**3GPP TSG-RAN WG2 Meeting #113bis-e**

***R2-210xxxx***

**Electronic, 12th April – 20th April, 2021**

**Agenda item: 6.4.1**

**Source: Huawei (Rapporteur)**

**Title: [AT113bis-e][702][V2X/SL] Miscellaneous corrections on RRC**

**Document for: Discussion and decision**

# Introduction

This is the trigger of the following email discussion:

* [AT113bis-e][702][V2X/SL] Miscellaneous corrections on RRC

**Scope:** Discuss R2-2102712, R2-2102984, R2-2102985, R2-2102986, R2-2103090, R2-2103127, R2-2103317, R2-2103318, R2-2103767, R2-2104105, and R2-2104108 in the Rapporteur’s miscellaneous correction CR(s) offline discussion, by taking into account Rapporteur’s recommendations in Table 1.

**Intended outcome:** Agreeable 38.331 CR in R2-2104464, 36.331 CR in R2-2104465, and discussion summary in R2-2104466 if needed.

**Deadline:** 4/19, 14:00 (UTC).

Companies are requested to provide their views on the issues listed in this document.

# Miscellaneous corrections on TS 38.331

The CRs that need to be discussed are listed as below.

#### ***R2-2102712***

In R2-2102712, it proposed to add a note to indicate that SL CG type 2 should not be used when T310 is running.

Question 1: Do companies agree to add a note to indicate that SL CG type 2 should not be used when T310 is running as proposed in R2-2102712?

* **Yes.**
* **No (Please clarify why the proposed changes are not acceptable).**

|  |  |  |
| --- | --- | --- |
| Company | Yes/No | Comment |
| OPPO | Yes |  |
| ZTE | Yes |  |
| Nokia | Yes |  |
| CATT | Yes |  |
| Qualcomm | Yes |  |
| Apple | Yes |  |
| Ericsson | Yes |  |
| vivo | No | Agree with the intention but we do not think the CR is needed. When looking at the field definition of *rrc-ConfiguredSidelinkGrant* in TS 38.331*,* it is explicitly described as sl-Xxx-Type1*.*    Therefore, we understand that in the Note the UE uses resources configured in *rrc-ConfiguredSidelinkGrant* (while T310 is running) would be Type 1 resources only and Type 2 would not be used. |
| Intel | Yes |  |
| Samsung | Yes | Proponent  We prefer to specify clearly about the handling of SL CG Type2 during T310. |
| Huawei, HiSilicon | Yes |  |

Summary Q1:

|  |  |
| --- | --- |
| Answer | Number of supporting companies |
| Yes | 10 |
| No | 1 |

In total, 10 companies support to add a note to indicate that SL CG type 2 should not be used when T310 is running while only one company think the change is not needed. It is proposed to follow a majority’s view.

**Recommendation 1: RAN2 agree to add a note to indicate that SL CG type 2 should not be used when T310 is running.**

#### ***R2-2102984***

In R2-2102984, it proposed to add the missing “sl-RLC-BearerToReleaseList” in the SL DRB release condition.

Question 2: Do companies agree to add the missing “sl-RLC-BearerToReleaseList” in the SL DRB release condition as proposed in R2-2102984?

* **Yes.**
* **No (Please clarify why the proposed changes are not acceptable).**

|  |  |  |
| --- | --- | --- |
| Company | Yes/No | Comment |
| OPPO | Yes |  |
| ZTE | Yes | Proponent |
| Nokia | Yes |  |
| CATT | Yes |  |
| Qualcomm | Yes |  |
| Apple | Yes |  |
| Ericsson | Yes |  |
| vivo | Yes |  |
| Intel | Yes |  |
| Samsung | Yes |  |
| Huawei, HiSilicon | Yes |  |

Summary Q2:

|  |  |
| --- | --- |
| Answer | Number of supporting companies |
| Yes | 11 |
| No | 0 |

In total, all 11 companies support to add the missing “sl-RLC-BearerToReleaseList” in the SL DRB release condition. It is proposed to follow a majority’s view.

**Recommendation 2: RAN2 agree to add the missing “sl-RLC-BearerToReleaseList” in the SL DRB release condition.**

#### ***R2-2102985/R2-2102986***

In R2-2102985/R2-2102986, besides the editorial changes included in this CR that can be agreed and merged into the Rapp’s miscellaneous correction CR, it proposed to add a note saying that how the UE handles the SL related BSR/SR procedure is up to UE implementation. Rapporteur think the current Spec has already accurately captured the last meeting agreements, and the note proposed by this CR is not needed.

