R2-2106964_S1-211363.doc) Reply LS on Unified Access Control (UAC) for RedCap (S1-211363; contact: Huawei) SA1 LS in Rel-17 NR\_redcap To:RAN, CT1, RAN2

Running CRs

[R2-2108277](file:///C:\Data\3GPP\Extracts\R2-2108277%20-%20Running%20RedCap%20CR%20for%2038331.docx) Running 38331 CR for RedCap Ericsson draftCR Rel-16 38.331 16.5.0 NR\_redcap-Core

[R2-2108411](file:///C:\Data\3GPP\Extracts\R2-2108411.docx) Running RedCap CR for 38.304 Ericsson draftCR Rel-17 38.304 16.5.0 B NR\_redcap

### 8.12.2 Framework for reduced capabilities

No contribution is expected to this agenda item but directly to the sub-agenda items.

#### 8.12.2.1 Definition of RedCap UE type and reduced capabilities

Including the outcome of [POST114-e][105][RedCap] Capabilities (Intel)

[R2-2107676](file:///C:\Data\3GPP\Extracts\R2-2107676_RedCap_EmailDisc-105_phase-2_v23_Summary_V02.docx) Email discussion report on [105][RedCap] Capabilities (Intel) Intel Corporation discussion Rel-17 NR\_redcap

[R2-2107677](file:///C:\Data\3GPP\Extracts\R2-2107677%20Constraining%20of%20reduced%20capabilities.docx) Constraining network access for UE with reduced capabilities Intel Corporation discussion Rel-17 NR\_redcap

[R2-2107208](file:///C:\Data\3GPP\Extracts\R2-2107208%20Definition%20and%20reduced%20capabilities%20for%20RedCap%20UE.doc) Definition and reduced capabilities for RedCap UE Huawei, HiSilicon discussion Rel-17 NR\_redcap-Core

[R2-2107351](file:///C:\Data\3GPP\Extracts\R2-2107351%20Scaling%20factor%20for%20L2%20buffer%20size%20reduction%20for%20Rel-17%20RedCap.docx) Scaling factor for L2 buffer size reduction for Rel-17 RedCap Spreadtrum Communications discussion Rel-17

[R2-2107410](file:///C:\Data\3GPP\Extracts\R2-2107410_UE%20type%20defination%20and%20constraining%20for%20RedCap%20UEs.doc) UE type defination and constraining for RedCap UEs vivo, Guangdong Genius discussion Rel-17 FS\_NR\_redcap

[R2-2107608](file:///C:\Data\3GPP\Extracts\._R2-2107608-redcap-basic-capability.docx) RRC Processing Delay and remaining RedCap UE capability aspects Apple discussion Rel-17 NR\_redcap-Core

[R2-2107749](file:///C:\Data\3GPP\Extracts\R2-2107749%20Define%20and%20Constrain%20Reduced%20Capability%20for%20RedCap.docx) RedCap UE type and reduced capabilities ZTE Corporation, Sanechips discussion Rel-17 NR\_redcap-Core

[R2-2108278](file:///C:\Data\3GPP\Extracts\R2-2108278%20-%20Capabilities%20and%20definition.docx) Definition of RedCap UE and discussion on capabilities Ericsson discussion NR\_redcap-Core

[R2-2108697](file:///C:\Data\3GPP\Extracts\R2-2108697.docx) Further discussions on Redcap UE capabilities CATT discussion Rel-17 NR\_redcap-Core

#### 8.12.2.2 Identification, access and camping restrictions

Early identification of RedCap UEs (e.g. need for/details of msg3 early identification). Common Aspects related to RACH partitioning (due to msg1 early identification) shall be submitted to 8.18.

System information indication for camping restrictions.

[R2-2109023](file:///C:\Data\3GPP\RAN2\Docs\R2-2109023.zip) [Pre115-e][104][RedCap] Summary of AI 8.12.2.2 - Identification, access and camping restrictions Ericsson discussion Rel-17 NR\_redcap-Core

[R2-2107071](file:///C:\Data\3GPP\Extracts\R2-2107071%20RedCap%20early%20identfication.doc) Discussion on RedCap UE’s early identification OPPO discussion Rel-17 NR\_redcap-Core

[R2-2107072](file:///C:\Data\3GPP\Extracts\R2-2107072%20RedCap%20access%20restriction.doc) Discussion on RedCap UE’s access restrictions OPPO discussion Rel-17 NR\_redcap-Core

