3GPP TSG-RAN WG1 Meeting #107-e Tdoc R1-2112709

e-Meeting, November 11th – 19th, 2021

**Agenda item: 7.1**

**Source: Moderator (Ericsson)**

**Title: Summary of [107-e-NR-7.1CRs-07] on semi-persistent CSI reporting on PUSCH in TS 38.214**

**Document for: Discussion and Decision**

# Introduction

This document is an email discussion summary of the RAN1#107 email discussion thread:

[107-e-NR-7.1CRs-07] Issue#12: draftCR on semi-persistent CSI reporting on PUSCH in TS 38.214 by Nov 17 – Jianwei (Ericsson)

The thread was triggered by the following Tdoc:

[**R1-2111669**](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_107-e/Docs/R1-2111669.zip) draftCR on semi-persistent CSI reporting on PUSCH in TS 38.214 (Rel-15) Ericsson

The intension of the draft CR is to correct the description in 38.213 where the validation procedure for PDCCH triggering semi-persistent CSI reporting on PUSCH is associated with DL semi-persistent assignment.

##### 5.2.1.5.2 Semi-persistent CSI/Semi-persistent CSI-RS

…

A codepoint of the CSI request field in the DCI is mapped to a SP-CSI triggering state according to the order of the positions of the configured trigger states in *CSI-SemiPersistentOnPUSCH-TriggerStateList*, with codepoint '0' mapped to the triggering state in the first position. A UE validates, for semi-persistent CSI activation or release, a semi-persistent CSI reporting on PUSCH ~~DL semi-persistent~~ PDCCH on a DCI only if the following conditions are met:

- the CRC parity bits of the DCI format are scrambled with a SP-CSI-RNTI provided by higher layer parameter *sp-CSI-RNTI*

- Special fields for the DCI format are set according to Table 5.2.1.5.2-1 or Table 5.2.1.5.2-2.

The correction has be acknowledge to be technically valid from most companies. However some of the companies commented that the proposed spec change could be improved. Therefore I would like to invite comments on text improvement for this CR.

# TP suggestion

## Discussion round 1

**Please provide your comments on TP for this CR.**

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| **Company Name** | **Comments** |
| Huawei | Personally, I don’t see much issue of orginal text. But if the group does not like the word of “SP assignement PDCCH”, we can simply remove them. We have clear definition of what UE will validate and what UE reaction will be therefore. The sentence seems to be clear enough.  “*A codepoint of the CSI request field in the DCI is mapped to a SP-CSI triggering state according to the order of the positions of the configured trigger states in CSI-SemiPersistentOnPUSCH-TriggerStateList, with codepoint '0' mapped to the triggering state in the first position. A UE validates, for semi-persistent CSI activation or release, a ~~DL semi-persistent assignment~~ PDCCH on a DCI only if the following conditions are met*”  “*If validation is achieved, the UE considers the information in the DCI format as a valid activation or valid release of semi-persistent CSI transmission on PUSCH, and the UE activates or deactivates a CSI Reporting Setting indicated by CSI request field in the DCI. If validation is not achieved, the UE considers the DCI format as having been detected with a non-matching CRC*” |
| Qualcomm | Prefer HW’s wording by just removing “DL semi-persistent assignment”. |
| vivo | Also fine with HW’s wording for simplicity. |
| Apple | We prefer HW’s suggestion. The wording in the draft CR is a bit confusing. |
| Samsung | We agree with the proposed CR’s intention. However, the proposed text seems need to changes for avoiding misinterpretation. So, we would like to suggest as below  “*~. A UE validates~~, for semi-persistent CSI activation or release, a DL semi-persistent assignment~~ semi-persistent CSI activation or deactivation PDCCH on a DCI only if the following conditions are met*” |
| OPPO | We prefer HW’s wording. |
| Sharp | We support HW’s wording. |
| ZTE | We are fine with the wording from HW. |
| Ericsson | We are fine with either the wording from Samsung, or the simple version suggested by HW. |
| Intel | Prefer Samsung’s wording |
| LG | We are also fine with either Samsung’s wording or HW’s wording. |
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## Discussion round 2 (email discussion)

After reading the summary, I see we are converged to two TP versions.