Question 3: Do companies agree to add a note saying that how the UE handles the SL related BSR/SR procedure is up to UE implementation as proposed in R2-2102985/R2-2102986?

* **Yes.**
* **No (Please clarify why the proposed changes are not acceptable).**

|  |  |  |
| --- | --- | --- |
| Company | Yes/No | Comment |
| OPPO | No |  |
| ZTE | Yes | Proponent  To response to Rapp’s comment:  RAN2’s agreement is shown in following:   |  | | --- | | [RAN2 confirm that during the re-set configuration, only the configuration received in the](file:///D:\\Downloads\\R2-210xxxx%20-%20Summary%20of%20%5bAT113-e%5d%5b704%5d_Phase1_Report_v03_Ericsson.docx" \l "_Toc63328403) *[RRCReconfigurationSidelink](file:///D:\\Downloads\\R2-210xxxx%20-%20Summary%20of%20%5bAT113-e%5d%5b704%5d_Phase1_Report_v03_Ericsson.docx" \l "_Toc63328403)* [(i.e., the configuration for Rx) is to be released, i.e., the configuration received from dedicated-RRC/SIB/Pre-configuration (i.e., the configuration for Tx) is not released](file:///D:\\Downloads\\R2-210xxxx%20-%20Summary%20of%20%5bAT113-e%5d%5b704%5d_Phase1_Report_v03_Ericsson.docx" \l "_Toc63328403).  [RAN2 confirms that during the re-set configuration, after DRB release, the released bearers are to be re-added, based on the stored configuration received from dedicated-RRC/SIB/Pre-configuration.](file:///D:\\Downloads\\R2-210xxxx%20-%20Summary%20of%20%5bAT113-e%5d%5b704%5d_Phase1_Report_v03_Ericsson.docx" \l "_Toc63328404) |   We think this agreement and corresponding RAN2 discussion indicate one principle: sidelink reset of RX UE indicated by TX UE shall only influence the RX operation, not TX operation. That’s why the released bears received from dedicated-RRC/SIB/Pre-configuration need to be re-added.  We first agree that the current spec has captured the bear configuration related agreement. However, except bear configuration, during sidelink reset, RX UE will also perform sidelink specific MAC reset.and sidelink specific MAC reset influences both RX and TX operations.  Based on the principle of last RAN2 meeting’s agreement, it is unreasonable to cancel or release the TX operation during sidelink reset. We just want to correct the sidelink specific MAC reset operation during sidelink reset. |
| Nokia | No | First of all we think this change is not needed and secondly adding “up to UE implementation” does not provide any additional value. |
| CATT | No | Share the same view with Rapporteur. |
| Qualcomm | Yes |  |
| Apple | No |  |
| Ericsson | No | We think this addition is not necessary and we agree with the Rapporteur. |
| vivo | No | The sidelink reset operation works regardless of how the UE handles the SL related BSR/SR procedure. Adding “up to UE implementation...” may bring more confusion than clarification. |
| Intel | No | We agree with the Rapporteur that the changes do not seem essential |
| Samsung | No | We share the views that this additional note is not necessary. |
| Huawei, HiSilicon | No |  |

Summary Q3:

|  |  |
| --- | --- |
| Answer | Number of supporting companies |
| Yes | 2 |
| No | 9 |

In total, only 2 companies support to add a note saying that how the UE handles the SL related BSR/SR procedure is up to UE implementation while 9 companies think the change is not needed as the current Spec has already accurately captured the last meeting agreements. It is proposed to follow a majority’s view.

**Recommendation 3: RAN2 does not agree to add a note saying that how the UE handles the SL related BSR/SR procedure is up to UE implementation.**

#### ***R2-2103317***

In R2-2103317, it proposed to clarify that integrity check also applies to SL-SRB1 and clarify, when 2 additional MCS table is configured, which one is the first MCS table in the sl-Additional-MCS-Table and which one is the 2nd, in order to match what is specified in TS 38.214. Rapporteur think the intention is agreeable. It can be further discussed whether it is needed to also cover the case when only one Additional MCS table is configured in this field.