[R2-2107117](file:///C:\Data\3GPP\Extracts\R2-2107117.docx) NR-REDCAP access restriction/allowance indication to ease mobility THALES discussion

[R2-2107209](file:///C:\Data\3GPP\Extracts\R2-2107209%20Identification%20and%20access%20restriction%20of%20RedCap%20UE.docx) Identification and access restriction of RedCap UE Huawei, HiSilicon discussion Rel-17 NR\_redcap-Core

[R2-2107216](file:///C:\Data\3GPP\Extracts\R2-2107216_Access%20and%20camping%20restriction%20for%20RedCap%20UEs.docx) Access and camping restriction for RedCap UEs Qualcomm Incorporated discussion Rel-17 FS\_NR\_redcap

[R2-2107352](file:///C:\Data\3GPP\Extracts\R2-2107352%20Further%20discussion%20on%20early%20indication%20design%20for%20RedCap%20UE.docx) Further discussion on early indication for RedCap UE Spreadtrum Communications discussion Rel-17

[R2-2107411](file:///C:\Data\3GPP\Extracts\R2-2107411_Identification%20and%20access%20restrictions%20for%20RedCap%20UEs.docx) Identification and access restrictions for RedCap UEs vivo, Guangdong Genius discussion Rel-17 FS\_NR\_redcap

[R2-2107535](file:///C:\Data\3GPP\Extracts\R2-2107535%20%20Discussion%20on%20Identification%20and%20UE%20access%20restrictions%20for%20Redcap%20devices.doc) Discussion on Identification and UE access restrictions for Redcap devices Xiaomi Communications discussion

[R2-2107555](file:///C:\Data\3GPP\Extracts\R2-2107555%20RedCap_earlyId_2.docx) Early identification and camping restrictions for RedCap UE Sierra Wireless, S.A. discussion

[R2-2107606](file:///C:\Data\3GPP\Extracts\._R2-2107606-Cell-Access.docx) Power-saving aspects from cell access and camping of RedCap UEs Apple discussion Rel-17 NR\_redcap-Core

[R2-2107607](file:///C:\Data\3GPP\Extracts\._R2-2107607-MSG3.docx) Issues with MSG3 based RedCap UE identification at intial access Apple discussion Rel-17 NR\_redcap-Core

[R2-2107652](file:///C:\Data\3GPP\Extracts\R2-2107652%20Camping%20restrictions%20of%20RedCap%20UE.doc) Camping restrictions of RedCap UE Fujitsu discussion Rel-17 NR\_redcap-Core [R2-2105399](file:///C:\Data\3GPP\archive\RAN2\RAN2%23114\Tdocs\R2-2105399.zip)

[R2-2107678](file:///C:\Data\3GPP\Extracts\R2-2107678%20Early%20identification%20and%20camping%20restrictions%20for%20RedCap%20UE.docx) Early identification and camping restrictions for RedCap UE Intel Corporation discussion Rel-17 NR\_redcap

[R2-2107707](file:///C:\Data\3GPP\Extracts\R2-2107707%20Identification%20and%20access%20restrictions%20for%20RedCap%20UEs.docx) Identification and access restrictions for RedCap UEs LG Electronics UK discussion Rel-17

[R2-2107750](file:///C:\Data\3GPP\Extracts\R2-2107750%20Identification%20and%20Access%20Restriction%20for%20RedCap%20UEs.docx) Identification and Access Restriction for RedCap UEs ZTE Corporation, Sanechips discussion Rel-17 NR\_redcap-Core

[R2-2107783](file:///C:\Data\3GPP\Extracts\R2-2107783.docx) Access control for RedCap UEs Samsung discussion Rel-17 FS\_NR\_redcap

[R2-2107834](file:///C:\Data\3GPP\Extracts\._R2-2107834%20RedCap%20Camping%20restrictions%20and%20IFRI%20signalling.doc) Camping restrictions and IFRI for RedCap UE InterDigital, Europe, Ltd. discussion Rel-17

[R2-2107870](file:///C:\Data\3GPP\Extracts\R2-2107870.docx) Leftover issues on camping restriction and cell selection criterion DENSO CORPORATION discussion Rel-17 NR\_redcap-Core

