3GPP TSG-RAN WG2 Meeting #113 electronic [R2-2101954](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101954.zip)  
Online, Jan 25 – Feb 5, 2021

Source: Session Chair (InterDigital)

Title: Report for Rel-17 Small data and URLLC/IIoT and Rel-16 NR-U, Power Savings, and 2step RACH

**Email discussions:**

* [AT113-e][500] Organizational Diana – URLLC/IIoT, Small data, NR-U, 2-step RACH, Power Savings

Scope:

* + - Share plans for the meetings and list of ongoing email discussions for the sessions related to URLLC/IIoT, Small data and NR-U, 2-step RACH, and power saving
    - Share meetings notes and agreements for review and endorsement
* [AT113-e][501][NR-U] CRs on NR-U Control Plane (Qualcomm)

Scope:

* + - Discuss submitted CRs in the CP AI. Rapporteur will do preliminary assessment on criticality and need to have the CRs and companies can provide their views.

Intended outcome:

* + - Agreeable CRs

Deadline for providing comments:

* + - Companies comments/text suggestions and on need/criticality of the CRs– Jan. 27th
    - Rapporteur to make suggestions on which CRs should be pursued further and any possible merges – Jan. 28st
    - Updated CRs (the ones agreed to be pursued) from responsible companies Jan. 29nd
* [AT113-e][502][NR-U] CRs on NR-U User Plane (Ericsson)

Scope:

* + - Discuss submitted CRs in the UP AI. Rapporteur will do preliminary assessment on criticality and need to have the CRs and companies can provide their views.

Intended outcome:

* + - Agreeable CRs

Deadline for providing comments:

* + - Companies comments/text suggestions and on need/criticality of the CRs– Jan. 27th
    - Rapporteur to make suggestions on which CRs should be pursued further and any possible merges – Jan. 28st
    - Updated CRs (the ones agreed to be pursued) from responsible companies Jan. 29nd
* [AT113-e][503][2sRA] CRs on 2sRA User Plane (ZTE)

Scope:

* + - Discuss submitted CRs in the UP AI. Rapporteur will do preliminary assessment on criticality and need to have the CRs and companies can provide their views.

Intended outcome:

* + - Agreeable CRs

Deadline for providing comments:

* + - Companies comments/text suggestions and on need/criticality of the CRs– Jan. 27th
    - Rapporteur to make suggestions on which CRs should be pursued further and any possible merges – Jan. 28st
    - Updated CRs (the ones agreed to be pursued) from responsible companies Jan. 29nd
* [AT113-e][504][2sRA] CRs on 2sRA Control Plane (Ericsson)

Scope:

* + - Discuss submitted CRs in the CP AI. Rapporteur will do preliminary assessment on criticality and need to have the CRs and companies can provide their views.

Intended outcome:

* + - Agreeable CRs

Deadline for providing comments:

* + - Companies comments/text suggestions and on need/criticality of the CRs– Jan. 27th
    - Rapporteur to make suggestions on which CRs should be pursued further and any possible merges – Jan. 28st
    - Updated CRs (the ones agreed to be pursued) from responsible companies Jan. 29nd
* [AT113-e][507][IIoT] Summary of TSN (Ericsson)

Scope:

* + - Identify set of open issues for TSN that need to be addressed based on company contributions and identify any agreeable aspects to be discussed in the first week session
    - Get company inputs on opens issues (to be kicked off after first session)

Intended outcome:

* + - Set of issues that should be discussed in the first session and any proposals that could be agreeable
    - Set of additional issues that should be addressed but with lower priority

Deadline for providing comments:

* + - Companies comments on the summary: January 25th
* [AT113-e][505][IIoT] Summary of URLLC in unlicensed (InterDigital)

Scope:

* + - Identify set of open issues for UCE that need to be addressed based on company contributions and identify any agreeable aspects to be discussed in the first week session
    - Get company inputs on opens issues (to be kicked off after first session)

Intended outcome:

* + - Set of issues that should be discussed in the first session and any proposals that could be agreeable
    - Set of additional issues that should be addressed but with lower priority

Deadline for providing comments:

* + - Companies comments on the summary: January 25th
* [AT113-e][506][IIoT] Summary of QoS RAN enhancements (Nokia)

Scope:

* + - Identify set of open issues for UCE that need to be addressed based on company contributions and identify any agreeable aspects to be discussed in the first week session
    - Get company inputs on opens issues (to be kicked off after first session)

Intended outcome:

* + - Set of issues that should be discussed in the first session and any proposals that could be agreeable
    - Set of additional issues that should be addressed but with lower priority

Deadline for providing comments:

* + - Companies comments on the summary: January 25th
* [AT113-e][508][R16-PowSav] CR [R2-2100456](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100456 .zip)on 38.331 (Vivo)

Scope:

* + - Discuss submitted CR [R2-2100456](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100456.zip), agree on which corrections are acceptable and update CR with acceptable changes only.

Intended outcome:

* + - Agreeable CRs for email approval

Deadline for providing comments:

* + - Companies comments/text suggestions and on need/criticality of the CRs– Jan. 28th
    - Updated CRs (the ones agreed to be pursued) from responsible companies Jan. 29nd

# 6 Rel-16 NR Work Items

Essential corrections. While high maintenance intensity is expected, Rel-16 corrections are treated separately per WI.

Tdoc Limitation: 40 tdocs in total for all sub agenda items, or the restriction for each sub-AI, whichever is more restrictive.

## 6.3 NR-based Access to Unlicensed Spectrum

(NR\_unlic-Core; leading WG: RAN1; REL-16; started: Dec 18; Closed June 20; WID: RP-192926). Documents in this agenda item will be handled in a break out session.).