Question 4: Do companies agree to the changes as proposed in R2-2103317?

* **Yes.**
* **No (Please clarify why the proposed changes are not acceptable).**

|  |  |  |
| --- | --- | --- |
| Company | Yes/No | Comment |
| OPPO | See comment | Change-1 is NOK, since srb1 IP check failure may happen during re-keying procedure, for which there is no need to do RLF. |
| ZTE | Change1 is OK.  Change2 is OK with comments | For the wording of change2, we think it is not suitable to use “If two MCS tables are configured”. This IE(i.e. ***sl-Additional-MCS-Table***  ), only indicates which MCS table can be used by UE, but the detailed configurations are provided by another IE as shown in following:   |  | | --- | | 8.1.3.1 Modulation order and target code rate determination  *IMCS* is given by the '*Modulation and coding scheme*' field in SCI format 1-A.  The MCS table is determined as follows: Table 5.1.3.1-1 is used if no additional MCS table is configured by higher layer parameter *sl-MCS-Table*;otherwise an MCS table is determined according to Table 8.1.3.1-1 or Table 8.1.3.1-2 and '*MCS table indicator*' field in SCI format 1-A. |   In other words, network can provide tow additional MCS table configuration, but indicate that only one of them can be used. In consequence, we prefer to change “If two MCS tables are configured” to “If two MCS tables are indicated”.  And, we think the name of second MCS table is “qam64LowSE”, not “low-SE” |
| Nokia | Yes |  |
| CATT | See comment | For OPPO’s comments, we wonder except srb1 IP check failure happened during re-keying procedure, if there any other procedures which needs to do RLF?  For the 2nd change, we don’t think it is necessary. |
| Qualcomm | See comment | We do not believe change 1 is not necessary. SL-SRB1 is used for PC5 establishment, prior to AS-layer configuration. As such, RLF behaviour is not appropriate |
| Apple | 2nd change OK | For the 1st change, Sl-SRB1 is used to transmit the PC5-S messages to establish the PC5-S security. So, the procedures described for RLF (such as relasing SRB2 DRBs) are not applicable to this integrity check failure, as literally the PC5 RRC connection has not been established yet.  For the 2nd change, suggest to say “If two additional MCS tables are configured” to make it more clear |
| Ericsson | No strong view | We do not see change 1 and 2 as very critical and we tend to say that are not needed. However, we can follow majority view on this. |
| vivo | Yes | Proponent. OK with ZTE’s suggestion. |
| Intel | Yes |  |
| Samsung | 1st change – No  2nd change - ok | For the 1st change, we share the view that integrity check failure of SL-SRB1 is not related to PC5 RRC RLF since SL-SRB1 is used before PC5 RRC connection.  For the 2nd change, we are fine with the proposal in principle. |
| Huawei, HiSilicon | Yes |  |

Summary Q4:

|  |  |
| --- | --- |
| Answer | Number of supporting companies |
| Yes for change 1 | 5 |
| No for change 1 | 5 |
| No strong view | 1 |

|  |  |
| --- | --- |
| Answer | Number of supporting companies |
| Yes for change 2 | 8 |
| No for change 2 | 1 |
| No strong view | 1 |

In total, 5 companies support to clarify that integrity check also applies to SL-SRB1 while 5 companies think the clarification is not needed as SRB1 IP check failure may happen during re-keying procedure, for which there is no need to do RLF. Considering there is no clear majority on this issue, it is suggested to not adopt this change for now.

In total, 8 company support to clarify that when 2 additional MCS table is configured, which one is the first MCS table in the sl-Additional-MCS-Table and which one is the 2nd, while 1 company thinks the change is not necessary. It is suggested to follow the majority’s view.

**Recommendation 4: RAN2 agree to clarify when 2 additional MCS table is configured, which one is the first MCS table in the sl-Additional-MCS-Table and which one is the second.**

Question 5: Do companies agree to clarify when only one Additional MCS table is configured?