[R2-2108136](file:///C:\Data\3GPP\Extracts\R2-2108136_early%20ind.docx) Further discussions on early identification and SI indication NEC discussion Rel-17 NR\_redcap-Core

[R2-2108137](file:///C:\Data\3GPP\Extracts\R2-2108137_initial%20BWP.docx) Initial BWP for RedCap NEC discussion Rel-17 NR\_redcap-Core

[R2-2108244](file:///C:\Data\3GPP\Extracts\R2-2108244%20Access%20for%20REDCAP%20UE.docx) Access for REDCAP UE Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_redcap-Core

[R2-2108245](file:///C:\Data\3GPP\Extracts\R2-2108245%20REDCAP%20UE%20early%20identification.docx) REDCAP UE early identification Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_redcap-Core

[R2-2108279](file:///C:\Data\3GPP\Extracts\R2-2108279%20-%20Early%20indication%20and%20access%20restriction%20for%20RedCap%20UEs.docx) Early indication & access restriction for RedCap UEs Ericsson discussion NR\_redcap-Core

[R2-2108463](file:///C:\Data\3GPP\Extracts\R2-2108463%20On%20cell%20barring%20indication%20and%20IFRI%20for%20RedCap%20UEs.docx) On Cell Barring Indication and Intra-Frequency Reselection Indication for RedCap UEs Futurewei Technologies discussion Rel-17 NR\_redcap-Core

[R2-2108524](file:///C:\Data\3GPP\Extracts\R2-2108524.docx) Discussion on identification and access restrictions CMCC discussion Rel-17 NR\_redcap-Core

[R2-2108628](file:///C:\Data\3GPP\Extracts\R2-2108628%20Access%20and%20camping%20restrictions%20for%20RedCap%20UE.docx) Access and camping restrictions for RedCap UE China Telecommunications discussion Rel-17

[R2-2108698](file:///C:\Data\3GPP\Extracts\R2-2108698.doc) Early Identification and Camping Restrictions for Redcap UEs CATT discussion Rel-17 NR\_redcap-Core

### 8.12.3 UE power saving and battery lifetime enhancement

No contribution is expected to this agenda item but directly to the sub-agenda items.

#### 8.12.3.1 eDRX cycles

Extended DRX enhancements for RRC Inactive and Idle.

* [AT115-e][105][RedCap] eDRX cycles (Vivo)

Initial scope: Based on company contributions in 8.12.3.1, discuss the expected behaviour for different (RAN and CN) eDRX cycles lengths, assuming eDRX cycle in INACTIVE <= 10.24s

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)

Initial deadline (for companies' feedback): Wednesday 2021-08-17 04:00 UTC

Initial deadline (for rapporteur's summary in R2-2108881): Wednesday 2021-08-17 08:00 UTC

R2-2108881 [offline 105] eDRX cycles vivo discussion Rel-17 NR\_redcap-Core

[R2-2107073](file:///C:\Data\3GPP\Extracts\R2-2107073%20-%20Discussion%20on%20eDRX%20for%20RedCap%20UEs.doc) Discussion on eDRX for RedCap UEs OPPO discussion Rel-17 NR\_redcap-Core

[R2-2107096](file:///C:\Data\3GPP\Extracts\R2-2107096.doc) CN PTW and RAN PTW for RedCap eDRX Samsung discussion Rel-17

[R2-2107210](file:///C:\Data\3GPP\Extracts\R2-2107210%20eDRX%20for%20RedCap%20UE.docx) eDRX for RedCap UE Huawei, HiSilicon discussion Rel-17 NR\_redcap-Core

[R2-2107217](file:///C:\Data\3GPP\Extracts\R2-2107217_eDRX%20configurations%20for%20RedCap%20UEs.docx) eDRX configurations for RedCap UEs Qualcomm Incorporated discussion Rel-17 FS\_NR\_redcap

[R2-2107412](file:///C:\Data\3GPP\Extracts\R2-2107412_Discussions%20on%20eDRX%20for%20RedCap%20UEs.doc) Discussion on eDRX for RedCap UEs vivo, Guangdong Genius discussion Rel-17 FS\_NR\_redcap

[R2-2107534](file:///C:\Data\3GPP\Extracts\R2-2107534%20%20Discussion%20on%20e-DRX%20for%20Redcap%20Devices.doc) Discussion on e-DRX for Redcap Devices Xiaomi Communications discussion

