**3GPP TSG RAN WG2 Meeting #131bis R2-250xxxx
Prague, Czech Republic, 13 – 17 October 2025**

**Agenda item: 8.4.1**

**Source: Apple (Rapporteur)**

**Title: Open issues on Rel-19 LPWUS 38.321 CR**

**WID/SID: NR\_LPWUS-Core – Release 19**

**Document for: Discussion and Decision**

# 1 Introduction

As part of email discussion [Post131][213][LPWUS] CR for TS 38.321 (Apple)”, this document is to **collect open issues on Rel-19 LPWUS 38.321 CR (R2-2506613)**.

Companies are invited to provide input no later than **Friday September 19 18:00 UTC**.

## Contact information:

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# 2 Discussion

Rapporteur has not identified open issues related to Rel-19 LPWUS 38.321 CR. Companies are invited to describe any identified open issues in the table below.

|  |  |  |
| --- | --- | --- |
| **Company+issue #****(e.g. Apple 001)** | **Description of open issues and potential resolution** | **Rapporteur comment** |
| Eri-001 | RAN2 agreed:* For Option 1-2, UE does not start the lpwus-PDCCH-MonitoringTimer in collision cases, i.e. when the UE is not able to monitor the LP-WUS occasion(s). Can discuss if critical issue identified with this mechanism.

For certain configurations, where the LP-WUS monitoring occasions are sparse, e.g. smaller equal to the C-DRX cycle length, the UE becomes “temporarily” unreachable when it misses 2 or 3 consecutive LP-WUS occasions.The NW should be allowed to configure the number of consecutive LOs the UE is allowed to miss due to collisions before the UE needs to start the timer. |  |
| OPPO-001 | For a UE configured with both secondary DRX group and LP-WUS option 1-1 on PCell, there may be a case that primary DRX group is in short DRX cycle and secondary DRX group is in long DRX cycle. It is unclear whether UE monitors LP-WUS in this case. We need to discuss and clarify the UE behaviors. |  |
| ZTE-001 | For UE in RRC\_CONNECTED state, the condition for UE to monitor LP-WUS has been defined, but how NW knows that the UE is monitoring LP-WUS has not been specified, i.e., NW is not aware of whether UE monitors LP-WUS, and network behaviour is not defined.This results in misalignment, especially in option 1-2, UE starts *lpwus-PDCCH-MonitoringTimer* and monitors PDCCH when the LP-WUS monitoring condition is met, and UE starts drx-onDurationTimer and monitors PDCCH as legacy when the LP-WUS monitoring condition is not met. Since gNB does not know whether the LP-WUS monitoring condition is met or not, whether to send PDCCH based on LP-WUS mechanism or legacy mechanism cannot be decided, which result in ambiguity and potentially network resource waste.This issue should be discussed. |  |
| Vivo 001 | **UE behaviour when *lpwus-PDCCH-MonitoringTimer* is notrunning**For Option 1-2, when *lpwus-PDCCH-MonitoringTimer* is notrunning and UE is not in Active Time, the UE should follow the legacy behaviour as in non-active time, i.e. cannot transmit SRS or report CSI. But this condition is missed in the current specification. It should be updated as:1> else:2> in current symbol n, if a DRX group would not be in Active Time considering grants/assignments scheduled on Serving Cell(s) in this DRX group and DRX Command MAC CE/Long DRX Command MAC CE received and Scheduling Request sent until 4 ms prior to symbol n when evaluating all DRX Active Time conditions as specified in this clause; and2> if *lpwus-PDCCH-MonitoringTimer* is not running (if configured); and[…]3> not transmit periodic SRS and semi-persistent SRS defined in TS 38.214 [7] in this DRX group;3> not report CSI on PUCCH and semi-persistent CSI configured on PUSCH in this DRX group. |  |
| Vivo 002 | **CSI report behaviour during *lpwus-PDCCH-MonitoringTimer* is running**We have not extensively discussed the UE behaviour on CSI report during the PDCCH monitoring timer triggered by LP-WUS Option 1-2. It is better to discuss whether it would be same as the CSI report behaviour during active time within the *drx-onDurationTimer*, while the current specification means the behaviour is the same as in active time other than *drx-onDurationTimer*.  |  |
| Vivo 003 | **Whether/How to capture option 1-1/1-2 description in MAC or stage-2 specification**In the first version of MAC running CR, there was some description for “option 1-1” and “option 1-2”. And in the later version, it was removed based on companies’ comments. In the current MAC specification, option 1-2 is differentiated by the condition “if *lpwus-PDCCH-MonitoringTimer* is configured”. But the present condition for parameter “*lpwus-PDCCH-MonitoringTimer*” is “this field is mandatory present for option 1-2”. This leads to mutually dependent circular conditions. Besides, there are other configurations with the condition of option 1-1/option 1-2. To resolve above problem and simplify the description in RRC, we request to discuss how to capture the description in MAC or stage-2 for “option 1-1” “option 1-2” or some similar description.  |  |

# 3 Conclusion

In this contribution, we collect open issues of Rel-19 LPWUS 38.321 CR. Based on above discussion, following open issues are identified: