3GPP TSG-RAN WG2 Meeting #125bis R2-2403733

Changsha, China, Apr 15th – 19th, 2024

**Agenda item: 9.3**

**Source: Session Chair (ZTE Corporation)**

**Title: Report from Break-out session on NR-NTN and IoT-NTN**

**Document for: Approval**

Organizational

1. All organization emails and notes will be shared over the following email discussion throughout the meeting:
* [AT125bis][300] Organizational – NR-NTN and IoT-NTN session

Scope:

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

Schedule/Plan

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Main room** | **Brk 1 room** | **Brk 2 room** | **Brk 3 room** |
| **Monday April 15th**  |
| 09:00 – 10:30 | [**1], [2], [3],** **[7.0] R18 common (Diana)****[7.0.1][7.0.2]****[7.0.3] ASN.1 Review common** **[7.0.5]****-----****Break out of ASN.1 Review****[7.0.4]** **@NR151617 UP (Diana)** | Breakout to start after common session including ASN.1 review---**MUSIM (Erlin) (if ASN.1 common session ends early)**7.17.17.17.2 | Breakout to start after common session ASN.1 Review:---**NR18 Positioning (Nathan)**[7.2.1] RIL and open issue lists[7.2.4] LPP corrections (as time permits) |  |
| 11:00 – 13:00 |
| 14:30 – 16:30 | **NR18 URLLC (Diana)****NR18 Network Energy Saving (Diana)** | **@14:30-15:30 Rel-18 MUSIM (Erlin)**7.17.2 (cont.)**@15:30 NR18 MIMO evo** 7.20.17.20.27.20.3 IDC (Yi) (email discussion only) NCR(Sasha) (email discussion only)  | **NRLTE1516 V2X/SL (Kyeongin)****NR17 SL (Kyeongin)****NR18 SL (if time allows)**  |
| 17:00 – 19:00 | **Rel-18 UAV (1hr)****NR18 TEI (Diana)****SDT, including MT-SDT and related TEI18** | **NR18 fCovEnh (Eswar)****7.21.1 Organizational****7.21.2 CP**- Aim to treat all CP tdocs and RILs**7.21.3 UP**- RO mask issue- Open as many UP docs as possible and determine if any offline(s) are needed until the CB session**NR18 Mobile IAB (Johan)** | **NR18 SL (Kyeongin)**  |  |
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| **Tuesday April 16th**  |
| 08:30 – 10:30 | **NR18 feMob (Johan)** | **NR18 eQoE (Dawid)**7.14.1: LSin, RIL resolutions and rapp CR endorsement7.14.2: RIL issues7.14.3: Other corrections**@09:00 NR18 MBS (Dawid):**7.11.1: RIL resolutions and rapp CR endorsement7.11.2: High priority ToDo RILs7.11.3: Other corrections**TEI18 MBS:**7.24.2.2: MBS with eDRX/MICO, MBS and (e)RedCap**If time allows:****NR18 MBS:**7.11.2: Low priority ToDo RILs and non-RIL issues | **NR18 SL Relay (Nathan)**As much as possible of:[7.9.3] RRC (from open issues list/email report)[7.9.4] SRAP[7.9.6] RLC/PDCP[7.9.7] UE capabilities[7.9.8] Idle mode[7.9.2] Stage 2 (if time) |  |
| 11:00 – 13:00 | **NR18 feMob con’t (Johan)****@12:00 NR18 XR (Diana)** | **NR18 eRedCap (Mattias)**[7.19.1][7.19.2][7.19.3] | **NRLTE1516 Pos (Nathan)**[5.3]**NR17 Positioning and SL Relay (Nathan)**[6.4] [6.2]**NR18 Pos (Nathan)**[7.2.1] LSs[7.2.4] (continued from Monday if not sent offline)[7.2.3] SLPP corrections (as time permits) |
|  14:30 -16:30 | **NR18 XR (Diana)** | **R18 NTN IoT (Sergio)**[7.6.1][7.6.2][7.6.3][7.6.4][7.6.5] | **NR18 Pos (Nathan)**[7.2.3] SLPP corrections (continued from morning)[7.2.5] RRC corrections[7.2.6] MAC corrections[7.2.7] UE capabilities (as time permits)[7.2.2] Stage 2 (as time permits) |  |
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| 17:00– 19:00 | **Rel-19 Ambient IoT [2] (Diana)** | **NR18 NR NTN enh (Sergio)** [7.7.1][7.7.2][7.7.3][7.7.4][7.7.5] | **EUTRA&NR151617 (Mattias)**As far as possible with:[6.1.3.2] <- Note starting with this AI to treat intraband EN-DC early.[4.1][4.1.1][5.1.1][5.1.1.1][5.1.3.1][5.1.3.2][6.1][6.1.1][6.1.3.1] |  |
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| **Wednesday April 17th**  |
| 08:30 – 10:30 | **NR19 Network Energy Saving [1] (Kyeongin)** | **R18 NTN IoT CB (Sergio)**- TBD**R19 IoT-NTN [0.5] (Sergio)**[8.9.1][8.9.2][8.9.3] | **NR18 SONMDT (Mattias)**[7.13.1][7.13.2][7.13.3]**NR19 SONMDT [0.5] (Mattias)**[8.10.1][8.10.2][8.10.4] |  |
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| 11:00 – 13:00 | **NR18 Other Diana** | **NR19 XR [1] (Dawid)** | **EUTRA&NR151617 (Mattias)**Continue from Tuesday maintenance session. |  |
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| 14:30 – 16:30 | **AI/ML Mobility [1.5] (Diana)** | **@14:30-15:15 Rel-18 MUSIM /MIMO CBs**Details TBD after Monday sessions**@15:15-16:30 Rel-19 LP-WUS (Erlin)**8.4.18.4.28.4.3 | **NR18 Pos (Nathan)**Remaining agenda items after Tuesday sessions**TEI/POS (Nathan)**Positioning and relay documents from:[7.24.2.2] TEI RAN2[7.24.1] TEI other groups[7.25.3] Other |  |
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| 17:00 – 19:00 | **AI/ML PHY [1] (Diana)** | **NR19 feMob [1] (Kyeongin)** | **Positioning or SL offlines for Rel-18**  |  |
| **Thursday April 18th**  |
| 08:30 – 10:30 | **CB Eswar [8:30 – 9:30]****CB Diana Pani XR/NES** | **R18 NR/IoT NTN CB (Sergio)**- TBD | CB KyeonginComebacks SL |  |
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| 11:00 – 13:00 | **Rel-19 Ambient IoT [2] (Diana)** | **Rel-19 NTN NR [1] (Sergio)**[8.8.1][8.8.2][8.8.4][8.8.5][8.8.6] | CB Dawid:- QoE - MBS - MBS TEI18 |  |
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| 14:30 – 16:30 | **NR18 Other (Diana)****TEI18** | CB Johan- mIAB- feMob | CB Nathan |  |
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| 17:00 – 19:00 | **CB Diana****[R18 NES]****[R18 UAV]****18:00-19:00 AI/ML Mobilitly (Diana)** |  TBD Kyeongin/Johan/Erlin? | CB Nathan |  |
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| **Friday April 19th**  |
| 08:30 – 10:30 | CB Diana ASN.1 Review common session TEI 18 CBsNR Others CBs | CB Erlin/Kyeongin TDB | CB Mattias |  |
| 11:00 – 13:00 | CB Diana | CB Sergio TBD | CB Nathan |
| 14:30 – 16:00 |  |  |  |
| 16:00 – 17:00 |  |  |  |  |

List and details of [AT125bis] offline discussions

NOTE: No offline email discussions will be kicked off before Monday Apr 15th, 09:00 local time

* [AT125bis][301][IoT NTN Enh] Preliminary RILs checking (Huawei)

Scope: Allow checking the PropAgree and PropReject RILs in [R2-2403221](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403221%20CR%2036.321%20R18%20IoT%20NTN.docx), if needed, before the online discussion. No technical discussion is expected to happen via email: disagreeing companies are invited to discuss F2F with the WI RRC rapporteur before the online session.

Intended outcome: Updated RILs list (if needed)

Deadline for rapporteur's summary in R2-2403761: Tuesday 2024-04-16 13:00

* [AT125bis][302][NR NTN Enh] Preliminary RILs checking (Ericsson)

Scope: Allow checking the PropAgree and PropReject RILs in [R2-2403633](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403633%20-%20Rapporteur%20input%20R18%20NR%20NTN%20RRC%20RIL.docx), if needed, before the online discussion. No technical discussion is expected to happen via email: disagreeing companies are invited to discuss F2F with the WI RRC rapporteur before the online session.

Intended outcome: Updated RILs list (if needed)

Deadline for rapporteur's summary in R2-2403762: Tuesday 2024-04-16 13:00

## 7.6 IoT NTN enhancements

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

Time budget: 0 TU

Tdoc Limitation: 3 tdocs

### 7.6.1 Organizational

LSs, rapporteur inputs and other organizational documents.