Tdoc Limitation: 4 tdocs. See also tdoc limitation for Agenda Item 6

### 6.3.1 General and Stage-2 Corrections

Including incoming LSs, Wi or TS rapporteur inputs, etc.

[R2-2100006](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100006.zip) Reply LS on UE capability on wideband carrier operation for NR-U (R1-2009385; contact: MediaTek) RAN1 LS in Rel-16 NR\_unlic-Core To:RAN4 Cc:RAN2

[R2-2100228](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100228.zip) Discussion on differentiation of Rel-16 features for NR operation in shared spectrum Huawei, HiSilicon discussion Rel-16 NR\_unlic-Core

### 6.3.2 User plane

[R2-2100217](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100217.zip) Handling of deprioritized CG PDU when both cg-RetransmissionTimer and lch-basedPrioritization are configured CATT CR Rel-16 38.321 16.3.0 1008 - F NR\_unlic-Core

[R2-2101669](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101669.zip) Corrections on the start of the configuredGrantTimer Beijing Xiaomi Mobile Software CR Rel-16 38.321 16.3.0 1044 - F NR\_unlic-Core

### 6.3.3 Control plane

[R2-2100183](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100183.zip) Correction on RSSI and channel occupancy measurements Samsung Electronics Co., Ltd CR Rel-16 38.331 16.3.1 2306 - F NR\_unlic-Core

[R2-2100870](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100870.zip) Discussion on NR-U RSSI/CO measurement Apple, xiaomi discussion Rel-16 NR\_unlic-Core

[R2-2100871](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100871.zip) Clarification on NR-U RSSI measurement procedure Apple CR Rel-16 38.331 16.3.1 2360 - F NR\_unlic-Core

[R2-2101163](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101163.zip) RRC Corrections for NR-U (Rel-16) ZTE Corporation, Sanechips CR Rel-16 38.331 16.3.1 2387 - F NR\_unlic-Core

[R2-2101164](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101164.zip) Corrections to UE capability for NR-U (Rel-16) ZTE Corporation, Sanechips CR Rel-16 38.306 16.3.0 0502 - F NR\_unlic-Core

[R2-2101269](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101269.zip) Correction to search space switch configuration Ericsson CR Rel-16 38.331 16.3.1 2396 - F NR\_unlic-Core

[R2-2101491](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101491.zip) Correction on description of measResultForRSSI and of conditional presence SharedSpectrum Huawei, HiSilicon CR Rel-16 38.331 16.3.1 2415 - F NR\_unlic-Core

## 6.9 UE Power Saving in NR

(NR\_UE\_pow\_sav-Core; leading WG: RAN1; REL-16; started: Mar 19; Completed Jun 20; WID: RP-200494).

Tdoc Limitation: 4 tdocs. See also tdoc limitation for Agenda Item 6

### 6.9.1 General and Stage-2 corrections

Including incoming LSs, rapporteur inputs, etc

### 6.9.2 User plane Corrections

### 6.9.3 Control plane Corrections

[R2-2100456](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100456.zip) CR on 38.331 for power saving vivo CR Rel-16 38.331 16.3.1 2325 - F NR\_UE\_pow\_sav-Core

## 6.11 2-step RACH for NR

(NR\_2step\_RACH-Core; leading WG: RAN1; REL-16; started: Dec 18; Completed: June 20; WID: RP-200085).

Tdoc Limitation: 4 tdocs, See also tdoc limitation for Agenda Item 6

### 6.11.1 General and Stage-2 Corrections

[R2-2101813](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101813.zip) Correction on the allowed uplink transmission without TA Huawei, HiSilicon, Nokia (Rapporteur) CR Rel-16 38.300 16.4.0 0343 - F NR\_2step\_RACH-Core

### 6.11.2 User plane corrections

[R2-2100349](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100349.zip) Correction on Usage of RA-RNTI in 2-step RA procedure vivo CR Rel-16 38.321 16.3.0 1015 - F NR\_2step\_RACH-Core

[R2-2100350](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100350.zip) Correction on UL-SCH resource in 2-step RA procedure vivo CR Rel-16 38.321 16.3.0 1016 - F NR\_2step\_RACH-Core

[R2-2101512](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101512.zip) 38321 CR Correction on available UL-SCH resource LG Electronics Inc. CR Rel-16 38.321 16.3.0 1037 - F NR\_2step\_RACH-Core

[R2-2101811](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101811.zip) Correction on BSR for two-step RA Huawei, HiSilicon CR Rel-16 38.321 16.3.0 0981 1 F NR\_2step\_RACH-Core [R2-2010402](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2010402.zip)

[R2-2101838](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101838.zip) Conditions to stop an ongoing RA procedure Asia Pacific Telecom, FGI CR Rel-16 38.321 16.3.0 1054 - F NR\_2step\_RACH-Core Withdrawn

[R2-2101857](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101857.zip) Conditions to stop an ongoing RA procedure Asia Pacific Telecom, FGI CR Rel-16 38.321 16.3.0 1055 - F NR\_2step\_RACH-Core

### 6.11.3 Control plane corrections

[R2-2101059](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101059.zip) Corrections to conditions for 2-step RA Lenovo, Motorola Mobility CR Rel-16 38.331 16.3.1 2381 - F NR\_2step\_RACH-Core

[R2-2101165](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101165.zip) Correction for 2-step CFRA ZTE Corporation, Sanechips CR Rel-16 38.331 16.3.1 2388 - F NR\_2step\_RACH-Core

[R2-2101812](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101812.zip) Correction on C-RNTI replacement for 2-step RA Huawei, HiSilicon CR Rel-16 38.331 16.3.1 2440 - F NR\_2step\_RACH-Core

# 8 Rel-17 NR Work Items

## 8.5 NR IIoT URLLC

(NR\_IIOT\_URLLC\_enh-Core; leading WG: RAN2; REL-17; WID: RP-201310)

Time budget: 1 TU

Tdoc Limitation: 3 tdocs

Email max expectation: 2-3 threads

Focus to clarify the scope, understand the dependencies to other groups, get proposals on the table.

