3GPP TSG-RAN WG2 Meeting #116bis electronic R2-2201662

Online, January 17-25, 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 [AT116bis-e][000]

Organizational

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

* [AT116bis-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** |  |  |  |
| 13:00-13:45 | Early Items Main session, if any.  NR17 feMIMO (Johan) | **NR17 RedCap (Sergio)**  **[8.12.1]**  **[8.12.2.1]**  **[8.12.2.2] R2-2201732 ([Pre116bis-e] [103])** | NR17 SL enh (Kyeongin) |
| 13:45-14:30 | NR17 UDC (Johan) | NR17 Small Data Enh (Diana) | NR17 SL enh (Kyeongin) |
| 14:30-15:15 | NR17 eIAB (Johan) | NR17 Small Data Enh (Diana) | NR17 Pos (Nathan)  8.11.2 Latency enhancements  8.11.3 RRC\_INACTIVE (start) |
| 15:15-16:00 | NR17 eIAB (Johan) | NR17 RACH indication / partitioning (Diana) | NR17 Pos (Nathan)  8.11.3 RRC\_INACTIVE (continued)  8.11.4 On-demand PRS |
| **Tuesday** |  |  |  |
| 13:00-13:45 | NR17 feMIMO (Johan) | LTE17 IoT (Brian) | NR17 SL enh (Kyeongin) |
| 13:45-14:30 | NR17 MGE (Johan) | NR17 IIOT (Diana) | **NR17 NTN (Sergio)**  **[8.10.1]**  **[8.10.3.1]**  **[8.10.3.2] offline [102]** |
| 14:30-15:15 | NR17 ePowSav (Johan) | NR17 SL Relay (Nathan)  8.7.2.1 Control plane procedures | **NR17 NTN (Sergio)**  **[8.10.2.1] offline [101]**  **[8.10.2.2] (if time allows)** |
| 15:15-16:00 | NR17 ePowSav (Johan) | NR17 SL Relay (Nathan)  8.7.2.2 Service continuity  8.7.2.3 Adaptation layer design | **NR17 CovEnh (Sergio)**  **[8.19.1]**  **[8.19.2]** |
| **Wednesd** |  |  |  |
| 05:00-06:00 | NR17 IoT NTN (Johan) | NR17 SONMDT (HuNan) | NR17 Pos (Nathan)  8.11.4 On-demand PRS (cont. if needed)  8.11.5 GNSS integrity |
| **Thursday** |  |  |  |
| 04:30-05:30 | 0430-0515: NR17 QoE (Johan)  0515-0600: NR17 Other (Johan) | NR17 DCCA (Tero)  - 8.2.4 (TRS-based SCell activation)  - 8.2.2.2 (SCG activation)  - 8.2.2.1 (UE at SCG deactivation) | **0430 – 0515 NR17 NTN (Sergio)**  **[8.10.2.2]**  **[8.10.4]**  **0515 – 0600 NR17 RedCap (Sergio)**  **[8.12.2.2]**  **[8.12.3.2]** |
| 05:30-06:30 | 06:00-06:30: NR17 MBS (Johan) | NR17 DCCA (Tero)  - 8.2.3.1 (CPAC procedures from NW perspective)  - 8.2.3.2 (CPAC procedures from UE perspective)  - 8.2.5 (UE capabilities) | 06:00-0630 NR17 SL Relay (Nathan)  8.7.2.3 Adaptation layer design (cont. if needed)  8.7.3.1 Discovery |
| **Friday** |  |  |  |
| 04:30-05:30 | NR17 MBS (Johan) | NR17 Multi-SIM (Tero)  - 8.3.1 (Organizational):  - 8.3.3 (MUSIM NW switching) | NR17 SL Relay (Nathan)  8.7.3.1 Discovery (cont. if needed)  8.7.3.2 Relay re/selection  Possible email discussion checkpoint |
| 05:30-06:30 | MR17 MBS (Johan) | 05:30-0600: NR17 Multi-SIM (Tero)  - 8.3.5 (UE capabilities)  0600-0630: NR17 up to 71 GHz (Tero)  - 8.20.1 (LSs)  - 8.20.2 (MAC, RRC and UE capabilities) | NR17 SL enh (Kyeongin) |

WEEK 2:

|  |  |  |  |
| --- | --- | --- | --- |
| **Time Zone UTC** | **Web Conference R2 - Main** | **Web Conference R2 - BO1** | **Web Conference R2 - BO2** |
| **Monday** |  |  |  |
| 13:00-13:45 | NR17 Other (Johan) | NR17 RAN Slicing (Tero)  - 8.8.1 (organizational)  - 8.8.2 (cell reselection)  - 8.8.3 (RACH)  - 8.8.4 (UE capabilities) | **CB RedCap (Sergio)** |
| 13:45-14:30 | NR17 AI 8.0.x (Johan) | CB Tero  - 8.8.x: RAN slicing overflow from previous session  - 8.2.3.3 (CPAC other)  - 8.2.2.1 (SCG deact MAC)  - 8.2.2.2 (SCG deact UL)  - 8.2.2.3 (SCG deact other) | LTE17 IoT (Brian) |
| 14:30-15:15 | CB UDC eIAB QoE Johan | NR17 IIOT (Diana) | NR17 Pos (Nathan)  Any overflow items from first week  Email discussion checkpoint |
| 15:15-16:00 | CB feMIMO Johan | NR17 RACH indication / partitioning (Diana) | CB Nathan  Positioning |
| **Tuesday** |  |  |  |
| 13:00-13:45 | CB feMIMO MGE Johan | **CB Sergio** | CB Diana |
| 13:45-14:30 | CB MBS Johan | **CB Sergio** | CB Diana |
| 14:30-15:15 | CB IoT NTN Johan | CB Tero  - 8.3.2 (MUSIM paging collision)  - 8.3.3 (MUSIM configured time)  - 8.20.2 (71 GHz RRC)  - Any other CB (if needed) | CB Kyeongin |
| 15:15-16:00 | CB ePowSav Johan | CB Brian, HuNan | CB Nathan  Relay |

List and status of offline email discussions

NOTE: No offline email discussions will be kicked off before Monday Jan 17th, 00:00 UTC

* [AT116bis-e][101][NTN] RACH aspects (Oppo)

Initial scope: Discuss RACH aspects based on the summary in [R2-2201656](file:///C:\Data\3GPP\RAN2\Docs\R2-2201656.zip)

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): Tuesday 2022-01-18 0700 UTC

Initial deadline (for rapporteur's summary in R2-2201736): Tuesday 2022-01-18 0900 UTC

Status: Ongoing

* [AT116bis-e][102][NTN] Idle/Inactive mode aspects (Huawei)

Initial scope: Discuss idle/inactive mode aspects based on the summary in [R2-2201731](file:///C:\Data\3GPP\RAN2\Docs\R2-2201731.zip)

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): Tuesday 2022-01-18 0700 UTC

Initial deadline (for rapporteur's summary in R2-2201733): Tuesday 2022-01-18 0900 UTC

Status: Ongoing

* [AT116bis-e][103][RedCap] Identification and access restriction (Huawei)

Initial scope: Discuss identification and access restriction aspects based on submitted contributions

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 2022-01-19 1300 UTC

Initial deadline (for rapporteur's summary in R2-2201734): Wednesday 2022-01-19 1500 UTC

Proposals marked "for agreement" in R2-2201734 not challenged until Thursday 2022-01-20 0300 UTC will be declared as agreed via email by the session chair (for the rest the discussion will continue in the GTW session).

Status: To be started

* [AT116bis-e][104][RedCap] RRM relaxations (Samsung)

Initial scope: Discuss RRM relaxation aspects based on submitted contributions

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 2022-01-19 1300 UTC

Initial deadline (for rapporteur's summary in R2-2201735): Wednesday 2022-01-19 1500 UTC

Proposals marked "for agreement" in R2-2201735 not challenged until Thursday 2022-01-20 0300 UTC will be declared as agreed via email by the session chair (for the rest the discussion will continue in the GTW session).

Status: To be started

* [AT116bis-e][105][RedCap] Capabilities (Intel)

Initial scope: Continue the discussion on open issues for RedCap capabilities, based on e.g. [R2-2200286](file:///C:\Data\3GPP\Extracts\R2-2200286%20Open%20issues%20on%20RedCap%20capabilities.docx) and [R2-2200553](file:///C:\Data\3GPP\Extracts\R2-2200553%20Definition%20and%20reduced%20capabilities%20for%20RedCap%20UE.doc)

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 2022-01-19 1300 UTC

Initial deadline (for rapporteur's summary in R2-2201737): Wednesday 2022-01-19 1500 UTC

Proposals marked "for agreement" in R2-2201737 not challenged until Thursday 2022-01-20 0300 UTC will be declared as agreed via email by the session chair (for the rest the discussion might continue in the GTW session).

Status: To be started

* [AT116bis-e][106][RedCap] NCD-SSB and Initial BWP aspects (Ericsson)

Initial scope: Continue the discussion based on [R2-2201732](file:///C:\Data\3GPP\RAN2\Docs\R2-2201732.zip) and the outcome of the online discussion

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 2022-01-19 1800 UTC

Initial deadline (for rapporteur's summary in R2-2201738): Wednesday 2022-01-19 2200 UTC

Proposals marked "for agreement" in R2-2201738 not challenged until Thursday 2022-01-20 1000 UTC will be declared as agreed via email by the session chair (for the rest the discussion will continue until the GTW session on Monday).

Status: To be started

* [AT116bis-e][107][NTN] Other MAC aspects (Interdigital)

Initial scope: Discuss remaining MAC open issues, focussing on DRX timers, CG/SPS and remaining HARQ state aspects

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 2022-01-19 1300 UTC

Initial deadline (for rapporteur's summary in R2-2201739): Wednesday 2022-01-19 1500 UTC

Proposals marked "for agreement" in R2-2201739 not challenged until Thursday 2022-01-20 0300 UTC will be declared as agreed via email by the session chair (for the rest the discussion might continue in the GTW session).