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

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

Incoming LSs

[R2-2402120](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402120_R1-2401824.docx) LS on Rel-18 RAN1 UE features list for LTE after RAN1#116 (R1-2401824; contact: NTT DOCOMO, AT&T) RAN1 LS in Rel-18 IoT\_NTN\_enh To:RAN2 Cc:RAN4

[R2-2402143](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402143_S2-2403851.docx) Reply LS on UE Location Information for NB-IoT NTN (S2-2403851; contact: Qualcomm) SA2 LS in Rel-18 IoT\_NTN\_enh To:RAN2, CT1, RAN3 Cc:SA1, SA3-LI

[R2-2402187](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402187%20UE%20Location%20Information%20for%20NB-IoT%20NTN.doc) Discussion on SA2 and CT1 reply LS on UE Location Information for NB-IoT NTN OPPO discussion Rel-18 IoT\_NTN\_enh-Core

RAN2 agree that it is useful for MME to further signal the coarse location information received from the UE in NAS back to eNB. RAN2 can reply to SA2 with this.

[R2-2402771](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402771%20Discussion%20on%20the%20need%20for%20eNB%20to%20get%20UE%20location%20information%20from%20MME.docx) Discussion on the need for eNB to get UE location information from MME Huawei, HiSilicon discussion Rel-18 IoT\_NTN\_enh-Core

There is no need for the MME to signal back the UE’s coarse location to eNB, and for the eNB to report any updated ULI to the MME.

[R2-2402888](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402888_Discussion%20on%20LS.doc) Discussion on LS about UE Location Information for NB-IoT NTN Apple discussion Rel-18 IoT\_NTN\_enh-Core

Proposal: Send a response LS to SA2 that MME does not need to signal the coarse location information to eNB.

[R2-2402813](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402813%20NB-IoT%20UE%20location.doc) Discussion on reply LS on UE Location Information for NB-IoT NTN Qualcomm Incorporated discussion Rel-18 IoT\_NTN\_enh-Core

Proposal 1 Send LS reply that it is useful for MME to further signal the coarse location information received from the UE in NAS back to eNB. Draft LS reply is provided in [2].

[R2-2402814](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402814%20Draft%20LS%20reply%20UE%20location.docx) [Draft] Reply LS on UE Location Information for NB-IoT NTN Qualcomm Incorporated LS out Rel-18 IoT\_NTN\_enh-Core To:SA2, RAN3

Rapporteur inputs

[R2-2403210](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403210%20Corrections%20to%20IoT%20NTN.docx) Corrections to IOT NTN Huawei, HiSilicon CR Rel-18 36.331 18.1.0 5011 - F IoT\_NTN\_enh-Core Late

[R2-2403211](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2403211.zip) IOT NTN ASN1 RIL List Huawei, HiSilicon report Rel-18 IoT\_NTN\_enh-Core Late

* [AT125bis][301][IoT NTN Enh] Preliminary RILs checking (Huawei)

Scope: Allow checking the PropAgree and PropReject RILs in [R2-2403221](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403221%20CR%2036.321%20R18%20IoT%20NTN.docx), if needed, before the online discussion. No technical discussion is expected to happen via email: disagreeing companies are invited to discuss F2F with the WI RRC rapporteur before the online session.

Intended outcome: Updated RILs list (if needed)

Deadline for rapporteur's summary in R2-2403761: Tuesday 2024-04-16 13:00

R2-2403761 Updated IOT NTN ASN1 RIL List Huawei, HiSilicon report Rel-18 IoT\_NTN\_enh-Core

[R2-2403630](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403630%20-%20R18%20IoT%20NTN%20stage%202%20remaining%20issues.docx) R18 IoT NTN stage 2 remaining issues Ericsson discussion Rel-18 IoT\_NTN\_enh-Core

Proposal 1 The behaviour at failed GNSS acquisition is not further discussed.

Proposal 2 The behaviour for autonomous GNSS acquisition in C-DRX inactive time is not further discussed.

Proposal 3 Triggering of GNSS remaining validity duration report after autonomous GNSS acquisition in C-DRX inactive time is not further discussed.

Proposal 4 There is no need to update Feeder link and Service link definitions.

Proposal 5 First time Kmac is introduced, it is explained to be the RRC parameter k-Mac, and only Kmac is used in stage 2.

Proposal 6 Figure 23.21.2.1-1 is updated as above.

Proposal 7 In 36.300 23.21.4.3 Measurements, consider adding this (same as in NR NTN): “The time-based measurement initiation may be applicable for the feeder link switchover case for cell (re)selection.”

### 7.6.2 Stage 2 corrections

R2-2402772 Correction to Stage 2 on IoT NTN Huawei, HiSilicon CR Rel-18 36.300 18.1.0 1400 - F IoT\_NTN\_enh-Core

[R2-2403480](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403480%20Further%20discussion%20on%20stage-2%20open%20issues%20for%20IoT%20NTN.docx) Further discussion on stage-2 open issues for IoT NTN Nokia, Nokia Shanghai Bell discussion Rel-18 IoT\_NTN\_enh-Core

Proposal 1: The GNSS Measurement Command MAC Control Element can indicate whether the UE shall move to RRC Idle or can stay RRC Connected if the GNSS measurement fails during the triggered GNSS measurement gap.

Proposal 1a: For GNSS measurement triggered by the network, the UE shall move directly to RRC idle mode after the end of the GNSS measurement gap if the UE failed to re-acquire the GNSS position, independently of the GNSS position status.

Proposal 2: For autonomous GNSS acquisition, if the GNSS measurement fails the UE always moves to RRC Idle upon the end of autonomous GNSS measurement timer, except the measurement is triggered autonomously by the UE during C-DRX inactive time.

Proposal 3: For autonomous GNSS acquisition in C-DRX inactive time, the UE shall move to RRC idle mode if either of below conditions is met:

1) the GNSS position is outdated and uplink transmission extension is not active, or

2) the UL transmission extension period is expired.

Proposal 4: UE implementation can determine whether to report the remaining GNSS validity duration based on the presence of ‘gnss-PositionFixDurationReporting-r18’ in SIB2.

Proposal 5: RAN2 can discuss whether the condition based on ‘gnss-PositionFixDurationReporting-r18’ to report the remaining GNSS validity duration shall be captured in specification.

[R2-2402213](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402213%20Discussion%20on%20Autonomous%20GNSS%20Fix%20in%20C-DRX%20Inactive%20Time.docx) Discussion on Autonomous GNSS Fix in C-DRX Inactive Time vivo discussion Rel-18 IoT\_NTN\_enh-Core

Proposal 1: RAN2 confirms UE will trigger GNSS remaining validity duration report after autonomous GNSS acquisition in C-DRX inactive time when the UE is communicating in a network not supporting releases later than Release 17. No spec change is needed.

Proposal 2: It is up to network implementation to release a UE before the time point that the network assumes UE’s GNSS remaining validity duration expiry.

[R2-2402373](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402373_Open_Issues_wrt_GNSS_Operation.docx) Open issues with regards to GNSS operation PANASONIC R&D Center Germany discussion

Proposal 1: It shall be up to the UE how it defines GNSS validity duration and up to the network how many attempts towards GNSS acquisition it triggers prior to the expiration of the GNSS validity duration. So the answer to the question asked is NO. Text of clause 23.21.2.2 in TS 36.300 V18.1.0 needs to be adjusted correspondingly.

Proposal 2: Adjust existing definition in TS 36.300 V18.1.0, clause 23.21.2.2, in a way that applying GNSS acquisition trials do not function as GNSS validity duration extensions.

Proposal 3: Amend the existing specification TS 36.300 V18.1.0, clause 23.21.2.2, in a way that the rule making up the boxed question above is integrated.

### 7.6.3 RRC Corrections

[V510] (Marked PropAgree)

[R2-2402214](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402214_CR5002_36331%20%5BV510%5D%20Correction%20on%20GNSS%20Measurement%20Failure.docx) [V510] Correction on GNSS Measurement Failure vivo CR Rel-18 36.331 18.1.0 5002 - F IoT\_NTN\_enh-Core

[K001] (Marked PropAgree)

[R2-2402584](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402584%20%5BK001%5D%20Discussion%20on%20T317%20expiry%20during%20GNSS%20measurement.docx) [K001] Discussion on T317 expiry during GNSS measurement ASUSTeK discussion Rel-18 36.331 IoT\_NTN\_enh-Core

Proposal 1: [K001] Consider T317 expiry upon receiving indication that GNSS becomes valid if timer T317 expires during GNSS measurement. Adopt the TP as above.