### 8.5.1 Organizational

Rapporteur input

[R2-2100043](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100043.zip) Reply LS on Use of Survival Time for Deterministic Applications in 5GS (R3-207211; contact: Nokia) RAN3 LS in Rel-17 FS\_IIoT To:SA2, RAN2 Cc:SA1

[R2-2100066](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100066.zip) LS on Clarification on URLLC QoS Monitoring (S2-2007825; contact: Huawei) SA2 LS in Rel-16 5G\_URLLC To:RAN3, CT4 Cc:SA5, RAN2

[R2-2100715](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100715.zip) Revised Rel-17 NR IIoT/URLLC Work Plan Nokia Work Plan Rel-17 NR\_IIOT\_URLLC\_enh

### 8.5.2 Enhancements for support of time synchronization

Including requirements and scope.

[R2-2102071](C:\\Users\\panidx\\Documents\\3GPP RAN\\113e\\Docs\\R2-2102071.zip) Summary on Enhancements for support of time synchronization (8.5.2) Ericsson

Mobility issue

Rapporteur believes that the differences among the proposals lie in assumptions for scenarios and thus rapporteur proposes to discuss the first two proposals to get a common understanding.

*Proposal 1 RAN2 to discuss if there is a UE clock drift issue.*

*Proposal 2 RAN2 to discuss if the source and the target gNB are tightly synchronized to the same master clock.*

If there are consensus for the above two proposals in the first session, RAN2 can discuss online the below two proposals; otherwise, they can be discussed in the email discussion.

*Proposal 3 RAN2 to discuss the need to transfer reference time between gNBs.*

*Proposal 4 RAN2 to discuss the need for a UE to indicate the reference time delivery periodicity to the gNB*

RAN2 can confirm online if the below proposal can be agreed; otherwise, it is moved to the email discussion.

*Proposal 5 gPTP message interruption during mobility is not considered in the Rel-17 IIoT WI.*

Propagation delay compensation (PDC)

In rapporteur’s understanding, the below proposal is agreed in the last meeting. However, there are numerous papers submitted, and so rapporteur propose to confirm this.

*Proposal 6 RAN2 to confirm which PDC option to choose is up-to RAN1 to decide.*

Rapporteur then proposes to discuss issues that are independent of the PDC option. The proposal 7 is a baseline and should be agreeable, while the proposal 8 is to confirm that the discussion on the details are postponed till PDC option is chosen.

*Proposal 7 gNB can inform UEs of whether the to-be-adopted PDC option is used or not.*

*Proposal 8 After PDC option is chosen, RAN2 to further discuss the details of the indication.*

*Rapporteur proposes to discuss the proposal 9 in the email discussion.*

*Proposal 9 For UE-side PDC, RAN2 to collect views and down-select the below options:*

* gNB enable/disable UE-side PDC*

* UE request a PD estimation update*

* UE autonomously conduct PDC if a network-configured threshold is met*

* Other options?*

[R2-2100215](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100215.zip) Discussion on the time synchronisation enhancements Huawei, HiSilicon discussion Rel-17 NR\_IIOT\_URLLC\_enh-Core

[R2-2100221](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100221.zip) Discussion on Time Synchronization in Rel-17 CATT discussion NR\_IIOT\_URLLC\_enh-Core

[R2-2100232](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100232.zip) Propagation Delay Compensation Enhancements Ericsson discussion Rel-17

[R2-2100267](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100267.zip) Propagation Delay Compensation for TSN QUALCOMM Europe Inc. - Italy discussion Rel-17

[R2-2100327](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100327.zip) Further considerations on time synchronization and PDC ZTE Corporation, Sanechips, China Southern Power Grid Co., Ltd discussion NR\_IIOT\_URLLC\_enh-Core [R2-2009060](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2009060.zip)

[R2-2100417](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100417.zip) Remaining aspect to support time synchronization Fujitsu discussion Rel-17 NR\_IIOT\_URLLC\_enh-Core [R2-2009130](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2009130.zip)

[R2-2100425](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100425.zip) Some considerations on propagation delay compensation China Telecom discussion

[R2-2100615](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100615.zip) RAN Enhancements for Support of Timing Synchronization Intel Corporation discussion Rel-17 NR\_IIOT\_URLLC\_enh-Core

[R2-2100716](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100716.zip) Time Synchronization Signalling and Mobility Impact Analysis Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_IIOT\_URLLC\_enh

[R2-2100781](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100781.zip) Discussion on uplink time synchronization for TSN NTT DOCOMO, INC. discussion Rel-17 [R2-2010532](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2010532.zip)

[R2-2100829](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100829.zip) Discussion on time sync maintenance during mobility vivo discussion

[R2-2100844](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100844.zip) Consideration of TSN time synchronization in handover scenario OPPO discussion Rel-17 NR\_IIOT\_URLLC\_enh-Core

[R2-2100941](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100941.zip) Propagation Delay Compensation for TSN CANON Research Centre France discussion Rel-17 NR\_IIOT\_URLLC\_enh

[R2-2101119](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101119.zip) Discussion on enabling UE side propagation delay compensation Lenovo, Motorola Mobility discussion Rel-17

[R2-2101322](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101322.zip) On propagation delay compensation MediaTek Inc. discussion Rel-17 NR\_IIOT\_URLLC\_enh-Core

[R2-2101490](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101490.zip) Mobility aspects of time synchronization Sequans Communications discussion Rel-17 NR\_IIOT\_URLLC\_enh-Core [R2-2010173](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2010173.zip)

