**3GPP TSG-CT WG1 Meeting #135-eC1-222631**

**E-Meeting, 6th – 12th April 2022**

(revision of CP-220304)

**3GPP TSG-CT WG4 Meeting #109-eC4-222170**

**E-Meeting, 06th – 12th April 2022**

3GPP TSG CT3 Meeting #121e C3-222038

E-Meeting, 6th - 12th April 2022

**Source: China Mobile, China Southern Power Grid Co.**

**Title: Revised WID on CT aspects of Architecture Enhancement for NR Reduced Capability Devices**

**Document for: Approval**

**Agenda Item: 17.1.1**

3GPP™ Work Item Description

Information on Work Items can be found at <http://www.3gpp.org/Work-Items>
See also the [3GPP Working Procedures](http://www.3gpp.org/specifications-groups/working-procedures), article 39 and the TSG Working Methods in [3GPP TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm)

# Title: CT aspects of Architecture Enhancement for NR Reduced Capability Devices

## Acronym: ARCH\_NR\_REDCAP

## Unique identifier: 940005

Potential target Release: Rel-17

## 1 Impacts

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Affects:** | UICC apps | ME | AN | CN | Others (specify) |
| **Yes** | X | X |  | X |  |
| **No** |  |  | X |  |  |
| **Don't know** |  |  |  |  | X |

## 2 Classification of the Work Item and linked work items

### 2.1 Primary classification

|  |  |
| --- | --- |
|  | Feature |
| X | Building Block |
|  | *Work Task* |
|  | Study Item |

### 2.2 Parent Work Item

|  |
| --- |
| Parent Work / Study Items  |
| Acronym | Working Group | Unique ID | Title (as in 3GPP Work Plan) |
| ARCH\_NR\_REDCAP | SA2 | 930018 | Architecture Enhancement for NR Reduced Capability Devices |

### 2.3 Other related Work Items and dependencies

|  |
| --- |
| Other related Work Items (if any) |
| Unique ID | Title | Nature of relationship |
| 900062 | Support of Reduced Capability NR Devices (NR\_REDCAP) | RAN work item |

## 3 Justification

TSG-SA has approved work item "Architecture Enhancement for NR Reduced Capability Devices ARCH\_NR\_REDCAP)" in TSG SA Meeting #93E (September 2021) to capture the required stage 2 requirements and work to support NR Reduced Capability (NR RedCap) devices.

Considering the above, impacts on protocols and interfaces under CT WGs' responsibilities are foreseen and the related work in CT WGs should be carried out within Rel-17.

## 4 Objective

The objective of the work item is to develop the specifications under remit of CT WGs for the stage 2 requirements agreed under the stage 2 work item ARCH\_NR\_REDCAP. The following areas of work are expected to be covered (non-exhaustive):

**CT1**

1. Enhancement of the NAS protocol to support NR RedCap devices.
2. Potential update of the PLMN selection to support NR RedCap devices.
3. Update of related eDRX parameters and UE configuration parameters.

**CT3**

Update the definition of 3GPP-RAT-Type sub-attribute to support NR RedCap.

**CT4**

1. Update the definition of RAT type in common data types for service based interfaces to support NR RedCap.
2. Potential update of SMS service and SM service to support NR RedCap devices.
3. Update of Namf\_Communication service to support NR RedCap devices.
4. Potential update of TS 23.008 to enable access restriction for NR RedCap RAT.
5. Update of UDM services to enable eDRX parameter for NR RedCap devices.

**CT6**

1. Update of TS 31.102 to support NR RedCap devices and eDRX for RedCap.
2. Potential update of the USAT specifications to support NR RedCap devices.

## 5 Expected Output and Time scale

|  |
| --- |
| **New specifications** *{One line per specification. Create/delete lines as needed}* |
| Type  | TS/TR number | Title | For info at TSG#  | For approval at TSG# | Rapporteur |
|  |  |  |  |  |  |

|  |
| --- |
| **Impacted existing TS/TR** *{One line per specification. Create/delete lines as needed}* |
| TS/TR No. | Description of change  | Target completion plenary# | Remarks |
| 24.501 | Enhancement of the NAS protocol to support NR RedCap devices. | TSG#95(Mar. 2022) | CT1 |
| 23.122 | Potential update of the PLMN selection to support NR RedCap devices. | TSG#95(Mar. 2022) | CT1 |
| 24.008 | Update of related eDRX parameters for NR RedCap devices. | TSG#95(Mar. 2022) | CT1 |
| 24.368 | Potential update of UE configuration parameters in NAS configuration MO for NR RedCap devices. | TSG#95(Mar. 2022) | CT1 |
| 29.061 | Update the definition of 3GPP-RAT-Type in TS 29.061 to support NR RedCap. | TSG#95(Mar. 2022) | CT3 |
| 29.561 | Update the reused value of 3GPP-RAT-Type in TS 29.561 to support NR RedCap. | TSG#95(Mar. 2022) | CT3 |
| 29.571 | Update the definition of RAT type in common data types for service based interfaces to support NR RedCap. | TSG#95(Mar. 2022) | CT4 |
| 29.502 | Potential update of SM service to support NR RedCap devices. | TSG#95(Mar. 2022) | CT4 |
| 29.540 | Potential update of SMS service to support NR RedCap devices. | TSG#95(Mar. 2022) | CT4 |
| 29.518 | Update of Namf\_Communication service to support NR RedCap devices. | TSG#95(Mar. 2022) | CT4 |
| 23.008 | Potential updates to enable access restriction for NR RedCap RAT. | TSG#95(Mar. 2022) | CT4 |
| 29.503 | Update the definition of RAT type of eDRX parameter for the Nudm\_SDM service. | TSG#96(June, 2022) | CT4 |
| 31.102 | Updates to support NR RedCap devices and eDRX for RedCap. | TSG#95(Mar. 2022) | CT6 |
| 31.111 | Potential update of the USAT specifications to support NR RedCap devices. | TSG#95(Mar. 2022) | CT6 |

## 6 Work item Rapporteur(s)

Chen Xu, China Mobile, chenxu@chinamobile.com

## 7 Work item leadership

CT1

## 8 Aspects that involve other WGs

## 9 Supporting Individual Members

|  |
| --- |
| Supporting IM name |
| China Mobile |
| vivo  |
| Huawei |
| HiSilicon |
| ZTE |
| China Unicom |
| CATT |
| MediaTek Inc. |
| Qualcomm Incorporated |
| Xiaomi |
| Nokia |
| Nokia Shanghai Bell |
| Apple |
| Ericsson |
| China Telecom |
| Thales |