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| **TP1** | A codepoint of the CSI request field in the DCI is mapped to a SP-CSI triggering state according to the order of the positions of the configured trigger states in CSI-SemiPersistentOnPUSCH-TriggerStateList, with codepoint '0' mapped to the triggering state in the first position. A UE validates, for semi-persistent CSI activation or release, a~~DL semi-persistent assignment~~PDCCH on a DCI only if the following conditions are met:  -    the CRC parity bits of the DCI format are scrambled with a SP-CSI-RNTI provided by higher layer parametersp-CSI-RNTI  -    Special fields for the DCI format are set according to Table 5.2.1.5.2-1 or Table 5.2.1.5.2-2. |
| **TP2** | A codepoint of the CSI request field in the DCI is mapped to a SP-CSI triggering state according to the order of the positions of the configured trigger states in CSI-SemiPersistentOnPUSCH-TriggerStateList, with codepoint '0' mapped to the triggering state in the first position. A UE validates, ~~, for semi-persistent CSI activation or release, a DL semi-persistent assignment~~semi-persistent CSI activation or deactivation PDCCH on a DCI only if the following conditions are met:  -    the CRC parity bits of the DCI format are scrambled with a SP-CSI-RNTI provided by higher layer parametersp-CSI-RNTI  -    Special fields for the DCI format are set according to Table 5.2.1.5.2-1 or Table 5.2.1.5.2-2. |

**For the second round of email discussion, please provide your preference in the tables below.**

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| **TP1** | **Support** | **Can accept** | **Object** |
|  | ZTE, Qualcomm, Huawei, Apple, LG, Spreadtrum, OPPO, vivo | Ericsson, Samsung |  |

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| **TP2** | **Support** | **Can accept** | **Object** |
|  | Ericsson, Intel, Samsung | Spreadtrum |  |

**Please provide additional Comments if any here.**

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| **Company** | **Comments** |
| Qualcomm | TP2 sounds still a bit awkward. |
| Huawei | Same feeling as Qualcomm |
| Apple | Agree with QC and Huawei on the wording in TP2. If we really want to go towards the direction of TP2, we would like to suggest “A UE validates a PDCCH for semi-persistence CSI activation or deactivation on a DCI”, but then it becomes very similar to TP1.  Also the spec seems to use “deactivation” and “release” somewhat exchangeably. It uses “release” also in the sentence “If validation is achieved, the UE considers the information in the DCI format as a valid activation or valid release of semi-persistent CSI transmission on PUSCH”, but uses “deactivation” in the title of the table “Table 5.2.1.5.2-2: Special fields for semi-persistent CSI deactivation PDCCH validation”.  Not sure whether companies have the preference to align them or not. We are fine either way. |
| Samsung | We are fine either way. And, we agree with apple’s comment. The reason for the suggestion of TP2 was that there are “semi-persistent activation” / “semi-persistent deactivation” text in the title of the table 5.2.1.5.2-1, 5.2.1.5.2-2. |
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# **Summary**

Based on number of supported company for each TP in Round 2 discussion, and there’s company objecting any of the TPs, TP1 is suggested to be adopted in the CR.

**CR0217** (R1-2112710) for Rel-15 and **CR0218 (**R1-2112711**)** for Rel-16.

A codepoint of the CSI request field in the DCI is mapped to a SP-CSI triggering state according to the order of the positions of the configured trigger states in CSI-SemiPersistentOnPUSCH-TriggerStateList, with codepoint '0' mapped to the triggering state in the first position. A UE validates, for semi-persistent CSI activation or release, a~~DL semi-persistent assignment~~PDCCH on a DCI only if the following conditions are met:

-    the CRC parity bits of the DCI format are scrambled with a SP-CSI-RNTI provided by higher layer parametersp-CSI-RNTI

-    Special fields for the DCI format are set according to Table 5.2.1.5.2-1 or Table 5.2.1.5.2-2.