[R2-2101666](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101666.zip) Propagation delay compensation and synchronization Samsung discussion Rel-17

[R2-2101671](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101671.zip) Mobility issue on time synchronization Beijing Xiaomi Mobile Software discussion Rel-17 NR\_IIOT\_URLLC\_enh-Core

[R2-2101721](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101721.zip) Enhancements for support of time synchronization for TSN CMCC discussion Rel-17 NR\_IIOT\_URLLC\_enh-Core

[R2-2101809](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101809.zip) Enhancements for support of time synchronization and PDC TCL Communication Ltd. discussion Rel-17

[R2-2101862](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101862.zip) Discussion on enhancements for support of time synchronization LG Electronics Inc. discussion Rel-17 NR\_IIOT\_URLLC\_enh-Core

### 8.5.3 Uplink enhancements for URLLC in unlicensed controlled environments

RAN2 aspects related to URLLC in unlicensed controlled environments. Initial discussion on potential impacts, including requirements and scope

[R2-2102072](C:\\Users\\panidx\\Documents\\3GPP RAN\\113e\\Docs\\R2-2102072.zip) Summary of URLLC over unlicensed controlled environment InterDigital

*Proposal 1: LCH based prioritization and cg-RetransmissionTimer can be configured together in Rel-17*

*Downscope options related to Q4?*

[R2-2100214](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100214.zip) Uplink enhancements for URLLC in UCE Huawei, HiSilicon discussion Rel-17 NR\_IIOT\_URLLC\_enh-Core

[R2-2100222](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100222.zip) Analysis on IIoT in Unlicensed Spectrum CATT discussion NR\_IIOT\_URLLC\_enh-Core

[R2-2100233](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100233.zip) Harmonizing UL CG enhancements in NR-U and URLLC Ericsson discussion Rel-17

[R2-2100268](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100268.zip) CG Harmonization for Unlicensed Controlled Environment QUALCOMM Europe Inc. - Italy discussion Rel-17

[R2-2100717](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100717.zip) Support of URLLC in Unlicensed Spectrum Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_IIOT\_URLLC\_enh

[R2-2100758](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100758.zip) Transmission Handling in UCE Sharp discussion

[R2-2100759](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100759.zip) Autonomous transmission/Retransmission in Unlicensed Controlled Environments Sharp discussion

[R2-2100830](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100830.zip) Simultaneous configuration of LCH based prioritization and CGRT vivo discussion

[R2-2100891](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100891.zip) Consideration on URLLC over NR-U OPPO discussion Rel-17 NR\_IIOT\_URLLC\_enh-Core

[R2-2100904](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100904.zip) Considerations in unlicensed URLLC Sony discussion Rel-17 NR\_IIOT\_URLLC\_enh-Core Withdrawn

[R2-2100905](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100905.zip) Prioritization of UL transmissions in unlicensed URLLC Sony discussion Rel-17 NR\_IIOT\_URLLC\_enh-Core

[R2-2100920](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100920.zip) CG Harmonization for NR-U and IIoT/URLLC in Unlicensed Controlled Environments III discussion NR\_IIOT\_URLLC\_enh

[R2-2100921](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100921.zip) Enhancements for URLLC in unlicensed controlled environments Lenovo, Motorola Mobility discussion Rel-17 NR\_IIOT\_URLLC\_enh-Core

[R2-2101133](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101133.zip) Enhancements for URLLC in unlicensed controlled environments Lenovo, Motorola Mobility discussion Rel-17 Late

=> Withdrawn

[R2-2101321](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101321.zip) Remaining issues on configured grant harmonization MediaTek Inc. discussion Rel-17 NR\_IIOT\_URLLC\_enh-Core Late

[R2-2101508](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101508.zip) IIoT operation in unlicensed controlled environments InterDigital discussion Rel-17 NR\_IIOT\_URLLC\_enh-Core

[R2-2101520](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101520.zip) IIOT CG operation on shared spectrum LG Electronics UK discussion NR\_IIOT\_URLLC\_enh-Core

[R2-2101531](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101531.zip) Considerations on UL Enhancement on the shared spectrum Channel ZTE Corporation, Sanechips discussion Rel-17 NR\_IIOT\_URLLC\_enh-Core

[R2-2101614](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101614.zip) Discussion on uplink enhancements for URLLC in unlicensed controlled environments CMCC discussion Rel-17 NR\_IIOT\_URLLC\_enh

[R2-2101667](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101667.zip) LCH based Prioritization in UCE Samsung discussion Rel-17

[R2-2101672](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101672.zip) LBT failure and LCH based priority Beijing Xiaomi Mobile Software discussion Rel-17 NR\_IIOT\_URLLC\_enh-Core

[R2-2101757](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101757.zip) Uplink enhancements for URLLC in unlicensed controlled environments Intel Corporation discussion NR\_IIOT\_URLLC\_enh-Core

### 8.5.4 RAN enhancements based on new QoS

RAN enhancements based on new QoS related parameters if any, e.g. survival time, burst spread, decided in SA2. [RAN2, RAN3]

[R2-2102254](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2102254.zip) Summary of Agenda Item 8.5.4: RAN enhancements based on new QoS Nokia

*Proposal 1a: RAN2 confirms communication service availability is not needed on top of survival time.*

*Proposal 1b: RAN2 further discusses whether Burst Ending Time should be added as a new QoS parameter.*

*Proposal 1c: RAN2 does not consider burst spread until SA2 provides further clarification.*

*Proposal 1d: RAN2 further discusses whether QoS relating to service reliability is needed.*

*Proposal 2a: RAN2 confirms that specification enhancement for survival time support is only needed for uplink.*

*Proposal 2b: RAN2 may further discuss whether survival time should be considered in UCE.*

