**3GPP TSG-RAN WG1 Meeting #105-eR1-210xxxx**

**e-Meeting, May 10th – 27th, 2021**

**Agenda item:** **7.1**

**Source: Moderator (Apple Inc.)**

**Title: Summary of email discussion [105-e-NR-7.1CRs-09] on the correction for UL cancellation due to DCI format 2\_0**

**Document for: Discussion and Decision**

# 1 Introduction

This contribution provides the summary for the following email discussion in RAN1#105-e:

**Issue#23**

[R1-2105077](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_105-e/Docs/R1-2105077.zip) Correction on UL cancellation due to DCI format 2\_0 Apple

[R1-2105078](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_105-e/Docs/R1-2105078.zip) Correction on UL cancellation due to DCI format 2\_0 Apple

[105-e-NR-7.1CRs-09] Issue#23: Correction on UL cancellation due to DCI format 2\_0 – Sigen (Apple) by May 25

Section 2 provides the background information for the issues raised in R1-2105077 and R1-2105078. Section 3 captures the detailed email discussions. Section 4 summarizes the outcome of the email discussion.

# 2 Background

In RAN1 #103e, the following agreement was made:

**Agreements:**

* **Clarify that partial cancelation of PUCCH/PUSCH/PRACH triggered by dynamic SFI or dynamically assigned PDSCH/CSI-RS is not supported in Rel-15**
  + **Prepare CR for above clarification in next meeting**
* **Introduce a new Rel-16 FG for partial cancelation of PUCCH/PUSCH/PRACH as below**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **FG 22-x** | **Cancellation of PUCCH, PUSCH or PRACH with a DCI scheduling a PDSCH or CSI-RS or a DCI format 2\_0 for SFI** | **A UE supports the partial cancellation of the SRS or PUCCH or PUSCH or PRACH configured transmission:**   * **The UE cancels the configured PUCCH or PUSCH or PRACH in a set of symbols of a slot due to detection of a DCI format 2\_0 with a slot format value other than 255that indicates a slot format with a subset of symbols from the set of symbols as downlink or flexible** * **The UE cancels the configured PUCCH or PUSCH or PRACH in a set of symbols of a slot due to the detection of a DCI format 1\_0, DCI format 1\_1, DCI format 1\_2 or DCI format 0\_1 and DCI format 0\_2 indicating to the UE to receive CSI-RS or PDSCH in a subset of symbols from the set of symbols.** |  | **Yes** | **N/A** |  | **Per FS** | **n/a** | **n/a** | **n/a** |  | **Optional with capability signalling** |

The corresponding CRs were agreed in RAN1#104-e in [R1-2101990](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_104-e/Docs/R1-2101990.zip) (Rel. 15) and [R1-2101991](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_104-e/Docs/R1-2101991.zip) (Rel.16).

However, the case when DCI format 2\_0 is not detected by the UE was not changed accordingly in the agreed CRs. Draft CRs were proposed in:

* [R1-2105077](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_105-e/Docs/R1-2105077.zip) (Rel-15) to clearly capture that only full cancellation is supported for configured PUCCH/PUSCH/PRACH if DCI format 2\_0 is not detected by the UE.
* [R1-2105078](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_105-e/Docs/R1-2105078.zip) (Rel-16) to clearly capture that the behavior of partial or full cancellation for configured PUCCH/PUSCH/PRACH depending on UE capability if DCI format 2\_0 is not detected by the UE.

# 3 Email Discussions

## 3.1 First Round of Email Discussion

Companies are invited to provided comments on the draft CRs in [R1-2105077](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_105-e/Docs/R1-2105077.zip) (Rel-15) and [R1-2105078](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_105-e/Docs/R1-2105078.zip) (Rel-16).

**For the draft CR in** [**R1-2105077**](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_105-e/Docs/R1-2105077.zip) **(Rel-15), please indicate if you support it in principle.**

|  |  |
| --- | --- |
| **Yes** | CATT, vivo, Samsung, Huawei, Ericsson |
| **No** | OPPO, NTT DOCOMO, ZTE |

**Companies please provide detailed comments on the draft CR in** [**R1-2105077**](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_105-e/Docs/R1-2105077.zip) **(Rel-15), if any.**