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:\Data\3GPP\archive\RAN\RAN%2392\Tdocs\RP-211557.zip))

Time budget: 1.5 TU

Tdoc Limitation: 4 tdocs + 1 for UE caps

Email max expectation: 5 threads

### 8.10.1 Organizational

Workplan

[R2-2200886](file:///C:\Data\3GPP\Extracts\R2-2200886-Rel17%20NR-NTN%20workplan%20updated%20v30.docx) Updated NR-NTN-solutions work plan THALES Work Plan Rel-17

*Incoming LSs*

LSs from RAN1 on higher-layer impacts related to all Rel-17 WIs

[R2-2200081](file:///C:\Data\3GPP\Extracts\R2-2200081_R1-2112842.docx) LS on Rel-17 MAC-CE impacts (R1-2112842; contact: Nokia) RAN1 LS in Rel-17 NR\_feMIMO, NR\_ext\_to\_71GHz, NR\_IIOT\_URLLC\_enh, NR\_NTN\_solutions, NR\_pos\_enh, NR\_redcap, NR\_UE\_pow\_sav\_enh, NR\_cov\_enh, NR\_IAB\_enh, NR\_SL\_enh, NR\_MBS, NR\_DSS, LTE\_NR\_DC\_enh2, LTE\_NBIOT\_eMTC\_NTN, NB\_IOTenh4\_LTE\_eMTC6, LTE\_terr\_bcast\_bands\_part1 To:RAN2 Cc:RAN4

[R2-2200095](file:///C:\Data\3GPP\Extracts\R2-2200095_R1-2112977.docx) LS on updated Rel-17 LTE and NR higher-layers parameter list (R1-2112977; contact: Ericsson) RAN1 LS in Rel-17 NR\_feMIMO, NR\_ext\_to\_71GHz, NR\_IIOT\_URLLC\_enh, NR\_NTN\_solutions, NR\_pos\_enh, NR\_redcap, NR\_UE\_pow\_sav\_enh, NR\_cov\_enh, NR\_IAB\_enh, NR\_SL\_enh, NR\_MBS, NR\_DSS, LTE\_NR\_DC\_enh2, NR\_RF\_FR1\_enh, NR\_SmallData\_INACTIVE, NB\_IOTenh4\_LTE\_eMTC6, LTE\_NBIOT\_eMTC\_NTN, LTE\_terr\_bcast\_bands\_part1 To:RAN2, RAN3 Cc:RAN4

UE TA reporting

[R2-2200071](file:///C:\Data\3GPP\Extracts\R2-2200071_R1-2112766.docx) Reply LS on UE TA reporting (R1-2112766; contact: Ericsson) RAN1 LS in Rel-17 NR\_NTN\_solutions To:RAN2

UE location / TAC reporting aspects

[R2-2200104](file:///C:\Data\3GPP\Extracts\R2-2200104_R3-216067.doc) Reply LS on UE Location Aspects in NTN (R3-216067; contact: Ericsson) RAN3 LS in Rel-17 NR\_NTN\_solutions To:SA2, RAN2 Cc:CT1

[R2-2200145](file:///C:\Data\3GPP\Extracts\R2-2200145_S2-2109337.docx) LS on TAC reporting in ULI and support of SAs and FAs for NR Satellite Access (S2-2109337; contact: Qualcomm) SA2 LS in Rel-17 5GSAT\_ARCH To:CT1, RAN2, RAN3

[R2-2200148](file:///C:\Data\3GPP\Extracts\R2-2200148_S3-214349.docx) Reply LS on NTN specific User Consent (S3-214349; contact: Qualcomm) SA3 LS in Rel-17 NR\_NTN\_solutions-Core To:RAN2 Cc:RAN3, SA2

[R2-2200149](file:///C:\Data\3GPP\Extracts\R2-2200149_S3-214360.docx) Reply LS on UE location aspects in NTN (S3-214360; contact: CATT) SA3 LS in Rel-17 NR\_NTN\_solutions-Core, 5GSAT\_ARCH To:RAN2 Cc:RAN1, RAN3, SA2, SA3-LI, CT1

[R2-2200150](file:///C:\Data\3GPP\Extracts\R2-2200150_S3-214394.docx) Reply LS on UE location aspects in NTN (S3-214394; contact: Xiaomi) SA3 LS in Rel-17 NR\_NTN\_solutions-Core, 5GSAT\_ARCH To:RAN2 Cc:CT1, SA2, SA3-LI, RAN3

[R2-2201405](file:///C:\Data\3GPP\Extracts\R2-2201405%20DRAFT%20Reply%20LS%20to%20SA2%20on%20TAC%20reporting%20in%20ULI.doc) DRAFT Reply LS on TAC reporting in ULI and support of SAs and FAs for NR Satellite Access China Telecommunications LS out Rel-17 To:SA2, RAN3, CT1

Multiple SMTCs

[R2-2200128](file:///C:\Data\3GPP\Extracts\R2-2200128_R4-2120308.docx) Reply LS on Multiple SMTCs for NR NTN (R4-2120308; contact: Qualcomm) RAN4 LS in Rel-17 NR\_NTN\_solutions-Core To:RAN2

[R2-2200449](file:///C:\Data\3GPP\Extracts\R2-2200449%20Reply%20LS%20to%20RAN4%20on%20SMTC.docx) [Draft] Reply LS on Multiple SMTCs for NR NTN Qualcomm Incorporated LS out Rel-17 NR\_NTN\_solutions-Core To:RAN4

Neighbor cells

[R2-2200129](file:///C:\Data\3GPP\Extracts\R2-2200129_R4-2120309.docx) LS on NR NTN Neighbor Cell and Satellite Information (R4-2120309; contact: Qualcomm) RAN4 LS in Rel-17 NR\_NTN\_solutions-Core To:RAN2 Cc:RAN1

[R2-2200450](file:///C:\Data\3GPP\Extracts\R2-2200450%20Reply%20LS%20to%20RAN4%20on%20measurement.docx) [Draft] Reply LS on NR NTN Neighbor Cell and Satellite Information Qualcomm Incorporated LS out Rel-17 NR\_NTN\_solutions-Core To:RAN4 Cc:RAN1

Running CRs

[R2-2200887](file:///C:\Data\3GPP\Extracts\R2-2200887_Stg2%20Running%20CR_NR-NTN_v09_clean.docx) NR-NTN Stg2 running CR THALES draftCR Rel-17 38.300 16.8.0 NR\_NTN\_solutions

R2-2201002 Stage-3 running 304 CR for NTN ZTE corporation, Sanechips discussion Rel-17 38.304 NR\_NTN\_solutions-Core

* Withdrawn

[R2-2201006](file:///C:\Data\3GPP\Extracts\R2-2201006_Stage-3%20running%20304%20CR%20for%20NTN_v0.docx) Stage-3 running 304 CR for NTN ZTE corporation, Sanechips draftCR Rel-17 38.304 16.7.0 B NR\_NTN\_solutions-Core

[R2-2201166](file:///C:\Data\3GPP\Extracts\R2-2201166%20(R17%20NTN%20WI%20AI%208.10.1)%20MAC%20Open%20Issues_116bise.docx) MAC open issues in NTN - RAN2#116bis-e InterDigital discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2201167](file:///C:\Data\3GPP\Extracts\R2-2201167%20(R17%20NTN%20WI%20AI%208.10.1)%20MAC%20running%20CR_116bise.docx) Stage 3 NTN running CR for 38.321 - RAN2#116bis-e InterDigital draftCR Rel-17 38.321 16.7.0 NR\_NTN\_solutions-Core [R2-2111615](file:///C:\Data\3GPP\archive\RAN2\RAN2%23116\Tdocs\R2-2111615.zip)

[R2-2201433](file:///C:\Data\3GPP\Extracts\R2-2201433%20Stage-3%20running%20RRC%20CR%20for%20NTN%20Rel-17.docx) Stage-3 running RRC CR for NTN Rel-17 Ericsson draftCR Rel-16 38.331 16.7.0 B NR\_NTN\_enh-Core

### 8.10.2 User Plane

#### 8.10.2.1 RACH aspects

Focus on TA reporting aspects

[R2-2201656](file:///C:\Data\3GPP\RAN2\Docs\R2-2201656.zip) [Pre116bis-e][101][NTN] Summary of 8.10.2.1 RACH aspects (OPPO) OPPO discussion Rel-17 NR\_NTN\_solutions-Core

* to be discussed in offline 101
* [AT116bis-e][101][NTN] RACH aspects (Oppo)

Initial scope: Discuss RACH aspects based on the summary in [R2-2201656](file:///C:\Data\3GPP\RAN2\Docs\R2-2201656.zip)

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): Tuesday 2022-01-18 0700 UTC

Initial deadline (for rapporteur's summary in R2-2201736): Tuesday 2022-01-18 0900 UTC

R2-2201736 [offline-101] RACH aspects OPPO discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200214](file:///C:\Data\3GPP\Extracts\R2-2200214%20Discussion%20on%20remaining%20issues%20on%20TA%20reporting.docx) Discussion on remaining issues on TA reporting Intel Corporation discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200243](file:///C:\Data\3GPP\Extracts\R2-2200243%20-%20Discussion%20on%20RACH%20and%20TA%20report%20in%20NTN.doc) Discussion on RACH and TA report in NTN OPPO discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200270](file:///C:\Data\3GPP\Extracts\R2-2200270%20%20Remaining%20issues%20related%20to%20TA%20report.doc) Remaining issues related to TA report Xiaomi discussion Rel-17

[R2-2200347](file:///C:\Data\3GPP\Extracts\R2-2200347%20Remaining%20issues%20about%20RACH%20and%20TA%20reporting.doc) Remaining issues about RACH and TA reporting Huawei, HiSilicon discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200377](file:///C:\Data\3GPP\Extracts\R2-2200377%20Discussion%20on%20UE%20specific%20TA%20reporting.docx) Discussion on UE specific TA reporting vivo discussion

[R2-2200520](file:///C:\Data\3GPP\Extracts\R2-2200520%20Consideration%20of%20TA%20report%20remaining%20issues%20of%20NTN.doc) Consideration of TA report remaining issues of NTN China Telecom discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200627](file:///C:\Data\3GPP\Extracts\R2-2200627%20TA%20report%20%20procedure.doc) TA report procedure Spreadtrum Communications discussion Rel-17

[R2-2200688](file:///C:\Data\3GPP\Extracts\R2-2200688.docx) The Left Issues on UE-specific TA information reporting in NTN CATT discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200746](file:///C:\Data\3GPP\Extracts\R2-2200746%20Discussion%20on%20TA%20report%20during%20RA%20procedure.docx) Discussion on TA report during RA procedure ASUSTeK discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200747](file:///C:\Data\3GPP\Extracts\R2-2200747%20Discussion%20on%20issue%20of%20restarting%20contention%20resolution%20timer.docx) Discussion on issue of restarting contention resolution timer ASUSTeK discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200764](file:///C:\Data\3GPP\Extracts\R2-2200764%20Further%20discussion%20on%20TA%20reporting%20in%20NTN.docx) Further discussion on TA reporting in NTN Lenovo, Motorola Mobility discussion Rel-17

[R2-2200876](file:///C:\Data\3GPP\Extracts\R2-2200876%20Considerations%20on%20RACH%20aspects.docx) Considerations on RACH aspects CMCC discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2201007](file:///C:\Data\3GPP\Extracts\R2-2201007%20Discussion%20on%20RACH%20open%20issues%20and%20TA%20reporting%20aspects.docx) Discussion on RACH open issues and TA reporting aspects Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2201034](file:///C:\Data\3GPP\Extracts\R2-2201034%20Further%20considerations%20on%20TA%20report%20v2.docx) Further considerations on TA reporting Samsung Research America discussion NR\_NTN\_solutions-Core

