**3GPP TSG-RAN WG2 Meeting #109-bis electronic R2-20xxxxx**

**20 – 30 April 2020**

**Agenda Item:**  **6.4.1**

**Source: Huawei, HiSilicon**

**Title: RRC Open Issue List for 5G V2X with NR SL – Round 2**

**Document for:** **Information**

# Introduction

This document summarizes the RRC open issue list extracted from the email discussion “[Post109e#54][V2X] RRC open issues”. Class 2/3 RILs specific to V2X in ASN.1 reviews are also included in the below open issue list.

# Open Issue List

The RRC open issue list is as follows. These open issues include not only open issues related to functions which are not completed but also class-3 ASN.1 issues related to correction. Particularly, they can be categorized as follows:

* N.001-N.008 are related to functional open issues, i.e. uncompleted essential features left over from the last meeting;
* N.009-N.113 are related to class-3 ASN.1 issues, i.e. correction of the RRC Spec related to the features already concluded.

Some suggestions from the Rapporteur side are as follows.

**[Recommendation] It is recommended that:**

* **RAN2 agree to not pursue further optimization/enhancement in this release for 5G V2X with NR Sidelink, after concluding the essential open issues in N.001-N.008.**
* **Non-critical class-3 ASN.1 issues may not be pursued, or can be deprioritized.**

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| --- | --- | --- | --- |
| Issue ID | Company Names | Detailed Issue Description and Proposals/TPs | **Status** |
| N.001 |  | [Issue Description] What is further needed for SL related full configuration?  => A full configuration indication can be included in PC5 RRC. Draft CR R2-2002622 is the baseline and it will be merged into rapporteur CR. | Addressed in WI specific CR |
| N.002 |  | [Issue Description] What is further needed for PC5 AS configuration failure (procedure and/or signalling)?  => No further change to the TX UE behaviour and/or PC5 RRC signalling is needed for the PC5 AS configuration failure case. Remove directly the Editor’s Note in 5.8.9.1.8. | Not Pursued |
| N.003 |  | [Issue Description] Are the two HARQ feedback related configurations should be specified in RRC, i.e. sl-NrOfHARQ-Processes-r16 and sl-HARQ-ProcID-offset-r16?  => Keep the parameters sl-NrOfHARQ-Processes-r16 and sl-HARQ-ProcID-offset-r16 in TS 38.331. Remove directly the related Editor’s Note in SL-ConfiguredGrantConfig. How the two parameters are used is further discussed in MAC. RAN2 may check with RAN1 whether the equation for IIOT can work in SL. | Addressed in WI specific CR |
| N.004 |  | [Issue Description] What should be the specific values for the parameters whose value is left as ffs?  [Rapporteur] Wait for RAN1’s further input. | Postponed |
| N.005 |  | [Issue Description] Need of prohibit timer for NR SL specific UE Assistance information or not.  => No prohibit timer is introduced for UE assistance information for Configured SL grant type 1/2 for NR SL. | Not Pursued |
| N.006 |  | [Issue Description] How to deal with the QoS flows not mapped to any SLRB configurations in SIB?  => For an RRC\_IDLE/INACTIVE UE, if there is a PC5 QoS flow whose QoS profile is not mapped to any SLRB configuration within the NR SL specific SIB, it is mapped to and transmitted by the default SLRB configuration in the SIB if configured.  [Rapporteur] FFS on whether there is case that default SLRB configuration is not provided. | To be discussed |
| N.007 |  | [Issue Description] Does sensing need to be performed in all the mode-2 pools?  => In TS 38.331, add a sentence specifying that the UE shall perform sensing on all the configured normal mode-2 resource pools. | Addressed in WI specific CR |
| N.008 |  | [Issue Description] How to configure the MCS range for configured sidelink grant type 1/2, to reuse that for dynamic grant or a separate one is needed?  => Set working assumption that only one MCS range is configured applying to both dynamic grant and configured grant type 1/2; no configured grant type 1/2 specific MCS range is further needed. Send LS to RAN1 and inform them of this understanding. | Addressed in WI specific CR |
| N.009 |  | [Issue Description] Do SLRB addition/modification/release procedures need to be divided by unicast/groupcast/broadcast, and further SLRB release conditions need to be specified? | To be discussed |
| N.010 |  | [Issue Description] Need of SIB size reduction for NR SL or not?  => Moved to [704] for separate offline discussion | To be discussed  (Offline [704]) |
| N.011 | Huawei  (TS 36.331) | [Issue Description] **Whether to change the CBR reporting configuration for NR sidleink communication from *ReportConfigEUTRA* to *ReportConfigInterRAT.***Currently the CBR measurement reporting configuration (i.e. *events S1/S2* and *purpose = sidelinkNR*) for NR sidelink in TS 36.331, in the case of LTE Uu controlling NR SL, is specified in *ReportConfigEUTRA*, which is not proper a proper place. Considering that NR SL communication is actually a radio technique belonging to NR, another RAT than EUTRA, related CBR measuemrnt reporting configurations should be moved to *ReportConfigInterRAT.*  [Proposal] Move the parameters “*eventS1-r16*”, “*eventS2-r16*” and “*purpose-v16xy*” from *ReportConfigEUTRA* to *ReportConfigInterRAT* with the corresponding TP provided as follows:  ***ReportConfigInterRAT* information element**  -- ASN1START  [...]  ReportConfigInterRAT ::= SEQUENCE {  triggerType CHOICE {  event SEQUENCE {  eventId CHOICE {  [...]  eventS1-r16 SEQUENCE {  s1-Threshold-r16 OCTET STRING  },  eventS2-r16 SEQUENCE {  s2-Threshold-r16 OCTET STRING  }  [...]  [[  useAutonomousGapsNR-r16 ENUMERATED {setup} OPTIONAL -- Cond reportCGI-NR  purpose-v16xy ENUMERATED {sidelinkNR} OPTIONAL -- Need ON  ]]  }  [...]  -- ASN1STOP | Not Pursued |
| N.012 | Huawei  (TS 36.331) | [Issue Description] **Whether the configuration for those not supported features for LTE Uu 🡪 NR SL should not be configured by the NW at all**. It is now specified in the field description of *sl-ConfigDedicatedNR* (for LTE Uu configuring NR SL) that the UE should ignore the configurations not supported (i.e. *sl-RNTI, sl-BSR-Config*, *ul-PrioritizationThres* and *sl-DCI-ToSL-Trans*). However, since such features are not supported in this release for LTE Uu controlling NR SL, such parameters should not be present when this field is configured from a signalling overhead point of view, shouldn’t be configured by the eNB from the very beginning.  [Proposal] Considering the contents included in *sl-ConfigDedicatedNR* in TS 38.331, change the field description as follows to specify which parameters should be absent in the container of this field in TS 36.331:  ***sl-ConfigDedicatedNR***  Container for providing the dedicated configurations for NR sidelink communication, the octet string contains the *SL-ConfigDedicatedNR* IE as specified in TS 38.331 [82]. If ~~the UE~~ this field is configured, by the current Pcell with *sl-ScheduledConfig* set to setup, ~~ignore the IE~~ *~~sl-RNTI, sl-BSR-Config~~*~~,~~ *~~ul-PrioritizationThres~~* ~~and~~ *~~sl-DCI-ToSL-Trans~~* the configurations except for the *sl-PrioritizationThres*, as specified in TS 38.331, are absent.~~; the~~ *~~SL-ConfiguredGrantConfig~~* The *sl-ConfiguredGrantConfigList*, if present, in *SL-ConfigDedicatedNR* only includes the configurations of sidelink configured grant Type 1. | Addressed in WI specific CR |
| N.013 | Huawei  (TS 38.331) | [Issue Description] **Whether to trigger Sidelink UE information transmission for NR SL upon RRC reestablishment.** In LTE SL/V2X SL, Sidelink UE information transmission shall be initiated upon RRC reestablishment. However, this is now missing in TS 38.331, and may still need to be added, as the motivation is very obvious.  [Proposal] Initiate Sidelink UE information transmission upon RRC reestablishment in TS 38.331 with the following change:  5.3.7.5 Reception of the *RRCReestablishment* by the UE  1> submit the *RRCReestablishmentComplete* message to lower layers for transmission;  1> if *SIB12* is provided by the PCell; and the UE transmitted a *SidelinkUEInformationNR* message indicating a change of NR sidelink communication related parameters relevant in PCell (i.e. change of *sl-RxInterestedFreqList* or *sl-TxResourceReqList*) during the last 1 second preceding detection of radio link failure:  2> initiate transmission of the *SidelinkUEInformationNR* message in accordance with 5.8.3.3;  1> the procedure ends. | Addressed in WI specific CR |
| N.014 | Huawei  (TS 38.331) | [Issue Description] **Whether something needs we need some related SL configuration release handling in subcalsue 5.3.11, upon UE going to RRC\_IDLE.** Now that both PHY resources and SLRB bearer configurations (with other configurations) can be provided to RRC\_CONNECTED UEs via dedicated signalling, it seems necessary to ask UEs to release them when going to IDLE.  [Proposal]RAN2 to discuss whether the following change is needed to release dedicated SL related configuration:  5.3.11 UE actions upon going to RRC\_IDLE  The UE shall:  1> reset MAC;  [...]  1> if going to RRC\_IDLE was triggered by inter-RAT cell reselection while the UE is in RRC\_INACTIVE or RRC\_IDLE:  2> if T331 is running:  3> stop timer T331;  3> perform the actions as specified in 5.7.8.3;  1> release all the configurations received from *sl-ConfigDedicatedNR* for NR sidelink communication; | Not Pursued |
| N.015 | MediaTek | Section 5.3.13.2: Parenthetical describing the conditions for AS-triggered connection resume does not include triggering for NR sidelink communication.  Proposal: Change parenthetical to “(when responding to RAN paging, ~~or~~ upon triggering RNA updates while the UE is in RRC\_INACTIVE, or for NR sidelink communication as specified in section 5.3.13.1a)”. | Addressed in WI specific CR |
| N.016 | MediaTek | Section 5.8.1: Conditions for establishment and release of PC5-RRC connection in relation to PC5 unicast link are wrong, left over from the previous understanding that there was a one-to-one correspondence between PC5-RRC connection and PC5 unicast link.  We will bring a contribution to address this issue. | Addressed in WI specific CR |
| N.017 | MediaTek | Section 5.8.8: The requirement on T310 expiry (fifth level 5 bullet) seems misplaced in this section, and should also cover other RLF triggers besides T310.  Proposal: Remove the bullet here on “if T310 for MCG expires”, and put the corresponding requirement to release resources into section 5.3.10.3, with the rest of the processing for RLF declaration in the PCell. | To be discussed |
| N.018 | MediaTek | Section 5.8.9.1.4.2: The requirement to perform sidelink UE information procedure “if need[ed]” is somewhat unclear, and seems misplaced under the “for each sl-RLC-BearerConfigIndex” bullet (the UE should not trigger a separate SidelinkUEInformation for each affected RLC bearer configuration). This seems more to be a general requirement that applies when the RRCReconfigurationSidelink is received (to determine if the criteria from section 5.8.3.3 are met), not specifically tied to DRB release, so it would make more sense in section 5.8.9.1.3. It could be argued that no explicit requirement is needed at all, because section 5.8.3.3 already specifies the criteria for triggering the sidelink UE information procedure.  Proposal: Remove the level 2 and 3 bullets from the end of section 5.8.9.1.4.2, and consider whether an explicit requirement is needed in section 5.8.9.1.3 to trigger the SidelinkUEInformation procedure. | Addressed in WI specific CR |
| N.019 | MediaTek | Section 5.8.9.1.3: The requirement to perform the DRB “release or modification procedure” after applying the QoS flow configurations may be ambiguous as to which procedure should be invoked. We understand that the only case where release would be invoked here is if, after applying the sl-MappedQoS-FlowsToAddList and sl-MappedQoS-FlowsToReleaseList, the SLRB has no more mapped QoS flows with data.  Proposal: Replace the “release or modification procedure” requirement with a more explicit structure:  3> if the SLRB has no mapped QoS flows with data:  4> perform the sidelink DRB release procedure according to sub-clause 5.8.9.1.4;  3> else:  4> perform the sidelink DRB modification procedure according to sub-clause 5.8.9.1.5; | Addressed in WI specific CR |
| N.020 | MediaTek | Section 5.8.9.1.5: This section is a hanging paragraph, and the text does not seem very much related to DRB addition/modification. It is a general paragraph on the applicability of parameters at state transition and might be better placed in section 5.8.9.1.1.  Proposal: Move the text to section 5.8.9.1.1, or to a new subsection of 5.8.9.1. In any case the hanging paragraph should be removed. | Addressed in WI specific CR |
| N.021 | MediaTek | Section 5.8.9.1.7: The text here indicates the sidelink SRBs should be released whenever a PC5-S connection release is indicated by upper layers, but this is only correct if there is no other PC5-S connection between the same endpoint L2IDs. This is related to the issue identified above in section 5.8.1.  We will bring a contribution to address this issue. | Addressed in WI specific CR |
| N.022 | MediaTek | Section 6.3.5, SL-ResourcePool: The field description for sl-PSFCH-Period-r16 specifies the behaviour when set to 0, but the range does not actually contain a zero value. This behaviour seems needed if we want to be able to reconfigure a resource pool to disable PSFCH; the SL-PSFCH-Config is in a SetupRelease structure, so there is no way to disable it at the top level, and setting the period to 0 provides a disable mechanism.  Proposal: Choose one of the following three options:   1. Add a zero value (and three spares) to the range of sl-PSFCH-Period-r16; 2. Change the field to Need S and specify that disabling is the behaviour on absence of the field (this would disable delta signalling, which seems acceptable for a 2-bit field); 3. Declare that a resource pool cannot be reconfigured to disable PSFCH, and remove the zero-value behaviour (this would still allow configuring a resource pool without PSFCH by omitting the SetupRelease containing SL-PSFCH-Config at setup time). | Addressed in WI specific CR |
| N.023 | MediaTek | Section 6.3.5, SL-SyncConfig: The use of Need N (one-shot configuration) in the sync configuration seems wrong, because this configuration is stored and used by the UE as part of the frequency configuration. It seems Need R might be correct, to allow these fields to be deleted in a reconfiguration. This is flagged as class 3 rather than class 2 because the correct need code depends on what we really intend as the behaviour when the fields are omitted.  Proposal: Change the Need N fields to Need R. | Addressed in WI specific CR |
| N.024 | CATT | **Issue description:**  On the last RAN2 meetings, the following agreements were reached.   |  | | --- | | The RRC connected TX UE reports a new failure cause to the NW upon the reception of RRCReconfigurationFailureSidelink from the RX UE.  The SUI report upon SL RLF includes explicit failure indication. |   We think the UE will initiate the SUI procedure upon reception of RRCReconfigurationFailureSidelink or upon sidelink radio link failure. Thus the above agreements should be captured in Section 5.8.3.2.  **Proposal:**  We will bring a draft CR addressing this issue. | Addressed in WI specific CR |
| N.025 | CATT | **Issue description:**  In TS38.331 it stated that:  2> if the UE has selected cell as the synchronization reference for NR sidelink communication:  3> if the S-RSRP of the candidate SyncRef UE exceeds the minimum requirement defined in TS 38.133 [14] by *sl-SyncRefMinHyst* and the candidate SyncRef UE belongs to a higher priority group than gNB/eNB; or  3> if the selected cell is not detected:  4> consider the cell not to be selected;  We think the above highlight part is invalid according to the RAN1 agreements on synchronization priority in the following table. Thus, we suggest to delete the above highlight step 3.   |  |  | | --- | --- | | **GNSS-based synchronization** | **gNB/eNB-based synchronization** | | * **P0: GNSS** * **P1: the following UE has the same priority:** * **UE directly synchronized to GNSS** * **P2: the following UE has the same priority:** * **UE indirectly synchronized to GNSS** * **P3: the remaining UEs have the lowest priority.** | * P0: gNB/eNB * P1’: UE directly synchronized to gNB/eNB * P2’: UE indirectly synchronized to gNB/eNB * P3’: GNSS * P4’: UE directly synchronized to GNSS * P5’: UE indirectly synchronized to GNSS * P6’: the remaining UEs have the lowest priority. |   For the gNB/eNB-based synchronization, gNB/eNB has the highest priority, hence in which case the candidate SyncRef UE will belong to a higher priority group than gNB/eNB?  **Proposed change:**  5.8.6.2 Selection and reselection of synchronisation reference  The UE shall:  1> if the frequency used for NR sidelink communication is included in *sl-FreqInfoToAddModList* in *sl-ConfigDedicatedNR* within *RRCReconfiguration* message or includedin *sl-ConfigCommonNR* within *SIB12*, and *sl-SyncPriority* is configured for the concerned frequency and set to *gnbEnb*:  2> select a cell as the synchronization reference source as defined in 5.8.6.3:  1> else if the frequency used for NR sidelink communication is included in *sl-FreqInfoToAddModList* in *sl-ConfigDedicatedNR* within *RRCReconfiguration* message or includedin *sl-ConfigCommonNR* within *SIB12*, and *sl-SyncPriority* for the concerned frequency is not configured or is set to *gnss*, and GNSS is reliable in accordance with TS 38.101-1 [15] and TS 38.133 [14]:  2> select GNSS as the synchronization reference source;  1> else if the frequency used for NR sidelink communication is included in *PreconfigurationNR*, and *sl-SyncPriority* in *SL-PreconfigurationNR* is set to *gnss* and GNSS is reliable in accordance with TS 38.101-1 [15] and TS 38.133 [14]:  2> select GNSS as the synchronization reference source;  1> else:  2> perform a full search (i.e. covering all subframes and all possible SLSSIDs) to detect candidate SLSS, in accordance with TS 38.133 [14]  2> when evaluating the one or more detected SLSSIDs, apply layer 3 filtering as specified in 5.5.3.2 using the preconfigured *sl-filterCoefficient*, before using the S-RSRP measurement results;  2> if the UE has selected a SyncRef UE:  3> if the S-RSRP of the strongest candidate SyncRef UE exceeds the minimum requirement TS 38.133 [14] by *sl-SyncRefMinHyst* and the strongest candidate SyncRef UE belongs to the same priority group as the current SyncRef UE and the S-RSRP of the strongest candidate SyncRef UE exceeds the S-RSRP of the current SyncRef UE by *syncRefDiffHyst*; or  3> if the S-RSRP of the candidate SyncRef UE exceeds the minimum requirement TS 38.133 [14] by *sl-SyncRefMinHyst* and the candidate SyncRef UE belongs to a higher priority group than the current SyncRef UE; or  3> if GNSS becomes reliable in accordance with TS 38.101-1 [15] and TS 38.133 [14], and GNSS belongs to a higher priority group than the current SyncRef UE; or  3> if a cell is detected and gNB/eNB (if *sl-NbAsSync* is set to *true*) belongs to a higher priority group than the current SyncRef UE; or  3> if the S-RSRP of the current SyncRef UE is less than the minimum requirement defined in TS 38.133 [14]:  4> consider no SyncRef UE to be selected;  2> if the UE has selected GNSS as the synchronization reference for NR sidelink communication:  3> if the S-RSRP of the candidate SyncRef UE exceeds the minimum requirement defined in TS 38.133 [14] by *sl-SyncRefMinHyst* and the candidate SyncRef UE belongs to a higher priority group than GNSS; or  3> if GNSS becomes not reliable in accordance with TS 38.101-1 [15] and TS 38.133 [14]:  4> consider GNSS not to be selected;  2> if the UE has selected cell as the synchronization reference for NR sidelink communication:  3> if the selected cell is not detected:  4> consider the cell not to be selected; | Not Pursued |
| N.026 | CATT | **Issue description:**  RAN2 has agreed that configured SL grant type 1 cannot be used at least while T311 is running. But according to the description in 5.8.8, during the time from T301 start to the time T311 start, it will configure lower layer to transmit the sidelink control information and corresponding data based on random selection using the exceptional pool. Hence, during the time from T301 start to the time T311 start, the UE can either use SL grant type 1 or exceptional pool to transmit the Sidelink data.  Based on the above agreements, if T310 is running, for those logical channels that cannot use the type 1 CG, it is obvious that only exceptional pool can be used; but for those logical channels which can use the type 1 CG, it is unclear whether the exceptional pool or type 1 CG will be used.  **Proposal:**  It is proposed that during T310 is running, for those logical channel(s) which can use type 1 CG, it had better use type 1 CG instead of exceptional pool.  We will bring a draft CR addressing this issue. | To be discussed |
| N.027 | CATT | **Issue description:**  According to the current specification, when there is no sensing result, the UE can use the exceptional pool either from dedicated RRC signalling configuration or V2X SIB configuration. If the UE has both configurations, which exceptional pool will be used is unclear.  5.8.8 Sidelink communication transmission  A UE capable of NR sidelink communication that is configured by upper layers to transmit NR sidelink communication and has related data to be transmitted shall:  1> if the conditions for NR sidelink communication operation as defined in 5.8.2 are met:  2> if the frequency used for NR sidelink communication is included in *sl-FreqInfoToAddModList* in *sl-ConfigDedicatedNR* within *RRCReconfiguration* message or includedin *sl-ConfigCommonNR* within *SIB12*:  3> if the UE is in RRC\_CONNECTED and uses the frequency included in *sl-ConfigDedicatedNR* within *RRCReconfiguration* message:  4> if the UE is configured with *sl-ScheduledConfig*:  5> if T310 for MCG or T311 is running; and if *sl-TxPoolExceptional* is included in *sl-FreqInfoList* for the concerned frequency in *SIB12* or included in in *RRCReconfiguration*; or  5> if T301 is running and the cell on which the UE initiated RRC connection re-establishment provides *SIB12* including *sl-TxPoolExceptional* for the concerned frequency; or  5> if T304 for MCG is running and the UE is configured with *sl-TxPoolExceptional* included in *sl-ConfigDedicatedNR* for the concerned frequency in *RRCReconfiguration*:  6> configure lower layers to transmit the sidelink control information and the corresponding data based on random selection using the pool of resources indicated *sl-TxPoolExceptional* as defined in TS 38.321 [3];  5> else:  6> configure lower layers to request the network to assign transmission resources for NR sidelink communication;  5> if T310 for MCG expires, configure the lower layers to release the resources indicated by *rrc-ConfiguredSidelinkGrant* (if any);  4> if the UE is configured with *sl-UE-SelectedConfig*:  5> if a result of sensing on the resources configured in *sl-TxPoolSelectedNormal* for the concerned frequency included in *sl-ConfigDedicatedNR* within *RRCReconfiguration* is not available in accordance with TS 38.213 [13];  6> if *sl-TxPoolExceptional* for the concerned frequency is included in *RRCReconfiguration*;  7> configure lower layers to transmit the sidelink control information and the corresponding data based on random selection using the pool of resources indicated by *sl-TxPoolExceptional* as defined in TS 38.321 [3];  6> else, if the PCell provides *SIB12* including *sl-TxPoolExceptional* in for the concerned frequency:  7> configure lower layers to transmit the sidelink control information and the corresponding data based on random selection using the pool of resources indicated by *sl-TxPoolExceptional* as defined in TS 38.321 [3];  5> else, if the *sl-TxPoolSelectedNormal* for the concerned frequency is included in the *sl-ConfigDedicatedNR* within *RRCReconfiguration*:  6> configure lower layers to transmit the sidelink control information and the corresponding data based on sensing (as defined in TS 38.321 [3] and TS 38.213 [13]) using the resource pools indicated by *sl-TxPoolSelectedNormal* for the concerned frequency; | Not Pursued |
| N.028 | CATT | **Issue description:**  In section 5.8.9.1.3, it only mentioned the LCID collision between RLC UM and RLC AM. According to the ASN.1, the *SLRB-PC5-ConfigIndex* is also configured by *RRCReconfigurationSidelink* from the initial UE to the peer UE. Thus, in our understanding, there are other sidelink RRC reconfiguration failure cases, which are shown in the following Figure:    **Proposal:**  It is proposed that when two SLRBs configured with the same SLRB-PC5-ConfigIndex but different LCID or different SLRB-PC5-ConfigIndex but same LCID, it can be treated as sidelink RRC reconfiguration failure.  We will bring a draft CR addressing this issue. | Not Pursued |
| N.029 | CATT | **Issue description:**  In Section 5.8.9.1.4.2, it stated that when SDAP entity is released, it should indicate the release to upper layers. In our understanding, it is unnecessary to notify it to upper layer.  **Proposed change:**  5.8.9.1.4.2 Sidelink DRB release operations  For each sidelink DRB, whose sidelink DRB release conditions are met as in sub-clause 5.8.9.1.4.1, the UE capable of NR sidelink communication that is configured by upper layers to perform NR sidelink communication shall:  1> for groupcast and broadcast, or  1> for unicast, after receiving *RRCReconfigurationSidelink* message (in case the release is due to the configurationby *RRCReconfigurationSidelink*), or after receiving the *RRCReconfigurationCompleteSidelink* message(in case the releaseis due to the configuration by *sl-ConfigDedicatedNR,* *SIB12*, *SidelinkPreconfigNR* or indicated by upper layers)  2> release the PDCP entity for NR sidelink communication associated with the sidelink DRB;  2> if SDAP entity for NR sidelink communication associated with this sidelink DRB is configured:  3> indicate the release of the sidelink DRB to the SDAP entity associated with this sidelink DRB (TS 37.324 [24], clause 5.3.3);  2> release the RLC entity and the corresponding logical channel for NR sidelink communication associated with the sidelink DRB.  1> release SDAP entities for NR sidelink communication, if any, that have no associated sidelink DRB as specified in TS 37.324 [24] clause 5.1.2. | Addressed in WI specific CR |
| N.030 | CATT | **Issue description:**  Regarding to the PC5-RRC connection release, the descriptions in Section 5.8.9.1.7 and Section 5.8.9.3 are duplicated. We suggest to delete the one in Section 5.8.9.1.7.  **Proposed change:**  5.8.9.1.7 Sidelink SRB release  The UE shall:  1> if a PC5-RRC connection release for a specific destination is requested by upper layers; or  1> if the sidelink radio link failure is detected for a specific destination:  2> release the PDCP entity, RLC entity and the logical channel of the sidelink SRB for PC5-RRC message of the specific destination.  1> if a PC5-S transmission release for a specific destination is requested by upper layers:  2> release the PDCP entity, RLC entity and the logical channel of the sidelink SRB(s) for PC5-S message of the specific destination; | Not Pursued |
| N.031 | CATT | **Issue description:**  According to the RAN1 agreements:   |  | | --- | | Agreements:   * Zone length and zone width are always the same and configurable among {5m, 10m, 20m, 30m, 40m, 50m} per communication range requirement per resource pool. * Zone ID bit field size is 12. |   The zone is configured per communication range requirement per resource pool. However, we think it’s hard to guarantee that for the same communication range requirement, the zone configuration is consistent in the Tx resource pool and Rx resource pool. For example, UE1 sends SL groupcast signallings to UE2. UE1 is in RRC\_CONNECTED, while UE2 is in OOC. When gNB configures the Tx resource pool to UE1, it’s very hard to guarantee the consistent zone configuration for the same communication range requirement with the Rx resource pool in the UE2’s pre-configuration.  **Proposal:**  Proposal 1: The zone configuration should be configured per communication range requirement, not per communication range requirement per resource pool.  Proposal 2: Send LS to RAN1 to check whether zone configuration configured per communication range requirement is feasible.  We will bring a discussion paper to discuss this issue. | Not Pursued |
| N.032 | LG | In RAN2#109-e, it was agreed that  Agreements on RRC:  No further action and discussion is needed in RAN2 on how many PC5-S connection are associated to a PC5-RRC connection (no RAN2 impact, but up to SA2), and a related sentence "One PC5-RRC connection is corresponding to one PC5 unicast link [xx]" will be removed from 5.X.1 in TS 38.331 running CR.  No support of reporting SRC L2 ID in Sidelink UE Information.  One issue is to distinguish unicast links from multiple unicast links.  In case the UE maintains multiple unicast links with counterpart UE, if the UE reports only the unicast destination ID and cast type (i.e., Unicast) to the network via *SidelinkUEInformation*, the network has no way to distinguish individual unicast links of UEs having multiple unicast links when the UE has the same multiple unicast destination UE IDs among the multiple unicast links. Therefore, in order for the network to distinguish each unicast link among the multiple unicast link, the PC5 Link Identifier needs to be transmitted together with destination ID and cast type to the network via *SidelinkUEInformation*.  **Proposed change:**  6.2.2. Message definitions   * *SidelinkUEInformationNR*   The *SidelinkUEinformationNR* message is used for the indication of NR sidelink UE information to the network.  Signalling radio bearer: SRB1  RLC-SAP: AM  Logical channel: DCCH  Direction: UE to Network  ***SidelinkUEInformationNR* message**  -- ASN1START  -- TAG-SIDELINKUEINFORMATIONNR-START  SidelinkUEInformationNR-r16::= SEQUENCE {  criticalExtensions CHOICE {  sidelinkUEInformationNR-r16 SidelinkUEInformationNR-r16-IEs,  criticalExtensionsFuture SEQUENCE {}  }  }  SidelinkUEInformationNR-r16-IEs ::= SEQUENCE {  sl-RxInterestedFreqList-r16 SL-InterestedFreqList-r16 OPTIONAL,  sl-TxResourceReqList-r16 SL-TxResourceReqList-r16 OPTIONAL,  lateNonCriticalExtension OCTET STRING OPTIONAL,  nonCriticalExtension SEQUENCE {} OPTIONAL  }  SL-InterestedFreqList-r16 ::= SEQUENCE (SIZE (1..maxNrofFreqSL-r16)) OF INTEGER (1..maxNrofFreqSL-r16)  SL-TxResourceReqList-r16 ::= SEQUENCE (SIZE (1..maxNrofSL-Dest-r16)) OF SL-TxResourceReq-r16  SL-TxResourceReq-r16 ::= SEQUENCE {  sl-PC5LinkIdentity-r16 SL-PC5LinkIdentity-r16,  sl-DestinationIdentity-r16 SL-DestinationIdentity-r16,  sl-CastType-r16 ENUMERATED {broadcast, groupcast, unicast, spare1},  sl-RLC-ModeIndicationList-r16 SEQUENCE (SIZE (1.. maxNrofSLRB-r16)) OF SL-RLC-ModeIndication-r16 OPTIONAL,  sl-QoS-InfoList-r16 SEQUENCE (SIZE (1..maxNrofSL-QFIsPerDest-r16)) OF SL-QoS-Info-r16 OPTIONAL,  sl-Failure-r16 ENUMERATED {rlf, configFailure, spare2, spare1} OPTIONAL,  sl-TypeTxSyncList-r16 SEQUENCE (SIZE (1..maxNrofFreqSL-r16)) OF SL-TypeTxSync-r16 OPTIONAL,  sl-TxInterestedFreqList-r16 SEQUENCE (SIZE (1..maxNrofFreqSL-r16)) OF INTEGER (1..maxNrofFreqSL-r16) OPTIONAL  }  SL-QoS-Info-r16 ::= SEQUENCE {  sl-QoS-FlowIdentity-r16 SL-QoS-FlowIdentity-r16,  sl-QoS-Profile-r16 SL-QoS-Profile-r16 OPTIONAL  }  SL-RLC-ModeIndication-r16 ::= SEQUENCE {  sl-AM-Mode-r16 SEQUENCE {  sl-AM-Mode-r16 ENUMERATED {true},  sl-AM-QoS-InfoList-r16 SEQUENCE (SIZE (1..maxNrofSL-QFIsPerDest-r16)) OF SL-QoS-Info-r16  } OPTIONAL,  sl-UM-Mode-r16 SEQUENCE {  sl-UM-Mode-r16 ENUMERATED {true},  sl-UM-QoS-InfoList-r16 SEQUENCE (SIZE (1..maxNrofSL-QFIsPerDest-r16)) OF SL-QoS-Info-r16  } OPTIONAL  }  -- TAG-SIDELINKUEINFORMATIONNR-STOP  -- ASN1STOP   | ***SL-TxResourceReq* field descriptions** | | --- | | ***Sl-PC5LinkIdentity***  Indicates PC5 Link Identifier that uniquely identifies the PC5 unicast link in the UE for the lifetime of the PC5 unicast link. |   6.3.5 Sidelink information elements   * *SL-PC5LinkIdentity*   The IE *SL-PC5LinkIdentity* is used to identify a PC5 unicast link of a NR sidelink communication.  ***SL-PC5LInkIdentity* information element**  -- ASN1START  -- TAG-SL-DESTINATIONIDENTITY-START  SL-PC5LinkIdentity-r16 ::= BIT STRING (SIZE (24))  -- TAG-SL-DESTINATIONIDENTITY-STOP  -- ASN1STOP | Not Pursued |
| N 033 | LG | **Issue description:**  In our view, once a PC5-RRC connection is established, only one SDAP entity is configured between peer UEs for each unicast link, regardless of mapping between destination and PC5-RRC connection.  **Proposed change:** 5.8.9.1.5.2   Sidelink DRB addition/modification operations 2>  if an SDAP entity for NR sidelink communication accoicated with the desination and the cast type of the sidelink DRB does not exist for groupcast and broadcast, or if an SDAP entity for NR sidelink communication associated with the PC5-RRC connection does not exist:  3>  establish an SDAP entity for NR sidelink communication as specified in TS 37.324 [24] clause 5.1.1;  3>  configure the SDAP entity in accordance with the *sl-SDAP-ConfigPC5* received in the *RRCReconfigurationSidelink* or *sl-SDAP-Config* received in *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR*, associated with the sidelink DRB; | Not Pursued |
| N 034 | LG | **Issue description:**  UE considers that PC5-RRC connection is established after its corresponding PC5 unicast link establishment. A connection cannot be released without establishment.  **Proposed change:**  5.8.1  General  NR sidelink communication consists of unicast, groupcast and broadcast. The PC5-RRC connection is a logical connection between a pair of a Source Layer-2 ID and a Destination Layer-2 ID in the AS. The PC5-RRC connection is considered as established and the PC5-RRC signalling, as specified in sub-clause 5.8.9, can be initiated after its corresponding PC5 unicast link establishment (TS 23.287 [55]). The PC5-RRC connection and the corresponding sidelink SRBs and sidelink DRBs are released when the PC5 unicast link is released as indicated by upper layers. | Not Pursued |
| N 035 | LG | **Issue description:**  UE cannot perform SL Mode 1 and 2 simultaneously. It is restricted in 38.321. However, RRC exceptionally configure both modes when CG Type 1 is configured for SL. For clarity, it is desirable to change RRC as follows:  **Proposed change:**  5.8.8  Sidelink communication transmission  4>  if the UE is configured with *sl-ScheduledConfig*:  5> if T310 for MCG expires and *rrc-ConfiguredSidelinkGrant* has been configured:  6>  configure the lower layers to release the resources indicated by *rrc-ConfiguredSidelinkGrant* (if any);  5> else:  6> if T310 for MCG or T311 is running; and if *sl-TxPoolExceptional* is included in *sl-FreqInfoList* for the concerned frequency in *SIBX* or included in in *RRCReconfiguration*; or  6>  if T301 is running and the cell on which the UE initiated RRC connection re-establishment provides *SIBX* including *sl-TxPoolExceptional* for the concerned frequency; or  6>  if T304 for MCG is running and the UE is configured with *sl-TxPoolExceptional* included in *sl-ConfigDedicatedNR* for the concerned frequency in *RRCReconfiguration*:  7>    configure lower layers to transmit the sidelink control information and the corresponding data based on random selection using the pool of resources indicated *sl-TxPoolExceptional* as defined in TS 38.321 [3];  6>  else:  7>    configure lower layers to request the network to assign transmission resources for NR sidelink communication; | To be discussed |
| N 036 | LG | **Issue description:**  How zone\_id is used in specifications is missing.  **Proposed change:**  5.8.11           Zone identity calculation  The UE shall determine an identity of the zone (i.e. Zone\_id) in which it is located using the following formulae, to transmit SCI as specified in TS 38.321 [x], if *sl-ZoneConfig* is configured: | Not Pursued |
| N 037 | OPPO  (38.331) | **Issue description:** By including RLF failure report into the *sl-TxResourceReqList-r16*, it would cause destination address index space waste (i.e., a destination index is occupied by a failed link, which is to released anyway) or further signalling overhead if more SUI messages have to be triggered (in order to override the destination index occupation by the failed link with a new link). [section 2.1.1 of R2-2000191].  **Proposed change:** in ASN.1 encoding, Separate the list for active links and failed links in SUI message, in order to avoid the failed links occupying the destination index in BSR.  We will bring a discussion paper and draft-CR for that. | Addressed in WI specific CR |
| N 038  (O310) | OPPO  (36.331 and 38.331) | **Issue description:** For inter-RAT CBR measurement configuration and reporting,, e.g., for the UE camped on Uu RAT-1, is configured to perform measurement on PC5 RAT-2 – we have two alternatives:   * Alt-1 (adopted by the running CR): Similar to Uu interface B-series measurement, i.e., UE camped on Uu RAT-1 to perform measurement on Uu RAT-2, via configuration / report via messages defined based on RAT-1, another series of measurement can be defined, in order for UE camped on Uu RAT-1 to perform measurement on PC5 RAT-2, via configuration / report via messages defined based on RAT-1. * Alt-2: Similar to the introduction of *ULInformationTransferMRDC*, which is used for UE camped on Uu RAT-1 to perform measurement on Uu RAT-2, via configuration / report via messages defined based on RAT-2, included in *ULInformationTransferMRDC* as a container. Please note that by using this method, the impact to UE internal variable (e.g., *VarMeasConfig*) is also avoided.   Considering the ASN.1 impact from Alt-1, Alt-2 is more preferred, due to the avoidance of ASN.1 impact. And according to the running CR, even in Alt-1, one needs to rely on container to carry LTE RRC configuration on resource pool for measurement configuration. [section 2.4 of R2-2000191]  **Proposed change:**  1. Rely on container-based method for inter-RAT PC5-related measurement / report configuration, and  2. Report inter-RAT PC5-related measurement result in *ULInformationTransferMRDC* message R.  We will bring a discussion paper and draft-CRs for that. | Moved to ASN.1 review, class-2 |
| N 039 | ZTE | Based on the following RAN2 agreements on SL unicast,  - PDCP should support AS ciphering and integrity protection for SL data and PC5-RRC.  - For SL DRBs of unicast, if the integrity protection is not configured, the MAC-I field is not present  .- Except for Direct Communication Request, the MAC-I field is always present in the PDCP format for other PC5 Signallings and SL RRC signallings.  we can observe that both AS ciphering and integrity protection are mandatory for SL SRBs (except for the SRB for Direct Communication Request). Integrity protection is configurable for SL DRBs for unicast. However, it is not clear whether AS ciphering is mandatory or configurable for SL DRBs for unicast. Whether Uu-RRC/PC5-RRC configuration is needed to indicate the AS ciphering and/or integrity protection is configured/not configured for SL DRBs. | To be discussed |
| N 040 | vivo | **[Issue Description] Ambiguity on which SL carrier frequency to be released**  Currently, when the network wants to release the dedicated configuration information on one particular carrier frequency for a UE, it uses *ARFCN-ValueNR* to indicate which SL carrier frequency is to be released.  sl-FreqInfoToReleaseList-r16 SEQUENCE (SIZE (1..maxNrofFreqSL-r16)) OF ARFCN-ValueNR OPTIONAL, -- Need N  On the other hand, there are two types of *ARFCN-ValueNR* in the dedicated SL carrier frequency configuration information, i.e., one is for SSB (*sl-AbsoluteFrequencySSB*) and the other is for PointA (*sl-AbsoluteFrequencyPointA*). The specification is not clear which type of *ARFCN-ValueNR* the network refers to for the release operation. Furthermore, neither the *ARFCN-ValueNR* for sl-AbsoluteFrequencySSB nor sl-AbsoluteFrequencyPointA can solve the ambiguity. Because the SSB frequency location or the PointA location may be the same across different SL carriers. The ambiguity problem is hidden since only single carrier scenario is supported in this Release. However, when multi-carrier scenario is introduced later, such ambiguity problem cannot be avoided and needs a solution.  [Proposal] Use ID to uniquely associated with a specific SL carrier frequency configuration.  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Change Start\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  – *SL-FreqConfig*  The IE *SL-FreqConfig* specifies the dedicated configuration information on one particular carrier frequency for NR sidelink communication.  ***SL-FreqConfig* information element**  SL-FreqConfig-r16 ::= SEQUENCE {  [...]  sl-Freq-Id SL-Freq-Id,  [...]  }  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Next Change\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*   * – *SL-Freq-Id*   The IE *SL-Freq-Id* is used to refer to carrier frequency for NR sidelink communication.  ***Freq-Id* information element**  -- ASN1START  -- TAG-BWP-ID-START  SL-Freq-Id ::= INTEGER (1.. maxNrofFreqSL)  -- TAG-BWP-ID-STOP  -- ASN1STOP  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Next Change\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  – *SL-ConfigDedicatedNR*  The IE *SL-ConfigDedicatedNR* specifies the dedicated configuration information for NR sidelink communication.  ***SL-ConfigDedicatedNR* information element**  sl-FreqInfoToReleaseList-r16 SEQUENCE (SIZE (1..maxNrofFreqSL-r16)) OF ~~ARFCN-ValueNR~~SL-Freq-Id OPTIONAL, -- Need N  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Next Change\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*   1. 5.3.5.14 Sidelink dedicated configuration   The UE shall:  <Unrelated Text Omitted>  1> if *sl-FreqInfoToReleaseList* is included in *sl-ConfigDedicatedNR* within *RRCReconfiguration*:  2> for each ~~entry~~ *sl-freq-Id* included in the received *sl-FreqInfoToReleaseList* that is part of the current UE configuration:  3> release the related configurations indicated by *sl-freq-Id* from the stored NR sidelink communication configurations;  < Unrelated Text Omitted>  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Change End\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* | Addressed in WI specific CR |
| N 041 | vivo | **[Issue Description] No CBR based PSSCH tx parameters configuration to mode 1 UE**  The IE SL-CBR-CommonTxConfigList specifies the CBR based PSSCH tx parameters configuration to a UE for sidelink communication. However, it is defined within the father IE SL-UE-SelectedConfig which is used for UE autonomous resource selection (i.e., mode 2) only. The consequence is that mode 1 UEs cannot be configured with the CBR based PSSCH tx parameters configuration by the network. Moreover, such limitation to mode 1 UEs doesn’t exist in LTE V2X based on the following observations:   1. The IE *SL-CBR-CommonTxConfigList* is defined separately from IE *SL-CommTxPoolSensingConfig* (similar to IE *SL-UE-SelectedConfig* in NR). 2. For LTE mode 3, the IE *SL-CBR-CommonTxConfigList* can be configured by RRC dedicated signalling via SL-V2X-ConfigDedicated.   We believe the legacy LTE V2X can be inherited to resolve such limitation for mode 1 UEs.  [Proposal] move IE SL-CBR-CommonTxConfigList out of the IE SL-UE-SelectedConfig to allow mode 1 UEs configured with CBR based PSSCH tx parameters configuration.  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Change Start\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  – *SIB12*  SIB12 contains NR sidelink communication configuration.  ***SIB12* information element**  SL-ConfigCommonNR-r16 ::= SEQUENCE {  sl-FreqInfoList-r16 SEQUENCE (SIZE (1..maxNrofFreqSL-r16)) OF SL-FreqConfigCommon-r16 OPTIONAL, -- Need R  sl-UE-SelectedConfig-r16 SL-UE-SelectedConfig-r16 OPTIONAL, -- Need R  sl-CBR-CommonTxConfigList-r16 SL-CBR-CommonTxConfigList-r16 OPTIONAL, -- Need R  [...]  }  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Next Change\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  – *SL-UE-SelectedConfig*  IE *SL-UE-SelectedConfig* specifies sidelink communication configurations used for UE autonomous resource selection.  ***SL-UE-SelectedConfig* information element**  SL-UE-SelectedConfig-r16 ::= SEQUENCE {  sl-PSSCH-TxConfigList-r16 SL-PSSCH-TxConfigList-r16 OPTIONAL, -- Need R  sl-ProbResourceKeep-r16 ENUMERATED {v0, v0dot2, v0dot4, v0dot6, v0dot8} OPTIONAL, -- Need R  sl-ReselectAfter-r16 ENUMERATED {n1, n2, n3, n4, n5, n6, n7, n8, n9} OPTIONAL, -- Need R  sl-PreemptionEnable-r16 ENUMERATED {enabled} OPTIONAL, -- Need R  ~~sl-CBR-CommonTxConfigList-r16 SL-CBR-CommonTxConfigList-r16 OPTIONAL, -- Need R~~  [...]  }  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Next Change\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  – *SL-ConfigDedicatedNR*  The IE *SL-ConfigDedicatedNR* specifies the dedicated configuration information for NR sidelink communication.  ***SL-ConfigDedicatedNR* information element**  SL-ConfigDedicatedNR-r16 ::= SEQUENCE {  sl-ScheduledConfig-r16 SetupRelease { SL-ScheduledConfig-r16 } OPTIONAL, -- Need M  sl-UE-SelectedConfig-r16 SetupRelease { SL-UE-SelectedConfig-r16 } OPTIONAL, -- Need M  sl-CBR-CommonTxConfigList-r16 SetupRelease { SL-CBR-CommonTxConfigList-r16 } OPTIONAL, -- Need M  [...]  }  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Change End\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* | Not Pursued |
| N 042 | vivo | **[Issue Description] Sidelink communication reception**  In TS 38.331, the sl-RxPool configuration for lower layer to monitor is captured in below sentence highlighted in yellow.  *5.8.7 Sidelink communication reception*  *A UE capable of NR sidelink communication that is configured by upper layers to receive NR sidelink communication shall:*  *1> if the conditions for NR sidelink communication operation as defined in 5.8.2 are met:*  *2> if the frequency used for NR sidelink communication is included in sl-FreqInfoToAddModList in RRCReconfiguration message or sl-FreqInfoList included in SIB12:*  *3> if the UE is configured with sl-RxPool included in RRCReconfiguration message with reconfigwithSync (i.e. handover):*  *4> configure lower layers to monitor sidelink control information and the corresponding data using the pool of resources indicated by sl-RxPool;*  *3> else if the cell chosen for NR sidelink communication transmission provides SIB12:*  *4> configure lower layers to monitor sidelink control information and the corresponding data using the pool of resources indicated by sl-RxPool in SIB12;*  *2> else:*  *3> configure lower layers to monitor sidelink control information and the corresponding data using the pool of resources that were preconfigured by sl-RxPool in SL-PreconfigurationNR, as defined in sub-clause 9.3;*  Based on this sentence we find that sl-RxPool is only reconfigured in Handover case. It is also useful to reconfigure the sl-RxPool in non-handover case because the RACH procedure can be avoided.  [Proposal] support reconfiguring the sl-RxPool in both handover and non-handover case.  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Change Start\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*   1. **5.8.7 Sidelink communication reception**   A UE capable of NR sidelink communication that is configured by upper layers to receive NR sidelink communication shall:  1> if the conditions for NR sidelink communication operation as defined in 5.8.2 are met:  2> if the frequency used for NR sidelink communication is included in *sl-FreqInfoToAddModList* in *RRCReconfiguration* message or *sl-FreqInfoList* included in *SIB12*:  3> if the UE is configured with *sl-RxPool* included in *RRCReconfiguration* message ~~with reconfigwithSync (i.e. handover)~~ :  4> configure lower layers to monitor sidelink control information and the corresponding data using the pool of resources indicated by *sl-RxPool*;  3> else if the cell chosen for NR sidelink communication transmission provides *SIB12*:  4> configure lower layers to monitor sidelink control information and the corresponding data using the pool of resources indicated by *sl-RxPool in SIB12*;  2> else:  3> configure lower layers to monitor sidelink control information and the corresponding data using the pool of resources that were preconfigured by *sl-RxPool* in *SL-PreconfigurationNR*, asdefined in sub-clause 9.3;  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Change End\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* | Not Pursued |
| N 043 | vivo | **[Issue Description] Frequency resources configuration for actually used PSFCH transmissions**  The meaning of *rbSetPSFCH* is to indicate a set of frequency resources is (pre-)configured for the actual use of PSFCH transmissions. In current 38.331, the related IE is named *sl-PSFCH-RB-Set-r16* and the configuration is as follows:   |  | | --- | | SL-PSFCH-Config-r16 ::= SEQUENCE {  sl-PSFCH-Period-r16 ENUMERATED {sl0, sl1, sl2, sl4} OPTIONAL, -- Need M  sl-PSFCH-RB-Set-r16 BIT STRING (SIZE (275)) OPTIONAL, -- Need M  sl-NumMuxCS-Pair-r16 ENUMERATED {n1, n2, n3, n4, n6} OPTIONAL, -- Need M  sl-MinTimeGapPSFCH-r16 ENUMERATED {sl2, sl3} OPTIONAL, -- Need M  sl-PSFCH-HopID-r16 INTEGER (0..1023) OPTIONAL, -- Need M  ...  } | | ***SL-PSFCH* field descriptions** | | ***sl-PSFCH-Period***  Indicates the period of PSFCH resource in the unit of slots within this resource pool. If set to 0, no resource for PSFCH, and HARQ feedback for all transmissions in the resource pool is disabled. | | ***sl-PSFCH-RB-Set***  Indicates the set of PRBs that are actually used for PSFCH transmission and reception. |   In NR, the maximum number of PRBs is 275 for a BWP. As the *sl-PSFCH-RB-Set-r16* is a bitmap with size of 275 but configured per resource pool, it is not clear which RB-index the bitmap starts from with only the field descriptions.  For example, there are different possible cases about what the bitmap of *sl-PSFCH-RB-Set-r16* means:   1. The first PRB indicated by the bitmap refers to the lowest RB index of the subchannel in the resource pool 2. The first PRB indicated by the bitmap refers to the largest RB index of the subchannel in the resource pool 3. The first PRB indicated by the bitmap refers to the first PRB of the SL-BWP 4. The first PRB indicated by the bitmap refers to the last PRB of the SL-BWP   The illustration is as follows:    Figure 1. Example of different cases about what the bitmap of *sl-PSFCH-RB-Set-r16* actually means  As the *sl-PSFCH-RB-Set-r16* is configured per resource pool, the simplest way is to follow case 1, which is, the first PRB indicated by the bitmap refers to the lowest RB index of the subchannel in the resource pool. Accordingly, the field description needs to be clarified to be clearer.  [Proposal] clarify that for the *sl-PSFCH-RB-Set-r16*, the leftmost bit indicated by the bitmap refers to the RB with the lowest RB index in the resource pool.  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Change Start\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*   | ***SL-PSFCH* field descriptions** | | --- | | ***sl-PSFCH-RB-Set***  Indicates the set of PRBs that are actually used for PSFCH transmission and reception. The leftmost bit indicated by the bitmap refers to the lowest RB index in the resource pool. |   \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Change End\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* | Addressed in WI specific CR |
| N 044 | vivo | **[Issue Description] Align PSFCH Configuration of TX and RX resource pools**  The configurations of TX resource pool(s) and RX resource pool(s) needs to meet certain rules:  Rule 1: each TX resource pool should be included in any of RX resource pool, i.e. each TX resource pool has a corresponding RX resource pool;  Rule 2: each TX resource pool and its corresponding RX resource pool should have same feedback configuration, e.g. same PSFCH configuration;  Especially in rule 2, for example, A TX UE decides whether HARQ feedback is needed or not according to service QoS profile and the feedback resource configuration of its TX resource pool. Then the TX UE carries HARQ feedback enabling/disabling indicator in SCI. When the RX UE(s) receives the SCI with HARQ feedback enabling indicator, the RX UE(s) will send HARQ feedback in the feedback resource configuration of the RX resource pool. TX UE receives HARQ feedback in the feedback resource configuration of the TX resource pool. In order to ensure feedback reception accurately, the feedback resource configurations of TX resource pool and corresponding RX resource pool must be aligned. Generally, we need to rely on smart gNB implementation to provide correct TX and RX resource pool(s).  [Proposal] clarify in the field description of the sl-RxPool that "Network ensures the receiving resource pool has the same feedbackPSFCH configuration as the corresponding transmission pool."  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Change Start\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*   | ***SL-BWP-Pool-Config* field descriptions** | | --- | | ***sl-RxPool***  Indicates the receiving resource pool on the configured BWP. Network ensures the receiving resource pool has the same PSFCH configuration as the corresponding transmission pool. |   \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Change End\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* | Not Pursued |
| N 045 | Apple | **[Issue Description] TX pool configuration constraints for HARQ-related parameters to ensure interoperability**  LTE-V2X allows “pool-specific” TX pool configurations, as long as all TX pool(s) configurations are mapped into RX pool(s) in adjacent cells. But in NR-V2X, the introduction of some new parameters will not allow certain “pool-specific” TX pool configurations to be configured independently, as it creates ambiguity in RX UE HARQ feedback behavior. For example, PSFCH configuration in the pool can allow PSFCH resource locations in three different values of periodicity, 1, 2 and 4, where the RX UE shall follow to transmit HARQ feedback. However, different cells may configure an exactly same TX pool with only the PSFCH periodicity set differently, as shown in the example below.  A picture containing clock  Description automatically generated  **Figure: Example of PSFCH resource configuration inconsistency among adjacent cells**  Suppose UE in cell 0 tries to decode the SCI of a SL transmission, it does not know which cell the TX belongs to. It may decode the SCI and DATA with either of the two RX pool configurations, but it now faces an ambiguity about what is exact PSFCH resource configuration is to follow. If the RX UE use ‘sl1” as its guidance to send PSFCH signal but the TX UE is located in cell 3, then there would be a potential problem for the TX UE to receive the PSFCH signal.  To resolve the issue, for a certain region (bigger than a cell), the certain parameters in those TX pool configurations shall be identical, as long as TX resource are overlapping in time and frequency domain. Such a “blanket” configuration may need cover a larger swath of area.  We propose that RAN2 identifies the HARQ-related RRC parameters in resource pool which should be consistently set per region and add that constraint in the description of each of such IE. | Not Pursued |
| N046 | Samsung  (38.331) | **Issue: The configuration of header compression is dependent on packet type, IP or non-IP, but NW does not have any information of the packet type a SL flow. No procedure is defined for SL between CN and NW.**  **This issue was raised by CATT in one of previous emails. We think the issue itself is valid. But the packet type report to NW has limitation since it works only for RRC\_CONNECTED UE.**  **Proposal: we propose to let TX UE configure sl-HeaderCompression configuration. So the configuration does not have to be included in RRCReconfiguration, SIB12, sl-preconfigurationNR. (see R2-2003673/R2-2003674)** | Addressed in WI specific CR |
| N047 | Samsung  (38.331) | **Issue: PDCP out-of-order delivery is not configured since it is RX only operation. But the PDCP out-of-order delivery and the PDCP header compression should be aligned (no HC for PDCP out-of-order delivery). So the out-of-order delivery configuration should be exchanged between TX UE and RX UE.**  **Proposal: we propose to add PDCP-out-of-order delivery in *RRCReconfigurationSidelink* message. (see R2-2003677/R2-2003678)** | Postponed |
| N048 | Samsung  (38.331) | **Issue: As discussed during [AT109e][703], this was raised by LG (Giwon), the mapping between TX profile and NR PC5 should be provisioned in UE.**  **Proposal: we propose to define TX profile for indicating REL16 compatible format in sl-preconfigurationNR. (see R2-2003675/R2-2003676)** | Addressed in WI specific CR |
| N049 | Samsung  (38.331) | **Issue: Since SLRB release can be triggered due to the received SIB12 as specified in 5.8.9.1.4 Sidelink DRB release, the overall SLRB configuration procedure should be specified under SIB12 processing.**  **Proposal: change ‘addition/modification’ to ‘configuration’, change 5.8.9.1.5 to 5.8.9.1**  **1> if sl-RadioBearerConfigList is included:**  **2> perform sidelink DRB addition/modification as specified in 5.8.9.1.5;** | Addressed in WI specific CR |
| N050 | Samsung  (38.331) | **Issue: In current specification, SL-ConfiguredGrantConfigList is configured via SL-ResourcePool IE. Since SL-ConfiguredGrantConfigList is scheduled by gNB/eNB, we think that the CG configuration should be included in sl-ScheduledConfig of SL-ConfigDedicatedNR which is mode 1 only use.**  **Proposal: remove sl-ConfiguredGrantConfigList from SL-ResourcePool IE, add sl-ConfiguredGrantConfigList into sl-ScheduledConfig** | Addressed in WI specific CR |
| N.051 | Huawei  (TS 38.331) | [Issue Description] **How the NW provides SR configuration to an SL-SRB for SCCH which is not NW configured but specified in the Specs.** The issue is that the current specification has no way to configure SR cofngiuration accociated with the SL LCH of SL-SRB, because it is now specifieid in the Spec. The consequence is that when anm SL BSR is trigged by an SL-SRB (i.e. the UE has PC5-RRc message to transmit), the UE can only rely on random access to request SL grant for its transmission, which is obvious unacceptable.See further details in R2-2002919, Open #Issue C  [Proposal] Introduce a list of sl-SchedulingRequestId which refers to the SR configurations used for SL SRBs; or add a SR configuration ID in each of the specified SCCH configuration, and the NW can configure the SR configuration with such ID values as those used for SL-SRBs. Detailed TP can refer to R2-2002920. | To be discussed |
| N.052  (E035) | Ericsson  (TS 38.331) | Section 5.2.2.4.13 🡪 In the procedural text, the check on whether a certain field is included in the SIB is not aligned.  We brought a DraftCR in R2-2003206 to solve this issue. | Addressed in WI specific CR |
| N.053  (E036) | Ericsson  (TS 38.331) | Section 5.3.5.3 🡪 In the current procedural text, it is specified that if the UE has sent the SUI message to the network (because some parameters have changes) during the last 1 second preceding the reception of a reconfiguration with sync, the UE should send the SUI message again.  However, this behaviour is only valid if the reconfiguration with sync received is included in the spCellConfig of an MCG. In case, the reconfiguration with sync is included in the spCellConfig of an SCG, no action are required by the UE since the SCG cannot control/schedule any SL/V2X transmissions.  We brought a DraftCR in R2-2003206 to solve this issue. | Addressed in WI specific CR |
| N.054  (E042) | Ericsson  (TS 38.331) | Section 5.3.5.9 🡪 From UE’s actions point of view, when full configuration is triggered there is no difference of what the TX and RX UE should do in case of NR sidelink communication.  We brought a DraftCR in R2-2003206 to solve this issue. | Not Pursued |
| N.055  (E044) | Ericsson  (TS 38.331) | Section 5.3.7.2 🡪 In the NR V2X WI, the following agreements have been made:  During the transient period where the UE has already been in the new UE state but has not obtained the SLRB configuration in the new state, the UE should continue using the SLRB configurations obtained in the old UE state.  However, this is not enterely reflected in the procedural text. In fact, the understanding is that, when the RRC re-establishment is initiated, the UE should keep the current SL configuration until it gets a new one (from the old/new cell via dedicated message or SIB).  We brought a DraftCR in R2-20032067 to solve this issue. | Not Pursued |
| N.056  (E045) | Ericsson  (TS 38.331) | Section 5.3.8.3 🡪 In the NR V2X WI, the following agreements have been made:  During the transient period where the UE has already been in the new UE state but has not obtained the SLRB configuration in the new state, the UE should continue using the SLRB configurations obtained in the old UE state.  However, this is not enterely reflected in the procedural text. In fact, the understanding is that, when the RRC release is initiated, the UE should keep the current SL configuration until it gets a new one (from the old/new cell via dedicated message or SIB).  We brought a DraftCR in R2-2003206 to solve this issue. | Not Pursued |
| N.057  (E046) | Ericsson  (TS 38.331) | Section 5.5.1 🡪 In general, the RRC specification should be written from a UE perspective but this sentence is clearly something that it regards NW behaviour. For this reason, we would like to rephrase this sentence and have it as a NOTE since this is something that does not mandate the UE to perform any actions.  We brought a DraftCR in R2-2003213 to address this issue. | Postponed  (Referred change not found) |
| N.058  (E047) | Ericsson  (TS 38.331 and TS 36.331) | For the case of cross-RAT SL scheduling, the gNB can configure NR SL and LTE SL UEs. However, even if LTE configuration are included in NR RRC, there is not connection for the UE of what to do if the LTE fields are signalled. Therefore, according to current procedural text the cross-RAT feature will not work.  We brought a DraftCR in R2-2003213 and R2-2003212 to address this issue. | Addressed in WI specific CR  (Changes related to inter-RAT CBR measurement and reporting Postponed) |
| N.059  (E055  E057  E058) | Ericsson  (TS 38.331 and TS 36.331) | A proper initiation of this procedure is missing in many sidelink RRC procedures and would be good to clarify when the UE should initiate such procedure and what action should be performed.  We brought a DraftCR in R2-2003209 and R2-2003210 to solve this issue | Not Pursued |
| N.060  (E056) | Ericsson  (TS 38.331) | Section 5.8.3.2 🡪 UE actions if the stored version of SIB12 is not valid anymore are missing and should be added.  We brought a DraftCR in R2-2003206 to solve this issue. | Addressed in WI specific CR |
| N.061  (E061) | Ericsson  (TS 38.331) | Procedural text is not so clear is setting up the sl-Failure. Even if is kind of correct that this field is set when upper layer instructs to send the NR sidelink Ue information, it would be good to mention that the sl-Failure is set only upon detection of a SL radio link failure.  Further, the way how the sl-Failure is implemented in the ASN.1 needs to be revised as a separate IE for this is needed.  We brought a DraftCR in R2-2003211 to solve this issue. | Addressed in WI specific CR |
| N.062  (E048) | Ericsson  (TS 38.331) | Section 5.8.5.3  In LTE, there are two configurations: with 2 and with 3 resources. The current NR spec only covers the first case. Given that RAN1 agreed to reuse the LTE procedures, this should be fixed. In particular, the following RAN1 agreements need to be covered.  Agreements**:**  The procedure for signalling, identifying priority for one or more synchronization references and selecting the synchronization reference from the LTE is re-used (as a working assumption) for NR SL  FFS SSIDs used for each priority  FFS other potential impacts due to P3/P4/P5  FFS whether there is an issue with prioritization among references of the same priority  Send an LS to RAN2 regarding the above – Teng (CATT), [R1-1911710](http://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_98b/Docs/R1-1911710.zip)**,**which is approved (by adding cc-ing to RAN4) with final LS in [R1-1911718](http://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_98b/Docs/R1-1911718.zip)    Agreements**:**  672 SL-SSIDs are divided into 2 sets to indicate different synchronization priorities following a similar approach as in LTE-V2X:  •          Set id\_net {0, 1, …, 335}  •          Set id\_oon{336, 337, 338, …, 671}  •          The usage of 0 is the same as 0 as in LTE  •          The usage of 336 is the same as 168 as in LTE  •          The usage of 337 is the same as 169 as in LTE  We brought a DraftCR in R2-2003215 to solve this issue. | Addressed in WI specific CR |
| N.063  (E059) | Ericsson  (TS 38.331) | Section 5.8.9.1.2 🡪 The terminology and the use of the lists in the procedural text is not correct. This should be aligned according to the guidelines provided in Annexes A.3.9 and A.3.10 of 38.331.  We brought a DraftCR in R2-2003208 to solve this issue. | Addressed in WI specific CR |
| N.064  (E060) | Ericsson  (TS 38.331) | In the last RAN2#109e meeting we took the following agreements:  3: The RRC connected TX UE reports a new failure cause to the NW upon the reception of RRCReconfigurationFailureSidelink from the RX UE.  4: In case an AS configuration failure message is received from the RX UE, the TX UE shall not apply the SLRB configuration(s), which were included in the corresponding failed AS configuration message.  However, it seems a bit strange that the UE continues using the previous configuration since this it may be not valid anymore. Further, we foresee the need of a failureType to be included in this message (i.e., there is still an FFS on this) since it will be more future proof in case other failures handling are added in Rel-17.  We brought a DraftCR in R2-2003207 to solve this issue. | To be discussed |
| N.065  (E062) | Ericsson  (TS 38.331) | RAN1 has agreed in the last RAN1#100e meeting that the value for the resource reservation period is: 0, [1:99], 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000 ms. However, the range [1:99] is missing in the present field. Further, according to the agreement from RAN1 the values should be in milliseconds and not seconds.  The following change is proposed to align this field to the RAN1 agreement:  SL-ResourceReservePeriod-r16 ::= ENUMERATED {ms0, ms1, ms2, ms3, ms4, ms5, ms6, ms7, ms8, s9, s10  ms11, ms12, ms13, ms14, ms15, ms16, ms17, ms18, ms19, ms20,  ms21, ms22, ms23, ms24, ms25, ms26, ms27, ms28, ms29, ms30,  ms31, ms32, ms33, ms34, ms35, ms36, ms37, ms38, ms39, ms40,  ms41, ms42, ms43, ms44, ms45, ms46, ms47, ms48, ms49, ms50,  ms51, ms52, ms53, ms54, ms55, ms56, ms57, ms58, ms59, ms60,  ms61, ms62, ms63, ms64, ms65, ms66, ms67, ms68, ms69, ms70,  ms71, ms72, ms73, ms74, ms75, ms76, ms77, ms78, ms79, ms80,  ms81, ms82, ms83, ms84, ms85, ms86, ms87, ms88, ms89, ms90,  ms91, ms92, ms93, ms94, ms95, ms96, ms97, ms98, ms99, ms100,  ms200, ms300, ms400, ms500, ms600, ms700, ms800, ms900, ms1000} | Addressed in WI specific CR |
| N.066  (E040) | Ericsson  (TS 38.331) | In current procedural text and ASN.1, upon AS configuration failure over PC5 the counterpart UE sends an empty RRC message to the peer UE to inform that it was not able to comply with (part of) the received RRCReconfigurationSidelink.  However, signal just an empty RRC message with just the transaction identifier is an overkill and thus our proposal it to include the following:  - Failure type  - Latest RRC configuration for which the UE was not able to comply.  Further, including the failure type is a future proof solution. In fact, if we are going to handle other failure cases in Rel-17 we would need to include a failure type for the Rel-16 case thus leading to a not backword compatible change.  We brought a DraftCR in R2-2003207 to solve this issue. | To be discussed |
| N.067  (A001 and A002) | Apple | In the NR design of SIB 12, there is no any IE structure to support the resource configuration in the serving frequency. Instead, all pool configurations are folded into SL\_FreqInfo. Therefore, the statements in 5.3.3.1a and 5.3.13.1a to have two different conditions to trigger RRC connection establishment is not needed. There is no need to have a condition for the case when UE intends to do NR sidleink communication in camped frequency. | Addressed in WI specific CR |
| N.068 | LG | In order to reflect RAN1 agreement below, it would be nice if the the *sl-TimeOffsetEUTRA* field contains additional description as follow.   |  | | --- | | *Agreements made in RAN1#98:*   * *X is dynamically indicated using a field in the DCI*   + *FFS whether the DCI field provides an index to a table or the value of X*   + *The minimum value of X is subject to UE capability*     - *UE reports a single value subject to UE capability* |   **6.3.5 *SL-ConfigDedicatedEUTRA***  ***sl-TimeOffsetEUTRA***  This field indicates the possible time offset to (de)activation of V2X sidelink transmission after receiving DCI format 3\_1used for scheduling V2X sidelink communication. Value *ms0dpt75* corresponds to 0.75ms, *ms1* corresponds to 1ms and so on. Minimum value in the *sl-TimeOffsetEUTRA-List* must be greater than or equal to *UE capability* value reported by UE. | Addressed in WI specific CR |
| N.069 | LG | According to the RAN1 agreement below, ​​values of the *sl-NumSSB-WithinPeriod* should be modified as suggested.  *RAN1#98*  *Agreements:*   * *The following values with change marks are further agreed:*   + *Note: the values in bracket are subject to further discussion regarding potential removal all-together*     - *For FR1:*       * *For 15kHz SCS, {1, [2]}*       * *For 30kHz SCS, {1, 2, [4]}*       * *For 60kHz SCS, {1, 2, 4, [8]}*     - *For FR2:*       * *For 60kHz SCS, {1, 2, 4, 8, 16, 32}*       * *For 120kHz SCS, {1, 2, 4, 8, 16, 32, 64}*   *RAN1#98bis*  *Agreements:*   * *Do not support 2/4/8 as the number of S-SSB transmissions within one S-SSB period for 15/30/60 KHz SCS for FR1, respectively.*   **6.3.5**  ***sl-NumSSB-WithinPeriod***  Indicates the number of sidelink SSB transmissions within one sidelink SSB period. The applicable values are related to the subcarrier spacing and frequency as follows:  FR1, SCS = 15 kHz: 1  FR1, SCS = 30 kHz: 1, 2  FR1, SCS = 60 kHz: 1, 2, 4  FR2, SCS = ~~30~~ 60kHz: 1, 2, 4, 8, 16, 32  FR2, SCS = ~~60~~ 120 kHz: 1, 2, 4, 8, 16, 32, 64 | Addressed in WI specific CR |
| ASN.1 issues moved from class2/3 RILs in ASN.1 review (R2-2003310) | | | |
| N.070  (Z400) | ZTE | [Issue Description]  Usually in the procedure text, the release procedure should be described before adding procedure  [Proposed Change] 5.3.5.14 Sidelink dedicated configuration  Move the frequency configuration release procedure to the beginning and move the frequency configuration adding procedure right after the release procedure. | Addressed in WI specific CR |
| N.071  (M107) | MediaTek | [Issue Description]  Sidelink SRBs could be numbered.  [Proposed Change] 5.8.1 General  Replace “One sidelink SRB” with “SL-SRB0/1/2/3” respectively. This would also need to propagate to the message definitions in section 6.6.2.  [Rapporteur] Such numbering may have potential impacts to other specifications. So it is better to have a discussion and ask companies whether this is needed. | To be discussed |
| N.072  (S102) | Samsung | [Issue Description]  NR sidelink measurement and report configuration is provided by SIB12 and preconfiguration.  [Proposed Change] 5.8.9.1.2 Actions related to transmission of RRCReconfigurationSidelink message  1> for each NR sidelink measurement and report that is to be configured, due to configuration by SIB12 or SidelinkPreconfigNR:  2> set the sl-MeasConfig according to the stored NR sidelink measurement configuration information;  [Rapporteur] The IE SL-MeasConfigInfo, if included in SL-ConfigDedicatedNR, is used to configure SL RSRP measurement and reporting by dedicated signalling. So, not only SIB12 and pre-config but also dedicated signalling can configure the RSPR measurement from NW to UE and then from TX to RX UE. | Not Pursued |
| N.073  (O309) | OPPO | [Issue Description]  RRCReconfigurationSidelink is not for a specific DRB, but for all configuration of a specific destination, i.e., peer UE, and T400 is not DRB specific either, but for a specific destination, i.e., peer UE as well, so the sentence here is misleading.  [Proposed Change] 5.8.9.1.2 Actions related to transmission of RRCReconfigurationSidelink message  Change the sentence as “start timer t400 for the destination”. | Addressed in WI specific CR |
| N.074  (O307) | OPPO | [Issue Description]  This sentence (and subsequent sentences) are used for configuration failure for PC5-RRC, similar to Uu, this worth a separate section for all related operation.  “*1> if the UE is unable to comply with (part of) the configuration included in the RRCReconfigurationSidelink (i.e. sidelink RRC reconfiguration failure) :*”  [Proposed Change] 5.8.9.1.3 Reception of an RRCReconfigurationSidelink by the UE  For the case of “if the UE is unable to comply with (part of) the configuration included in the RRCReconfigurationSidelink (i.e. sidelink RRC reconfiguration failure)”, use a separate section to handle that like what we did in Uu interface, instead of merging into the successful operation case.  [Rapporteur] This is more like text enhancement. The proposed change will impact many places, while the current spec works. Considering the wide-spread impacts, we prefer to keep the current texts as they are. If companies think this is a critical issue, comments are welcome in the running CR review. | Not Pursued |
| N.075  (O305) | OPPO | [Issue Description]  Since L and W are of the same value configured by same IE, we see no need for two variables, i.e., a single variable of L is enough.  [Proposed Change] 5.8.11 Zone identity calculation  Remove all W related description in this section, but use L only instead. | Addressed in WI specific CR |
| N.076  (S103) | Samsung | [Issue Description]  No need of ENUMERATED {true} for sl-AM-Mode-r16 and sl-UM-Mode-r16  [Proposed Change] – SidelinkUEInformationNR  Remove the field as below in Sidelink UE information NR:  sl-AM-Mode-r16 ENUMERATED {true},  [Rapporteur] Tend to agree with the intention of the issue. The proposed change will be somehow addressed in the running CR. | Addressed in WI specific CR |
| N.077  (S104) | Samsung | [Issue Description]  In UEAssistanceInformation for configured grant for NR SL, timing offset, message size and sidelink QoS flow identity should not be optional.  [Proposed Change] – UEAssistanceInformation  timingOffset-r16 INTEGER (0..10239) ~~OPTIONAL~~,  messageSize-r16 BIT STRING (SIZE (8)) ~~OPTIONAL~~,  sl-QoS-FlowIdentity-r16 SL-QoS-FlowIdentity-r16 ~~OPTIONAL~~ | Addressed in WI specific CR |
| N.078  (S105) | Samsung | [Issue Description]  sl-DestinationIndex is not needed and sl-QoS-FlowIdentity should be included in the field descriptions.  [Proposed Change] – UEAssistanceInformation  sl-DestinationIndex Indicates the index of the destination for which the UE is interested to perform NR sidelink | Addressed in WI specific CR |
| N.079  (Z402) | ZTE | [Issue Description]  So far in the spec it has used QoS flow ID to report the traffic pattern information, instead of using destination index.  [Proposed Change] – UEAssistanceInformation  Removing the field description of sl-DestinationIndex. | Addressed in WI specific CR |
| N.080  (A003) | Apple | [Issue Description]  If the OffsetDFN values is set to 0, then there is no need to include this OPTIONAL field. To save the SIB12 size and have a clean spec, it is better to remove value 0 from range.  [Proposed Change]  Change to INTEGER (1..1000). | Addressed in WI specific CR |
| N.081  (S106) | Samsung | [Issue Description]  CBR-PSCCH-ResultsEUTRA is not reported if PSCCH and PSSCH is adjacent.  [Proposed Change] – MeasResultsSLAdd the below field:  cbr-PSCCH-ResultsEUTRA-r16 OCTET STRING OPTIONAL  [Rapporteur] This is related to changes of inter-RAT CBR measumrent and reporting, and has dependency on outcome of N.037. | Postponed  (See outcome of N.037 first) |
| N.082  (S107) | Samsung | [Issue Description]  The field description should be changed to be aligned with that for Event V1 and Event V2 in TS 36.331.  [Proposed Change] – ReportConfigEUTRA-SL  Event V1: CBR of V2X sidelink communication becomes better than absolute is above a threshold (as specified in TS 36.331 [10]);  Event V2: CBR of V2X sidelink communication becomes worse than absolute is below a threshold (as specified in TS 36.331 [10]);  [Rapporteur] This is related to changes of inter-RAT CBR measumrent and reporting, and has dependency on outcome of N.037. | Postponed  (See outcome of N.037 first) |
| N.083  (S108) | Samsung | [Issue Description]  The IE (ReportConfigEUTRA-SL) is for V2X sidelink communication.  [Proposed Change] – ReportConfigEUTRA-SL  Type of the configured CBR measurement report for V2X ~~NR~~ sidelink communication (In field description of reportType).  [Rapporteur] This is related to changes of inter-RAT CBR measumrent and reporting, and has dependency on outcome of N.037. | Postponed  (See outcome of N.037 first) |
| N.084  (S109) | Samsung | [Issue Description]  This ID (eventId) is used for V2X sidelink communication.  [Proposed Change] – ReportConfigEUTRA-SL  Choice of EUTRA ~~NR~~ event triggered reporting criteria (In field description of eventId).,  [Rapporteur] This is related to changes of inter-RAT CBR measumrent and reporting, and has dependency on outcome of N.037. | Postponed  (See outcome of N.037 first) |
| N.085  (S117) | Samsung | [Issue Description]  Since Event C1 and Event C2 are defined for CSI RS resource in E-UTRA, it is better to avoid using C1 and C2 for NR Sidelink communication.  [Proposed Change] – ReportConfigNR-SLUse SN (i.e., Event S1 and Event S2) for NR SL CBR measurement and report as in subcluase 5.5.4 in TS 36.331.  [Rapporteur] This is related to changes of inter-RAT CBR measumrent and reporting, and has dependency on outcome of N.037. | Postponed  (See outcome of N.037 first) |
| N.086  (N038) | Nokia | [Issue Description]  Why is this field (sl-BWP-r16) optional? The BWPs are added via AddModRelease, so this seems unnecessary.  [Proposed Change]– SL-BWP-Config  Remove optionality from sl-BWP-r16. | Addressed in WI specific CR |
| N.087  (O301) | OPPO | [Issue Description]  In SL-QuantityConfig, the filter coeeficient has been configured, the IE is a redundant one, so should be removed.  [Proposed Change]– SL-BWP-Config  Remove the IE sl-FilterCoefficient-r16. | Addressed in WI specific CR |
| N.088  (O306) | OPPO | [Issue Description]  For sl-TxPoolScheduling-r16, it is now defined as SL-TxPoolDedicated-r16, which seems needed only if it is possible that UE being configured with multiple pools, so that the structure of addmodlist and releaselist is needed – but the truth is this is not needed, so that there is no need for such addmodlist / releaselist, so sl-TxPoolScheduling-r16 can be directly defined as SL-ResourcePoolConfig-r16.  [Proposed Change]– SL-BWP-PoolConfig  Define sl-TxPoolScheduling-r16 directly as SL-ResourcePoolConfig-r16.  [Rapporteur] Now RAN1 only reached a general agreement that multiple TX pools can be (pre-)configured. Let’s wait for one more meeting, and see finally whether multiple mode-1 TX pool can really be supported from RAN perspective. IF not, then we remove this possibility. | Postponed  (Pending RAN1 further progress) |
| N.089  (A004) | Apple | [Issue Description]  For a gNB which only want to support mode 2 operation, configuring UE selected pools as delta signaling put extra burden to the NW to remember the UE-specific configuration of mode 2 pool Add/Modify, for each mode 2 UE. This is quite unnecessary. If we consider that most of the gNBs only support either mode 1 or mode 2, it makes sense to only use delta signalling for mode 1 TX pools.  [Proposed Change]– SL-BWP-PoolConfig  For sl-TxPoolSelectedNormal-r16, use “SEQUENCE (SIZE (1..maxNrofTXPool-r16)) OF SL-ResourcePoolConfig-r16” instead.  [Rapporteur] This is at the cost of signalling overhead, and it is trade-off. Since delta signalling fashion is usually used along with dedicated signalling, it seems better not to challenge this custom. | Not Pursued. |
| N.090  (A005) | Apple | [Issue Description]  Why is this field (sl-ResourcePoolID) optional? The only difference between SL-ResourcePool and SL-ResourcePoolConfig is the pool ID. If this can be optional, why not just use Sl-ResourcePool instead.  [Proposed Change]– SL-BWP-PoolConfig  Remove OPTIONAL in both fields. | Addressed in WI specific CR |
| N.091  (Z401) | ZTE | [Issue Description]  The RLC mode will either be RLC UM or RLC AM, there will be no chance that both of the two modes can be appeared, thus, sequence should be changed into choice  [Proposed Change]– SL-BWP-PoolConfig  SL-RLC-ModeIndication-r16 ::= CHOICE { sl-AM-Mode-r16 SEQUENCE { sl-AM-Mode-r16 ENUMERATED {true}, sl-AM-QoS-InfoList-r16 SEQUENCE (SIZE (1..maxNrofSL-QFIsPerDest-r16)) OF SL-QoS-Info-r16 } OPTIONAL, sl-UM-Mode-r16 SEQUENCE { sl-UM-Mode-r16 ENUMERATED {true}, sl-UM-QoS-InfoList-r16 SEQUENCE (SIZE (1..maxNrofSL-QFIsPerDest-r16)) OF SL-QoS-Info-r16 } OPTIONAL .  [Rapporteur] Tend to agree with the intention of the issue. The proposed change will be somehow addressed in the running CR. | Addressed in WI specific CR |
| N.092  (Z403, Z404, Z405, Z406) | ZTE | [Issue Description]  According to the current discussion, for the resource pool configuration, if the resource pool is a reception/transmimssion resource pool, then the configured PSFCH resource will be used for NR V2X HARQ feedback transmission/reception.  [Proposed Change]– SL-BWP-PoolConfig  In these field descriptions (for sl-RxPool, sl-TxPoolExceptional ,sl-TxPoolScheduling, sl-TxPoolSelectedNormal), adding below sentence: Indicates the receiving resource pool on the configured BWP. For the PSFCH related configuration, if configured, will be used for PSFCH transmission/reception.  [Rapporteur] This should have been already clear RAN1 spec, as anyway in PHY this should be made clear. So not see the immediate need for it. | Not Pursued |
| N.093  (M108) | MediaTek | [Issue Description]  Spurious hyphens in IE names SL-CBR-Priority-TxConfigList-r16 and SL-Priority-TxConfigIndex-r16 (out of alignment with ASN.1 coding guidelines in Annex A)  [Proposed Change] – SL-CBR-Priority-TxConfigList  Remove the hyphen after “Priority” in the IE names. | Addressed in WI specific CR |
| N.094  (S110) | Samsung | [Issue Description]  The time offset is configurable then the size can be variable with 1..8.  [Proposed Change] – SL-ConfigDedicatedEUTRA  sl-TimeOffsetEUTRA-List-r16 SEQUENCE (SIZE (~~8~~1..maxNrofTimeoffset-r16)) OF SL-TimeOffsetEUTRA-r16 OPTIONAL, -- Need M If the change above is acceptable, then add maxNrofTimeoffset in subclause 6.4 RRC multiplicity and type consraint values – Multiplicity and type constraint definitions maxNrofTimeoffset-r16 INTEGER ::= 32 -- Maximum number of timer offset  [Rapporteur] In R1 L1 parameter sheet (TImeOffsetLTESL), “A table of values which indicates the possible time offset to (de)activation of LTE SL transmission after receiving NR DCI used for scheduling LTE PC5. **8 values** are configured for the table.” | Not Pursued |
| N.095  (Z407) | ZTE | [Issue Description]  This field (frequencyInfoSL in SL-FreqConfigCommon) is not using in the message.  [Proposed Change] – SL-FreqConfigCommon  To remove the field description of frequencyInfoSL | Addressed in WI specific CR |
| N.096  (Z408) | ZTE | [Issue Description]  For each sidelink frequency, only one synchronization configuration should be applied, rather than all sets of synchronization. In LTE V2X, UE will only use the one set of synchronisation configuration which includes txParameter configuration.Thus we should follow LTE way to modify the field description.  [Proposed Change] – SL-FreqConfigCommon  In the field description (sl-SyncConfigList), adding below sentence: This field indicates the configuration by which the UE is allowed to receive and transmit synchronisation information for NR sidelink communication. Network configures sl-SyncConfig including txParameters when configuration UEs to transmit synchronisation information. | Addressed in WI specific CR |
| N.097  (O308) | OPPO | [Issue Description]  The IE (sl-HARQ-FeedbackEnabled) is optional, yet the field description did not describe the behaviour when it is absent.  [Proposed Change] – SL-LogicalChannelConfig  Either change the IE to be mandatory, or add the description when it is absent (e.g., there is no restriction for this LCH on multiplexing with LCH with or without enabling HARQ feedback).  [Rapporteur] This should be clarified or already clear in the MAC. This is the principle for all other LCH mapping restriction IEs in SL and Uu. So same as other LCH mapping restrictions in both Uu and SL, no need to clarify this in RRC. | Not Pursued |
| N.098  (O300) | OPPO | [Issue Description]  In SA2, the priority level is defined as 1~8, so the encoding (of sl-PriorityLevel) should be revised for alignment. And the corresponding field description has to be corrected anyway, now it is 1~127, which is not aligned with ASN.1 anyway.  [Proposed Change] – SL-QoS-Profile  Correct ASN.1 encoding and field description at the same time. | Addressed in WI specific CR |
| N.099  (S111) | Samsung | [Issue Description]  sN-Threshold is wrongly included in the field description for SL-PeriodicReportConfig.  [Proposed Change] – SL-ReportConfigList  This field is used for event triggered report. sN-Threshold should be moved to SL-EventTriggerConfig field description. | Addressed in WI specific CR |
| N.100  (Z409) | ZTE | [Issue Description]  Since the length of sl-ZoneConfigMCR-List-r16 is fixed, which is always 16, thus the configuration index can be indicated implicitly, thus, sl-ZoneConfigMCR-Index-r16 is unnecessary. Instead, the entry of the sequence can be the index.  [Proposed Change] – SL-ResourcePool  The configuration of sl-ZoneConfig-r16 should be moved into the IE of SL-FreqConfig-r16.  [Rapporteur] This is per R1 agreement and was intentionally checked by companies last meeting. | Not Pursued |
| N.101  (Z410) | ZTE | [Issue Description]  sl-ZoneConfig-r16 should be a general configuration, rather than be configured per ZoneConfigMCR, which makes too many sets of sl-ZoneConfig-r16, which is unnecessary.  [Proposed Change] – SL-ResourcePool  The configuration of sl-ZoneConfig-r16 should be moved into the IE of SL-FreqConfig-r16.  [Rapporteur] This is per R1 agreement and was intentionally checked by companies last meeting. | Not Pursued |
| N.102  (S113) | Samsung | [Issue Description]  This parameter (Conditional presence, *LCH-Setup*)is also needed in case of SLRB configuration via pre-configuration.  [Proposed Change] – SL-RLC-BearerConfig  The field is mandatory present upon creation of a new sidelink logical channel via the dedicated signalling and in case of SLRB configuration via system information and pre-configuration; otherwise the field is optionally present, need M. | Addressed in WI specific CR |
| N.103  (S114) | Samsung | [Issue Description]  SLRB-Uu-ConfigIndex is needed only for RRC dedicated (Conditional presence, *LCH-SetupOnly*).  [Proposed Change] – SL-RLC-BearerConfig  This field is mandatory present upon creation of a new sidelink logical channel and in case of SLRB configuration via the dedicated signaling system information and pre-configuration. Otherwise, it is optionally present, Need M.  [Rapporteur] There seems something wrong when copying the Uu description. Basically, LCH-SetupOnly means the IE is mandatory when creating new RLC and cannot be changed after that. LCH-Setup means the IE is mandatory when creating new RLC and but can be changed after that. Pleases see the updated running CR. | Addressed in WI specific CR |
| N.104  (M109) | MediaTek | [Issue Description]  Fields sl-BSR-Config, sl-PrioritizationThres, and ul-PrioritizationThres are placed in the field description table for SL-ScheduledConfig when they should be under MAC-MainConfigSL.  [Proposed Change] – SL-ScheduledConfig  Create a field description table for MAC-MainConfigSL and populate it with the descriptions of these three fields. | Addressed in WI specific CR |
| N.104  (Z411) | ZTE | [Issue Description]  In LTE the maximum number of resource pool configured for V2X sidelink measurement to measure is 72, but here it changed to 8.  [Proposed Change] – Multiplicity and type constraint definitions  To keep alignment with LTE configuration, change the value to 72 (for maxNrofSL-PoolToMeasureEUTRA-r16). | Addressed in WI specific CR |
| N.105  (M104) | MediaTek | [Issue Description]  Spare values in SBCCH message type seem excessive. If there is a strong feeling that spares should be available, it seems adequate to reduce to one spare.  [Proposed Change] – SBCCH-SL-BCH-Message  Follow the Uu model and have only the messageClassExtension branch. | Addressed in WI specific CR |
| N.106  (N039) | Nokia | [Issue Description]  We normally use “spare” for the reserved bits, and it would be good to be consistent throughout RRC.  [Proposed Change] – MasterInformationBlockSidelink  Change field name (reservedBits-r16) to “spare-r16”  [Rapporteur] Since MIB-SL is used for synchronization, not sure whether RAN1 Spec also mentions this field. So it is safer to keep the original name, lest there is mismatch between specs. | Not Pursued |
| N.107  (M101) | MediaTek | [Issue Description]  Missing need codes in RRCReconfigurationSidelinkIEs-r16  [Proposed Change] – RRCReconfigurationSidelink  Need N for slrb-ConfigToAddModList-r16 and slrb-ConfigToReleaseList-r16 (obvious) Need R for sl-MeasConfig-r16 (procedural text suggests that we intentionally don’t have delta signalling) Need R for sl-CSI-RS-Config-r16 (fairly small IE, no big benefit from delta signalling) | Addressed in WI specific CR |
| N.108  (M106) | MediaTek | [Issue Description]  Unclear need codes in SLRB-Config-r16. It seems really wrong to have these be Need N (“one-shot” configurations that are not maintained) and we assume the original intention was Need M, i.e., if a reconfiguration comes with no changed configuration for one of the layers, the configuration is maintained.  [Proposed Change] – RRCReconfigurationSidelink  Need M for all four fields (sl-SDAP-ConfigPC5-r16, sl-PDCP-ConfigPC5-r16, sl-RLC-ConfigPC5-r16, sl-MAC-LogicalChannelConfigPC5-r16). | Addressed in WI specific CR |
| N.109  (M105) | MediaTek | [Issue Description]  Unclear need code. What does “no action” mean if no SN size is provided?  [Proposed Change] – RRCReconfigurationSidelink  Need M (if nothing provided, UE keeps the existing SN size) – for sl-PDCP-SN-Size. | Addressed in WI specific CR |
| N.110  (S115) | Samsung | [Issue Description]  ROHC profile parameter is missing.  [Proposed Change] – RRCReconfigurationSidelink  Add below:  profiles-r16 within rohc-r16 profiles-r16 SEQUENCE { profile0x0001-r16 BOOLEAN, profile0x0002-r16 BOOLEAN, profile0x0003-r16 BOOLEAN, profile0x0004-r16 BOOLEAN, profile0x0006-r16 BOOLEAN, profile0x0101-r16 BOOLEAN, profile0x0102-r16 BOOLEAN, profile0x0103-r16 BOOLEAN, profile0x0104-r16 BOOLEAN }  [Rapporteur] Pending the outcome of N046 above. | Postponed  (pending outcome of N.046) |
| N.111  (N031) | Nokia | [Issue Description]  Why are these (fields in SL-CSI-RS-Config) Need N – does UE only use these once?  [Proposed Change] – RRCReconfigurationSidelink  Use Need M instead. | Addressed in WI specific CR |
| N.112  (M103) | MediaTek | [Issue Description]  Missing hyphen; coding practices violation in name of ueCapabilityInformationSidelink-r16  [Proposed Change] – UECapabilityEnquirySidelink  ue-CapabilityInformationSidelink-r16 | Addressed in WI specific CR |
| N.113  (M102) | MediaTek | [Issue Description]  Missing need code for ueCapabilityInformationSidelink-r16  [Proposed Change] – UECapabilityEnquirySidelink  Need M  [Rapporteur] As in Uu, we change it as mandatory alternatively. | Addressed in WI specific CR |

# Conclusion

It is proposed that RAN2 take into account the above RRC open issue list for 5G V2X with NR sidelink WI, and adopt the recommendation from the Rapporteur.