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

**E-meeting, August 16th – 27th, 2021**

**Agenda Item: 7.2.7**

**Source: Huawei, HiSilicon**

**Title: Moderator summary of [106-e-NR\_UE\_Pow\_Sav-01]**

**Document for: Discussion and Decision**

# Introduction

This contribution is feature lead summary on email discussion/approval regarding issues #2 in [R1-2108188](file:///C%3A%5CUsers%5CT00496~1%5CAppData%5CLocal%5CDocs%5CR1-2108188.zip), as well as potential CRs, per the guidance from Chairman.

[106-e-NR\_UE\_Pow\_Sav-01] Email discussion/approval regarding issues #2 in [R1-2108188](file:///C%3A%5CUsers%5CT00496~1%5CAppData%5CLocal%5CDocs%5CR1-2108188.zip), as well as potential CRs – Xiaolei (Huawei)

* Discussion and decision by August 18, CR by August 20, final check by August 24

# Discussion and decision by August 18

It was proposed in [1] that in Clause 5.1.2.1 and 6.1.2.1 of TS 38.214, the condition of “it has not received 'Minimum applicable scheduling offset indicator' field in DCI format 0\_1 or 1\_1” is not correct and it should be “it has neither received 'Minimum applicable scheduling offset indicator' field in DCI format 0\_1 nor in DCI format 1\_1”. The proposed change in [1] is cited as following.

The consequences if the change is not approved is applying the lowest-indexed RRC configured value to the applicable minimum scheduling offset would be set in the unintended condition, e.g., 'Minimum applicable scheduling offset indicator' field is not received in DCI format 0\_1 but is received in DCI format 1\_1.

Besides the above change, a missed word “is” is also added in Clause 6.1.2.1 of TS 38.214.

|  |
| --- |
| 1. 5.1.2.1 Resource allocation in time domain

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Unchanged part omitted \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*When the UE is configured with *minimumSchedulingOffsetK0* in an active DL BWP it applies a minimum scheduling offset restriction indicated by the 'Minimum applicable scheduling offset indicator'field in DCI format 1\_1 or DCI format 0\_1 if the same field is available. When the UE is configured with *minimumSchedulingOffsetK0* in an active DL BWP and it has neither received 'Minimum applicable scheduling offset indicator' field in DCI format 0\_1 nor in DCI format 1\_1, the UE shall apply a minimum scheduling offset restriction indicated based on 'Minimum applicable scheduling offset indicator' value '0'. When the minimum scheduling offset restriction is applied the UE is not expected to be scheduled with a DCI in slot *n* to receive a PDSCH scheduled with C-RNTI, CS-RNTI or MCS-C-RNTI with *K*0 smaller than $ \left⌈K\_{0min}⋅\frac{2^{μ^{'}}}{2^{μ}}\right⌉$, where *K*0minand $μ$ are the applied minimum scheduling offset restriction and the numerology of the active DL BWP of the scheduled cell when receiving the DCI in slot *n,* respectively, and $μ^{'}$ is the numerology of the new active DL BWP in case of active DL BWP change in the scheduled cell and is equal to $μ$, otherwise. The minimum scheduling offset restriction is not applied when PDSCH transmission is scheduled with C-RNTI, CS-RNTI or MCS-C-RNTI in common search space associated with CORESET0 and default PDSCH time domain resource allocation is used, in the search space set provided by *recoverySearchSpaceId* when monitoring PDCCH as described in [6, TS 38.213] or when PDSCH transmission is scheduled with SI-RNTI, MSGB-RNTI or RA-RNTI. The application delay of the change of the minimum scheduling offset restriction is determined in Clause 5.3.1.\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Unchanged part omitted \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*1. 6.1.2.1 Resource allocation in time domain

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Unchanged part omitted \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*When the UE is configured with *minimumSchedulingOffsetK2* in an active UL BWP it applies a minimum scheduling offset restriction indicated by the '*Minimum applicable scheduling offset indicator*' field in DCI format 0\_1 or DCI format 1\_1 if the same field is available. When the UE is configured with *minimumSchedulingOffsetK2* in an active UL BWP and it has neither received '*Minimum applicable scheduling offset indicator*' field in DCI format 0\_1 nor in DCI format 1\_1, the UE shall apply a minimum scheduling offset restriction indicated based on '*Minimum applicable scheduling offset indicator*' value '0'. When the minimum scheduling offset restriction is applied the UE is not expected to be scheduled with a DCI in slot *n* to transmit a PUSCH scheduled with C-RNTI, CS-RNTI, MCS-C-RNTI or SP-CSI-RNTI with *K*2 smaller than$\left⌈K\_{2min}⋅\frac{2^{μ^{'}}}{2^{μ}}\right⌉$, where *K*2min and $μ$ are the applied minimum scheduling offset restriction and the numerology of the active UL BWP of the scheduled cell when receiving the DCI in slot *n*, respectively, and $μ^{'}$ is the numerology of the new active UL BWP in case of active UL BWP change in the scheduled cell and is equal to $μ$, otherwise. The minimum scheduling offset restriction is not applied when PUSCH transmission is scheduled by RAR UL grant or fallbackRAR UL grant for RACH procedure, or when PUSCH is scheduled with TC-RNTI. The application delay of the change of the minimum scheduling offset restriction is determined in Clause 5.3.1.\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Unchanged part omitted \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* |

Please provide your input/views on the above proposed change:

|  |  |
| --- | --- |
| Company | Comment |
| CATT | We don’t see the need of this CR. The proposed change has the same meaning as the current text in the specification. “Neither A nor B” is same meaning as “not A or B” in English.  |
| Samsung | We share the same with as CATT. The change doesn’t make any difference. There is nothing wrong with the current text, it is clear. So, we don’t think it should be agreed.  |
| Ericsson | We do not see any issue with the current specification.  |
| Nokia | Apart the missing ‘is’ in the Section 6.1.2.1, we share the view with other companies that the proposed change is not needed. |
| Qualcomm | As Nokia commented, the missing ‘is’ in Section 6.1.2.1 needs to be fixed. However, for the other proposed changes, we don’t see any strong need for them. In our view, the current expression is already clear and similar expression is commonly used throughout the standard documents. For example, in Section 5.2.1.5.1 in TS 38.214, we have the following sentence: “If the UE is not configured with *minimumSchedulingOffsetK0* for any DL BWP or *minimumSchedulingOffsetK2* for any UL BWP …”. |

# Conclusions

# References

1. [R1-2108188](file:///C%3A%5C%5CUsers%5C%5Ct00496347%5C%5CAppData%5C%5CLocal%5C%5CDocs%5C%5CR1-2108188.zip) Correction on cross-slot scheduling based power saving Huawei, HiSilicon