[R2-2201164](file:///C:\Data\3GPP\Extracts\R2-2201164%20(R17%20NTN%20WI%20AI%208.10.2.1)%20TA%20reporting.docx) UE-specific TA reporting and other RACH aspects InterDigital discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2201193](file:///C:\Data\3GPP\Extracts\R2-2201193_Remaining%20issues%20on%20TA%20Report.docx) Remaining issues on TA Report NEC Telecom MODUS Ltd. discussion

[R2-2201324](file:///C:\Data\3GPP\Extracts\R2-2201324%20Consideration%20on%20remaining%20issues%20of%20RACH%20aspects.doc) Consideration on remaining issues of RACH aspects ZTE Corporation, Sanechips discussion Rel-17

[R2-2201363](file:///C:\Data\3GPP\Extracts\R2-2201363_Discussion%20on%20RACH%20and%20TA%20report%20aspects.docx) Discussion on RACH and TA report aspects LG Electronics Inc. discussion NR\_NTN\_solutions-Core

[R2-2201630](file:///C:\Data\3GPP\Extracts\R2-2201630%20-%20Reporting%20information%20about%20UE%20specific%20TA%20pre-compensation%20in%20NTNs.docx) Reporting information about UE specific TA pre-compensation in NTNs Ericsson discussion

#### 8.10.2.2 Other MAC aspects

Focus on remaining aspects of timers, HARQ, and LCP including CG/SPS aspects

[R2-2201163](file:///C:\Data\3GPP\Extracts\R2-2201163%20(R17%20NTN%20WI%20AI%208.10.2.2)%20Remaining%20UP%20open%20issues.docx) Remaining MAC open issues in NTN InterDigital discussion Rel-17 NR\_NTN\_solutions-Core

* [AT116bis-e][107][NTN] Other MAC aspects (Interdigital)

Initial scope: Discuss remaining MAC open issues, focussing on DRX timers, CG/SPS and remaining HARQ state aspects

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 2022-01-19 1300 UTC

Initial deadline (for rapporteur's summary in R2-2201739): Wednesday 2022-01-19 1500 UTC

Proposals marked "for agreement" in R2-2201739 not challenged until Thursday 2022-01-20 0300 UTC will be declared as agreed via email by the session chair (for the rest the discussion might continue in the GTW session).

R2-2201739 [offline-107] Other MAC aspects Interdigital discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200244](file:///C:\Data\3GPP\Extracts\R2-2200244%20-%20Remaining%20issues%20on%20other%20MAC%20aspects%20in%20NTN.doc) Remaining issues on other MAC aspects in NTN OPPO discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200271](file:///C:\Data\3GPP\Extracts\R2-2200271%20%20Remaining%20issues%20related%20to%20HARQ%20retransmission%20state.doc) Remaining issues related to HARQ retransmission state Xiaomi discussion Rel-17

[R2-2200348](file:///C:\Data\3GPP\Extracts\R2-2200348%20Remaining%20issues%20about%20other%20MAC%20aspects.doc) Remaining issues about other MAC aspects Huawei, HiSilicon discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200444](file:///C:\Data\3GPP\Extracts\R2-2200444%20SPS%20CG.doc) HARQ process for SPS and CG Qualcomm Incorporated discussion Rel-17 NR\_NTN\_solutions-Core [R2-2109968](file:///C:\Data\3GPP\archive\RAN2\RAN2%23116\Tdocs\R2-2109968.zip)

[R2-2200618](file:///C:\Data\3GPP\Extracts\R2-2200618%20Remaining%20issues%20on%20disabling%20uplink%20HARQ%20retransmission.docx) Remaining issues on disabling uplink HARQ retransmission MediaTek Inc. discussion

[R2-2200619](file:///C:\Data\3GPP\Extracts\R2-2200619%20Round%20trip%20delay%20offset%20for%20configured%20grant%20timer.docx) Round trip delay offset for configured grant timer MediaTek Inc. discussion

[R2-2200628](file:///C:\Data\3GPP\Extracts\R2-2200628%20Discussion%20on%20HARQ%20and%20LCP%20remaining%20issues.doc) Discussion on HARQ and LCP remaining issues Spreadtrum Communications discussion Rel-17

[R2-2200689](file:///C:\Data\3GPP\Extracts\R2-2200689.docx) Left Issues on DL/UL HARQ Aspects CATT discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200787](file:///C:\Data\3GPP\Extracts\R2-2200787%20Remaining%20%20issues%20on%20HARQ%20related%20timer%20handling%20for%20NR%20NTN.docx) Remaining issues on HARQ related timer handling for NR NTN vivo discussion

[R2-2200788](file:///C:\Data\3GPP\Extracts\R2-2200788%20Remaining%20issues%20on%20LCP%20aspects.docx) Remaining issues on LCP aspects vivo discussion

[R2-2200870](file:///C:\Data\3GPP\Extracts\R2-2200870%20Further%20Considerations%20on%20CG%20SPS%20for%20NR%20NTN.docx) Further Considerations on CG/SPS for NR NTN CMCC discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200911](file:///C:\Data\3GPP\Extracts\R2-2200911.doc) CG enhancements in NTN Sony discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2201008](file:///C:\Data\3GPP\Extracts\R2-2201008%20Discussion%20on%20left%20issues%20on%20MAC%20aspects.docx) Discussion on left issues on MAC aspects Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2201325](file:///C:\Data\3GPP\Extracts\R2-2201325%20Consideration%20on%20remaining%20issues%20of%20other%20MAC%20aspects.doc) Consideration on remaining issues of other MAC aspects ZTE Corporation, Sanechips discussion Rel-17

[R2-2201364](file:///C:\Data\3GPP\Extracts\R2-2201364_Discussion%20on%20other%20MAC%20aspects.DOCX) Discussion on other MAC aspects LG Electronics Inc. discussion NR\_NTN\_solutions-Core

[R2-2201480](file:///C:\Data\3GPP\Extracts\R2-2201480_CG_SPS_aspect.docx) HARQ State A/B for CG/SPS aspects ITL discussion

[R2-2201629](file:///C:\Data\3GPP\Extracts\R2-2201629%20-%20On%20configured%20scheduling%20DRX%20LCP%20HARQ%20and%20SR%20BSR%20in%20NTNs.docx) On configured scheduling, DRX, LCP, HARQ and SR/BSR in NTNs Ericsson discussion

#### 8.10.2.3 RLC and PDCP aspects

This sub-AI will not be treated at R2-116bis-e. No contributions are expected

[R2-2201194](file:///C:\Data\3GPP\Extracts\R2-2201194_RLC%20t-Reassembly%20timer.docx) RLC t-Reassembly timer NEC Telecom MODUS Ltd. discussion [R2-2110766](file:///C:\Data\3GPP\archive\RAN2\RAN2%23116\Tdocs\R2-2110766.zip)

### 8.10.3 Control Plane

#### 8.10.3.1 General aspects

Including Earth fixed/moving beams related issues, TAC update / reporting and LCS aspects (i.e. UE location information reporting)

[R2-2200212](file:///C:\Data\3GPP\Extracts\R2-2200212%20Discussion%20on%20location%20reporting.docx) Discussion on location reporting Intel Corporation discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200245](file:///C:\Data\3GPP\Extracts\R2-2200245%20location%20reporting.doc) Discussion on UE location information reporting OPPO discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200289](file:///C:\Data\3GPP\Extracts\R2-2200289%20Discussion%20on%20UE%20location%20reporting.doc) Discussion on UE location reporting Huawei, HiSilicon discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200445](file:///C:\Data\3GPP\Extracts\R2-2200445%20Coarse%20location.docx) Discussion on coarse UE location report Qualcomm Incorporated discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200629](file:///C:\Data\3GPP\Extracts\R2-2200629%20Discussion%20on%20TAC%20update%20and%20LCS%20in%20NTN.doc) Discussion on TAC update and LCS in NTN Spreadtrum Communications discussion Rel-17

[R2-2200715](file:///C:\Data\3GPP\Extracts\R2-2200715%20Discussion%20on%20UE%20location%20reporting%20in%20NTN.doc) Discussion on UE location reporting in NTN Xiaomi discussion

[R2-2200748](file:///C:\Data\3GPP\Extracts\R2-2200748%20Discussion%20on%20event%20triggered%20based%20UE%20location%20report.docx) Discussion on event triggered based UE location report ASUSTeK discussion Rel-17 NR\_NTN\_solutions-Core [R2-2111007](file:///C:\Data\3GPP\archive\RAN2\RAN2%23116\Tdocs\R2-2111007.zip)

[R2-2200765](file:///C:\Data\3GPP\Extracts\R2-2200765%20Remaining%20CHO%20issues%20in%20RRC%20running%20CR%20v1.1.doc) Remaining CHO issues in RRC running CR Lenovo, Motorola Mobility discussion Rel-17

[R2-2200869](file:///C:\Data\3GPP\Extracts\R2-2200869%20Views%20on%20UE%20Location%20Information%20Reporting%20in%20NTN.docx) Views on UE Location Information Reporting in NTN CMCC discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200879](file:///C:\Data\3GPP\Extracts\R2-2200879_UE%20location%20during%20initial%20access_v03.doc) UE location during initial access THALES discussion Rel-17

[R2-2200912](file:///C:\Data\3GPP\Extracts\R2-2200912.doc) Event triggered location reporting in NTN Sony discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200960](file:///C:\Data\3GPP\Extracts\R2-2200960_Virtual%20location%20identifier_Fraunhofer_Thales.docx) Reporting virtual location identifier for AMF/PLMN selection and location verification in NTN Fraunhofer IIS; Fraunhofer HHI; Thales discussion

[R2-2200987](file:///C:\Data\3GPP\Extracts\R2-2200987.doc) On reporting of UE location information ZTE corporation, Sanechips discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2201080](file:///C:\Data\3GPP\Extracts\R2-2201080%20On%20LCS%20and%20TAC%20handling%20in%20Rel-17%20NTN.docx) On LCS and TAC handling in Rel-17 NTN Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2201178](file:///C:\Data\3GPP\Extracts\R2-2201178%20On%20UE%20location%20reporting%20in%20NTN.docx) On UE location reporting in NTN Apple discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2201404](file:///C:\Data\3GPP\Extracts\R2-2201404%20Discussion%20of%20reply%20LS%20on%20TAC%20reporting%20in%20NTN.doc) Discussion of reply LS on TAC reporting in NTN China Telecom discussion

[R2-2201408](file:///C:\Data\3GPP\Extracts\R2-2201408%20Discussion%20on%20left%20issues%20on%20UE%20location%20report.docx) Discussion on left issues on UE location report CATT discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2201445](file:///C:\Data\3GPP\Extracts\R2-2201445%20NTN%20TAC%20and%20location.docx) General aspects for NTN Ericsson discussion NR\_NTN\_enh-Core