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| **Company** | **Comments** |
| OPPO | Firstly, the referred RAN1 agreement talks about something triggered by dynamic SFI, while the CR in R1-2105077 is about something relating to semi-statically configured CORESET occasion. We do no see the linkage between the two. The proposed CR may need a separate RAN1 agreement for a new UE behavior.  Secondly, the fact of “UE does not detect a DCI format 2\_0” could be based on that “gNB does not send DCI format 2\_0 at all (there is no mandating requirement for gNB to send every DCI format 2\_0)”, and the concerned CORESET could be configured to contain other DCI formats like 2\_x besides 2\_0. Then the question is why the concerned Rel-15 behavior (only full cancellation) should be linked to a condition of “UE does not detect DCI format 2\_0” rather than some condition like “UE performs DCI detection at the configured CORESET resource”? |
| vivo | Based on the principle of the agreement made in RAN1#103e meeting that Rel-15 does not support partial cancellation for PUSCH, PUCCH and PRACH and Rel-16 support the partial cancellation based on UE capability, we support the draft CRs. |
| Samsung | We prefer similar text as what we agreed in case of DCI detection. |
| NTT DOCOMO | Agreement is following.  Agreements:   * Clarify that partial cancelation of PUCCH/PUSCH/PRACH triggered by dynamic SFI or dynamically assigned PDSCH/CSI-RS is not supported in Rel-15   + Prepare CR for above clarification in next meeting * Introduce a new Rel-16 FG for partial cancelation of PUCCH/PUSCH/PRACH as below   …  This is clearly saying as partial cancellation triggered by dynamic SFI or dynamically assigned PDSCH/CSI-RS. This CR is different situation. To agree this CR, new agreement is needed, which would be NBC. |
| ZTE | We acknowledge this is an issue that we need to address. However, we share the same view as other companies, it is better to have a separate discussion to agree on some agreements first. Then, we can work on the CR based on the new RAN1 agreements. Also, we may need to work on the UE feature list, i.e., introducing new UE feature or updating the existing UE feature. |
| Huawei | Ok |
| Ericsson | We are OK in principle.  The reason we are supportive is that our understanding of the discussion in UE features that led to the cited agreement was to introduce capability for “partial cancellation”. In that light, it seemed this reason was missed, and we are fine to include that.  However, it seems it needs to be reflected on UE features accurately as well, that covers only misdetection of DCI 2\_0. Also, the CR can be perhaps improved if considered with previous case ina more compact way. |

**For the draft CR in** [**R1-2105078**](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_105-e/Docs/R1-2105078.zip) **(Rel-16), please indicate if you support it in principle.**

|  |  |
| --- | --- |
| **Yes** | CATT, Samsung, Huawei, Ericsson |
| **No** | OPPO, NTT DOCOMO, ZTE |

**Companies please provide detailed comments on the draft CR in** [**R1-2105078**](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_105-e/Docs/R1-2105078.zip) **(Rel-16), if any.**

|  |  |
| --- | --- |
| **Company** | **Comments** |
| OPPO | Our above two comments for Rel-15 CR in R1-2105077 still apply here.  In addition, the proposed UE behavior of partial cancellation upon condition of “DCI format 2\_0 not detected” is not listed in Rel-16 UE FG 22-x (as given background section). It seems RAN1 needs to firstly reach certain new agreement in UE feature session (for the proposed UE behavior) and to update it with RAN2, before agreeing the proposed changes in R1-2105078 to 38.213. |
| Samsung | We prefer similar text as what we agreed in case of DCI detection. |
| NTT DOCOMO | The introduced UE capability ‘partialCancellationPUCCH-PUSCH-PRACH-TX-r16’ is described as follows in 306. This CR is different situation.  ***partialCancellationPUCCH-PUSCH-PRACH-TX-r16***  Indicates whether UE supports the partial cancellation of the configured PUCCH or PUSCH or PRACH transmission in set of symbols of a slot due to:   * Detection of a DCI format 2\_0 with a slot format value other than 255 that indicates a slot format with a subset of symbols from the set of symbols as downlink or flexible, and * Detection of a DCI format 1\_0, DCI format 1\_1, DCI format 1\_2 or DCI format 0\_1 and DCI format 0\_2 indicating to the UE to receive CSI-RS or PDSCH in a subset of symbols from the set of symbols. |
| ZTE | To be safe, it is better to work on the UE feature first. If RAN1 makes agreements on corresponding UE feature, i.e., introducing new UE feature or updating the existing UE feature, then we can come back to this issue. |
| Huawei | Ok |
| Ericsson | Similar comment as previous one. |

# 4 Outcome of the Email Discussion

# References