*Proposal 3: RAN2 confirms that only periodic traffics for survival time will be considered.*

*Proposal 4: RAN2 should discuss and conclude whether higher-layer segmentation of an application message should be considered.*

*Proposal 5: RAN2 further discusses the options for survival time state monitoring and identify the viable solutions, which may include combinations of some of the listed options.*

*Proposal 6: RAN2 further discusses the options for survival time violation avoidance and identify the viable solutions, which may include combinations of some of the listed options.*

*Proposal 7: RAN2 may discuss if this is needed to notify the UE about the survival time requirement by e.g. NAS-PDU.*

*Proposal 8: RAN2 may confirm if mechanisms for UE to provide TSCAI to gNB is beyond the scope of this WI.*

[R2-2100216](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100216.zip) RAN enhancements based on new QoS related parameters Huawei, HiSilicon discussion Rel-17 NR\_IIOT\_URLLC\_enh-Core

[R2-2100223](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100223.zip) Discussion on Survival Time CATT discussion NR\_IIOT\_URLLC\_enh-Core

[R2-2100234](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100234.zip) RAN enhancements based on new QoS related parameters Ericsson discussion Rel-17

[R2-2100269](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100269.zip) RAN Enhancement to support new QoS QUALCOMM Europe Inc. - Italy discussion Rel-17

[R2-2100328](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100328.zip) Further considerations on new QoS ZTE Corporation, Sanechips, China Southern Power Grid Co., Ltd discussion Rel-17 NR\_IIOT\_URLLC\_enh-Core [R2-2009062](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2009062.zip)

[R2-2100418](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100418.zip) Topics on new QoS handling Fujitsu discussion Rel-17 NR\_IIOT\_URLLC\_enh-Core

[R2-2100449](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100449.zip) Discussion on RAN enhancements based on Survival Time III discussion Rel-17 NR\_IIOT\_URLLC\_enh [R2-2010438](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2010438.zip)

[R2-2100614](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100614.zip) Support for Survival Time and Burst Spread Intel Corporation discussion Rel-17 NR\_IIOT\_URLLC\_enh-Core

[R2-2100718](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100718.zip) Views on RAN Enhancement for New QoS Parameters Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_IIOT\_URLLC\_enh

[R2-2100831](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100831.zip) Disucussion on RAN enhancement to support survival time vivo discussion

[R2-2100856](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100856.zip) Scheduling Assistance Information for support of new QoS Apple discussion Rel-17 NR\_IIOT\_URLLC\_enh-Core

[R2-2100857](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100857.zip) Reliability enhancements for CG/SPS Apple discussion Rel-17 NR\_IIOT\_URLLC\_enh-Core

[R2-2100892](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100892.zip) RAN enhancement based on new QoS OPPO discussion Rel-17 NR\_IIOT\_URLLC\_enh-Core

[R2-2100922](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100922.zip) Discussion on the support of survival time Lenovo, Motorola Mobility discussion Rel-17 NR\_IIOT\_URLLC\_enh-Core

[R2-2101066](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101066.zip) Open issues with survival time and proposal for way forward Samsung Electronics GmbH discussion

[R2-2101134](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101134.zip) Discuss on the mechanism to guarantee the survival time Lenovo, Motorola Mobility discussion Rel-17 Late

=> Withdrawn

[R2-2101509](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101509.zip) Enhancements based on new QoS requirements InterDigital discussion Rel-17 NR\_IIOT\_URLLC\_enh-Core

[R2-2101521](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101521.zip) Implication of survival time LG Electronics UK discussion NR\_IIOT\_URLLC\_enh-Core

[R2-2101615](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101615.zip) Discussion on the support of new QoS parameters in RAN CMCC discussion Rel-17 NR\_IIOT\_URLLC\_enh

[R2-2101673](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101673.zip) RAN impacts of the survival time Beijing Xiaomi Mobile Software discussion Rel-17 NR\_IIOT\_URLLC\_enh-Core

## 8.6 Small Data enhancements

(NR\_SmallData\_INACTIVE-Core; leading WG: RAN2; REL-17; WID: RP-201305)

Time budget: 1.5 TU

Tdoc Limitation: 4 tdocs

Email max expectation: 3 threads

### 8.6.1 Organizational

In coming LSs, rapporteur input for email discussions summaires etc (tdocs in this don’t count towards tdoc limit).

[R2-2100930](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100930.zip) Report from email discussion [POST112-e][550][SDT] Further details of CG aspects Lenovo, Motorola Mobility report Rel-17 NR\_SmallData\_INACTIVE-Core

*Following proposals are potentially easily agreeable (clear majority view):*

*Proposal 1: CG-SDT resource configuration is provided to UEs in RRC\_Connected only within the RRCRelease message, i.e. no need to also include it in RRCReconfiguration message (23/26).*

*Proposal 2: CG-PUSCH resources can be separately configured for NUL and SUL (26/26)*

*Proposal 3: RRCRelease message (or similar) is used to reconfigure or release the CG-SDT resources while UE is in RRC\_INACTIVE (26/26)*

*Proposal 4: For CG-SDT the subsequent data transmission can use the CG resource or DG (i.e dynamic grant addressed to UE’s C-RNTI). Details on C-RNTI, can be the same as the previous C-RNTI or may be configured explicitly by the network can be discussed in stage 3. (24/26)*

*Proposal 5: TAT-SDT is started upon receiving the TAT-SDT configuration from gNB, i.e. RRCrelease message, and can be (re)started upon reception of TA command. Details of the UL timing maintenance procedure, e.g. TA handling for contention-based RACH-SDT, can be addressed in stage 3. (24/26)*