[R2-2107675](file:///C:\Data\3GPP\Extracts\R2-2107675_NR-eDRX.docx) Leftover issues for eDRX Intel Corporation discussion Rel-17 NR\_redcap

[R2-2107706](file:///C:\Data\3GPP\Extracts\R2-2107706%20Discussion%20on%20eDRX%20for%20RRC_IDLE%20and%20RRC_INACTIVE.docx) Discussion on eDRX for RRC\_IDLE and RRC\_INACTIVE LG Electronics UK discussion Rel-17

[R2-2107751](file:///C:\Data\3GPP\Extracts\R2-2107751%20eDRX%20for%20RedCap%20UEs.docx) eDRX for RedCap UEs ZTE Corporation, Sanechips discussion Rel-17 NR\_redcap-Core

[R2-2107905](file:///C:\Data\3GPP\Extracts\R2-2107905%20Consideration%20on%20eDRX%20for%20RedCap%20UE.docx) Consideration on eDRX for RedCap UE Lenovo, Motorola Mobility discussion Rel-17

[R2-2108230](file:///C:\Data\3GPP\Extracts\R2-2108230%20Remaining%20issues%20for%20eDRX.docx) Remaining issues for eDRX MediaTek Inc. discussion Rel-17 NR\_redcap-Core [R2-2105671](file:///C:\Data\3GPP\archive\RAN2\RAN2%23114\Tdocs\R2-2105671.zip)

[R2-2108280](file:///C:\Data\3GPP\Extracts\R2-2108280%20-%20extended%20DRX%20for%20idle%20and%20inactive.docx) Details of eDRX and PTW in RRC\_IDLE and RRC\_INACTIVE Ericsson discussion NR\_redcap-Core

[R2-2108525](file:///C:\Data\3GPP\Extracts\R2-2108525.docx) Discussion on eDRX for RRC\_Idle and RRC\_Inactive CMCC discussion Rel-17 NR\_redcap-Core

[R2-2108699](file:///C:\Data\3GPP\Extracts\R2-2108699.doc) Discussion on eDRX for NR RRC Inactive and Idle CATT discussion Rel-17 NR\_redcap-Core

[R2-2108778](file:///C:\Data\3GPP\Extracts\R2-2108778.docx) Open issues on eDRX for UE in RRC\_INACTIVE DENSO CORPORATION discussion Rel-17 NR\_redcap-Core

#### 8.12.3.2 RRM relaxations

Measurement-basedstationarity criterion and related not-at-cell-edge criterion, for RRC Inactive, Idle and Connected.

[R2-2107211](file:///C:\Data\3GPP\Extracts\R2-2107211%20RRM%20measurement%20relaxation%20for%20RedCap%20UE.doc) RRM measurement relaxation for RedCap UE Huawei, HiSilicon discussion Rel-17 NR\_redcap-Core

[R2-2107748](file:///C:\Data\3GPP\Extracts\R2-2107748%20RRM%20relaxation%20for%20RedCap%20UEs.docx) RRM relaxation for RedCap UEs ZTE Corporation, Sanechips discussion Rel-17 NR\_redcap-Core

[R2-2107074](file:///C:\Data\3GPP\Extracts\R2-2107074%20-%20Discussion%20on%20RRM%20relax%20%20for%20RedCap%20UEs.doc) Discussion on RRM relax for RedCap UEs OPPO discussion Rel-17 NR\_redcap-Core

[R2-2107097](file:///C:\Data\3GPP\Extracts\R2-2107097.doc) RedCap RRM relaxation in RRC\_Idle/Inactive Samsung discussion Rel-17

[R2-2107098](file:///C:\Data\3GPP\Extracts\R2-2107098.doc) RedCap RRM relaxation in RRC\_Connected Samsung discussion Rel-17

[R2-2107110](file:///C:\Data\3GPP\RAN2\Docs\R2-2107110.zip) RRM relaxation for Redcap UE KDDI Corporation discussion Late

[R2-2107118](file:///C:\Data\3GPP\Extracts\R2-2107118.docx) NR-REDCAP stationarity relaxations based on measurements THALES discussion

[R2-2107145](file:///C:\Data\3GPP\Extracts\R2-2107145_On%20the%20efficient%20RRM%20relaxation%20on%20RRC%20Connected%20mode.docx) On the efficient RRM relaxation on RRC connected mode Fraunhofer IIS, Fraunhofer HHI discussion Rel-17