[R2-2201447](file:///C:\Data\3GPP\Extracts\R2-2201447.docx) Remaining issues on TAC selection and reporting in NTN Samsung R&D Institute UK discussion

[R2-2201579](file:///C:\Data\3GPP\Extracts\R2-2201579.docx) UE location reporting in initial access Samsung Research America discussion

#### 8.10.3.2 Idle/Inactive mode

Focus on system information aspects

[R2-2201731](file:///C:\Data\3GPP\RAN2\Docs\R2-2201731.zip) [Pre116bis-e][102][NTN] Summary of 8.10.3.2 Idle/Inactive mode Huawei discussion Rel-17 NR\_NTN\_solutions-Core

* to be discussed in offline 102
* [AT116bis-e][102][NTN] Idle/Inactive mode aspects (Huawei)

Initial scope: Discuss idle/inactive mode aspects based on the summary in [R2-2201731](file:///C:\Data\3GPP\RAN2\Docs\R2-2201731.zip)

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): Tuesday 2022-01-18 0700 UTC

Initial deadline (for rapporteur's summary in R2-2201733): Tuesday 2022-01-18 0900 UTC

R2-2201733 [offline-102] Idle/Inactive mode aspects Huawei discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200215](file:///C:\Data\3GPP\Extracts\R2-2200215%20Discussion%20on%20TN%20prioritization%20over%20NTN%20for%20idle%20mode.docx) Discussion on TN prioritization over NTN for idle mode Intel Corporation discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200216](file:///C:\Data\3GPP\Extracts\R2-2200216%20Discussion%20on%20enhancements%20to%20cell%20reselection.docx) Discussion on enhancements to cell reselection Intel Corporation discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200246](file:///C:\Data\3GPP\Extracts\R2-2200246%20NTN%20SI.doc) Discussion on NTN specific system information OPPO discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200290](file:///C:\Data\3GPP\Extracts\R2-2200290%20Discussion%20on%20idle%20mode%20aspects.doc) Discussion on idle mode aspects Huawei, HiSilicon discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200342](file:///C:\Data\3GPP\Extracts\R2-2200342_SI_parameters.doc) System information to assist cell reselection ITRI discussion NR\_NTN\_solutions-Core

[R2-2200378](file:///C:\Data\3GPP\Extracts\R2-2200378%20Remaining%20issues%20on%20idle%20mode%20mobility.docx) Remaining issues on idle/inactive mode mobility vivo discussion

[R2-2200446](file:///C:\Data\3GPP\Extracts\R2-2200446-cell%20type.doc) Cell type indication Qualcomm Incorporated discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200447](file:///C:\Data\3GPP\Extracts\R2-2200447%20Idle%20mode.docx) IDLE mode measurements Qualcomm Incorporated discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200621](file:///C:\Data\3GPP\Extracts\R2-2200621%20Mobility%20for%20TN-NTN%20scenarios.docx) Idle mode mobility for NTN-TN scenarios MediaTek Inc. discussion [R2-2105253](file:///C:\Data\3GPP\archive\RAN2\RAN2%23114\Tdocs\R2-2105253.zip)

[R2-2200630](file:///C:\Data\3GPP\Extracts\R2-2200630%20Acquiring%20the%20ephemeris%20of%20neighbour%20cell.doc) Acquiring the ephemeris of neighbour cell Spreadtrum Communications discussion Rel-17

[R2-2200650](file:///C:\Data\3GPP\Extracts\R2-2200650%20Discussion%20on%20NTN%20Idle%20mode%20measurement%20and%20cell%20reselection.doc) Discussion on NTN Idle mode measurement and cell reselection Transsion Holdings discussion Rel-17

[R2-2200665](file:///C:\Data\3GPP\Extracts\R2-2200665%20Remaining%20idle%20mode%20issues%20in%20NTN.DOC) Remaining idle mode issues in NTN LG Electronics Inc. discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200690](file:///C:\Data\3GPP\Extracts\R2-2200690.docx) Further Discussion on the Leftover Issues of IDLE/INACTIVE CATT discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200716](file:///C:\Data\3GPP\Extracts\R2-2200716%20Discussion%20on%20RRC%20idle%20mode%20issues.doc) Discussion on RRC idle mode issues Xiaomi discussion

[R2-2200766](file:///C:\Data\3GPP\Extracts\R2-2200766%20Ephemeris%20provision%20in%20system%20information%20for%20NTN.docx) Ephemeris provision in system information for NTN Lenovo, Motorola Mobility discussion Rel-17

[R2-2200767](file:///C:\Data\3GPP\Extracts\R2-2200767%20Further%20discussion%20on%20idle%20mode%20mobility%20in%20NTN.docx) Further discussion on idle mode mobility in NTN Lenovo, Motorola Mobility discussion Rel-17

[R2-2200877](file:///C:\Data\3GPP\Extracts\R2-2200877%20Further%20Considerations%20on%20Cell%20Re-selection.docx) Further Considerations on Cell Re-selection CMCC discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200933](file:///C:\Data\3GPP\Extracts\R2-2200933%20SMTC%20Adjustment%20for%20Idle%20and%20Inactive%20UEs%20in%20NTN.docx) SMTC Adjustment for Idle and Inactive UEs in NTN Google Inc. discussion

[R2-2201003](file:///C:\Data\3GPP\Extracts\R2-2201003_System%20information%20for%20NTN%20and%20idle%20mode%20mobility%20for%20intra-NTN%20and%20TN-NTN%20case.docx) System information for NTN and idle mode mobility for intra-NTN and TN-NTN case ZTE corporation, Sanechips discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2201079](file:///C:\Data\3GPP\Extracts\R2-2201079%20On%20IDLE%20mode%20aspects%20in%20Rel-17%20NTN.docx) On IDLE mode aspects in Rel-17 NTN Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2201139](file:///C:\Data\3GPP\Extracts\R2-2201139%20On%20Defining%20a%20New%20SIB%20for%20NTN.docx) On Defining a New NTN-Specific SIB MediaTek Inc. discussion

[R2-2201165](file:///C:\Data\3GPP\Extracts\R2-2201165%20(R17%20NTN%20WI%20AI%208.10.3.2)%20Cell%20reselection.docx) Location-assisted cell reselection InterDigital discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2201179](file:///C:\Data\3GPP\Extracts\R2-2201179%20NTN-TN%20idle%20mode%20mobility.docx) NTN-TN idle mode mobility Apple discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2201180](file:///C:\Data\3GPP\Extracts\R2-2201180%20NTN%20Ephemeris%20Definition%20and%20Signaling.docx) NTN Ephemeris definition and signaling Apple discussion Rel-17 NR\_NTN\_solutions-Core [R2-2110043](file:///C:\Data\3GPP\archive\RAN2\RAN2%23116\Tdocs\R2-2110043.zip)

[R2-2201195](file:///C:\Data\3GPP\Extracts\R2-2201195_Location-assisted%20%20cell%20reselection.docx) Location-assisted cell reselection NEC Telecom MODUS Ltd. discussion

[R2-2201196](file:///C:\Data\3GPP\Extracts\R2-2201196_NTN%20to%20TN%20in%20Idle%20or%20Inactive%20mode%20mobility.docx) NTN to TN mobility in Idle or Inactive mode NEC Telecom MODUS Ltd. discussion

[R2-2201446](file:///C:\Data\3GPP\Extracts\R2-2201446.docx) Idle mode aspects for NTN Ericsson discussion NR\_NTN\_enh-Core

[R2-2201580](file:///C:\Data\3GPP\Extracts\R2-2201580.docx) Measurements and cell reselection Samsung Research America discussion

[R2-2201615](file:///C:\Data\3GPP\Extracts\R2-2201615.docx) Discussion on system information enhancement for NR NTN Turkcell, BT Plc, Deutsche Telekom, Aselsan discussion Rel-17

#### 8.10.3.3 Connected mode

This sub-AI will not be treated at R2-116bis-e. No contributions are expected

[R2-2200247](file:///C:\Data\3GPP\Extracts\R2-2200247%20NTN%20UE%20capability.doc) Discussion on NTN UE capabilities OPPO discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200666](file:///C:\Data\3GPP\Extracts\R2-2200666%20Connected%20mode%20remaining%20issues%20in%20NTN.DOC) Connected mode remaining issues in NTN LG Electronics Inc. discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200913](file:///C:\Data\3GPP\Extracts\R2-2200913.docx) SMTC enhancement in NTN Sony discussion Rel-17 NR\_NTN\_solutions-Core [R2-2108067](file:///C:\Data\3GPP\archive\RAN2\RAN2%23115\Tdocs\R2-2108067.zip)

[R2-2201004](file:///C:\Data\3GPP\Extracts\R2-2201004_Leftover%20issues%20in%20CHO%20and%20measurements.docx) Leftover issues in CHO and measurements ZTE corporation, Sanechips discussion Rel-17 NR\_NTN\_solutions-Core

### 8.10.4 UE capabilities

Including Features / UE caps developed in RAN2. Note that this AI is complementary to AI 8.0.2. NOTE please don’t input on aspects treated in the email discussion.

Including outcome of:

{Post116-e][111][NTN] UE capabilities (Intel)

[R2-2200040](file:///C:\Data\3GPP\Extracts\R2-2200040%20Report%20of%20email%20discussion%20%5bPost116-e%5d%5b111%5d%5bNTN%5d%20UE%20capabilities%20(Intel).docx) Report of email discussion [Post116-e][111][NTN] UE capabilities (Intel) Intel Corporation discussion NR\_NTN\_solutions-Core

[R2-2200041](file:///C:\Data\3GPP\Extracts\R2-2200041%20Draft%20331%20CR%20for%20NR%20NTN%20UE%20capabilities.docx) Draft 331 CR for NR NTN UE capabilities Intel Corporation draftCR Rel-17 38.331 16.7.0 B NR\_NTN\_solutions-Core

[R2-2200042](file:///C:\Data\3GPP\Extracts\R2-2200042%20Draft%20306%20CR%20for%20NR%20NTN%20UE%20capabilities.docx) Draft 306 CR for NR NTN UE capabilities Intel Corporation draftCR Rel-17 38.306 16.7.0 B NR\_NTN\_solutions-Core

[R2-2200213](file:///C:\Data\3GPP\Extracts\R2-2200213%20Discussion%20on%20remaining%20issues%20on%20NR%20NTN%20UE%20capabilities.docx) Discussion on remaining issues on NR NTN UE capabilities Intel Corporation discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200291](file:///C:\Data\3GPP\Extracts\R2-2200291%20Discussion%20on%20UE%20capabilities.doc) Discussion on UE capabilities Huawei, HiSilicon discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200376](file:///C:\Data\3GPP\Extracts\R2-2200376%20Remaining%20issues%20on%20UE%20capability%20for%20Rel-17%20NR%20NTN.docx) Remaining issues on UE capability for Rel-17 NTN vivo discussion

[R2-2200448](file:///C:\Data\3GPP\Extracts\R2-2200448%20UE%20cpabilities.docx) Discussion on UE capabilities Qualcomm Incorporated discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2200620](file:///C:\Data\3GPP\Extracts\R2-2200620%20On%20UE%20Capabilities%20in%20NR-NTN.docx) On UE Capabilities in NR-NTN MediaTek Inc. discussion

[R2-2201545](file:///C:\Data\3GPP\Extracts\R2-2201545%20L2%20buffer%20AI%208.10.4.docx) L2 buffer calculation and QoS requirement Interdigital, Inc. discussion Rel-17 NR\_NTN\_solutions-Core

[R2-2201632](file:///C:\Data\3GPP\Extracts\R2-2201632%20-%20NR%20NTN%20UE%20capabilities.docx) NR NTN UE capabilities Ericsson discussion

## 8.12 Reduced Capability

(NR\_redcap-Core; leading WG: RAN1; REL-17; WID: [RP-211574](file:///C:\Data\3GPP\archive\RAN\RAN%2392\Tdocs\RP-211574.zip))

Time budget: 1 TU

Tdoc Limitation: 3 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.