*Proposal 6: Introduce a TA validation mechanism for SDT based on RSRP change, i.e. RSRP-based threshold(s) are configured. Details of the TA validation procedure can be further discussed, e.g. RSRP-based threshold are applied to SS-RSRP. (20/26)*

*Further discussion is required for the following proposals:*

*Proposal 7: It’s a network configuration issue whether to support multipe CG-SDT configurations per carrier in RRC\_INACTIVE.*

*Proposal 8: Discuss further in stage 3 how to specify the agreement that CG-SDT resources are only valid in one cell (i.e. cell in which RRCRelease is received)*

*Proposal 9: UE releases CG-SDT resources when it has no valid TA in RRC\_Inactive state, e.g. expiry of TAT-SDT (13/26)*

*Proposal 12: RAN2 to discuss further whether the BWP associated with CG-SDT resources can be configurable, e.g. UE specific dedicated UL BWP (14/25)*

*Proposal 13: In case Option 2 is supported, UL BWP associated with the CG-SDT resources is signalled within in the RRCRelease message. (19/20)*

*Proposal 10: Further discuss whether to support a UE request mechanism for CG-SDT resources.*

*Proposal 11: Further discuss the support of an implicit CG-SDT resource release mechanism.*

[R2-2101162](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101162.zip) Email discussion summary #551: Common aspects between CG and RACH ZTE Corporation, Sanechips report

*Proposal 1: For RA-SDT, up to two preamble groups (corresponding to two different payload sizes for MSGA/MSG3) may be configured by the network (22/29)*

*Proposal 3: Upon initiating SDT procedure the UE performs carrier selection as per legacy procedure (29/29)*

*Proposal 4: Upon initiating SDT, after the carrier selection, if valid CG-SDT resource exists, then CG-SDT is chosen, otherwise UE proceeds to RA-SDT procedure (29/29)*

*Proposal 5: If RACH procedure is initiated for SDT (i.e. RA-SDT initiated), the UE first performs RACH type selection as in legacy (i.e. Rel-16) (27/29)*

*Proposal 2: For SDT DRBs, if further data arrives during the SDT phase, then BSR may be triggered according to existing triggering conditions (i.e. no new BSR triggers are necessary for this)*

NOTES Diana: non-SDT DRBs discussed with papers

*Proposal added to be discussed before proposal 6: Proposal x: is RSRP threshold is used to select between SDT and non-SDT RA procedure (RRC level check?)*

Proposal 6: Once RA-SDT is initiated, after selecting the RACH type, the UE uses the RACH resources configured for SDT to perform random access (i.e. no further RSRP threshold is used for SDT vs non-SDT selection at this stage) – (19/29)

### 8.6.2 User plane common aspects

Overall user plane procedure for SDT (including triggering and thresholds). Handling of data arrival for other DRBs. Suppression of PDCP status report, any other user aspects included in [POST112-e][551] which cannot be concluded as part of the email

[R2-2100139](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100139.zip) Discussion on User Plane Aspect of Small Data Transmission vivo discussion Rel-17 NR\_SmallData\_INACTIVE-Core

Proposal 11: In NR SDT, the UE does not expect to be scheduled a DL UP data without integrity protection before scheduling for network verification information

[R2-2100146](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100146.zip) User Plane Common Aspects of RACH and CG based SDT Samsung Electronics Co., Ltd discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2100294](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100294.zip) User plane common aspects of SDT CATT discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2100365](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100365.zip) Common User plane aspects for SDT Intel Corporation discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2100419](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100419.zip) Identified issue in [Post111-e][926]: CA and PDCP CA duplication Fujitsu discussion Rel-17 NR\_SmallData\_INACTIVE-Core [R2-2009132](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2009132.zip)

[R2-2100749](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100749.zip) Handling of new arriving data during SDT NEC discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101136](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101136.zip) The UP common issues for small data transmissions Lenovo, Motorola Mobility discussion Rel-17

[R2-2101145](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101145.zip) Handling of non-SDT DRB MediaTek Inc. discussion

[R2-2101160](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101160.zip) User plane common aspects of SDT ZTE Corporation, Sanechips discussion

[R2-2101176](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101176.zip) Common aspects for SDT Ericsson discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101183](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101183.zip) User plane common aspects for SDT Huawei, HiSilicon discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101203](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101203.zip) User Plane common aspects Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101221](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101221.zip) Remaining issues on user plane aspects of NR small data transmission Qualcomm Incorporated discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101370](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101370.zip) Non-SDB handling during the SDT procedure Apple discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101674](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101674.zip) Collision between SDT and RACH Beijing Xiaomi Mobile Software discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101750](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101750.zip) Handling non-SDT data arrival during subsequent SDT ASUSTeK discussion Rel-17 NR\_SmallData\_INACTIVE-Core

### 8.6.3 Control plane common aspects

Cell reselection and failure handling, handling of subsequent data transmissins (including when to send RRCRelease, how to indicate presence of subsequent data, etc) and any other control plane aspects included in [POST112-e][551] which cannot be concluded as part of the email

How to handle RRC release

Handling of T319

Cell reselection

[R2-2101311](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101311.zip) SDT control plane aspects Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_SmallData\_INACTIVE

Proposal 1: RRC Resume Request (Msg3/MsgA) is used as a baseline for SDT. New RRC message can be considered if seen beneficial.

Proposal 2: RRC Release message can be used as Msg4 / MsgB for SDT

Proposal 3: Msg4 / MsgB can multiplex a ciphered downlink data with the RRC Release message.