[R2-2107218](file:///C:\Data\3GPP\Extracts\R2-2107218_RRM%20relaxations%20for%20RedCap%20UEs.docx) RRM relaxations for RedCap UEs Qualcomm Incorporated discussion Rel-17 FS\_NR\_redcap

[R2-2107386](file:///C:\Data\3GPP\Extracts\R2-2107386%20Discussion%20on%20RRM%20measurement%20relaxation%20for%20redcap.docx) Discussion on RRM measurement relaxation for redcap Xiaomi Communications discussion Rel-17 NR\_redcap-Core

[R2-2107413](file:///C:\Data\3GPP\Extracts\R2-2107413_RRM%20Relaxation%20for%20Neighboring%20Cells.docx) RRM relaxation for neighboring cell for RedCap UEs vivo, Guangdong Genius discussion Rel-17 FS\_NR\_redcap

[R2-2107679](file:///C:\Data\3GPP\Extracts\R2-2107679%20RRM%20measurement%20relaxation%20criteria%20for%20RedCap%20devices.docx) RRM measurement relaxation criteria for RedCap devices Intel Corporation discussion Rel-17 NR\_redcap

[R2-2107754](file:///C:\Data\3GPP\Extracts\R2-2107754_RRM%20relaxation%20enhancement%20for%20RedCap%20UE.docx) RRM Relaxation for RedCap UE NTT DOCOMO INC. discussion Rel-17 [R2-2105229](file:///C:\Data\3GPP\archive\RAN2\RAN2%23114\Tdocs\R2-2105229.zip)

[R2-2107847](file:///C:\Data\3GPP\Extracts\R2-2107847%20Further%20considerations%20on%20RRM%20relaxation%20in%20RRC_IDLE%20and%20RRC_INACTIVE.DOC) Further considerations on RRM relaxation in RRC\_IDLE and RRC\_INACTIVE LG Electronics Inc. discussion Rel-17 NR\_redcap-Core

[R2-2107848](file:///C:\Data\3GPP\Extracts\R2-2107848%20Remaining%20issues%20in%20RRM%20relaxation%20in%20RRC_CONNECTED.DOC) Remaining issues in RRM relaxation in RRC\_CONNECTED LG Electronics Inc. discussion Rel-17 NR\_redcap-Core

[R2-2107873](file:///C:\Data\3GPP\Extracts\R2-2107873%20RRM%20relaxation%20for%20RedCap%20UEs.doc) RRM relaxation for RedCap UEs SHARP Corporation discussion

[R2-2107904](file:///C:\Data\3GPP\Extracts\R2-2107904%20RRM%20relaxation%20for%20stationary%20UE%20with%20reduced%20capability.docx) RRM relaxation for stationary UE with reduced capability Lenovo, Motorola Mobility discussion Rel-17

[R2-2108070](file:///C:\Data\3GPP\Extracts\R2-2108070_RedcapRRM.docx) Redcap relaxed measurements and number of beams Sony discussion Rel-17 NR\_redcap-Core

R2-2108071 RedCap Relaxed measurements, stationary definition Sony discussion Rel-17 NR\_redcap-Core Withdrawn

[R2-2108259](file:///C:\Data\3GPP\Extracts\R2-2108259%20On%20RRM%20relaxation%20for%20REDCAP%20UE.docx) On RRM relaxations for REDCAP Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_redcap-Core

[R2-2108260](file:///C:\Data\3GPP\Extracts\R2-2108260%20On%20RRM%20relaxation%20in%20CONNECTED.docx) On RRM relaxations in CONNECTED Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_redcap-Core

[R2-2108275](file:///C:\Data\3GPP\Extracts\R2-2108275%20-%20RRM%20relaxation.docx) Details on RRM relaxation Ericsson discussion Rel-17 NR\_redcap-Core

[R2-2108465](file:///C:\Data\3GPP\Extracts\R2-2108465%20Discusion%20on%20not-at-cell-edge%20criterion%20for%20RedCap.docx) Discussion on Rel-17 not-at-cell-edge criterion Futurewei Technologies discussion Rel-17 NR\_redcap-Core

[R2-2108518](file:///C:\Data\3GPP\Extracts\R2-2108518.docx) Discussion on the RRM relaxation for RedCap Ues CMCC discussion Rel-17 NR\_redcap