* **Yes.**
* **No (Please clarify why the proposed changes are not acceptable).**

|  |  |  |
| --- | --- | --- |
| Company | Yes/No | Comment |
| ZTE | No | Not necessary |
| Nokia | Yes |  |
| CATT | No | No need. |
| Qualcomm | No | We don’t see this change as necessary. |
| Apple | No | Do not see a need to clarify the case when only one additional table is configured. |
| Ericsson | No |  |
| vivo | Yes |  |
| Intel | Yes | Does not seem essential to us |
| Samsung | No |  |
| Huawei, HiSilicon | Yes |  |

Summary Q5:

|  |  |
| --- | --- |
| Answer | Number of supporting companies |
| Yes | 4 |
| No | 6 |

In total, 4 companies support to further clarify when only one Additional MCS table is configured while 6 companies think further clarification is not needed. As there is no clear majority on this issue, it is suggested to not make any recommendation on this question.

#### ***R2-2103767***

In R2-2103767, it proposed to clarify that the initiating UE should not report the peer UE’s capability to the NW the UE has already reported it. Rapporteur think it seems that the proposal has already covered by the existing texts and no specification is needed.

Question 6: Do companies agree to clarify that the initiating UE should not report the peer UE’s capability to the NW the UE has already reported it as proposed in R2-2103767?

* **Yes.**
* **No (Please clarify why the proposed changes are not acceptable).**

|  |  |  |
| --- | --- | --- |
| Company | Yes/No | Comment |
| OPPO | See comment | Firstly, it is good to check the understanding of the current spec:  Based on Rapp-remark    it seems the UE can already save the capability, due to the “(if needed)”.. but we tend to think that may not be interpret as the back-door to do delta report for SUI (otherwise, one can make use of this (if needed) in an arbitrary manner..), so the issue observed by Nokia is valid to us.  Secondly, whether to pursue some change:  from our perspective, it is not super critical for R16, since the capability signalling size is OK. But we tend to believe SUI message may later grow up quickly when we step into R17, 18.. so at some time, to allow delta report for SUI message would be a good / generalize method to solve the SUI message size issue. |
| ZTE | No | RAN2 has agreed that not purse signaling overhead optimization for capability transfer procedure for TX-UE forwarding peer-UE SL capability to network via Uu-RRC. |
| Nokia | Yes (Proponent) | According to our understanding the current specification does not prevent a UE to send repeatedly and hence unnecessarily its peer UEs capabilities in SUI to the network (despite the existence of “if needed” in brackets). Although the issue may not seem critical for Rel-16 (i.e. er admit that nothing is broken) we agree with OPPO’s observation that the issue is valid and RAN2 should strive for optimal UE behaviour wrt to SL UE capability reporting especially when SUI message size is growing. |
| CATT | No | We share the same view as ZTE. |
| Qualcomm | No | Agree with rapporteur |
| Apple | No |  |
| Ericsson | Yes with comments | We think that the issues pointed out by Nokia is valid since current signalling it does not prevent to send the UE capabilities continuously in the SUI message. This is a quite bad situation since the SUI message does not have a prohibit timer itself that can be used.  On the other side, we believe that a smart UE implementation can already handle this case i.e., if capabilities are not changed than there is no needed to send them again.  All in all, we think that this may be done during TEI17 that will start in Q3 2021.  Regarding P1 and P2, this are not needed since that is a network behaviour that we typically do not specify. |
| vivo | No | we think it can be up to smart UE implementation and no specification impact is expected. |
| Intel | No | Agree with companies above that this seems like an enhancement which is not critical for R16 at least |
| Samsung | No | We think this optimization is not needed in Rel-16. |
| Huawei, HiSilicon | No |  |

Summary Q6:

|  |  |
| --- | --- |
| Answer | Number of supporting companies |
| Yes | 3 |
| No | 8 |

In total, 3 companies support to clarify that the initiating UE should not report the peer UE’s capability to the NW the UE has already reported it while 8 companies think the change is not necessary as this seems an optimization and is not critical for Rel-16. It is proposed to follow a majority’s view.

**Recommendation 5: RAN2 does not agree to clarify that the initiating UE should not report the peer UE’s capability to the NW the UE has already reported it.**

#### ***R2-2103090/R2-2103127/R2-2103318/R2-2104105***

The proposed changes in R2-2103090, R2-2103127, R2-2103318 and R2-2104105 are quite straightforward, rapporteur will directly merge the changes into the miscellaneous CR.

CATT: we flag for 3318.

We wonder why a reference is needed actually? In the current spec, the spec describes that how the UE acquires the E-UTRAN cell’s system information.

Indeed, The SIB 21 and 26 of LTE are packaged in SIB 13 and 14 of NR for the current case.