Proposal 4: Subsequent UL/DL data transfer can be completed before the network responses with RRC message to RRC Resume Request including small data

[R2-2100147](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100147.zip) Control Plane Common Aspects of RACH and CG based SDT Samsung Electronics Co., Ltd discussion Rel-17 NR\_SmallData\_INACTIVE-Core

*Proposal 1: In RRC based SDT, discuss and agree on one of the following:*

*Option 1: RRCResumeRequest/RRCResumeRequest1 message is transmitted in Msg3/MsgA/CG.*

*Option 2: RRCResumeRequestSDT/RRCResumeRequest1SDT messages are defined for RRC based SDT.*

*- The RRCResumeRequestSDT includes Short Resume Identity and resumeMAC-I. Short Resume Identity is optional and is included only for RACH based SDT.*

*- The RRCResumeRequest1SDT includes Long Resume Identity and resumeMAC-I.*

*- RRCResumeRequestSDT is transmitted in Msg3/MsgA/CG*

*- RRCResumeRequest1SDT is transmitted in Msg3/MsgA*

[R2-2100139](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100139.zip) Discussion on User Plane Aspect of Small Data Transmission vivo discussion Rel-17 NR\_SmallData\_INACTIVE-Core

*Proposal 11: In NR SDT, the UE does not expect to be scheduled a DL UP data without integrity protection before scheduling for network verification information*

Handling of non-SDT data arrival

[R2-2101311](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101311.zip) Proposal 5: If data becomes available for non-SDT DRBs during SDT procedure the SDT procedure shall be aborted and normal RRC Resume shall be triggered

[R2-2100282](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100282.zip) Discussion on SDT UP issues OPPO discussion Rel-17 NR\_SmallData\_INACTIVE-Core

*Proposal 4 SDT DRBs are resumed upon the initiation of SDT. Non-SDT DRBs are resumed upon the reception of RRCResume by UE.*

*Proposal 5 To handle the available non-SDT data during an SDT procedure, an assistance information can be included in one of UL SDT to inform the network of the non-SDT data arrival. The assistance information can be a new MAC CE, which is generated by the indication from upper layer.*

*Discussion on whether new RRC message or SDT indication is needed*

***Discussion on Handling of non-SDT***

*- when non-SDT bearers are resumed*

*1. when SDT is initiated*

*2. only upon RRC resume by UE*

*- What to do when non-SDT arrive and DRBs are suspended*

*1. trigger legacy RRC resume procedure*

*2. introduce a MAC indication to indicate non-SDT arrival*

T319 timer

[R2-2101578](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101578.zip) Small data transmission failure timer InterDigital, Asia Pacific Telecom, Ericsson, ETRI, FGI, Sharp, Sony discussion Rel-17 NR\_SmallData\_INACTIVE-Core

*Proposal 1: UE (re)-starts the SDT failure detection timer upon transmitting or retransmitting a small data PDU in INACTIVE state.*

*Proposal 2: UE (re)-starts the SDT failure detection timer upon receiving a downlink transmission in INACTIVE state.*

*Proposal 3: UE stops the SDT failure detection timer upon receiving RRCResume, RRCSetup, RRCRelease, RRCRelease with SuspendConfig or RRCReject with suspend.*

*Proposal 4: Upon expiry of the SDT failure detection timer, UE transitions into IDLE mode and initiates RRC establishment procedure.*

R2- 2100147

*Proposal 5: A new timer is started in RRC upon initiation of SDT procedure. This timer is not re-started for every UL/DL transmission/reception during the SDT procedure.*

Cell reselection

[R2-2100295](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100295.zip) Considerations on control plane common aspects CATT discussion Rel-17 NR\_SmallData\_INACTIVE-Core

Proposal 8: UE enters RRC\_IDLE if cell reselection happens during SDT

[R2-2100366](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100366.zip) Common Control plane aspects for SDT Intel Corporation discussion Rel-17 NR\_SmallData\_INACTIVE-Core

Proposal 1: Data loss and duplication should be prevented during an SDT session.

Proposal 2: UE should continue in INACTIVE after cell reselection during an SDT session.

[R2-2100140](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100140.zip) Duscussion on RRC-Controlled Small Data Transmission vivo discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2100147](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100147.zip) Control Plane Common Aspects of RACH and CG based SDT Samsung Electronics Co., Ltd discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2100283](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100283.zip) Discussion on SDT CP issues OPPO discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2100668](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100668.zip) Discussion on the general aspects for small data transmission Spreadtrum Communications discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2100764](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100764.zip) Some open issues of SDT procedure Potevio Company Limited discussion NR\_SmallData\_INACTIVE-Core

[R2-2100817](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100817.zip) T319-like timer for the SDT procedure PANASONIC R&D Center Germany discussion

[R2-2100826](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100826.zip) Discussion on how to handle cell reselection for the case of SDT ITRI discussion NR\_SmallData\_INACTIVE-Core

[R2-2100906](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100906.zip) Discussion on subsequent SDT in NR, and timer handling Sony discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101112](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101112.zip) Consideration on CP issues for small data transmission Lenovo, Motorola Mobility discussion Rel-17

[R2-2101146](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101146.zip) Subsequent Transmission of Small data in INACTIVE MediaTek Inc. discussion

[R2-2101161](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101161.zip) Control plane common aspects of SDT ZTE Corporation, Sanechips discussion

[R2-2101177](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101177.zip) CP aspects for SDT Ericsson discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101184](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101184.zip) Control plane common aspects for SDT Huawei, HiSilicon discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101223](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101223.zip) Remaining issues on control plane aspects of NR small data transmission Qualcomm Incorporated discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101368](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101368.zip) Subsequent data transmission for SDT Apple discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101369](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101369.zip) Control plane aspects on SDT procedure Apple discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101407](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101407.zip) RRC-less SDT NEC Telecom MODUS Ltd. discussion

