**3GPP TSG-RAN WG2 Meeting #121 R2-2302031**

**Athens, Greece, 27th Feb.– 3rd Mar., 2023**

Agenda item: 6.10.1

**Source: Huawei, HiSilicon**

**Title: Summary of [AT121][505][V2X/SL] R17 RRC corrections (Huawei)**

**Document for: Discussion and Decision**

# Introduction

This document summarizes the below offline discussion:

* [AT121][505][V2X/SL] R17 RRC corrections (Huawei)

 **Scope:** Discuss corrections in 2300387, R2-2301352, R2-2301376, R2-2301530, and R2-2301825.

 **Intended outcome:** 38.331 CR in R2-2302030 and discussion summary in R2-2302031.

**Deadline:** Comeback at 3/2 CB session

 Contact list:

|  |  |  |
| --- | --- | --- |
| Name | Company | email |
| Tao Cai | Huawei, HiSilicon | tao.cai@huawei.com |
| Qianxi Lu | OPPO | qianxi.lu@oppo.com |
| Giwon Park | LG | giwon.park@lge.com |
| Hidekazu Tsuboi | Sharp | tsuboi.hidekazu@sharp.co.jp |
| Xing Yang | Xiaomi | Yangxing1@xiaomi.com |
| Min Wang | Ericsson | Min.w.wang@ericsson.com |
| Xiao, XIAO | vivo | xiao.xiao@vivo.com |
| Ansab Ali | Intel Corporation | ansab.ali@intel.com |
| Jie Shi | CATT | shijie@catt.cn |
| Jing Han | Lenovo | Hanjing8@lenovo.com |
| Xinra Kung | ASUSTeK | Xinra\_Kung@asus.com |
| Qing Li | Qualcomm | qinli@qti.qualcomm.com |
| Chen Lin | ZTE | chen.lin23@zte.com.cn |

# Correction in R2-2300387

Rapporteur understands the intention is that adding suffix -16 is needed when there is no field (without suffix) is defined.

 

****

**Q1: Do your company agree to add "-r16" after sl-TxResourceReqlist and sl-TxInterestedFreqList and remove (without suffix) as in R2-2300387?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Agree/Disagree** | **Further comments** |
| **OPPO** | **Agree** |  |
| **LG** | **Agree** |  |
| **Xiaomi** | **Agree** |  |
| **Ericsson** | **Agree with sl-TxResourceReqlist** | **Suffix for sl-TxInterestedFreqList seems not needed, since there is no R17 field, right?** |
| Vivo | Agree | We think the suffix of the form "‑r16" is needed to indicate the corresponding field is introduced for the Rel-16 sidelink feature. |
| Intel | Agree |  |
| CATT | Agree |  |
| Huawei, HiSilicon | Agree |  |
| Lenovo | Agree |  |
| Qualcomm | Agree |  |
| ZTE | Agree |  |

On the proposed change on the first sentence of FD of sl-TxResourceReqList, rapporteur understands the current description is general enough to cover all the fields in the list, it is not critical to describe further the purpose of different fields. On the last sentence added by the proponent, rapporteur understands that similar sentence is used in RRC spec for the same type of extension.

**Q2: Do your company agree on the addition on the first sentence (1st) and last sentence (2nd) as in R2-2300387?**

|  |  |  |  |
| --- | --- | --- | --- |
| **Company** | **Agree/Disagree 1st** | **Agree/Disagree 2nd** | **Further comments** |
| **OPPO** | **No strong view** | **Disagree** | **For the 2nd change, it is just a normal NCE, do not see the need to further explain.** |
| **LG** | **Disagree** | **Disagree** | **The current description is clear. The correction is not needed.**  |
| **Xiaomi** | **Agree** | **Agree** | **The second sentence is essential to clarify the reported DRX is for which destination.** |
| **Ericsson** | **No strong view** |  |  |
| Vivo | Disagree | Agree | For the 1st change , we believe it’s not necessary change as the sidelink DRX info is also used to assist the gNB resource allocation in mode-1.For the 2nd change, as the destination identity is absent in the ***sl-TxInterestedFreqList-v1700*,** it’s better to make it clear that the corresponding sidelink DRX info is for which destination.  |
| Intel | No strong view | Agree |  |
| CATT | No strong view |  |  |
| Huawei, HiSilicon | Disagree | Agree |  |
| Lenovo | No strong view | Disagree |  |
| Qualcomm | No strong view |  |  |
| ZTE | Agree | Disagree | The 2nd change is a common understanding. |