[C651] (Marked ToDo)

[C652] (Marked PropReject)

[C653] (Marked PropAgree)

[C654] (Marked PropAgree)

[R2-2402913](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402913%20%5BC651%5D%5BC652%5D%5BC653%5D%5BC654%5D%20Corrections%20on%20Event%20D1%2C%20Event%20D2%20and%20condEvent%20D2.docx) [C651][C652][C653][C654] Corrections on Event D1, Event D2 and condEvent D2 CATT discussion

Proposal 1 [C651]: Support the configuration of reportOnLeave for Event D1 and Event D2 in ReportConfigEUTRA and specify the corresponding procedure.

Proposal 2 [C652]: Clarify in the Spec that when hysteresisLocation is configured UE shall ignore hysteresis.

Proposal 3 [C653]: E-UTRAN does not configure useAllowedCellList for Event D1 and Event D2. Clarify this in the field description.

Proposal 4 [C654]: Remove the field cellForWhichToTriggerD2 in condEvent D2 and related descriptions.

Proposal 5: Adopt the TP in Annex A.

[H004] (Marked ToDo)

[R2-2403491](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403491%20%5BH004%5D%20Addition%20of%20polarization%20parameters.docx) [H004] Addition of polarization parameters Huawei, HiSilicon discussion Rel-18 IoT\_NTN\_enh-Core

Proposal 1: Add polarization information to measObjectEUTRA and SIB33.

Proposal 2: Adopt the TP in the Annex.

[S066] (Marked PropAgree)

[S067] (Marked ToDo)

[S068] (Marked ToDo)

[R2-2403335](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403335%20Various%20RRC%20corrections%20for%20IoT%20NTN%20including%20%5BS066%5D%5BS067%5D%5BS068%5D.docx) Various RRC connection for IoT NTN including [S066][S067][S068] Samsung discussion Rel-18 IoT\_NTN\_enh-Core

Proposal 1: Agree [S066] – remove extension field “...” from NeighSatelliteInfo.

Proposal 2: [067] is agreed – T390 is stopped upon RRC re-establishment initiation.

Proposal 3: [068] is agreed – T390 is stopped upon starting handover.

[X041] (Marked ToDo)

[X042] (Marked ToDo)

[R2-2403717](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403717%20%5BX041%5D%5BX042%5D%20Correction%20on%20GNSS%20operation%20enhancement.doc) [X041][X042] Correction on GNSS operation enhancement Beijing Xiaomi Mobile Software discussion Rel-18

[X041] revise the wording “GNSS becomes valid” to “GNSS position is fixed” or “GNSS position is updated”.

[X042] Clarify in field description of gnss-AutonomousEnabled that it is only applicable to autonomous GNSS measurement during autonomous gap. And introduce capability signalling to indicate the support of autonomous GNSS measurement during inactive period of C-DRX.

[E801] (Marked ToDo)

[R2-2403723](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403723%20-%20%5BE801%5D%20Satellite%20assistance%20information%20for%20event%20D2.docx) [E801] Satellite assistance information for event D2 Ericsson discussion Rel-18 IoT\_NTN\_enh-Core

Proposal 1 RAN2 to discuss whether event D2 is cell or satellite specific.

Proposal 2 For eventD2/condEventD2 satellite assistance information is included in ReportConfig, outside the event type. This solution applies to both NR and IoT NTN.

Proposal 3 Adopt the Text Proposal in Section 3 as a baseline.

[N021] (Marked ToDo)

[R2-2403481](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403481%20Remaining%20issue%20on%20gap%20length%20for%20autonomous%20GNSS%20measurement.docx) Remaining issue on gap length for autonomous GNSS measurement Nokia, Nokia Shanghai Bell discussion Rel-18 IoT\_NTN\_enh-Core

Proposal 1: eNB can indicate the supported GNSS measurement gap length(s) for autonomous GNSS measurement.

Proposal 2: The supported GNSS measurement gap length(s) can be indicated by NW in UE-specific RRC message (e.g., RRCConnectionSetup).

Proposal 3: UE shall report the GNSS position fix duration among the gap length values supported by network.

[R2-2402185](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402185%20extending%20scenarios%20for%20t-service.doc) Extending scenarios for t-service OPPO discussion Rel-18 IoT\_NTN\_enh-Core

Proposal 1 T-service is also broadcasted for earth moving cells.

Proposal 2 Adopt the following TP for t-service’s field description.

[R2-2402203](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402203%20-%20Correction%20to%2036.331%20for%20IoT%20NTN.doc) Correction to 36.331 for IoT NTN OPPO CR Rel-18 36.331 18.1.0 4999 - F IoT\_NTN\_enh-Core

[R2-2402383](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402383%20RRC%20corrections%20on%20T390%20and%20MO%20for%20IoT%20NTN.docx) RRC corrections on T390 and MO for IoT NTN ZTE Corporation, Sanechips CR Rel-18 36.331 18.1.0 5001 - F IoT\_NTN\_enh-Core

GNSS operation enhancements

[R2-2402773](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402773%20Remaining%20issues%20on%20GNSS%20operation%20enhancements.docx) Remaining issues on GNSS operation enhancements Huawei, HiSilicon discussion Rel-18 IoT\_NTN\_enh-Core

* Value reset of T390

Proposal 1: RAN2 to agree Alt-1a and send a reply LS to RAN1.

* Clarification of UE behaviours related to GNSS acquisition

Proposal 2a: For the network triggered GNSS measurement, upon the measurement failure, the UE doesn’t enter RRC\_IDLE in case the GNSS position is valid or the uplink transmission extension is active. (No spec change)

Proposal 2b: RAN2 to confirm once GNSS measurement fails, regardless of which kind of GNSS measurement it is, UE will go to RRC IDLE if the GNSS position is outdated and uplink transmission extension is not active. (No spec change)

Proposal 2c: RAN2 to confirm that upon outdated GNSS position the UE doesn’t enter RRC\_IDLE if GNSS acquisition is being performed, regardless of which kind of GNSS acquisition is ongoing.

* GNSS remaining validity duration report to legacy eNB

Proposal 3: No special handling is needed regarding GNSS remaining validity duration report to the legacy eNB.

* Impact on TA report

Proposal 4: Before sending the TA report triggered during the GNSS measurement gap, the triggering condition should be re-evaluated after the GNSS measurement gap.

[R2-2402186](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402186%20GNSS%20operation.doc) Discussion on GNSS operation for IoT NTN OPPO discussion Rel-18 IoT\_NTN\_enh-Core

[R2-2402705](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402705%20Discussion%20on%20IOT%20NTN%20GNSS%20operation%20enhancement%20related%20open%20issues.doc) Discussion on IOT NTN GNSS operation enhancement related open issues Xiaomi discussion Rel-18 IoT\_NTN\_enh-Core

[R2-2403081](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403081%20Remaining%20issues%20on%20the%20GNSS%20Opeartion%20Enhancements.docx) Remaining Issues on the GNSS Operation Enhancements Google Inc. discussion Rel-18

On satellite assistance information

[R2-2402908](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402908%20On%20the%20necessity%20of%20satellite%20assistance%20information%20for%20measurement%20in%20IoT%20NTN.docx) On the necessity of satellite assistance information for measurement in IoT NTN CATT discussion

### 7.6.4 MAC corrections

R2-2403220 Discussion on remaining MAC issues for Rel-18 IoT NTN MediaTek Inc. discussion IoT\_NTN\_enh-Core

Proposal 1: When timeAlignmentTimer is not infinity, T390 is reset with length equal to configured timeAlignmentTimer value when receiving the UL Transmission Extension Update MAC CE.

Proposal 2: For single TB scheduled by DCI, for a HARQ process configured as HARQ feedback disabled by RRC and further reversed to HARQ feedback enabled by DCI, NB-IoT UE behaviour on DRX follows the case when HARQ feedback is disabled.

Proposal 3: For multiple TBs scheduled by DCI, for a HARQ process configured as HARQ feedback disabled by RRC and further reversed to HARQ feedback enabled by DCI, NB-IoT UE behaviour on DRX follows the case when HARQ feedback is enabled.

Proposal 4: For NB-IoT, when multiple TBs are scheduled by PDCCH for the non-interleaved case or for the interleaved case when HARQ-ACK bundling is not configured, RAN2 does not change the HARQ RTT timer.

[R2-2403482](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403482%20On%20MAC%20open%20issues%20for%20IoT%20NTN.docx) On MAC open issues for IoT NTN Nokia, Nokia Shanghai Bell discussion Rel-18 IoT\_NTN\_enh-Core

Proposal 1: When UL Transmission Extension Update MAC CE is received, the T390 restarts with a timer value equal to the configured TAT time length.

Proposal 2: If UL Transmission Extension is enabled, upon original GNSS validity duration expires the T390 starts with a timer value equal to the configured TAT time length.

Proposal 3: For single TB scheduling case in NB-IoT: for a HARQ process configured as HARQ feedback disabled by RRC and further reversed to HARQ feedback enabled by DCI, UE behavior on DRX follows the case when HARQ feedback is disabled.

Proposal 4: For multiple TB scheduling case in NB-IoT: for HARQ process(es) configured as HARQ feedback disabled by RRC and further reversed to HARQ feedback enabled by DCI, UE behavior on DRX follows the case when HARQ feedback is enabled.

[R2-2402204](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402204%20-%20Discussion%20on%20remaining%20issue%20on%20GNSS%20validity%20duration%20reporting.doc) Discussion on remaining issue on GNSS validity duration reporting OPPO discussion Rel-18 IoT\_NTN\_enh-Core

Proposal 1 If a GNSS Validity Duration Report MAC MAC CE is included in a MAC PDU for Msg3 transmission, all triggered GNSS validity duration reports shall be cancelled when the Random Access procedure is successfully completed.

[R2-2402215](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402215%20Discussion%20on%20MAC%20Remaining%20Issues.docx) Discussion on MAC Remaining Issues vivo discussion Rel-18 IoT\_NTN\_enh-Core

[R2-2402704](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402704%20Discussion%20on%20issue%20related%20to%20UL%20Transmission%20Extension%20Update%20MAC%20Control%20Element.doc) Discussion on issue related to UL Transmission Extension Update MAC Control Element Xiaomi discussion Rel-18 IoT\_NTN\_enh-Core

[R2-2403631](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403631%20-%20R18%20IoT%20NTN%20GNSS%20extension.docx) R18 IoT NTN GNSS extension Ericsson discussion Rel-18 IoT\_NTN\_enh-Core

[R2-2403221](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403221%20CR%2036.321%20R18%20IoT%20NTN.docx) Corrections on UE behaviour on DRX for IoT NTN MediaTek CR Rel-18 36.321 18.1.0 1585 - F IoT\_NTN\_enh-Core

Withdrawn

R2-2402384 MAC corrections to IoT NTN ZTE Corporation, Sanechips CR Rel-18 36.321 18.1.0 1584 - F IoT\_NTN\_enh-Core Withdrawn

### 7.6.5 Corrections to other specs

Corrections to other affected specs, including corrections on UE capabilities

Corrections on issues affecting multiple Stage 3 specs (e.g. RRC and MAC) can also be submitted here

R2-2403152 Miscellaneous correction for IoT-NTN Nokia CR Rel-18 36.304 18.1.0 0873 - F IoT\_NTN\_enh-Core

[R2-2402385](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402385%2036.304_Corrections%20to%20idle%20mode%20measurement%20for%20IoT%20NTN.docx) Corrections to idle mode measurement for IoT NTN ZTE Corporation, Sanechips CR Rel-18 36.304 18.1.0 0874 - F IoT\_NTN\_enh-Core

[R2-2402915](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402915%20Corrections%20on%20Location-based%20Measurement%20Initiation%20in%20TS36.304.docx) Corrections on Location-based Measurement Initiation in TS 36.304 CATT discussion

Proposal 1: For the location-based measurement initiation procedure, change the conditions “If the distance between the UE and the serving cell reference location is shorter than distanceThresh, the UE may choose not to perform intra-frequency measurements” and “Else, the UE shall perform intra-frequency measurements” into a lower-level condition under the loop “If referenceLocation is set to fixedReferenceLocation and if the UE supports location-based measurement initiation for fixed cell, referenceLocation is used as serving cell reference location.”.

Proposal 2: Change “fixed cell” and “moving cell” to “quasi-Earth fixed cell” and “Earth moving cell” respectively in 36.304 to align with TS36.331 and TS36.306.

Proposal 3: Support location-based measurement initiation for earth fixed cell in TS 36.304 (in addition to quasi-earth fixed cell).

Proposal 4: Add definitions for quasi-Earth fixed cell, Earth fixed cell and Earth moving cell in TS 36.304.

Proposal 5: Adopt the TP in Annex for Proposal 1-4.

[R2-2403336](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403336%20On%20procedures%20and%20capabilities%20for%20GNSS%20position%20fix%20during%20C-DRX.docx) On procedures and capabilities related to GNSS fix during C-DRX Samsung discussion Rel-18 IoT\_NTN\_enh-Core

Proposal 1: Clarify that UE reports GNSS Validity Duration Report MAC CE after successful GNSS position fix during C-DRX.

Proposal 2: “GNSS measurement during inactive” time is changed to a signalled capability.

Proposal 3: Agree text proposal to 36.306 in Appendix A.

[R2-2403614](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403614%20Corrections%20on%20uplink%20transmission%20extension.docx) Corrections on uplink transmission extension Samsung discussion Rel-18 IoT\_NTN\_enh-Core

Proposal 1: Feature should be named “GNSS invalidity duration”.

Proposal 2: UE supports both procedures for timeAlignmentTimer infinity and non-infinity if ntn-UplinkTxExtension is supported.

Proposal 3: Clarify that UE shall support receiving Uplink Transmission Extension Update MAC CE if ntn-UplinkTxExtension is supported.

Proposal 4: Agree text 36.306 proposal.

[R2-2402812](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402812%20GNSS%20extension.doc) Remaining issues on out-of-date GNSS fix Qualcomm Incorporated discussion Rel-18 IoT\_NTN\_enh-Core

## 7.7 NR NTN enhancements

(NR\_NTN\_enh -Core; leading WG: RAN1; REL-18; WID: RP-232669)

Time budget: 0 TU

Tdoc Limitation: 3 tdocs

### 7.7.1 Organizational

LSs, rapporteur inputs and other organizational documents.

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

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

Incoming LSs

R2-2402114 Reply LS on Satellite Switch with Resync (R1-2401748; contact: Apple) RAN1 LS in Rel-18 NR\_NTN\_enh-Core To:RAN2 Cc:RAN4

[R2-2402129](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402129_R4-2403493.docx) Reply LS on RAN2 agreements for satellite switch with resync (R4-2403493; contact: Apple) RAN4 LS in Rel-18 NR\_NTN\_enh-Core To:RAN2 Cc:RAN1

[R2-2402542](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402542%20Discussion%20on%20reply%20LS%20from%20RAN1%20and%20RAN4%20for%20unchanged%20PCI.docx) Discussion on reply LS from RAN1 and RAN4 for unchanged PCI CMCC discussion Rel-18 NR\_NTN\_enh-Core

Proposal 1: No additional specification work for RAN2 is needed to support UE to perform the downlink synchronization with the target satellite and keep the communication with the source satellite of the same serving cell simultaneously in soft satellite switch based on the reply LS from RAN1 and RAN4.

Rapporteur inputs

[R2-2403632](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403632%20-%2038331_CR4761_%28Rel-18%29%20-%20Rapporteur%20input%20R18%20NR%20NTN%20RRC.docx) Rapporteur input R18 NR NTN RRC Ericsson CR Rel-18 38.331 18.1.0 4761 - F NR\_NTN\_enh-Core Late

[R2-2403633](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403633%20-%20Rapporteur%20input%20R18%20NR%20NTN%20RRC%20RIL.docx) Rapporteur’s input R18 NR NTN RRC RILs Ericsson discussion Rel-18 NR\_NTN\_enh-Core Late

* [AT125bis][302][NR NTN Enh] Preliminary RILs checking (Ericsson)

Scope: Allow checking the PropAgree and PropReject RILs in [R2-2403633](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403633%20-%20Rapporteur%20input%20R18%20NR%20NTN%20RRC%20RIL.docx), if needed, before the online discussion. No technical discussion is expected to happen via email: disagreeing companies are invited to discuss F2F with the WI RRC rapporteur before the online session.

Intended outcome: Updated RILs list (if needed)

Deadline for rapporteur's summary in R2-2403762: Tuesday 2024-04-16 13:00

R2-2403762 Updated Rapporteur’s input R18 NR NTN RRC RILs Ericsson discussion Rel-18 NR\_NTN\_enh-Core

### 7.7.2 Stage 2 corrections

R2-2402798 Stage-2 corrections Samsung discussion Rel-18 NR\_NTN\_enh-Core

### 7.7.3 RRC corrections

Satellite switching with re-sync

* [K005][V500][V501] epochTime/ ntn-UlSyncValidityDuration clarification

[K005] (Marked ToDo)

[R2-2402585](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402585%20%5BK005%5D%20Discussion%20on%20epoch%20time%20for%20satellite%20switch.docx) [K005] Discussion on epoch time for satellite switch ASUSTeK discussion Rel-18 38.331 NR\_NTN\_enh-Core

[R2-2402188](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402188%20satellite%20switch%20with%20resync.doc) Discussion on soft switch unchanged PCI OPPO discussion Rel-18 NR\_NTN\_enh-Core

* Revised in R2-2403951 (to suggest changes based on the latest version of 38.331)

R2-2403951 Discussion on soft switch unchanged PCI OPPO discussion Rel-18 NR\_NTN\_enh-Core

[V500/V501] (Marked ToDo)

[R2-2402216](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402216%20%5BV500%5D%5BV501%5D%20Correction%20on%20NTN-Config%20in%20case%20of%20Satellite%20Switch.docx) [V500][V501] Correction on NTN-Config in case of Satellite Switch vivo discussion Rel-18 NR\_NTN\_enh-Core

