**3GPP TSG RAN WG1 #117 R1-240xxxx**

**Fukuoka City, Fukuoka, Japan, May 20th – 25th, 2024**

**Source: Moderator (OPPO)**

**Title: Summary #2 on Rel-18 STxMP**

**Agenda Item: 8.1**

**Document for: Discussion and Decision**

# Introduction

This document summarizes draft CRs on Rel-18 STxMP proposed in company contributions of AI 8.1.

# TP on that PUSCH+PUSCH is allowed only when mDCI STxMP is configured

This TP was discussed online and Google commented that the case STxMP PUSCH+PUSCH with same HARQ ID will be included if the proposed change is adopted. That is why they proposed to include one more sentence to clarify the two PUSCHs associated with same HARQ ID can not be overlapping:

|  |
| --- |
| 6.1 UE procedure for transmitting the physical uplink shared channel  <Unchanged parts omitted>  When the UE is scheduled with multiple PUSCHs on a serving cell by a DCI, HARQ process ID indicated by this DCI applies to the first PUSCH not overlapping with a DL symbol indicated by *tdd-UL-DL-ConfigurationCommon* or *tdd-UL-DL-ConfigurationDedicated* if provided, or a symbol of an SS/PBCH block with index provided by *ssb-PositionsInBurst*, HARQ process ID is then incremented by 1 for each subsequent PUSCH(s) in the scheduled order, with modulo operation of *nrofHARQ-ProcessesForPUSCH* applied if *nrofHARQ-ProcessesForPUSCH* is provided, or with modulo operation of *nrofHARQ-ProcessesForPUSCH-r17* applied if *nrofHARQ-ProcessesForPUSCH-r17* is provided, or with modulo operation of 16 applied, otherwise. HARQ process ID is not incremented for PUSCH(s) not transmitted if at least one of the symbols indicated by the indexed row of the used resource allocation table in the slot overlaps with a DL symbol indicated by *tdd-UL-DL-ConfigurationCommon* or *tdd-UL-DL-ConfigurationDedicated* if provided, or a symbol of an SS/PBCH block with index provided by *ssb-PositionsInBurst*. Except for the case when the UE is configured with *sTx-2Panel* and theUE is configured by higher layer parameter *PDCCH-Config* that contains two different values of *coresetPoolIndex* in *ControlResourceSet* for the active BWP of a serving cell and PDCCHs that schedule two PUSCHs are associated to different *ControlResourceSets* having different values of *coresetPoolIndex,* for any HARQ process ID(s) in a given scheduled cell, the UE is not expected to transmit a PUSCH that overlaps in time with another PUSCH. The UE is not expected to transmit a PUSCH that overlaps in time with another PUSCH based on the same HARQ process ID in a given scheduled cell. Except for the case when a UE is configured by higher layer parameter *PDCCH-Config* that contains two different values of *coresetPoolIndex* in *ControlResourceSet* for the active BWP of a serving cell and PDCCHs that schedule two PUSCHs are associated to different *ControlResourceSets* having different values of *coresetPoolIndex,* for any two HARQ process IDs in a given scheduled cell, if the UE is scheduled to start a first PUSCH transmission starting in symbol *j* by a PDCCH ending in symbol *i* on a scheduling cell,, the UE is not expected to be scheduled to transmit a PUSCH starting earlier than the end of the first PUSCH by a PDCCH that ends later than symbol *i* of the scheduling cell. When the PDCCH reception includes two PDCCH candidates from two respective search space sets, as described in clause 10.1 of [6, TS 38.213], for the purpose of determining the PDCCH ending in symbol *i*, the PDCCH candidate that ends later in time is used. The UE is not expected to be scheduled to transmit another PUSCH by a DCI format 0\_0 with CRC scrambled by TC-RNTI, for a given HARQ process with the DCI received before the end of the expected transmission of the last PUSCH for that HARQ process if the latter is scheduled by a DCI format 0\_0 with CRC scrambled by TC-RNTI or by an UL grant in RA Response. The UE is not expected to be scheduled to transmit another PUSCH by DCI format 0\_0, 0\_1, 0\_2 or 0\_3 scrambled by C-RNTI, CS-RNTI or MCS-C-RNTI for a given HARQ process with the DCI received before the end of the expected transmission of the last PUSCH for that HARQ process if the latter is scheduled by a DCI with CRC scrambled by C-RNTI, CS-RNTI or MCS-C-RNTI.  <Unchanged parts omitted> |

**Proposal 5:** Adopt the above text proposal for TS 38.214

|  |  |
| --- | --- |
| **Company** | **Comments** |
| Mod00 | Please share your views on the TP |
|  |  |
|  |  |

# Proposals for Online Discussion