Incoming LSs

LSs from RAN1 on higher-layer impacts related to all Rel-17 WIs

[R2-2200095](file:///C:\Data\3GPP\Extracts\R2-2200095_R1-2112977.docx) LS on updated Rel-17 LTE and NR higher-layers parameter list (R1-2112977; contact: Ericsson) RAN1 LS in Rel-17 NR\_feMIMO, NR\_ext\_to\_71GHz, NR\_IIOT\_URLLC\_enh, NR\_NTN\_solutions, NR\_pos\_enh, NR\_redcap, NR\_UE\_pow\_sav\_enh, NR\_cov\_enh, NR\_IAB\_enh, NR\_SL\_enh, NR\_MBS, NR\_DSS, LTE\_NR\_DC\_enh2, NR\_RF\_FR1\_enh, NR\_SmallData\_INACTIVE, NB\_IOTenh4\_LTE\_eMTC6, LTE\_NBIOT\_eMTC\_NTN, LTE\_terr\_bcast\_bands\_part1 To:RAN2, RAN3 Cc:RAN4

* Noted

Capabilities

[R2-2200068](file:///C:\Data\3GPP\Extracts\R2-2200068_R1-2112754.docx) Reply LS on capability related RAN2 agreements for RedCap (R1-2112754; contact: Ericsson) RAN1 LS in Rel-17 NR\_redcap-Core To:RAN2 Cc:RAN4

* Noted

NCD-SSB

[R2-2200075](file:///C:\Data\3GPP\Extracts\R2-2200075_R1-2112802.docx) LS on use of NCD-SSB or CSI-RS in DL BWPs for RedCap UE (R1-2112802; contact: Ericsson) RAN1 LS in Rel-17 NR\_redcap-Core To:RAN2, RAN4

* Noted

[R2-2200131](file:///C:\Data\3GPP\Extracts\R2-2200131_R4-2120327.docx) Reply LS on use of NCD-SSB for RedCap UE (R4-2120327; contact: ZTE) RAN4 LS in Rel-17 NR\_redcap-Core To:RAN1 Cc:RAN2

* Noted. Already treated in the last meeting.

Running CRs

[R2-2201531](file:///C:\Data\3GPP\Extracts\R2-2201531%20-%20Running%20RedCap%20CR%20for%2038300.docx) Running 38300 CR for RedCap Nokia, Nokia Shanghai Bell draftCR Rel-17 38.300 16.8.0 NR\_redcap-Core

[R2-2201549](file:///C:\Data\3GPP\Extracts\R2-2201549%20-%20Running%20304%20CR%20for%20RedCap.docx) Running CR for the RedCap WI Ericsson draftCR Rel-17 38.304 16.7.0 B NR\_redcap-Core

[R2-2201564](file:///C:\Data\3GPP\Extracts\R2-2201564%20-%20Running%20331%20CR%20for%20RedCap.docx) Running RRC CR for the RedCap WI Ericsson draftCR Rel-16 38.331 16.7.0 B NR\_redcap-Core

* Rapporteur confirms they are just lifted to the newest spec version

[R2-2201649](file:///C:\Data\3GPP\RAN2\Docs\R2-2201649.zip) Running MAC CR for RedCap vivo (Rapporteur) draftCR Rel-17 38.321 16.7.0 B NR\_redcap-Core

* Offline discussions will be kicked off later during the meeting to update the running CRs based on new agreements and possibly to endorse the new versions

### 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 discussion on possible "fallback operation"

Fallback operation

[R2-2200189](file:///C:\Data\3GPP\Extracts\R2-2200189%20Support%20for%20fallback%20operation%20for%20RedCap%20UEs.docx) Support for fallback operation by RedCap UEs Qualcomm Incorporated discussion Rel-17 NR\_redcap-Core

Observation 1. RedCap may not be widely supported across operator’s network in its initial deployment. That could be a big hurdle for the adoption of new RedCap devices.

Observation 2. Some spec-compliant RedCap UEs can operate in legacy cells in certain bands (e.g. under 2.496 GHz) in the same way as non-RedCap UEs.

Observation 3. Allowing a RedCap UE to access legacy cells in which it is capable of operating as a non-RedCap UE in a spec-compliant manner can help improve its service coverage.

Proposal 1. Support fallback operation for RedCap, with which a RedCap UE is allowed to camp on or access a legacy cell as a spec-compliant non-RedCap UE when no RedCap-supporting cells are available.

Proposal 2. RedCap UEs capable of fallback operation always prioritize RedCap-supporting cells over legacy cells in cell re-/selection, irrespective of cell barring status.

Proposal 3. When a cell indicates RedCap UEs being barred, a RedCap UE capable of fallback operation should not attempt access to this cell as a non-RedCap UE.

Proposal 4. To support fallback operation with the existing UE signaling framework, apply the following capability reporting rules for all RedCap UEs:

- Capabilities that are mandatory in legacy but optional for RedCap should be reported in the NCE of UE radio capability container;

- Capabilities that are optional for both legacy and RedCap should be reported separately in both the legacy and the NCE part of UE radio capability container.

Proposal 5. During handover for a RedCap UE, if the source cell supports RedCap,

- it should select a target cell for the UE only among RedCap-supporting neighbor cells, unless no such cells are available;

- Otherwise, it should handover the UE to a legacy cell to which the UE can access as non-RedCap. FFS whether this handover is based on an indication in handover command or by UE implementation.

Proposal 6. If a legacy source cell handover a RedCap UE to another legacy cell, it is up to UE implementation whether/when to reselect to a RedCap-supporting cell (e.g. by RRC re-establishment).

Observation 4. In the current framework, network is not able to identify a RedCap UE accessing network through a legacy cell using fallback. That can cause issues for core network and RAN on procedures such as charging or service restriction.

Proposal 7. A RedCap UE should inform core network when it is accessing network through a legacy cell, during either initial access or handover.

Proposal 8. Send a LS to SA2/CT1 to ask them to work on the necessary changes in core network.

* QC thinks the signalling towards the CN could be left to SA2/CT1
* The paper is noted.

[R2-2201434](file:///C:\Data\3GPP\Extracts\R2-2201434%20-%20RedCap%20cell%20selection%20and%20cell%20reselection.docx) RedCap cell selection and cell reselection BT Plc, Nokia, Nokia Shanghai Bell, Turkcell, Deutsche Telekom, Orange, Telecom Italia S.p.A. discussion Rel-17

Observation 1: When cellBarred field in MIB is set to “barred”, RedCap UEs have the same behaviour than legacy UEs.

Observation 2: Only a very limited number of NR bands, most of them sub-1 GHz, support up to 20 MHz for any SCS.

Observation 3: A high number of RedCap UEs may cause control channel congestion in FR1 bands up to 20 MHz bandwidth.

Observation 4: Customers transferring their plans to other operators may end with RedCap UEs not capable to access into the network anymore.

Observation 5: Legacy cells have no mechanisms to identify a RedCap UE.

Observation 6: RAN2 has already inform RAN3 that a RedCap UE should not attempt to camp or access in legacy cells. Neither handed over.

Observation 7: Complexity to solve a hypothetical misalignment in RedCap environment is too high for the remaining time to complete Rel-17 RedCap.

Proposal 1 RedCap UEs will not camp in a non-RedCap cell, will not attempt to attach into non-RedCap cells and RedCap UEs will not be handover from RedCap cells to non-RedCap cells.

* QC, vivo would like to continue to discuss this
* Ericsson, as a rapporteur, would like to focus on the key remaining aspects and then drop other not necessary enhancements
* The paper is noted.
* VC thinks it's not likely that this will be discussed again in Rel-17

[R2-2200798](file:///C:\Data\3GPP\Extracts\R2-2200798%20-%20RedCap%20UE%20access%20in%20legacy%20gNB.docx) RedCap UE access in legacy gNB Ericsson discussion Rel-17 NR\_redcap-Core

[R2-2200248](file:///C:\Data\3GPP\Extracts\R2-2200248%20RedCap%20fallback.doc) Discussion on RedCap UE's fallback operation OPPO discussion Rel-17 NR\_redcap-Core

[R2-2200350](file:///C:\Data\3GPP\Extracts\R2-2200350.docx) Discussion on allowing RedCap UEs to be served as normal UEs NEC Corporation discussion

[R2-2200596](file:///C:\Data\3GPP\Extracts\R2-2200596_Discussion%20on%20UE%20type%20and%20reduced%20capbilities%20for%20RedCap%20UEs.doc) Discussion on UE type and reduced capabilities for RedCap UEs vivo, Guangdong Genius discussion Rel-17 NR\_redcap-Core

[R2-2200685](file:///C:\Data\3GPP\Extracts\R2-2200685.docx) Discussion on supporting fallback operation for Redcap UEs CATT discussion Rel-17 NR\_redcap-Core

[R2-2201206](file:///C:\Data\3GPP\Extracts\R2-2201206%20Discussion%20on%20fallback%20operation%20of%20RedCap%20UEs.docx) Discussion on fallback operation of RedCap UEs LG Electronics UK discussion Rel-17

[R2-2201231](file:///C:\Data\3GPP\Extracts\R2-2201231%20RedCap1.docx) Support for fallback operation by RedCap UEs Sierra Wireless. S.A. discussion

number of DRBs

[R2-2201114](file:///C:\Data\3GPP\Extracts\._R2-2201114_Redcap-8DRB.docx) Optional support of more than 8 DRB for RedCap Apple, Facebook Inc discussion NR\_redcap-Core [R2-2110093](file:///C:\Data\3GPP\archive\RAN2\RAN2%23116\Tdocs\R2-2110093.zip)

* Revised in [R2-2201671](file:///C:\Data\3GPP\RAN2\Docs\R2-2201671.zip)

[R2-2201671](file:///C:\Data\3GPP\RAN2\Docs\R2-2201671.zip) Optional support of more than 8 DRB for RedCap Apple, Facebook Inc, T-Mobile USA discussion NR\_redcap-Core

Observation 1: Some Redcap devices operate with use-cases comparable to the legacy NR devices, the number of DRBs used by these services should also be comparable.

