3GPP TSG-RAN WG1 Meeting #103-e Tdoc R1-20xxxxx

e-Meeting, October 26th – November 13th, 2020

**Agenda Item: 8.6**

**Title: FL summary #1 for TR38.875 update for RedCap**

**Source: Moderator (Ericsson)**

**Document for: Discussion, Decision**

# 1 Introduction

This document captures the following RAN1#103e RedCap email discussion.

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|  [103-e-NR-RedCap-01] Email discussion for TR38.875 update – Johan (Ericsson)* 1st check point: 10/29 (particularly related to any previous agreements)
* 2nd check point: 11/12 further update based on the progress during this e-meeting.
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Follow the naming convention in this example:

* *RedCapTRupdateFLS1-v000.docx*
* *RedCapTRupdateFLS1-v001-CompanyA.docx*
* *RedCapTRupdateFLS1-v002-CompanyA-CompanyB.docx*
* *RedCapTRupdateFLS1-v003-CompanyB-CompanyC.docx*

If needed, you may “lock” a spreadsheet file for 30 minutes by creating a checkout file, as in this example:

* Assume CompanyC wants to update *RedCapTRupdateFLS1-v002-CompanyA-CompanyB.docx*.
* CompanyC uploads an empty file named *RedCapTRupdateFLS1-v003-CompanyB-CompanyC.checkout*
* CompanyC then has 30 minutes to upload *RedCapTRupdateFLS1-v003-CompanyB-CompanyC.docx*
* If no update is uploaded in 30 minutes, other companies can ignore the .checkout file.
* Note that the file timestamps on the server are in UTC time.

# 2 Discussion towards the 1st check point (10/29)

The draft TR update in [R1-2007528](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_103-e/Docs/R1-2007528.zip) has been endorsed, except the following update in Section 3.1.

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| 3.1 TermsFor the purposes of the present document, the terms given in TR 21.905 [1] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in TR 21.905 [1].**RedCap UE:** NR UE with reduced capabilities compared to a Rel-15 NR UE**~~example:~~** ~~text used to clarify abstract rules by applying them literally.~~ |

**Question 1: Can the proposed update in Section 3.1 be adopted? If not, please comment or provide suggested revisions.**

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| **Company** | **Y/N** | **Comments or suggested revisions** |
| Qualcomm | Y | It would be great to clarify if R17 RedCap UE can support power saving and coverage recovery/enhancement solutions beyond NR Rel-15. |
| CATT | Y | We are generally fine with the update. We can make it even more clear that it is compared to a ‘Rel-15 NR UE with mandatory capability w/o signaling’ |
| LG | Y | We are okay with the update in general. Related to whether the RedCap UE should be compared to a Rel-15 NR UE or to a Rel-16 NR UE, it would be desirable if we can have consistency between the latest SID and the TR38.875. The part in the latest SID ([RP-201677](http://www.3gpp.org/ftp/tsg_ran/TSG_RAN/TSGR_89e/Docs/RP-201677.zip)) that draws attention in this aspect is copied below for convenience. According to the SID, it seems the RedCap UE should be compared to a Rel-16 NR UE. Anyway, depending the conclusion from this discussion, consider updating the SID accordingly. …3 Justification…“The intention is to study a UE feature and parameter list with lower end capabilities, relative to Release 16 eMBB and URLLC NR to serve the three use cases mentioned above.”… |
| FUTUREWEI | Y | Agree with the rapporteur intent, and that it should be kept simple. In the end of course we will likely have some new capabilities also but no need to mention here. On which release, also feel that rel-16 is better given the SID even if the e.g. bandwidth is a Rel-15 value. We are ok with almost any way you want to handle as long as still simple – change rel-15 to rel-15/16, rel-16, or copy part or all of the SID text. We do not think we need to be mentioning optional or mandatory in the term. |
| Rapporteur (Ericsson) | The RAN1 chairman has provided the following suggestion on the RAN1 reflector:

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| Thanks for the good discussion so far. We’re now at the first check point.Considering the inputs so far, my suggestion is to take the following as the definition:* RedCap UE: For convenience only, a RedCap UE refers to a NR UE with reduced capabilities with details described herein.

Hopefully it’s agreeable to everyone. |

The suggestion from the RAN1 chairman is reflected in [RedCapTRupdate-v000.docx](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_103-e/Inbox/drafts/8.6/TRupdate/TP/RedCapTRupdate-v000.docx), which can be used as a baseline for further updates based on agreements in other RedCap email discussions. |
| Rapporteur (Ericsson) | The endorsed TR38.875 V0.0.3 has been uploaded in R1-2009490 ([Inbox](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_103-e/Inbox/R1-2009490.zip), [Docs](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_103-e/Docs/R1-2009490.zip)). |
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The proposal from the FLs for agenda items 8.6.1 and 8.6.3 is to modify the TR template according to the TP below. With this structure, Section 9.1 includes link budgets and identifies the need for coverage recovery for different channels, and the following sections (9.2 and onwards) describe the coverage recovery features per channel. Impact to network capacity and spectral efficiency is captured in a new Chapter “X” (which will be Chapter 10 assuming that it is practical to renumber the current Chapter 10 and onwards). Other sections, such as Section 7.8.3 (on performance impacts for combinations of UE complexity reduction features), can refer to these chapters as needed.

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| 9 Coverage recovery9.1 Introduction to coverage recovery[Editor’s Note: Include link budgets][Editor’s Note: Separate subsections for different bands/scenarios can be introduced if needed]9.x Coverage recovery for [CHANNEL]9.x.1 Description of coverage recovery features9.x.2 Analysis of coexistence with legacy UEs9.x.3 Analysis of specification impactsX Impact to network capacity and spectral efficiency[Editor’s Note: Impact to network capacity and spectral efficiency due to potential UE complexity reduction features, coverage recovery and reduced antenna efficiency][Editor’s Note: Separate subsections for different bands/scenarios can be introduced if needed] |

**Question 2: Can the proposed structure for the chapters on coverage recovery (Chapter 9) and impact to network capacity and spectral efficiency (Chapter “X”) be adopted? If not, please comment or provide suggested revisions.**

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| **Company** | **Y/N** | **Comments** |
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**Question 3: Are there any aspects related to any previous agreements that need to be captured in the TR that are not covered in email discussions for 8.6.1, 8.6.2, 8.6.3, 8.6.4, and 8.6.5? If so, please comment.**

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| **Company** | **Y/N** | **Comments** |
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