[R2-2108629](file:///C:\Data\3GPP\Extracts\R2-2108629%20RRM%20relaxation%20of%20RedCap.docx) RRM relaxation of RedCap UE China Telecommunications discussion Rel-17

[R2-2108700](file:///C:\Data\3GPP\Extracts\R2-2108700.doc) Discussion on RRM relaxations for RRC\_CONNECTED CATT discussion Rel-17 NR\_redcap-Core

[R2-2108784](file:///C:\Data\3GPP\Extracts\R2-2108784.docx) Work on RRM relaxation for RedCap UEs DENSO CORPORATION discussion Rel-17 NR\_redcap-Core

## 8.19 Coverage Enhancements

(NR\_cov\_enh-Core; leading WG: RAN1; REL-17; WID: RP-211566)

Time budget: 0.5

Tdoc Limitation: 1 tdocs

Common aspects related to RACH indication (in MSG1) / RACH partitioning shall be submitted to 8.18

### 8.19.1 Organizational

Rapporteur input, incoming LS etc.

[R2-2107456](file:///C:\Data\3GPP\Extracts\R2-2107456_%20Work%20plan%20for%20NR%20coverage%20enhancements.doc) Work plan for NR coverage enhancements China Telecommunication discussion Rel-17 NR\_cov\_enh-Core

### 8.19.2 General

RAN2 impact tech proposals.

[R2-2107745](file:///C:\Data\3GPP\Extracts\R2-2107745%20Consideration%20on%20Msg3%20repetition%20in%20CE.docx) Consideration on Msg3 repetition in CE ZTE Corporation, Sanechips discussion Rel-17 NR\_cov\_enh-Core

[R2-2107220](file:///C:\Data\3GPP\Extracts\R2-2107220_RAN2%20enhancements%20for%20Msg3%20repetition.docx) RAN2 enhancements for Msg3 repetition Qualcomm Incorporated discussion Rel-17 NR\_cov\_enh-Core

[R2-2107008](file:///C:\Data\3GPP\Extracts\R2-2107008_MAC%20Aspects%20of%20UL%20Coverage%20Enhancements.doc) MAC Aspects of UL Coverage Enhancements Samsung Electronics Co., Ltd discussion Rel-17 NR\_cov\_enh-Core

[R2-2107059](file:///C:\Data\3GPP\Extracts\R2-2107059%20Discussion%20on%20RAN2%20Impacts%20of%20Msg3%20Repetition.docx) Discussion on RAN2 Impacts of Msg3 Repetition vivo discussion NR\_cov\_enh

[R2-2107080](file:///C:\Data\3GPP\Extracts\R2-2107080%20CE's%20RAN2%20impact.doc) Discussion on higher layer aspects of coverage enhancements OPPO discussion Rel-17 NR\_cov\_enh-Core

[R2-2108003](file:///C:\Data\3GPP\Extracts\R2-2108003.docx) On support of Type A PUSCH repetitions for Msg3 CATT discussion Rel-17 NR\_cov\_enh-Core

[R2-2108273](file:///C:\Data\3GPP\Extracts\R2-2108273%20On%20RAN2%20impacts%20for%20NR%20coverage%20enhancements%20and%20Type%20A%20PUSCH%20msg3%20repetitions.docx) On RAN2 impacts for coverage enhancements and Type A PUSCH repetitions for Msg3 Ericsson discussion Rel-17 NR\_cov\_enh

[R2-2108294](file:///C:\Data\3GPP\Extracts\R2-2108294.docx) RAN2 aspects of Msg3 PUSCH repetition Intel Corporation discussion Rel-17 NR\_cov\_enh-Core

[R2-2108604](file:///C:\Data\3GPP\Extracts\R2-2108604%20Discussion%20on%20the%20support%20of%20Msg3%20PUSCH%20repetition.docx) Discussion on the support of Msg3 PUSCH repetitions Huawei, HiSilicon discussion Rel-17 NR\_cov\_enh-Core

[R2-2108747](file:///C:\Data\3GPP\Extracts\R2-2108747%20Discussion%20on%20RACH%20with%20coverage%20enhancement.docx) Discussion on RACH with coverage enhancement LG Electronics Inc. discussion Rel-17 NR\_cov\_enh-Core

## Summary

Agreed CRs

TBD

Approved LSs out

TBD

[POST115-e] Email discussions

Short

TBD

Long

TBD