Observation 2: Current RAN2 agreement does not preclude the support of >8DRB for RedCap

Proposal 1: RedCap UE can optionally support 16 DRBs qualified with a capability.

* HW thinks this would have impacts on the network
* Apple thinks we can also say that by default RedCap UEs support 16 DRBs and if they cannot they signal the support only for 8
* RedCap UE can optionally support 16 DRBs qualified with a capability.

Agreements:

1. RedCap UE can optionally support 16 DRBs qualified with a capability.

Other open issues

[R2-2200286](file:///C:\Data\3GPP\Extracts\R2-2200286%20Open%20issues%20on%20RedCap%20capabilities.docx) Open issues on RedCap capabilities Intel Corporation discussion Rel-17 NR\_redcap

Proposal 1: ANR feature is optional for RedCap UE;

Proposal 2: CHO related capabilities are applicable for RedCap UEs (understanding that CHO is already defined as an optional feature). “FFS on CHO” can be removed.

Proposal 5: RAN2 confirms RAN1 agreement to introduce explicit bit to indicate the support of RedCap. The capability will be captured in Capability Rapporteur’s Mega CRs;

Proposal 6: To add “Support of early indication of RedCap UE in Msg.1 for 4-step RACH” 'as part of the basic component of RedCap UE in 4.2.xx RedCap Parameters of TS38.306 running CR;

Proposal 7: RAN2 confirms RAN1 agreement to introduce capability bit to indicate the support of Half-duplex FDD operation type A. The capability will be captured in Capability Rapporteur’s Mega CRs;

Proposal 8: Change the field description of “maxNumberMIMO-LayersPDSCH” from “If absent, the UE does not support MIMO on this carrier.” To “If absent, the UE supports 1 MIMO layer on this carrier.”

Proposal 9: To add capability limitation on BW, Rx/Tx branches and UL/DL MIMO layers as part of the basic component of RedCap UE in 4.2.xx RedCap Parameters of TS38.306 running CR

Proposal 10: Existing field “maxNumberMIMO-LayersPDSCH ” is reused, i.e. it is still per FSPC for RedCap UE;

[R2-2200553](file:///C:\Data\3GPP\Extracts\R2-2200553%20Definition%20and%20reduced%20capabilities%20for%20RedCap%20UE.doc) Definition and reduced capabilities for RedCap UE Huawei, HiSilicon discussion Rel-17 NR\_redcap-Core

Proposal 5: To clarify in the field description of shortSN and am-WithShortSN that, RedCap UE should always report ”1” in TS 38.306 section 4.2.4 and 4.2.5.

Proposal 7: For the LTE to NR handover, if the RedCap UE finds the target NR cell is a legacy cell, the UE should trigger RRC re-establishment procedure. FFS on the spec impact.

* [AT116bis-e][105][RedCap] Capabilities (Intel)

Initial scope: Continue the discussion on open issues for RedCap capabilities, based on e.g. [R2-2200286](file:///C:\Data\3GPP\Extracts\R2-2200286%20Open%20issues%20on%20RedCap%20capabilities.docx) and [R2-2200553](file:///C:\Data\3GPP\Extracts\R2-2200553%20Definition%20and%20reduced%20capabilities%20for%20RedCap%20UE.doc)

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 2022-01-19 1300 UTC

Initial deadline (for rapporteur's summary in R2-2201737): Wednesday 2022-01-19 1500 UTC

Proposals marked "for agreement" in R2-2201737 not challenged until Thursday 2022-01-20 0300 UTC will be declared as agreed via email by the session chair (for the rest the discussion might continue in the GTW session).

R2-2201737 [offline-105] RedCap capabilities Intel discussion Rel-17 NR\_redcap-Core

#### 8.12.2.2 Identification, access and camping restrictions

Focus on system information aspects (common aspects related to RACH partitioning shall be submitted to 8.18)

Also including discussion on "NCD-SSB"

NCD-SSB / Initial BWP aspects

[R2-2201732](file:///C:\Data\3GPP\RAN2\Docs\R2-2201732.zip) [Pre116bis-e][103][RedCap] Summary of NCD-SSB / Initial BWP aspects Ericsson discussion Rel-17 NR\_redcap-Core

Confirmation of proposals endorsed at RAN#94-e

Proposal 1 A RedCap UE in idle/inactive mode monitors paging in an initial BWP associated with CD-SSB, i.e., not in a separate initial BWP associated with NCD-SSB, and perform cell (re-)selection and measurements on the CD-SSB.

* VC suggests to revise as follows:

Proposal 1rev A RedCap UE in idle/inactive mode monitors paging in an initial BWP associated with CD-SSB, i.e., ~~not~~ either in the default initial BWP or in a separate initial BWP still associated with ~~N~~CD-SSB, and performs cell (re-)selection and measurements on the CD-SSB.

* Apple is ok with original p1, as initial BWP should be intended as RedCap specific initial BWP
* Mediatek thinks we should add "…only monitors paging…"
* Huawei, vivo prefer original p1
* ZTE, Denso think it's not only the RedCap specific initial BWP
* A RedCap UE in idle/inactive mode monitors paging only in an initial BWP (default or RedCap specific) associated with CD-SSB and performs cell (re-)selection and measurements on the CD-SSB

Proposals related to idle/inactive UEs

Proposal 20 If a RedCap-specific initial UL BWP is configured for RACH, RedCap UEs shall use only the RedCap-specific initial UL BWP to perform RACH.

* Agreed

Proposal 15 Discuss how configuration, e.g., search space, selection of RACH resources, should be provided when there is a separate initial UL BWP with no CD-SSB and NCD-SSB configured for random access.

* ZTE thinks that the intention is that if the NW configures a separate BWP that does not contain the CD-SSB the UE needs to read the configuration from initial BWP to monitor paging, RAR, OSI, etc.
* Continue offline

Proposal 16 Discuss whether a RedCap UE performs cell (re)selection measurements based on CD-SSB when there is a separate initial UL BWP with no CD-SSB and NCD-SSB configured for random access.

* VC wonders if this is already covered by P1(rev)
* Huawei also thinks this is already agreed/covered by P1
* Further discuss offline

Proposal 17 If RedCap UEs are configured with a separate initial UL BWP for RACH, discuss if it is up to UE implementation whether to perform new RSRP measurement on CD-SSB in the non-RedCap initial DL BWP before a Msg1/A retransmission.

* VC suggests to revise as follows:

Proposal 17rev: If RedCap UEs are configured with a separate initial UL BWP for RACH, discuss ~~if~~ whether

* + it is up to UE implementation whether to perform new RSRP measurement on CD-SSB in the non-RedCap initial DL BWP before a Msg1/A retransmission, or
  + the UE should always perform new RSRP measurement on CD-SSB in the non-RedCap initial DL BWP before a Msg1/A retransmission, or
  + other?
* QC indicates that in RAN4 spec there is a timing requirement. With RedCap specific initial BWP there is an issue so either the timing should be relaxed or left to UE implementation. We can send an LS to RAN4 on this.
* ZTE thinks we can ask RAN1 to consider to make NDC-SSB visible in idle/connected and ask the UE to perform measurements on NCD-SSB before msg1/A transmission
* Continue offline

Proposal 18 Discuss whether field description of rach-ConfigCommon is updated that network may configure SSB-based RA in a RedCap-specific UL BWP whose linked DL BWP may not contain any SSB, i.e., in that case, UE uses the CD-SSB transmitted by the serving cell for RO selection.

Proposal 19 Discuss whether RedCap-specific two-step RACH (if configured) and four-step RACH are always configured in the same BWP.

Proposals related to connected UEs

Proposal 2 In RRC connected mode, NCD-SSB may be configured for a RedCap UE in dedicated DL BWP.

Proposal 3 In Rel-17, for connected mode operation NCD-SSB has the same properties (e.g., ssb-PositionsInBurst, PCI, ssb-periodicity, ssb-PBCH-BlockPower) as the corresponding CD-SSB.

Proposal 4 The network may provide absoluteFrequencySSB, ssb-PositionsInBurst, and ssb-periodicity explicitly for NCD-SSB, i.e., other properties such as PCI, ssb-PBCH-BlockPower are configured with the same values from serving cell's CD-SSB.

Proposal 5 The periodicity of NCD-SSB shall be not less than the periodicity of serving cell’s CD-SSB.

Proposal 6 If NCD-SSB is configured in a dedicated DL BWP, RedCap UE should assume that the “SSB” in QCL-Info IE and “ssb-Index” in RadioLinkMonitoringRS IE refers to the beam with the same index in the NCD-SSB configured in that BWP.

Proposal 7 If NCD-SSB is configured in a dedicated DL BWP whose paired UL BWP is configured with RACH-ConfigDedicated, RACH-ConfigCommon or BeamFailureRecovery Config, then the SSB in that RACH configuration (e.g., in CFRA-SSB-Resource IE or in PRACH-ResourceDedicatedBFR IE) refers to the NCD-SSB configured in that DL BWP.

Proposal 8 In connected mode neighbor cell measurements based on NCD-SSB is not support for RedCap UEs.

Proposal 9 For serving cell measurement based on NCD-SSB, discuss whether:

Option 1: MeasObjectId is configured for each NCD-SSB

Option 2: MeasObjectNR is extended to include ssbFrequency for each NCD-SSB.

Proposal 10 For RedCap UEs in connected mode, UE’s serving cell measurement object is the ssbFrequency associated with the NCD-SSB of its active BWP.

Proposal 11 Discuss whether the RAN1 working assumption regarding the use of CSI-RS in connected mode is acceptable from RAN2 standpoint.

Proposal 12 Discuss whether a RedCap UE, which does not support CSI-RS, can report “Not need NCD-SSB” as an optional UE capability.

Proposal 13 Discuss whether NCD-SSB can be used to trigger handover procedure, i.e., whether SSB indicated in absoluteFrequencySSB of frequencyInfo-DL IE in handover command must be CD-SSB.

Proposal 14 Discuss whether non-RedCap UEs may use NCD-SSB instead of CD-SSB with an optional capability.

Agreements:

1. A RedCap UE in idle/inactive mode monitors paging only in an initial BWP (default or RedCap specific) associated with CD-SSB and performs cell (re-)selection and measurements on the CD-SSB
2. If a RedCap-specific initial UL BWP is configured for RACH, RedCap UEs shall use only the RedCap-specific initial UL BWP to perform RACH.

