**3GPP TSG-RAN WG2 Meeting #124 R2-231xxxx**

**Chicago, USA, Nov 13th-17th, 2023**

**Source: ZTE Corporation**

**Title: Open issue list for Rel-18 CE UP**

**Agenda item:** **7.21.1**

**Document for:** **Discussion and decision**

# Introduction

This document provides the remaining UP open issue list for Rel-18 coverage enhancement, it is part of the following email discussion:

* [POST123bis][853][CE\_enh] UP running CR and open issues (ZTE)

Scope and intended outcome:

1.     Update the running CR with agreements from the meeting

2.     Rapporteur to propose resolutions for straightforward open issues which can already be included in the running CR

3.     For Stage 3 running CRs, get input on stage-3 issues that require further input from companies to make a decision:

Focus on stage-3 issues which are better handled via offline, e.g. signaling details, parameter values/ranges, NOT functionality discussion. For these issues, if any, the CR rapporteur should submit a separate report with proposals to the next meeting by the submission deadline, while input via company Tdocs should be avoided

4.     Identify the remaining open issues that need to be solved for WI completion in the next meeting:

Company Tdocs for the next meeting should focus on these issues

Deadline: Long

# Open issues

Below tables summarizes the remaining UP open issues for Rel-18 CE.

* **Each open issue** is associated with **suggested treatment/handling**.
  1. **Type 1: Company input into [POST123bis][853] MAC running CR (i.e. no company tdocs)**
  2. Type 2: Company tdocs invited.
  3. Type 3: Other, e.g. pending on other WG (RAN1 or RAN4) etc.

Regarding Msg1 repetition:

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| --- | --- | --- | --- |
| **OI Index** | **Open issue** | **Rapporteur comment** | **OI type** |
| **1-1** | How to capture the RACH resource (set) selection, fallback mechanism in MAC spec. | Please provide comments to [Post123bis][853] MAC CR.  Company contribution is needed only if big issue is identified. | Type 1 |
| **1-2** | After fallback from CFRA with Msg1 repetition to CBRA with Msg1 repetition (with the same number), whether the UE can further fallback to higher number if fallback condition is met . | In current MAC running CR, this is not supported, companies who want to support this scenario can provide comments to [Post123bis][853] MAC CR or provide company contribution. TP is mandatory if you want to support this. | Type 1 or Type 2 |
| **1-3** | If CFRA with Msg1 repetition for CHO is supported and CFRA resources can be associated with multiple repetition numbers, then whether/how to support the fallback from CFRA with Msg1 repetition to CBRA with Msg1 repetition.  (Note: this is different from normal CFRA in which only one repetition number can be indicated) | Whether to support this scenario is now discussed in CP email discussion [Post123bis][851]. Proponent of the scenario are invited to provide contribution to express your views and MAC TP. | Type 2 |
| **1-4** | For Msg1-based SI request with Msg1 repetition, how to capture the RACH resource selection in spec (in RRC or in MAC). | Based on the POST email discussion on RRC and MAC CR, there seems to be some coordination between RRC and MAC. Company contribution is welcome. | Type 2 |
|  |  |  |  |

Regarding PHR for assumed PUSCH:

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| --- | --- | --- | --- |
| **OI Index** | **Open issue** | **Rapporteur comment** | **OI type** |
| **2-1** | How to define the format of Multiple Entry PHR with assumed PUSCH MAC CE.  e.g. whether to introduce additional E1~Ex fields to indicate the presence of Pcmax,f,c for assume PUSCH for each serving cell. | Relates to section “6.1.3.X Multiple Entry PHR with assumed PUSCH MAC CE” in draft MAC CR. | Type 1 or Type 2 |
| **2-2** | How to specify the triggering of new MAC CE in MAC spec | Relates to section “5.4.6 Power Headroom Reporting” in TS 38.321. | Type 1 or Type 2 |
|  |  |  |  |

Regarding DPC (delta power class):

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| --- | --- | --- | --- |
| **OI Index** | **Open issue** | **Rapporteur comment** | **OI type** |
| **3-1** | How to specify the DPC reporting (e.g. design of MAC CE, triggering condition, etc). | Wait for RAN4/1 reply LS to R2-2311611.  But companies are allowed to express your views regarding the new LS (R4-2317768), we may not be able to move forward unless there is clear consensus. | Suggest Type 3,  Type 2 is allowed. |
| **3-2** | Impact on full-power MIMO transmission capability and configuration | Wait for more inputs from RAN4/1.  But companies are allowed to express your views regarding the new LS (R4-2317768), we may not be able to move forward unless there is clear consensus. | Suggest Type 3,  Type 2 is allowed. |
|  |  |  |  |

# Reference

[1] draft MAC running CR;

[2] draft RRC running CR.