* SSB-TimeOffset

[R2-2402189](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402189%20ssb-TimeOffset.doc) Discussion on ssb-TimeOffset OPPO discussion Rel-18 NR\_NTN\_enh-Core

[R2-2402218](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402218%20Further%20Discussion%20on%20ssb-TimerOffset.docx) Further Discussion on ssb-TimeOffset vivo discussion Rel-18 NR\_NTN\_enh-Core

[R2-2402831](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402831%20Discussion%20on%20the%20remaining%20issues%20for%20NR%20NTN.doc) Discussion on the remaining issues for NR NTN Xiaomi discussion

[R2-2402844](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402844%20Discussion%20on%20Remaining%20Open%20Issues%20for%20Unchanged%20PCI%20Mechanism.docx) Discussion on Remaining Open Issues for Unchanged PCI Mechanism CATT discussion

[R2-2403068](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403068%20Consideration%20on%20remaining%20issues%20on%20PCI%20unchanged.doc) Remaining issues on unchanged PCI ZTE Corporation, Sanechips discussion Rel-18 NR\_NTN\_enh-Core

[R2-2402335](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402335.docx) SMTC configuration of target satellite for satellite switch with re-sync NTU discussion Rel-18

* RACH-based

[H063] (Marked as PropReject)

[R2-2403192](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403192%20%5BH063%5D%20RACH-based%20satellite%20switching%20with%20re-sync.docx) [H063] RACH-based satellite switching with re-sync Huawei, HiSilicon, Nokia, Nokia Shanghai Bell discussion Rel-18 NR\_NTN\_enh-Core

Proposal 1: For satellite switching with re-sync, both RACH-less and RACH-based procedure are supported.

Proposal 2: Downselect from the options on RACH-based satellite switching with re-sync:

- Option 1: Network uses dedicated RRC signalling to configure whether RACH is performed during satellite switching with re-sync;

- Option 2: Network uses 1-bit in the broadcast signalling to configure whether RACH is performed during satellite switching with re-sync;

- Option 2b: On top of the 1-bit indication, network also indicates a maximum delay/time window for RACH attempts;

- Option 3: It is up to UE implementation to decide whether RACH is performed, and the RACH resources are configured by the network in SIB1 (as in legacy).

[R2-2402543](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402543%20%5BH063%5D%20Discussion%20on%20RACH-based%20solution%20for%20unchanged%20PCI.docx) [H063] Discussion on RACH-based solution for unchanged PCI CMCC discussion Rel-18 NR\_NTN\_enh-Core

Proposal 1: [H063] Support legacy CB RACH solution for unchanged PCI.

Proposal 2: Reuse the rachlessHandoverNTN-r18 and add some description to indicate whether UE supports RACH-less operation in unchanged PCI case.

Proposal 3: It is proposed to provide RA resource configuration (i.e. RACH-ConfigCommon, MsgA-ConfigCommon) of the incoming target satellite in the SatSwitchWithReSync optionally.

Proposal 4: Alliteratively, if the RA resource configuration of target satellite is absent, the RA resource configured in SIB1 for current satellite can be applied to the target satellite.

Proposal 5: If P1 is agreed, UE should apply the TA command of RAR/MsgB whether TAT is running or not to keep TA alignment between UE and network.

Proposal 6: Kindly suggest RAN2 to adopt the TP in the annex.

[R2-2402800](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402800%20RIL%20S486%2C%20V500%2C%20V501%2C%20H063.docx) RIL S486, V500, V501, H063 Samsung discussion Rel-18 NR\_NTN\_enh-Core

Proposal 3: RAN2 confirms for satellite switch with resync NW can send PDCCH order CFAR/CBRA as legacy trigger (i.e., DL/UL date arrives but TAT is expired).

Proposal 4: RAN2 discuss if NW can send PDCCH order CFRA for the purpose of resynchronization in satellite switch even there is no DL/UL data or TAT is still running (i.e., satellite switch with resync become a new trigger for PDCCH order CFRA).

[R2-2403301](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403301%20On%20RACH-based%20Satellite%20Switching%20with%20Resynchronization%20and%20Confirming%20Successful%20Switching.docx) On RACH-based Satellite Switching with Resynchronization and Confirming Successful Switching Nokia, Nokia Shanghai Bell discussion Rel-18 NR\_NTN\_enh-Core

[R2-2403635](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403635%20-%20Remaining%20issues%20for%20soft%20switch%20with%20unchanged%20PCI.docx) Remaining issues for soft switch with unchanged PCI Ericsson discussion Rel-18 NR\_NTN\_enh-Core

Moved here from 7.7.5

[R2-2402586](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402586%20Discussion%20on%20RACH-based%20satellite%20switch.docx) Discussion on RACH-based satellite switch ASUSTeK discussion Rel-18 38.321 NR\_NTN\_enh-Core

* Idle mode support

[N131] (Marked PropAgree)

[N132] (Marked PropReject)

[R2-2403302](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403302%20RRC%20Corrections%20and%20Proposed%20RIL%20%5BN131%5D%20and%20%5BN132%5D%20Resolutions%20for%20Rel-18%20NTN.docx) RRC Corrections and Proposed RIL [N131] and [N132] Resolutions for Rel-18 NTN Nokia discussion Rel-18 NR\_NTN\_enh-Core

* Measurement relaxation

[R2-2402217](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402217%20Remaining%20Issue%20on%20Measurement%20during%20Hard%20Satellite%20Switch.docx) Remaining Issue on Measurement during Hard Satellite Switch vivo discussion Rel-18 NR\_NTN\_enh-Core

SIB19 in TN

[O600] (Marked ToDo)

[R2-2402190](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402190%20TN%20broadcasting%20NTN%20info.doc) [O600] Discussion on TN cell broadcasting NTN info OPPO discussion Rel-18 NR\_NTN\_enh-Core

* Revised in R2-2403952 (to suggest changes based on the latest version of 38.331)

R2-2403952 [O600] Discussion on TN cell broadcasting NTN info OPPO discussion Rel-18

[R2-2403636](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403636%20-%20UE%20behaviour%20upon%20absence%20of%20EpochTime%20in%20TN%20cells.docx) UE behaviour upon absence of EpochTime in TN cells Ericsson discussion Rel-18 NR\_NTN\_enh-Core

(Cond)EventD2

[C650] (Marked Duplicate)

[C650] (Marked PropReject)

R2-2402850 [C650] [C651] Corrections on EventD2 and condEventD2 CATT discussion

[R2-2402882](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402882_NR%20NTN%20ReportConfig.doc) Correction on referenceLocation2 Apple discussion Rel-18 NR\_NTN\_enh-Core

[H115] (Marked PropReject)

[H116] (Marked Duplicate)

[R2-2403490](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403490%20RRC%20corrections%20on%20RILs%20%5BH115%5D%5BH116%5D.docx) RRC corrections on RILs [H115][H116] Huawei, HiSilicon discussion Rel-18 NR\_NTN\_enh-Core

VSAT UEs

[R2-2403634](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403634%20-%20Remaining%20issue%20on%20VSAT%20UEs.docx) Remaining issue on VSAT UEs Ericsson discussion Rel-18 NR\_NTN\_enh-Core

Other

[R2-2402867](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402867_Open%20issues%20on%20NR%20NTN%20enhancements_v0.doc) Open issues on NR NTN measurement enhancement Apple discussion Rel-18 NR\_NTN\_enh-Core

[R2-2403082](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403082%20Provision%20of%20the%20TN%20PLMN%20ID%20in%20an%20NTN%20Cell.docx) Provision of the TN PLMN ID in an NTN Cell Google Inc., Continental Automotive discussion Rel-18 R2-2400501

On support of Satellite Switch with Resync

[R2-2402799](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402799%207.7.3.docx) Discussion on LS replies for Satellite Switch with Resync Samsung discussion Rel-18 NR\_NTN\_enh-Core

[R2-2403193](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403193%20Discussion%20on%20satellite%20switch%20with%20re-sync.docx) Discussion on satellite switch with re-sync Huawei, HiSilicon discussion Rel-18 NR\_NTN\_enh-Core

Withdrawn

R2-2402263 SMTC configuration on satellite switch with re-sync NTU discussion Withdrawn

[R2-2402264](file:///C%3A%5CData%5C3GPP%5CRAN2%5CDocs%5CR2-2402264.zip) SMTC configuration on satellite switch with re-sync NTU discussion Withdrawn

### 7.7.4 MAC corrections

R2-2402774 Discussion on HARQ buffer flush during satellite switch with re-synchronization Huawei, HiSilicon discussion Rel-18 NR\_NTN\_enh-Core

[R2-2403637](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403637%20-%20TAT%20handling%20in%20RACH-less%20CHO.docx) TAT handling in RACH-less CHO Ericsson discussion Rel-18 NR\_NTN\_enh-Core

=> To be moved to 7.0.4

### 7.7.5 Corrections to other specs

Corrections to other affected specs, including corrections on UE capabilities

Corrections on issues affecting multiple Stage 3 specs (e.g. RRC and MAC) can also be submitted here

[R2-2403300](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403300%20On%20Scheduling%20Restrictions%20in%20Satellite%20Soft%20Switching%20with%20Resynchronization%20%E2%80%93%20RAN1%20and%20RAN4%20feedback.docx) On Scheduling Restrictions in Satellite Soft Switching with Resynchronization – RAN1 and RAN4 feedback Nokia discussion Rel-18 NR\_NTN\_enh-Core

Observation 1: The SSBs received from two satellites during soft-switching with resynchronization need to be spaced in time by at least 1 OFDM symbol at the UE’s receiver.