* [AT116bis-e][106][RedCap] NCD-SSB and Initial BWP aspects (Ericsson)

Initial scope: Continue the discussion based on [R2-2201732](file:///C:\Data\3GPP\RAN2\Docs\R2-2201732.zip) and the outcome of the online discussion

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 2022-01-19 1800 UTC

Initial deadline (for rapporteur's summary in R2-2201738): Wednesday 2022-01-19 2200 UTC

Proposals marked "for agreement" in R2-2201738 not challenged until Thursday 2022-01-20 1000 UTC will be declared as agreed via email by the session chair (for the rest the discussion will continue until the GTW session on Monday).

R2-2201738 [offline-106] NCD-SSB and Initial BWP aspects Ericsson discussion Rel-17 NR\_redcap-Core

[R2-2200190](file:///C:\Data\3GPP\Extracts\R2-2200190%20Discussions%20on%20RedCap-specific%20BWPs.docx) Discussions on RedCap-specific BWPs Qualcomm Incorporated discussion Rel-17 NR\_redcap-Core

[R2-2200287](file:///C:\Data\3GPP\Extracts\R2-2200287%20Early%20identification-camping%20restrictions-NCD-SSB.docx) Open issues on Early identification, camping restrictions and NCD-SSB Intel Corporation discussion Rel-17 NR\_redcap

[R2-2200401](file:///C:\Data\3GPP\Extracts\R2-2200401.docx) BWP configuration for RedCap UE DENSO CORPORATION discussion Rel-17 NR\_redcap-Core

[R2-2200597](file:///C:\Data\3GPP\Extracts\R2-2200597_Remaining%20issues%20on%20NCD%20SSB,%20identification%20and%20access%20for%20RedCap.docx) Remaining issues on NCD SSB, identification and access for RedCap vivo, Guangdong Genius discussion Rel-17 NR\_redcap-Core

[R2-2200608](file:///C:\Data\3GPP\Extracts\R2-2200608%20Discussion%20on%20separate%20initial%20BWP%20and%20NCD-SSB%20for%20RedCap%20UE.docx) Discussion on separate initial BWP and NCD-SSB for RedCap UE ZTE Corporation, Sanechips discussion Rel-17 NR\_redcap-Core

[R2-2200830](file:///C:\Data\3GPP\Extracts\R2-2200830%20-%20Using%20NCD-SSB%20or%20CSI-RS%20in%20DL%20BWPs%20for%20RedCap%20UEs.docx) Using NCD-SSB or CSI-RS in DL BWPs for RedCap UEs Ericsson discussion Rel-17 NR\_redcap-Core

[R2-2200831](file:///C:\Data\3GPP\Extracts\R2-2200831%20-%20%5bDRAFT%5d%20Reply%20LS%20on%20the%20use%20of%20NCD-SSB%20or%20CSI-RS%20in%20DL%20BWPs%20for%20RedCap%20UEs.docx) [DRAFT] Reply LS on the use of NCD-SSB or CSI-RS in DL BWPs for RedCap UEs Ericsson LS out Rel-17 NR\_redcap-Core To:RAN1 Cc:RAN4

[R2-2200862](file:///C:\Data\3GPP\Extracts\R2-2200862%20Discussion%20on%20use%20of%20NCD-SSB%20or%20CSI-RS%20in%20DL%20BWPs%20for%20RedCap%20UE.docx) Discussion on use of NCD-SSB or CSI-RS in DL BWPs for RedCap UE CMCC discussion Rel-17 NR\_redcap-Core

[R2-2201113](file:///C:\Data\3GPP\Extracts\._R2-2201113-recap-reselect.docx) RedCap UE power-saving aspects at cell re-selection Apple discussion NR\_redcap-Core

[R2-2201461](file:///C:\Data\3GPP\Extracts\R2-2201461%20-%20Aspects%20related%20to%20use%20of%20NCD-SSB.docx) Aspects related to use of NCD-SSB MediaTek Inc. discussion Rel-17 NR\_redcap-Core

Other aspects

[R2-2200554](file:///C:\Data\3GPP\Extracts\R2-2200554%20%20Identification%20and%20access%20restriction%20of%20RedCap%20UE,%20and%20NCD-SSB%20related%20issues.docx) Identification and access restriction of RedCap UE, and NCD-SSB related issues Huawei, HiSilicon discussion Rel-17 NR\_redcap-Core

* [AT116bis-e][103][RedCap] Identification and access restriction (Huawei)

Initial scope: Discuss identification and access restriction aspects based on submitted contributions

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 2022-01-19 1300 UTC

Initial deadline (for rapporteur's summary in R2-2201734): Wednesday 2022-01-19 1500 UTC

Proposals marked "for agreement" in R2-2201734 not challenged until Thursday 2022-01-20 0300 UTC will be declared as agreed via email by the session chair (for the rest the discussion will continue in the GTW session).

R2-2201734 [offline-103] identification and access restriction aspects Huawei discussion Rel-17 NR\_redcap-Core

[R2-2200208](file:///C:\Data\3GPP\Extracts\R2-2200208_Cell%20barring%20aspects.doc) Cell barring aspects Samsung Electronics Co., Ltd discussion Rel-17 NR\_redcap-Core

[R2-2200249](file:///C:\Data\3GPP\Extracts\R2-2200249%20RedCap%20identification%20and%20access%20restriction.doc) Discussion on RedCap UE's identification and camping restrictions OPPO discussion Rel-17 NR\_redcap-Core

[R2-2200332](file:///C:\Data\3GPP\Extracts\R2-2200332.docx) Cell (re)selection details for RedCap UEs Samsung Electronics discussion Rel-17 NR\_redcap-Core

[R2-2200343](file:///C:\Data\3GPP\Extracts\R2-2200343_KDDI_redcap.docx) System Information and supporting for RedCap UEs KDDI Corporation discussion Rel-17 [R2-2111150](file:///C:\Data\3GPP\archive\RAN2\RAN2%23116\Tdocs\R2-2111150.zip)

[R2-2200468](file:///C:\Data\3GPP\Extracts\R2-2200468%20%20Discussion%20on%20UE%20access%20restrictions%20for%20Redcap%20devices.doc) Discussion on UE access restrictions for Redcap devices Beijing Xiaomi Mobile Softwar discussion

[R2-2200469](file:///C:\Data\3GPP\Extracts\R2-2200469%20%20Discussion%20on%20early%20Identification%20for%20Redcap%20devices.doc) Discussion on early Identification for Redcap devices Beijing Xiaomi Mobile Softwar discussion

[R2-2200568](file:///C:\Data\3GPP\Extracts\R2-2200568%20Camping%20restrictions%20of%20RedCap%20UE.doc) Camping restrictions of RedCap UE Fujitsu discussion Rel-17 NR\_redcap-Core

[R2-2200609](file:///C:\Data\3GPP\Extracts\R2-2200609%20Identification,%20access%20and%20camping%20restrictions%20for%20RedCap%20UE.docx) On Access and Camping Restrictions ZTE Corporation, Sanechips discussion Rel-17 NR\_redcap-Core

[R2-2200616](file:///C:\Data\3GPP\Extracts\R2-2200616_AC.docx) Further considerations on access restrictions NEC discussion Rel-17 NR\_redcap-Core

[R2-2200639](file:///C:\Data\3GPP\Extracts\R2-2200639%20Discussion%20on%20the%20open%20issues%20of%20identification%20and%20access%20restrictions%20for%20RedCap%20UE.doc) Discussion on the open issues of identification and access restrictions for RedCap UE Spreadtrum Communications discussion Rel-17

[R2-2200686](file:///C:\Data\3GPP\Extracts\R2-2200686.docx) Discussion on the remaining issues of early identification and IFRI CATT discussion Rel-17 NR\_redcap-Core

[R2-2200725](file:///C:\Data\3GPP\Extracts\._R2-2200725%20(R17%20RedCap%20WI%20AI%208.12.2.2)%20Corrections%20for%20cellBarred%20in%20MIB%20handling%20for%20RedCap%20UE.doc) Corrections for cellBarred in MIB handling for RedCap UE InterDigital, Europe, Ltd. discussion Rel-17

[R2-2200797](file:///C:\Data\3GPP\Extracts\R2-2200797%20-%20Early%20indication%20and%20access%20restriction%20for%20RedCap%20UEs.docx) Early indication & access restriction for RedCap UEs Ericsson discussion Rel-17 NR\_redcap-Core

[R2-2200836](file:///C:\Data\3GPP\Extracts\R2-2200836.docx) NR-REDCAP access restriction/allowance indication to ease mobility THALES discussion

[R2-2200861](file:///C:\Data\3GPP\Extracts\R2-2200861%20Discussion%20on%20access%20restrictions%20and%20early%20identification.docx) Discussion on access restrictions and early identification CMCC discussion Rel-17 NR\_redcap-Core

[R2-2201207](file:///C:\Data\3GPP\Extracts\R2-2201207%20Discussion%20on%20identification%20and%20access%20restrictions%20for%20RedCap%20UEs.docx) Discussion on identification and access restrictions for RedCap UEs LG Electronics UK discussion Rel-17

[R2-2201232](file:///C:\Data\3GPP\Extracts\R2-2201232%20RedCap2.docx) Early identification and camping restrictions for RedCap UE Sierra Wireless. S.A. discussion

[R2-2201237](file:///C:\Data\3GPP\Extracts\R2-2201237.docx) Neighbour cell information and cell (re)selection for RedCap UE DENSO CORPORATION discussion Rel-17 NR\_redcap-Core [R2-2109646](file:///C:\Data\3GPP\archive\RAN2\RAN2%23116\Tdocs\R2-2109646.zip)

[R2-2201435](file:///C:\Data\3GPP\Extracts\R2-2201435%20-%20Support%20and%20network%20behaviour%20for%20RedCap%20early%20indication.docx) Support and network behaviour for RedCap early indication messages BT Plc, Deutsche Telekom AG, Telecom Italia S.p.A., TurkCell, CMCC, NTT DOCOMO INC., Orange, Vodafone discussion Revised

[R2-2201587](file:///C:\Data\3GPP\Extracts\R2-2201587%20Further%20details%20of%20identification,%20access,%20and%20camping%20restrictions.docx) Further details of identification, access, and camping restrictions Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_redcap-Core

[R2-2201623](file:///C:\Data\3GPP\Extracts\R2-2201623%20-%20Support%20and%20network%20behaviour%20for%20RedCap%20early%20indication.docx) Support and network behaviour for RedCap early indication messages BT Plc, Deutsche Telekom AG, Telecom Italia S.p.A., TurkCell, CMCC, NTT DOCOMO INC., Orange, Vodafone, KDDI discussion Rel-17 [R2-2201435](file:///C:\Data\3GPP\Extracts\R2-2201435%20-%20Support%20and%20network%20behaviour%20for%20RedCap%20early%20indication.docx)

### 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.

This sub-AI will not be treated at R2-116bis-e. No contributions are expected

#### 8.12.3.2 RRM relaxations

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

Main focus on the "FFS: whether UE Assistance Information or legacy measurement reporting framework should be used by UE to report its relaxation status" (with the intention to close the discussion and not come back to this in February meeting)

[R2-2200549](file:///C:\Data\3GPP\Extracts\R2-2200549.doc) RRM measurement relaxation in RedCap Samsung discussion Rel-17

* [AT116bis-e][104][RedCap] RRM relaxations (Samsung)

Initial scope: Discuss RRM relaxation aspects based on submitted contributions

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 2022-01-19 1300 UTC

Initial deadline (for rapporteur's summary in R2-2201735): Wednesday 2022-01-19 1500 UTC

Proposals marked "for agreement" in R2-2201735 not challenged until Thursday 2022-01-20 0300 UTC will be declared as agreed via email by the session chair (for the rest the discussion will continue in the GTW session).