# Change in R2-2301352

Rapporteur understands change proposed in R2-2301352 is to follow the latest RAN1 agreement and proposes to accept this change as the original FD was based on RAN1 agreement. Company can raise comments if disagree.



|  |  |
| --- | --- |
| **Company** | **Comments** |
|  |  |

# Change in R2-2301376



This minor issue here is about whether or not to add mode 1 condition in clause 5.8.3.1 "General", while the mode 1 conditions are already included in 5.8.3.2 and 5.8.3.3. It is not critical and more of editorial style however it is good to keep consistence for all the mode conditions in 5.8.3.1.

**Q3: Which option would your company support?**

**Option 1: Add mode-1 condition in 5.8.3.1 as in R2-2301376.**

**Option 2: Remove two existing mode-1 conditions in 5.8.3.1 as:**

****

**Option 3: No changes.**

|  |  |  |
| --- | --- | --- |
| **Company** | **Option** | **Further comments** |
| **OPPO** | **1 or 3** | **Although it is more of editorial, the bar can be lower for R17 CR, so either no change, or option-1 to make the intention more visible, both are fine for us.** |
| **LG** | **Option 1 or 3** |  |
| **Xiaomi** | **1** |  |
| **Ericsson** | **Option 1** | **Good to add Mode 1 condition to be aligned with the other cases.** |
| Vivo | Either Option 1 or Option 2, not acceptable for Option 3 | Though we are proponent of Option 1, Option 2 is also fine to us as long as the consistence is kept for all the mode conditions in 5.8.3.1. |
| Intel | Option 1 |  |
| CATT | Option1 or 3 |  |
| Huawei, HiSilicon | Option 2, option 3 |  |
| Lenovo | Option 1 | we think add mode 1 condition is clearer  |
| ASUSTeK | Option 1 |  |
| Qualcomm | Option 1 |  |
| ZTE | Option1 or 3 |  |

# Changes in R2-2301530

The motivation, changes in R2-2301530 and rapporteur comments are listed below. Besides, rapporteur wonder whether rewording as "value in number of symbols/slot lengths of the associated BWP " would remove the concern related to PDCCH?

|  |  |
| --- | --- |
| In the current specification, the value of the length of drx-HARQ-RTT-TimerSL and drx-RetransmissionTimerSL is in number of symbols or slots of the BWP where the PDCCH corresponding to the SL grant was transmitted. However, for SL configured grant type-1, there is no associated PDCCH and therefore no corresponding BWP for the UE to derive the numerology of the timers. Added a reference BWP for SL DRX configuration so that the UE can derive the symbol length for drx-HARQ-RTT-TimerSL and the slot length for drx-RetransmissionTimerSL for all SL grants. | It can be discussed whether the added scenario is valid or not. The last sentence of first FD, if agreed, shall be " Network only configures drx-ConfigSLExt when drx-ConfigSL is not configured."Whether PDCCH is present or not is not directly associated with CG types, with regard to how UE obtains the numerology of one BWP. CGs (type 1 and type 2) are configured within BWP config, at least CG type1 is initiated by RRC signaling using PDCCH.  |

