**3GPP TSG- RAN WG1 Meeting #106-e R1-21xxxxx**

**e-Meeting, August 16th – 27th, 2021**

Agenda Item: 8.1.2.2

Source: Apple Inc.

Title: Summary of Email discussion [106-e-NR-eMIMO-03]

Document for: Discussion/Decision

# Introduction

In this contribution, we provided a summary of email discussion [106-e-NR-eMIMO-03], which is to discuss the draft CR R1- 2107716 with the proposal as follows.

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| **7 Uplink Power control**Uplink power control determines a power for PUSCH, PUCCH, SRS, and PRACH transmissions. A UE does not expect to simultaneously maintain more than four pathloss estimates per serving cell for all PUSCH/PUCCH/SRS transmissions as described in clauses 7.1.1, 7.2.1, and 7.3.1, except for SRS transmissions configured by *SRS-PosResourceSet* as described in clause 7.3.1. If the UE is provided a number of RS resources for pathloss estimation for PUSCH/PUCCH/SRS transmissions that is larger than 4, the UE maintains for pathloss estimation RS resources corresponding to RS resource indexes $q\_{d}$ as described in clauses 7.1.1, 7.2.1, and 7.3.1. If an RS resource updated by MAC CE, as described in clauses 7.1.1, 7.2.1 and 7.3.1, is one from the RS resources the UE maintains for pathloss estimation for PUSCH/PUCCH/SRS transmissions, the UE applies the pathloss estimation based on the RS resources starting from the first slot that is after slot $k+3∙N\_{slot}^{subframe, μ}$ where $k$ is the last slot where the UE would transmit a PUCCH or PUSCH with HARQ-ACK information for the PDSCH providing the MAC CE and $μ $is the SCS configuration for the PUCCH or PUSCH, respectively*.*A PUSCH/PUCCH/SRS/PRACH transmission occasion $i$ is defined by a slot index $n\_{s,f}^{μ}$ within a frame with system frame number $SFN$, a first symbol $S$ within the slot, and a number of consecutive symbols $L$. For a PUSCH transmission with repetition Type B, a PUSCH transmission occasion is a nominal repetition [6, TS 38.214]. |

# Discussion

During the preparation phase, some companies think this is a common issue and the proposal should be common understanding.

**Q1: Do you think the action delay for the MAC CE for PL-RS update should be counted from the last slot of transmission of ACK?**

|  |  |
| --- | --- |
| Company | Views |
| ZTE | Yes |
| Intel | Yes |
| vivo | Yes |
| Lenovo/MotM | Yes |
| Samsung | Yes |
| Ericsson | Yes |
| OPPO | YEs |
| Qualcomm | Yes |
| LG | Yes |
| DOCOMO | Yes |
| Huawei, HiSilicon | Yes |

**Q2: Do you think action delay of other MAC CE, which is counted from the slot with ACK transmission, should use the same way as MAC CE for PL-RS update?**

|  |  |
| --- | --- |
| Company | Views |
| ZTE | Yes |
| Intel | Yes |
| vivo | Yes |
| Lenovo/MotM | Yes |
| Samsung | Yes |
| Ericsson | Yes |
| OPPO | Yes |
| Qualcomm | Yes |
| LG | Yes |
| DOCOMO | Yes |
| Huawei, HiSilicon | Yes |

**Q3: Do you think whether a conclusion is sufficient or we should change the corresponding spec to make it clear, e.g. to endorse the draft CR?**

|  |  |
| --- | --- |
| Company | Views |
| ZTE | We prefer to have a general conclusion for RAN1 common understanding on this issue. But, if only applying to PL-RS is agreed, unfortunately, we can live with the draft CR. |
| Intel | We are fine with conclusion, but prefer CR to make spec clearer |
| vivo | A conclusion would be fine. |
| Lenovo/MotM | We prefer to have a conclusion. |
| Samsung | A conclusion would be sufficient. |
| Ericsson | A general conclusion is crucial. Otherwise, we have an NBC issue with R15 specs as well.  |
| OPPO | A general conclusion on MAC CE would be preferred to avoid changing everywhere in the specs |
| Qualcomm | We prefer to have CR. The issue indeed has ambiguity.  |
| LG | We believe that it is a common understanding that k refers to the last slot of HARQ-ACK when HARQ-ACK is repeated across multiple consecutive slots via PUCCH/PUSCH repetition for all spec text describing timing of k+X slots. If this needs to be clarified, it should be a general conclusion.  |
| DOCOMO | We prefer CR to avoid ambiguity of spec. Not all companies may check chairman’s note. We prefer to update all related part of specs. |
| Huawei, HiSilicon | Prefer a general conclusion.  |