R2-2201735 [offline-104] RRM relaxations Samsung discussion Rel-17 NR\_redcap-Core

[R2-2200191](file:///C:\Data\3GPP\Extracts\R2-2200191%20Remaining%20issues%20on%20RRM%20relaxations.docx) Remaining issues on RRM relaxation Qualcomm Incorporated discussion Rel-17 NR\_redcap-Core

[R2-2200250](file:///C:\Data\3GPP\Extracts\R2-2200250%20-%20Discussion%20on%20RRM%20relax.doc) Discussion on RRM relax OPPO discussion Rel-17 NR\_redcap-Core

[R2-2200288](file:///C:\Data\3GPP\Extracts\R2-2200288%20Open%20issues%20on%20RRM%20measurement%20relaxation.docx) Open issues on RRM measurement relaxation Intel Corporation discussion Rel-17 NR\_redcap

[R2-2200467](file:///C:\Data\3GPP\Extracts\R2-2200467%20%20Discussion%20on%20RRM%20measurement%20relaxation%20for%20redcap.doc) Discussion on RRM measurement relaxation for redcap Beijing Xiaomi Mobile Softwar discussion

[R2-2200555](file:///C:\Data\3GPP\Extracts\R2-2200555%20RRM%20measurement%20relaxation%20for%20RedCap%20UE.doc) RRM measurement relaxation for RedCap UE Huawei, HiSilicon discussion Rel-17 NR\_redcap-Core

[R2-2200598](file:///C:\Data\3GPP\Extracts\R2-2200598_RRM%20relaxation%20for%20neighboring%20cell.docx) RRM relaxation for neighboring cell vivo, Guangdong Genius discussion Rel-17 NR\_redcap-Core

[R2-2200610](file:///C:\Data\3GPP\Extracts\R2-2200610%20Further%20discussion%20on%20RRM%20relaxation%20for%20RedCap%20UE.docx) Further discussion on RRM relaxation for RedCap UE ZTE Corporation, Sanechips discussion Rel-17 NR\_redcap-Core

[R2-2200667](file:///C:\Data\3GPP\Extracts\R2-2200667%20Remaining%20issues%20in%20RRM%20relaxation.DOC) Remaining issues in RRM relaxation LG Electronics Inc. discussion Rel-17 NR\_redcap-Core

[R2-2200687](file:///C:\Data\3GPP\Extracts\R2-2200687.doc) Further Discussion on RRM Relaxations CATT discussion Rel-17 NR\_redcap-Core

[R2-2201088](file:///C:\Data\3GPP\Extracts\R2-2201088%20On%20the%20need%20for%20a%20separate%20reference%20Srxlev%20value%20for%20evaluating%20R17%20stationary%20criterion%20for%20RRM%20relaxation.docx) On the need for a separate reference Srxlev value for evaluating R17 stationary criterion for RRM relaxation Futurewei Technologies discussion Rel-17 NR\_redcap-Core

[R2-2201101](file:///C:\Data\3GPP\Extracts\R2-2201101%20On%20a%20timing%20issue%20when%20both%20R16%20low%20mobility%20and%20R17%20stationary%20criteria%20are%20configured%20on%20a%20UE.docx) On a timing issue when both R16 low mobility and R17 stationary criteria are configured for a UE Futurewei Technologies discussion Rel-17 NR\_redcap-Core

[R2-2201239](file:///C:\Data\3GPP\Extracts\R2-2201239%20RRM%20relaxation%20for%20RedCap%20UEs.docx) RRM relaxation in RRC\_CONNECTED for RedCap UEs Sharp discussion [R2-2110287](file:///C:\Data\3GPP\archive\RAN2\RAN2%23116\Tdocs\R2-2110287.zip)

[R2-2201337](file:///C:\Data\3GPP\Extracts\R2-2201337.docx) Open issues on RRM relaxations DENSO CORPORATION discussion Rel-17 NR\_redcap-Core

[R2-2201493](file:///C:\Data\3GPP\Extracts\R2-2201493%20On%20RRM%20relaxation%20for%20REDCAP%20UE.docx) On RRM relaxations for REDCAP Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_redcap-Core

[R2-2201494](file:///C:\Data\3GPP\Extracts\R2-2201494%20On%20RRM%20relaxation%20in%20CONNECTED.docx) On RRM relaxations in CONNECTED Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_redcap-Core

[R2-2201558](file:///C:\Data\3GPP\Extracts\R2-2201558%20-%20Details%20on%20RRM%20relaxation.docx) Details on RRM relaxation Ericsson other Rel-17 NR\_redcap-Core

## 8.19 Coverage Enhancements

(NR\_cov\_enh-Core; leading WG: RAN1; REL-17; WID: [RP-211566](file:///C:\Data\3GPP\archive\RAN\RAN%2392\Tdocs\RP-211566.zip))

Time budget: 0.5

Tdoc Limitation: 1 tdoc

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.

LSs from RAN1 on higher-layer impacts related to all Rel-17 WIs

[R2-2200095](file:///C:\Data\3GPP\Extracts\R2-2200095_R1-2112977.docx) LS on updated Rel-17 LTE and NR higher-layers parameter list (R1-2112977; contact: Ericsson) RAN1 LS in Rel-17 NR\_feMIMO, NR\_ext\_to\_71GHz, NR\_IIOT\_URLLC\_enh, NR\_NTN\_solutions, NR\_pos\_enh, NR\_redcap, NR\_UE\_pow\_sav\_enh, NR\_cov\_enh, NR\_IAB\_enh, NR\_SL\_enh, NR\_MBS, NR\_DSS, LTE\_NR\_DC\_enh2, NR\_RF\_FR1\_enh, NR\_SmallData\_INACTIVE, NB\_IOTenh4\_LTE\_eMTC6, LTE\_NBIOT\_eMTC\_NTN, LTE\_terr\_bcast\_bands\_part1 To:RAN2, RAN3 Cc:RAN4

Running CRs

[R2-2200515](file:///C:\Data\3GPP\Extracts\R2-2200515_Running%2038300%20CR%20for%20NR%20coverage%20enhancements.docx) Running 38300 CR for NR coverage enhancements China Telecom draftCR Rel-17 38.300 16.8.0 B NR\_cov\_enh-Core

[R2-2200602](file:///C:\Data\3GPP\Extracts\R2-2200602%20Running%2038.321%20CR%20for%20NR%20coverage%20enhancement.docx) Running 38321 CR for NR coverage enhancements ZTE Corporation draftCR Rel-17 38.321 16.7.0 B NR\_cov\_enh-Core

[R2-2201616](file:///C:\Data\3GPP\Extracts\R2-2201616%20RRC%20running%20CR%20for%20CE.docx) RRC running CR for CE Huawei, HiSilicon draftCR Rel-17 38.331 16.7.0 B NR\_cov\_enh-Core

### 8.19.2 General

RAN2 impact tech proposals.

[R2-2200192](file:///C:\Data\3GPP\Extracts\R2-2200192%20Issues%20on%20coverage%20enhancements.docx) Issues on coverage enhancements Qualcomm Incorporated discussion Rel-17 NR\_cov\_enh-Core

[R2-2200207](file:///C:\Data\3GPP\Extracts\R2-2200207_RA%20procedure%20aspects.docx) RA Procedure Aspects Samsung Electronics Co., Ltd discussion Rel-17 NR\_cov\_enh-Core, NR\_SmallData\_INACTIVE-Core, NR\_slice-Core

[R2-2200251](file:///C:\Data\3GPP\Extracts\R2-2200251%20CE.doc) Discussion on CE’s impact on UL carrier selection OPPO discussion Rel-17 NR\_cov\_enh-Core

[R2-2200269](file:///C:\Data\3GPP\Extracts\R2-2200269.docx) Considerations on requesting Msg3 repetition NEC Corporation discussion Rel-17 NR\_cov\_enh-Core

[R2-2200272](file:///C:\Data\3GPP\Extracts\R2-2200272%20%20Remaining%20issues%20related%20to%20coverage%20enhancement.doc) Remaining issues related to coverage enhancement Xiaomi discussion Rel-17

[R2-2200421](file:///C:\Data\3GPP\Extracts\R2-2200421%20Consideration%20on%20RAN2%20impacts%20of%20Msg3%20repetition.docx) Consideration on RAN2 impacts of Msg3 repetition CATT discussion Rel-17 NR\_cov\_enh-Core

[R2-2200603](file:///C:\Data\3GPP\Extracts\R2-2200603%20Remaining%20issues%20on%20Msg3%20repetition%20in%20CE.docx) Remaining issues on Msg3 repetition in CE ZTE Corporation, Sanechips discussion Rel-17 NR\_cov\_enh-Core

[R2-2201177](file:///C:\Data\3GPP\Extracts\R2-2201177%20Further%20Discussion%20on%20RAN2%20Impacts%20of%20Msg3%20Repetition.docx) Further Discussion on RAN2 Impacts of Msg3 Repetition vivo discussion Rel-17 NR\_cov\_enh

[R2-2201426](file:///C:\Data\3GPP\Extracts\R2-2201426%20Remaining%20issues%20for%20supporting%20Msg3%20repetition.docx) Remaining issues for supporting Msg3 repetition LG Electronics Inc. discussion Rel-17 NR\_cov\_enh-Core

[R2-2201590](file:///C:\Data\3GPP\Extracts\R2-2201590%20RAN2%20aspects%20for%20Coverage%20Enhancement.docx) RAN2 aspects for Coverage Enhancement Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_cov\_enh-Core

[R2-2201598](file:///C:\Data\3GPP\Extracts\R2-2201598%20On%20msg3%20repetitions.docx) On Type A PUSCH repetitions for Msg3 Ericsson discussion Rel-17 NR\_cov\_enh

[R2-2201617](file:///C:\Data\3GPP\Extracts\R2-2201617%20Remaining%20issues%20for%20CE.docx) Remaining issues on RAN2 support of Msg3 PUSCH repetition Huawei, HiSilicon discussion Rel-17 NR\_cov\_enh-Core

## Summary

Agreed CRs

TBD

Approved LSs out

TBD

[POST116bis-e] Email discussions

TBD