[R2-2101507](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101507.zip) Subsequent small data transmission InterDigital discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101513](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101513.zip) Subsequent data transmission and indication for non-SDT DRBs LG Electronics Inc. discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101619](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101619.zip) SDT type selection and switch procedure CMCC discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101675](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101675.zip) Discussion on the RRC-less SDT Beijing Xiaomi Mobile Software discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101867](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101867.zip) Handling of the subsequent data ITL discussion

[R2-2101947](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101947.zip) New timer for SDT failure detection LG Electronics Inc. discussion NR\_SmallData\_INACTIVE-Core

### 8.6.4 Aspects specific to RACH based schemes

RA resource configuration, RAN2 specific details of context fetch/data forwarding with and without anchor relocation

[R2-2100141](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100141.zip) Supporting Small Data Transmission via RA Procedure vivo discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2100148](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100148.zip) Details of RACH bsaed Small Data Transmission Samsung Electronics Co., Ltd discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2100284](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100284.zip) Discussion on RACH based SDT OPPO discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2100296](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100296.zip) Considerations on transition into RRC\_CONNECTED during subsequent SDT CATT discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2100367](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100367.zip) Fallback, RACH resource partitioning and identification of SDT access Intel Corporation discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2100413](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100413.zip) Fallback issue for 2-step RA based small data transmission SHARP Corporation discussion NR\_SmallData\_INACTIVE-Core

[R2-2100669](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100669.zip) Discussion on small data transmission for RACH-based scheme Spreadtrum Communications discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2100907](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100907.zip) Discussion on context fetch and anchor relocation Sony discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2100908](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100908.zip) Details of RA-based schemes for SDT in NR Sony discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101137](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101137.zip) Analysis on open issues of RA based SDT Lenovo, Motorola Mobility discussion Rel-17

[R2-2101159](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101159.zip) Consideration on RACH based small data transmission ZTE Corporation, Sanechips discussion

[R2-2101174](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101174.zip) RACH configuration for SDT Ericsson discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101204](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101204.zip) Details on RACH specific schemes Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101214](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101214.zip) Small data transmission with RA-based scheme Huawei, HiSilicon discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101231](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101231.zip) Discussion on RACH based NR small data transmission Qualcomm Incorporated discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101505](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101505.zip) RACH-based SDT precedure InterDigital discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101620](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101620.zip) Remaining issues on RACH based scheme CMCC discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101621](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101621.zip) Anchor relocation and context fetch CMCC discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101751](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101751.zip) Discussion on RO configuration between SDT and legacy RA ASUSTeK discussion Rel-17 NR\_SmallData\_INACTIVE-Core

### 8.6.5 Aspects specific to CG based schemes

Configuration of CG resources, Validity of CG resources, handling of beam selection for CG etc, any other aspects included in [POST112-e][550] which cannot be concluded as part of the email

[R2-2100142](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100142.zip) Supporting Small Data Transmission via CG Configuration vivo discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2100145](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100145.zip) Details of Configured Grant based Small Data Transmission Samsung Electronics Co., Ltd discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2100285](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100285.zip) Discussion on CG based SDT OPPO discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2100297](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100297.zip) Analysis on CG-based SDT CATT discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2100368](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100368.zip) Handling of configured grant for SDT Intel Corporation discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2100420](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100420.zip) Open issue in [Post112-e][550][STD]: PDCCH monitoring Fujitsu discussion Rel-17 NR\_SmallData\_INACTIVE-Core [R2-2009131](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2009131.zip)

[R2-2100775](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100775.zip) Discussion on beam operations for small data enhancements Google Inc. discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2100777](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100777.zip) Discussion on CG-based small data transmission Google Inc. discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2100782](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100782.zip) Separate BWP for Small Data Transmission LG Electronics discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2100784](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100784.zip) CG Resource validity and MAC PDU rebuilding on SDT LG Electronics discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2100909](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2100909.zip) Details of CG-based scheme for SDT in NR Sony discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101111](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101111.zip) Consideration on CG based small data transmission Lenovo, Motorola Mobility discussion Rel-17

[R2-2101138](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101138.zip) Consideration on CG based small data transmission Lenovo, Motorola Mobility discussion Rel-17 Late

=> Withdrawn

[R2-2101147](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101147.zip) Aspects specific to CG based schemes Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_SmallData\_INACTIVE

[R2-2101151](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101151.zip) RRC-less SDT over CG MediaTek Inc. discussion [R2-2009055](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2009055.zip)

[R2-2101158](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101158.zip) Configured grant based small data transmission ZTE Corporation, Sanechips discussion

[R2-2101175](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101175.zip) Details of CG based SDT Ericsson discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101213](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101213.zip) Small data transmission with CG-based scheme Huawei, HiSilicon discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101233](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101233.zip) Discussion on CG based NR small data transmission Qualcomm Incorporated discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101371](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101371.zip) CG based SDT procedure Apple discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101466](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101466.zip) CG resource release for SDT ETRI discussion

[R2-2101506](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101506.zip) CG-based SDT selection and configuration InterDigital discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101622](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101622.zip) Consideration on CG resource configuration CMCC discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101676](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101676.zip) Retransmission issue not included in the CG email discussion Beijing Xiaomi Mobile Software discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101752](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101752.zip) Beam selection for CG-SDT ASUSTeK discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101753](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101753.zip) Discussion on RNTI for CG-based SDT ASUSTeK discussion Rel-17 NR\_SmallData\_INACTIVE-Core

[R2-2101835](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101835.zip) Discussion on CG-SDT configuration Asia Pacific Telecom, FGI discussion

[R2-2101837](file:///C:\Users\panidx\Documents\3GPP%20RAN\113e\Docs\R2-2101837.zip) Beam operation for CG-SDT Asia Pacific Telecom, FGI discussion