**3GPP TSG RAN WG1 #104-e R1-21xxxxx**

**e-Meeting, January 25th – February 5th, 2021**

**Agenda item:** 7.1

**Source:** Moderator (Sharp)

**Title:** Summary of [104-e-NR-7.1CRs-06] Correction on MCS values for PT-RS time density determination in TS 38.214

**Document for:** Discussion and Decision

# Introduction

This document is a summary of email discussion “*[104-e-NR-7.1CRs-06] Correction on MCS values for PT-RS time density determination in TS 38.214*”, which was triggered by the draft CR in R1-2101529 [1].

In R1-2101529 [1] it was observed that the following highlighted changes were missed when the corresponding TP (which was agreed in RAN1#94) was captured in the approved CR from the Editor as the outcome of email thread "*[94-NR-01-214] 38.214 CR*". It was proposed in R1-2101529 [1] to (re)introduce the highlighted changes in TS 38.214.

|  |
| --- |
| Agreement  The TP for section 5.1.6.3 and 6.2.3 in 38.214 as follows:  ----------------------------------------------------Start of TP -----------------------------------------------------------  […]  6.2.3.1 UE PT-RS transmission procedure when transform precoding is not enabled  **< Unchanged parts are omitted >**  The higher layer parameter *PTRS-UplinkConfig* provides the parameters *ptrs-MCSi*, *i*=1,2,3 andwith values in 0-29 when MCS Table 5.1.3.1-1 or Table 5.1.3.1-3 is used ~~configured~~, and 0-28 when MCS Table 5.1.3.1-2 is used ~~configured~~, respectively. *ptrs-MCS4* is not explicitly configured by higher layers but assumed 29 when MCS Table 5.1.3.1-1 or Table 5.1.3.1-3 is used ~~configured~~, and 28 when MCS Table 5.1.3.1-2 is used ~~configured~~. The higher layer parameter *PTRS-UplinkConfig* provides the parameters *NRBi**i*=0,1with values in range 0-276.  **< Unchanged parts are omitted >**  ----------------------------------------------------End of TP ------------------------------------------------------------ |

# Summary of the inputs to the Preparation Phase

During the preparation phase, 13 companies provided their initial views on this issue, wherein 12 companies were OK with an email discussion in the meeting, while 1 company commented that “*this CR has already been adopted in R1-2001210. It seems the changes are missing in TS38.214. We may directly make the specification changes without any further discussions*”.

It is noted that the changes as adopted in R1-2001210 are as follows, which are targeting a different paragraph than the one in R1-2101529 [1]. The contents of R1-2001210 were incorporated in R1-2001476 which was agreed in RAN1#100-e meeting, and R1-2001476 was then approved as part of RP-200181 in RAN#87-e meeting (see the change history of TS 38.214).

|  |
| --- |
| When a UE is scheduled to transmit PUSCH for retransmission, if the UE is scheduled with *IMCS* > *V*, where *V* = 28 for MCS Table 5.1.3.1-1 and MCS Table 5.1.3.1-3 and *V* = 27 for MCS Table 5.1.3.1-2, respectively, the MCS for PT-RS time-density determination is obtained from the DCI for the same transport block in the initial transmission, which is smaller than or equal to V. |

# Phase-1: Determination of whether the changes proposed in R1-2101529 [1] are necessary

Please firstly provide your views on whether the changes proposed in R1-2101529 [1] are necessary.

|  |  |
| --- | --- |
| **Company** | **View** |
| Intel | Support TP |
| ZTE | Support this TP |
| OPPO | Ok |
| vivo | Support. |
| Apple | Support the TP. |
| Huawei, HiSilicon | OK |
| Samsung | Support |
| CATT | Support |
| Ericsson | Support |
| Docomo | Support |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

# Phase 2: TBD

TBD

# Summary and Conclusion

TBD

# Reference

[1] R1-2101529, “Correction on MCS values for PT-RS time density determination in TS 38.214”, Sharp, RAN1#104-e.

[2] R1-2101769, “RAN1#104-e preparation phase final summary on NR Rel-15 CRs”, Ad-hoc chair (Samsung), RAN1#104-e.