The content for UE on how to acquire the NR SIB in NR cell is out of scope of 36.331. So we think the current revise is not needed.

Please correct me if I misunderstand something, thanks.

Huawei, HiSilicon

I will remove the change proposed in R2-2103318.

# Miscellaneous corrections on TS 36.331

#### ***R2-2104108***

In R2-2104108, besides some editorial changes that are quite straightforward, it proposed in the field description for daps-HO in section 6.3.2, clarify the configuration is not allowed when sidelink is configured.

Question 7: Do companies agree to clarify in the field description for daps-HO that the configuration is not allowed when sidelink is configured as proposed in R2-2104108?

* **Yes.**
* **No (Please clarify why the proposed changes are not acceptable).**

|  |  |  |
| --- | --- | --- |
| Company | Yes/No | Comment |
| OPPO | Yes |  |
| ZTE | Yes |  |
| Nokia | Yes |  |
| CATT | Yes |  |
| Qualcomm | Yes |  |
| Apple | Yes |  |
| Ericsson | No with comment | We think that the formulation is too restrictive because it prevent the network to use DAPS HO when sidelink is configured. On the contrary, the network, if it wants to use DAPS, should have the flexibility to release first sidelink and then configure DAPS.  If we use the current sentence, this behaviour is completely prevented. We propose to reformulate the sentence as follows:  The network shall not configure daps-HO together with sidelink. |
| vivo | Yes |  |
| Intel | Yes |  |
| Samsung | Yes with comment | For the specification change, we may apply the same way in 38.331 (see the conditional presence field description for DAPS) |
| Huawei, HiSilicon | Yes |  |

Summary Q7:

|  |  |
| --- | --- |
| Answer | Number of supporting companies |
| Yes | 10 |
| No | 1 |

In total, 10 companies support to clarify in the field description for daps-HO that the configuration is not allowed when sidelink is configured while 1 company suggests to reformulate the sentence as follows: The network shall not configure daps-HO together with sidelink. Rapporteur think there seems no difference between the proposed change and the reformulation. With “*daps-HO* is not configured if sidelink is configured” it is also allowed to release first sidelink (in this case sidelink is not configured) and then configure DAPS if it wants to use DAPS. It is proposed to follow a majority’s view.

**Recommendation 6: RAN2 agree to clarify in the field description for daps-HO that the configuration is not allowed when sidelink is configured.**

# Conclusion

**Recommendation 1: RAN2 agree to add a note to indicate that SL CG type 2 should not be used when T310 is running.**

**Recommendation 2: RAN2 agree to add the missing “sl-RLC-BearerToReleaseList” in the SL DRB release condition.**

**Recommendation 3: RAN2 does not agree to add a note saying that how the UE handles the SL related BSR/SR procedure is up to UE implementation.**

**Recommendation 4: RAN2 agree to clarify when 2 additional MCS table is configured, which one is the first MCS table in the sl-Additional-MCS-Table and which one is the second.**

**Recommendation 5: RAN2 does not agree to clarify that the initiating UE should not report the peer UE’s capability to the NW the UE has already reported it.**

**Recommendation 6: RAN2 agree to clarify in the field description for daps-HO that the configuration is not allowed when sidelink is configured.**

# Reference

[1] R2-2102712 Corrections to usage of CG Type 2 when T310 is running, Samsung Electronics Co., Ltd

[2] R2-2102984 Correction on sidleink configuration, ZTE Corporation, Sanechips

[3] R2-2102985 Correction on sidelink reset operation, ZTE Corporation, Sanechips

[4] R2-2102986 Discussion on sidelink reset operation, ZTE Corporation, Sanechips

[5] R2-2103090 Miscellaneous Correction on TS38 331, CATT

[6] R2-2103127 Miscellaneous corrections on NR V2X, SHARP Corporation

[7] R2-2103317 Corrections related to SA3 and RAN1, vivo

[8] R2-2103318 CR on the inter-frequency sidelink operation, vivo

[9] R2-2104105 Miscellaneous corrections on TS 38.331 (Rapporteur CR), Huawei, HiSilicon

[10] R2-2104108 Miscellaneous corrections on TS 36.331 (Rapporteur CR), Huawei, HiSilicon.

[11] R2-2103767 On the peer UE capability transfer in unicast sidelink, Nokia, Nokia Shanghai Bell