Observation 2: The UEs performing satellite soft-switching with resynchronization may be subject to scheduling restrictions.

Observation 3: The NW might have an issue to effectively schedule the UE during soft-switching period if the UE does not support parallelMeasurementWithoutRestriction and simultaneousRxDataSSB-DiffNumerology.

Observation 4: simultaneousRxDataSSB-DiffNumerology may not be fully relevant to soft-satellite switching with resynchronization, as serving cell is the same as the neighbour, so the same configuration (including the numerology) is used, for both SSB and PDSCH/PDCCH from any of these satellites.

Proposal 1: In case the UE supports softSatelliteSwitchResyncNTN-r18, the UE shall also support parallelMeasurementWithoutRestriction.

Observation 5: Service link propagation delay difference (PDD) can be used to measure the service link between the inbound and outbound satellite in satellite soft-switching with resynchronization.

Proposal 2: In case the UE supports softSatelliteSwitchResyncNTN-r18, the UE shall also support serviceLinkPropDelayDiffReporting-r17.

Proposal 3: Confirm with RAN4 that service link propagation delay difference helps in reducing the scheduling restriction duration during satellite soft-switching with resynchronization. RAN2 asks how early such measurements, calculations and reporting should be done.

Proposal 4: Adopt the 38.306 and 38.331 Text Proposals in the Annex A and B.

Moved here from 7.7.3

[R2-2402866](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402866_Clarification%20on%20UE%20operation%20during%20soft%20satellite%20switch%20with%20resync_v0.doc) Clarification on UE operation during soft satellite switch with resync Apple discussion Rel-18 NR\_NTN\_enh-Core

Proposal 1: If NW configures soft satellite switch with resync, network implementation should ensure the SSB reception time in UE side is not be overlapped and with at least 1 symbol difference.

Proposal 2: If UE supports soft satellite switch with resync, UE should support the simultaneous transmission/reception in source satellite and DL sync in target satellite during the switch period.

Proposal 3: Clarify that UE supporting soft satellite switch with resync also supports parallelMeasurementWithoutRestriction-r17; in the different SCS case, UE also supports multaneousRxDataSSB-DiffNumerology.

[R2-2403069](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403069%20Discussion%20on%20NTN%20FR2%20UE%20capability.doc) Discussion on NTN FR2 UE capability ZTE Corporation, Sanechips discussion Rel-18 NR\_NTN\_enh-Core

Proposal 1: Add the reference of FR2 band (i.e., Table 5.2.3-1 of TS38.101-5) for UE capability: uplink-TA-Reporting, uplinkPreCompensation,ue-specific-K-Offset and k1-RangeExtension.

Proposal 2: Update TS 38306 to allow indicate below UE capabilities for NTN FR2:

* SDT related: cg-SDT-r17, mt-CG-SDT-r18
* MBS related: maxDynamicSlotRepetitionForSPS-Multicast-r17, maxNumberG-CS-RNTI-r17, maxNumberG-RNTI-r17, multiPUCCH-HARQ-ACK-ForMulticastUnicast-r17, priorityIndicatorInDCI-Multicast-r17, priorityIndicatorInDCI-SPS-Multicast-r17, releaseSPS-MulticastWithCS-RNTI-r17, sps-MulticastMultiConfig-r17, re-LevelRateMatchingForMulticast-r17, twoHARQ-ACK-CodebookForUnicastAndMulticast-r17

Proposal 3: RAN2 discuss P1/P2 and agree on the corresponding CR in R2-2403070.

[R2-2403070](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403070%20Corrections%20to%2038306%20on%20NTN%20FR2%20UE%20capability.docx) CR to 38306 on NTN FR2 UE capability ZTE Corporation, Sanechips CR Rel-18 38.306 18.1.0 1074 - F NR\_NTN\_enh-Core

[R2-2402852](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402852%20Correction%20on%20Location-based%20Measurement%20Initiation%20for%20Earth%20Fix%20Cell%20in%20TS38.304.docx) Correction on Location-based Measurement Initiation for Earth Fixed Cell in TS 38.304 CATT discussion

Proposal 1: Add the support of location-based measurement initiation for Earth-fixed system in section 5.2.4.2, and add the definition of Earth-fixed system in section 3.1 in TS 38.304.

Proposal 2: Change “Quasi-Earth-fixed cell” and “Earth-moving cell” to “Quasi-Earth-fixed system” and “Earth-moving system” in section 3.1 in TS 38.304 for alignment between the definition and procedure.

Proposal 3: Adopt the TP in Annex.

## 8.8 NTN for NR Ph3

(NR\_NTN\_Ph3-Core; leading WG: RAN2; REL-19; WID: RP-240775

LTE\_TN\_NR\_NTN\_mob, leading WG: RAN2, Rel-19 WID: RP-240846)

Time budget: 1 TU

Tdoc Limitation: 3 tdocs

### 8.8.1 Organizational

LS, Rapporteur input, including workplan, etc.

[R2-2402357](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402357%20Work%20plan%20for%20NR_NTN_Ph3.docx) Work plan for Rel-19 NR\_NTN\_Ph3 CATT, Thales Work Plan Rel-19

[R2-2403638](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403638%20-%20NR%20NTN%20phase%203%20scope.docx) NR NTN phase 3 scope Ericsson discussion Rel-19 NR\_NTN\_Ph3-Core

### 8.8.2 Downlink coverage enhancements

Contributions should take into account corresponding progress in RAN1.

[R2-2402219](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402219%20RAN2%20Aspects%20For%20Downlink%20Coverage%20Enhancements.docx) RAN2 Aspects For Downlink Coverage Enhancements vivo discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2402547](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402547%20Downlink%20coverage%20enhancement%20for%20NR%20NTN.docx) Downlink coverage enhancement for NR NTN CMCC,CSPG discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2402702](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402702%20Discussion%20on%20downlink%20coverage%20enhancements%20for%20NR%20NTN.doc) Discussion on downlink coverage enhancements for NTN Xiaomi discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2402712](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402712%20Network%20energy%20saving%20for%20downlink%20coverage%20enhancement%20in%20NTN.docx) Network energy saving for downlink coverage enhancement in NTN Lenovo discussion Rel-19

[R2-2402805](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402805%208.8.2%20DL%20coverage%20v1.docx) Downlink Coverage Enhancement Samsung discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2402825](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402825%20Discussion%20on%20downlink%20coverage%20enhancements.docx) Discussion on downlink coverage enhancements Huawei, HiSilicon, Turkcell discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2402883](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402883_DL%20coverage%20enhancement.doc) DL coverage enhancement in NTN Apple discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2403034](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403034%20On%20DL%20Coverage%20Enhancements.docx) DL coverage enhancements Nokia, Nokia Shanghai Bell discussion NR\_NTN\_Ph3-Core

[R2-2403071](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403071%20Consideration%20on%20downlink%20coverage%20enhancements.doc) Consideration on downlink coverage enhancements ZTE Corporation, Sanechips discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2403276](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403276%20NR%20NTN%20DL%20Coverage%20enhancements%20discussion.docx) Discussion on RAN2 Aspects for Downlink Coverage Enhancements in NR NTN evolution THALES discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2403319](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403319%20%28R19%20NR%20NTN%20WI%20AI%208.8.2%29%20DL%20coverage.docx) Downlink coverage enhancement for NTN InterDigital discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2403649](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403649-Discussion_for_DL_coverage_enhancement.docx) Discussion for DL coverage enhancement Sharp discussion Rel-19 NR\_NTN\_Ph3-Core

### 8.8.3 Uplink Capacity Throughput Enhancement

No contributions are expected for this AI at this meeting.

### 8.8.4 Support of Broadcast service

Contributions should address the signaling of the intended service area of a broadcast service.