**Q4: Would your company agree the changes in R2-2301530?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Agree/Disagree** | **Further comments** |
| **OPPO** | **Disagree but see comment** | **Firstly, we tend to agree it is a valid issue, i.e., for type-1 CG, there might be no dedicated BWP (one may say the RRC message would be sent using PDCCH, yet RRC message is a RRC layer PDU, rigorously, it can be segmented, and delivered using different carriers/BWPs.. which means multiple numerologies for UE to select from)****Then when it comes to the solution, we think R2 should try to find a BC way-out, from that perspective, we may still keep the current spec, so that in case of type-1 CG, and if the RRC message was sent using multiple carriers/BWPs, the selection of BWPs can be up to UE implementation. Which means network implementation should avoid such complicated case, and even if that happens, network should ensure the re-tx grant can arrive at UE regardless which BWP/numerology the UE selected to derive the timer length.**  |
| **LG** | **Agree with OPPO** | **We prefer to keep the current description at the moment.** |
| **Xiaomi** | **Disagree** | **We understand NBC change should be avoided. Maybe some clarification in procedural text can be added, e.g. refer to the active BWP in such case.** |
| **Ericsson** | **Disagree** | changes are not ok, the existing text is correct. In case of Mode 1 scheduling, when UE needs to start the timer, there was already at least one PDCCH transmission (e.g., the RRC signaling carrying the SL configured grant type 1. |
| vivo | Disagree | We prefer to avoid ASN.1 change to address the issue. Given that the UE is in RRC\_CONNECTED and always configured with an active downlink BWP in Uu, we can simply use the active downlink BWP for reference. For example:***drx-HARQ-RTT-TimerSL***Value in number of symbols of the active downlink BWP ~~where the PDCCH was transmitted~~. Value 0 is used in case *sl-PUCCH-Config* is not configured and the corresponding resource pool is not configured with PSFCH.***drx-RetransmissionTimerSL***Value in number of slot lengths of the active downlink BWP ~~where the PDCCH was transmitted~~. *sl0* corresponds to 0 slots, *sl1* corresponds to 1 slot, *sl2* corresponds to 2 slots, and so on. |
| Intel | Disagree | The solution proposed by vivo seems acceptable to us if we want to resolve this issue |
| CATT | Disagree | We prefer to find a NBC-way to solve this issue |
| Huawei, HiSilicon | Disagree |  |
| Lenovo | Disagree | Agree other companies comments that to find a NBC way to solve the problem |
| ASUSTeK | Agree | Proponent. As OPPO commented, the RRC message can be segmented and therefore there could be multiple PDCCHs such that the UE cannot determine one numerology if we follow the RRC signaling-carrying PDCCH transmission. In addition, it would be difficult to have the MAC entity realize which PDCCH transmission carries specific RRC messages (which are sent to upper layers).We also understand the concern from other companies about avoiding the NBC changes. Perhaps RAN2 can discuss and find a backward compatible solution (e.g. vivo and Xiaomi’s suggestions) in the future meetings. |
| QUalcomm | Disagree | If UE can get RRC configuration or DCI activation/scheduling, then the UE has figured out the numerology. |
| ZTE | Disagree |  |

# Changes in R2-2301825

Motivation, changes in R2-2301825 and rapporteur comments are listed below,

|  |  |
| --- | --- |
| Since CBR (Channel Busy Ratio) is an index that indicates the occupancy of the channel, it is appropriate to express it as being higher or lower (as described in 5.5.4.11), rather than being expressed as better or worse (as described in 6.3.2).To align the description for Event C1/C2, the modification for 6.3.2 should be needed. | Rapp understand that this is commonly used terminology in 331 for many triggering events. For triggering event, "becomes better than" and "become worse than", which to describe a "change of state", is more suitable than "is above", "is below" which are to describe a "state".  |

**Q5: Would your company agree the changes in R2-2301825?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Agree/Disagree** | **Further comments** |
| **OPPO** | **See comment.** | **Although the point by Rapp is valid, yet for CBR, when CBR is above a threshold, it is hard to say it is ‘better’, actually it should be ‘worse’, so somehow positive on this change.** **On the other hand, even without this CR, there is no ambiguity issue, so we can follow majority view on it.**  |
| **LG** | **Follow majority view.** |  |
| **Sharp (proponent)** | **Agree** | **It is not easy to consider that “CBR becomes better than threshold” is “channel becomes busy”. So, we think this sentence has ambiguity and modification is needed.**  |
| **Xiaomi** | **Agree** |  |
| **Ericsson** | **agree** |  |
| vivo | Agree |  |
| Intel | Follow majority view |  |
| CATT | Follow majority view |  |
| Huawei, HiSilicon | Disagree |  |
| Lenovo | Follow majority view |  |
| Qualcomm | Follow majority | The current text is not accurate but understandable. |
| ZTE | Follow majority view |  |

# Conclusions