[R2-2402152](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402152_Signalling%20of%20indicating%20service%20area%20in%20NR%20NTN.doc) Signaling of indicating service area in NR NTN China Telecom discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2402199](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402199%20Discussion%20on%20providing%20MBS%20service%20area%20in%20NTN%20network.docx) Discussion on providing MBS service area in NTN network OPPO discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2402220](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402220%20Discussion%20on%20MBS%20Broadcast%20Provision%20in%20NTN.docx) Discussion on MBS Broadcast Provision in NTN vivo discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2402280](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402280%20Discussions%20on%20signaling%20of%20the%20intended%20service%20area%20of%20a%20broadcast%20service.doc) Discussions on signaling of the intended service area of a broadcast service Fujitsu discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2402284](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402284_discussion%20on%20support%20of%20broadcast%20service%20in%20NTN.docx) Discussion on the support of broadcast service in NTN ETRI discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2402355](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402355%20Discussion%20on%20support%20of%20broadcast%20service%20via%20NR%20NTN.docx) Discussion on support of broadcast service via NR NTN CATT, China Broadnet discussion Rel-19

[R2-2402544](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402544%20Discussion%20on%20MBS%20broadcast%20enhancements%20for%20NTN.docx) Discussion on MBS broadcast enhancements for NTN CMCC discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2402695](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402695%20Discussion%20on%20the%20support%20of%20broadcast%20service.docx) Discussion on the support of Broadcast service HONOR discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2402708](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402708.docx) Discussion on MBS service in NTN system CAICT discussion

[R2-2402713](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402713%20On%20support%20of%20MBS%20broadcast%20in%20NTN.docx) On support of MBS broadcast in NTN Lenovo discussion Rel-19

[R2-2402806](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402806%208.8.4%20Broadcast%20service%20area%20v2.docx) MBS Broadcast Service Area in NTN Samsung discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2402807](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402807%20MBS%20broadcast%20in%20NTN.docx) MBS broadcast service area information Qualcomm Incorporated discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2402826](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402826%20Discussion%20on%20MBS%20over%20NTN.docx) Discussion on MBS over NTN Huawei, HiSilicon, Turkcell discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2402833](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402833%20Discussion%20on%20the%20service%20area%20of%20a%20broadcast%20service.doc) Discussion on the service area of a broadcast service Xiaomi discussion

[R2-2402884](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402884_MBS%20over%20NTN.doc) Broadcast service support over NTN Apple discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2403072](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403072%20Consieration%20on%20broadcast%20service%20ehancements.doc) Consideration on broadcast service enhancements ZTE Corporation, Sanechips discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2403093](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403093.docx) Discussion on MBS Broadcasting Control over NTN access TCL discussion Rel-19

[R2-2403121](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403121%20%5BNTN%5D%20Discussion%20on%20support%20of%20broadcast%20service%20in%20NTN_final.docx) Discussion on support of broadcast service in NTN LG Electronics France discussion Rel-19 NR\_NTN\_Ph3

[R2-2403275](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403275%20NR%20NTN%20MBS%20discussion.docx) Discussion on MBS broadcast additional features for NR NTN Evolution THALES discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2403306](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403306%20On%20MBS%20Service%20Area%20Signalling%20in%20Rel-19%20NTN.docx) On MBS Service Area Signalling in Rel-19 NTN Nokia discussion Rel-19 NR\_NTN\_Ph3

[R2-2403320](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403320%20%28R19%20NR%20NTN%20WI%20AI%208.8.4%29%20Broadcast.docx) Support for broadcast service in NTN InterDigital discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2403587](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403587.docx) Discussion on support of broadcast service ITL discussion Rel-19

[R2-2403648](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403648%20Discussion%20on%20Intended%20Service%20Area%20for%20NTN-MBS.docx) Discussion on Intended Service Area for NTN-MBS NTT DOCOMO INC. discussion Rel-19

[R2-2403650](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403650-Discussion_on_MBS_service_support_for_NR_NTN.docx) Discussion on MBS service support for NR NTN Sharp discussion Rel-19 NR\_NTN\_Ph3-Core

### 8.8.5 Support of regenerative payload

Contributions should focus on the needed updates for Stage 2 description.

[R2-2402153](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402153_Stage-2%20impact%20of%20regenerative%20payload%20in%20NR%20NTN.doc) Stage-2 impact of regenerative payload in NR NTN China Telecom discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2402196](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402196%20stage2%20regenerative%20payload.doc) Discussion on stage-2 update on the support of regenerative payload OPPO discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2402356](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402356%20Discussion%20on%20support%20of%20regenerative%20payload%20in%20Rel-19%20NR%20NTN.docx) Discussion on support of regenerative payload in Rel-19 NR NTN CATT, China Broadnet discussion Rel-19

[R2-2402714](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402714%20On%20support%20of%20regenerative%20payload%20in%20NTN.docx) On support of regenerative payload in NTN Lenovo discussion Rel-19

[R2-2402808](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402808%20Regenerative%20payload.docx) Discussion on regenerative payload Qualcomm Incorporated discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2402818](file:///C%3A%5CData%5C3GPP%5CExtracts%5CDraft_R2-2402818%20Support%20of%20Regenerative%20mode%20v2.docx) Support of regenerative payload NEC discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2403092](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403092.docx) Discussion on Regenerative NTN Architecture TCL discussion Rel-19

[R2-2403409](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403409.docx) Discussion on Regenerative NTN Payload Architecture TCL discussion Rel-19

[R2-2403606](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403606%20NR%20NTN%20Regenerative%20TP_v4.docx) Regenerative NTN payload support in NR NTN Evolution THALES, CATT, Huawei, ZTE, Inmarsat, Viasat discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2403639](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403639%20-%20Stage%202%20updates%20for%20regenerative%20payload.docx) Stage 2 updates for regenerative payload Ericsson discussion Rel-19 NR\_NTN\_Ph3-Core

### 8.8.6 LTE to NR NTN mobility

Support for idle mode mobility between LTE and NR NTN

[R2-2402154](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402154_Support%20of%20LTE%20TN%20to%20NR%20NTN%20mobility.doc) Support of LTE TN to NR NTN mobility China Telecom discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2402195](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402195%20LTE%20to%20NR%20NTN%20mobility.doc) Discussion on LTE to NR NTN idle mode mobility OPPO discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2402221](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402221%20Discussion%20on%20LTE%20TN%20to%20NR%20NTN%20Mobility.docx) Discussion on LTE TN to NR NTN Mobility vivo discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2402545](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402545%20Discussion%20on%20idle%20mode%20mobility%20enhancements%20for%20E-UTRAN%20TN%20to%20NR-NTN.docx) Discussion on idle mode mobility enhancements for E-UTRAN TN to NR-NTN CMCC discussion Rel-19

[R2-2402809](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402809%20mobility%20LTE%20to%20NR%20NTN.docx) Idle mode mobility from LTE to NR NTN Qualcomm Incorporated discussion Rel-19 NR\_NTN\_Ph3-Core

[R2-2402827](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402827%20Discussion%20on%20LTE%20TN%20to%20NR%20NTN%20mobility.docx) Discussion on LTE TN to NR NTN mobility Huawei, HiSilicon, Turkcell discussion Rel-19 LTE\_TN\_NR\_NTN\_mob-Core

[R2-2402834](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402834%20Discussion%20on%20the%20cell%20reselection%20from%20LTE%20to%20NR%20NTN.doc) Discussion on the cell reselection from LTE to NR NTN Xiaomi discussion

[R2-2402885](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402885_LTE%20TN%20to%20NTN%20mobility.doc) Mobility from LTE TN to NR NTN Apple discussion Rel-19

[R2-2403035](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403035%20Support%20of%20Idle%20Mode%20Mobility%20from%20EUTRA%20TN%20to%20NR%20NTN.docx) Support of Idle Mode Mobility from EUTRA TN to NR NTN CATT discussion

[R2-2403066](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403066.docx) Support for LTE to NR-NTN idle mode mobility Telit Communications S.p.A. ; Thales discussion

[R2-2403073](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403073%20Consideration%20on%20idle%20mode%20mobility%20between%20LTE%20TN%20and%20NR%20NTN.doc) Consideration on idle mode mobility between LTE TN and NR NTN ZTE Corporation, Sanechips discussion Rel-19

[R2-2403123](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403123%20%5BNTN%5D%20Discussion%20on%20support%20of%20LTE%20to%20NR%20NTN%20cell%20reselection_final.docx) Discussion on support of LTE to NR NTN cell reselection LG Electronics France discussion Rel-19 LTE\_TN\_NR\_NTN\_mob

[R2-2403205](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403205%20%28R19%20NR%20NTN%20WI%20A8.8.6%29%20LTE%20to%20NR%20NTN%20mobility.doc) Discussion on LTE to NR NTN mobility Interdigital, Inc. discussion Rel-19 LTE\_TN\_NR\_NTN\_mob

[R2-2403226](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403226%20E-UTRA%20TN%20to%20NR%20NTN%20Idle%20mobility.docx) Discussion on cell reselection from E-UTRA TN to NR NTN MediaTek Inc. discussion NR\_NTN\_Ph3-Core

[R2-2403307](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403307%20On%20E-UTRA%20TN%20to%20NR%20NTN%20Mobility%20in%20IDLE%20mode.docx) On E-UTRA TN to NR NTN Mobility in IDLE mode Nokia discussion Rel-19 NR\_NTN\_Ph3

[R2-2403339](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403339%20E-UTRAN%20TN%20to%20NR%20NTN%20mobility.docx) E-UTRAN TN to NR NTN mobility Samsung discussion Rel-19 LTE\_TN\_NR\_NTN\_mob-Core

[R2-2403640](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403640%20-%20E-UTRAN%20TN%20to%20NR-NTN%20mobility.docx) E-UTRAN TN to NR-NTN mobility Ericsson discussion Rel-19 NR\_NTN\_Ph3-Core

## 8.9 IoT NTN Ph3

(IoT\_NTN\_Ph3-Core; leading WG: RAN2; REL-19; WID: RP-240776)

Time budget: 0.5 TU

Tdoc Limitation: 2 tdocs

### 8.9.1 Organizational

LS, Rapporteur input, including workplan, etc.

[R2-2402941](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402941%20R19%20IOT%20NTN%20WorkPlan.docx) Work Plan for Rel-19 IoT NTN MediaTek Inc. Work Plan IoT\_NTN\_Ph3-Core

[R2-2403641](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403641%20-%20IoT%20NTN%20phase%203%20scope.docx) IoT NTN phase 3 scope Ericsson discussion Rel-19 IoT\_NTN\_Ph3-Core

### 8.9.2 Support of Store & Forward

Contributions should focus on possible impacts to the radio interface.

[R2-2402155](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402155_The%20consideration%20of%20supporting%20Store%20%26%20Forward%20in%20IoT%20NTN.doc) The consideration of supporting Store & Forward in IoT NTN China Telecom discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2402193](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402193%20S%26F%20operation.doc) Discussion on Store & Forward satellite operation OPPO discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2402222](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402222%20Initial%20Discussion%20on%20S%26F%20operation.docx) RAN2 Aspects For Store & Forward vivo discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2402380](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402380%20RAN2%20impacts%20of%20supporting%20Store%26Forward%20operation%20in%20IoT%20NTN.docx) RAN2 impacts of supporting Store&Forward operation in IoT NTN ZTE Corporation, Sanechips discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2402454](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402454.docx) Discussion on support of Store&Forward Transsion Holdings discussion Rel-19

[R2-2402475](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402475%20Overview%20of%20the%20Store%20and%20Forward%20satellite%20operation.docx) Overview of the Store and Forward satellite operation Huawei, HiSilicon, Turkcell discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2402541](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402541%20Discussion%20on%20IoT%20NTN%20Store%20and%20Forward.docx) Discussion on IoT NTN Store and Forward CMCC discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2402693](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402693%20Discussion%20on%20Store%20and%20Forward%20operations%20in%20IoT-NTN.docx) Discussion on Store and Forward operations in IoT-NTN HONOR discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2402710](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402710.docx) Discussion on Store & Forward satellite operation IoT NTN CAICT discussion

[R2-2402715](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402715%20On%20support%20of%20Store%20and%20Forward%20operations%20in%20NTN.docx) On support of Store and Forward operations in NTN Lenovo discussion Rel-19

[R2-2402810](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402810%20store%20and%20forward.docx) S&F satellite operation with full eNB as regenerative payload Qualcomm Incorporated discussion Rel-19 IoT\_NTN\_Ph3-Core

R2-2402819 Support of Store and Forward NEC discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2402821](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402821.doc) Considerations on Store & Forward Satellite Operation SHARP Corporation discussion Rel-19

[R2-2402835](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402835%20Initial%20views%20on%20the%20support%20of%20store%20and%20forward%20satellite%20operation.doc) Initial views on the support of store and forward satellite operation Xiaomi discussion

[R2-2402886](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402886_Store%20and%20Forward.doc) Support of S&F operation in IoT NTN Apple discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2402942](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402942%20RAN2%20impact%20on%20S%26F%20mode.docx) RAN2 impact on S&F mode MediaTek Inc. discussion IoT\_NTN\_Ph3-Core

[R2-2403044](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403044%20Discussion%20on%20support%20of%20store%20and%20forward%20operation.docx) Discussion on support of store and forward operation CATT discussion

[R2-2403148](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403148-Store-Forward-RAN-Aspects.docx) Radio Interface Imapcts for Store-Forward mode operation of IoT-NTN Nokia, Nokia Shanghai Bell discussion

[R2-2403274](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403274%20IoT%20NTN%20Store%20and%20Forward%20discussion.docx) Discussion on Store and Forward support for IoT NTN Phase 3 THALES discussion Rel-19 NR\_IoT\_NTN\_req\_test\_enh-Core

[R2-2403321](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403321%20%28R19%20NR%20NTN%20WI%20AI%208.9.2%29%20Store%20and%20forward.docx) Support for Store and Forward operation in NTN InterDigital discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2403337](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403337%20On%20RAN2%20aspects%20on%20Store%20and%20Forward.docx) On RAN2 aspects of Store and Forward Samsung discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2403689](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403689%20-%20RAN%20aspects%20for%20S%26F%20satellite%20operation.docx) RAN aspects of S&F operation for IoT NTN Sateliot discussion

### 8.9.3 Uplink Capacity Enhancement

At this meeting contributions should only focus on the possible enhancements to reduce the necessary uplink and downlink signaling to complete an EDT transaction (Msg3 transmission without msg1/RAR; efficient delivery of msg4 / RRCEarlyDataComplete).

[R2-2402202](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402202%20-%20Discussion%20on%20enhanced%20EDT%20for%20IoT%20NTN.doc) Discussion on enhanced EDT for IoT NTN OPPO discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2402223](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402223%20Discussion%20on%20EDT%20Enhancement%20for%20IoT-NTN.docx) Discussion on EDT Enhancement for IoT-NTN vivo discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2402336](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402336.doc) Uplink Capacity Enhancement for EDT transaction Spreadtrum Communications discussion Rel-19

[R2-2402381](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402381%20Consideration%20on%20enhanced%20early%20data%20transmission%20in%20IoT%20NTN.docx) Consideration on enhanced early data transmission in IoT NTN ZTE Corporation, Sanechips discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2402476](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402476%20Overview%20of%20capacity%20enhancement%20for%20uplink.docx) Overview of capacity enhancement for uplink Huawei, HiSilicon, Turkcell discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2402546](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402546%20Discussion%20on%20early%20data%20transmission%20enhancements%20for%20IoT-NTN.docx) Discussion on early data transmission enhancements for IoT-NTN CMCC discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2402694](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402694%20Discussion%20on%20EDT%20optimisation%20in%20IoT-NTN.docx) Discussion on EDT optimisation in IoT-NTN HONOR discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2402703](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402703%20Discussion%20on%20uplink%20capacity%20enhancements%20for%20IOT%20NTN.doc) Discussion on uplink capacity enhancements for IOT NTN Xiaomi discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2402709](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402709.docx) Discussion on enhanced EDT of IoT NTN CAICT discussion

[R2-2402716](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402716%20EDT%20for%20uplink%20capacity%20enhancement%20in%20NTN.docx) EDT for uplink capacity enhancement in NTN Lenovo discussion Rel-19

[R2-2402811](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402811%20EDT%20enh.docx) Discussion on EDT enhancements Qualcomm Incorporated discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2402887](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402887_PUR.doc) Uplink capacity enhancement in IoT NTN Apple discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2402943](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2402943%20Discussion%20on%20enhanced%20EDT.docx) Discussion on enhanced EDT MediaTek Inc. discussion IoT\_NTN\_Ph3-Core

[R2-2403042](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403042%20On%20signalling%20overhead%20reduction%20for%20EDT.docx) On signalling overhead reduction for EDT in IoT NTN CATT discussion

[R2-2403126](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403126%20Consideration%20on%20EDT%20enhancement%20for%20IoT-NTN.docx) Consideration on EDT enhancement for IoT-NTN NEC Corporation. discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2403206](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403206%20%28R19%20IoT-NTN%20AI%208.9.3%29%20-%20EDT.docx) Clarifications on the Scope of EDT enhancement for IoT-NTN Interdigital, Inc. discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2403338](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403338%20Initial%20discussion%20on%20uplink%20capacity%20enhancements.docx) Initial discussions on uplink capacity enhancements Samsung discussion Rel-19 IoT\_NTN\_Ph3-Core

[R2-2403483](file:///C%3A%5CData%5C3GPP%5CExtracts%5CR2-2403483%20On%20uplink%20capacity%20enhancement%20for%20IoT%20NTN.docx) On uplink capacity enhancement for IoT NTN Nokia, Nokia Shanghai Bell discussion Rel-19 IoT\_NTN\_Ph3-Core

# Summary

Agreed CRs

NR-NTN

IoT-NTN

Approved LSs out

[Post125bis] Email discussions

Short

Medium

Long