|  |  |  |  |
| --- | --- | --- | --- |
| Company | Clause | Comment | Rapp Response |
| Sharp | 5.22.1.1 | In this meeting, it was confirmed only Approach 1 and 2 for MCSt are supported in SL-U. Thus, specs including resource (re-)selection procedures for MCSt seems to be within scope of this email discussion. We wonder the Rapp’s plan for the above mentioned case. | Current CR already supports approach 1/2. In approach 1/2 below, the UE behaviour to be written in the running CR is the resource selection part, and the yellow highlighted part of the RAN1 #114 agreement below has been added as a NOTE as shown below:- “NOTE 3A4: When the MAC entity receives S\_A from the lower layers for MCSt, it is up to the UE implementation whether to select resources based on random selection or consecutive slots.”Since MAC does not use the term SA, there will be additional correction to NOTE in the next rapp\_version.Approach 1: “best effort for multiple TBs”* Step 1: Higher layer triggers L1 resource selection for one TB with one set of parameters (, remaining PDB, and ) - R16/17 behavior.
* Step 2: L1 report a set of candidate single-slot resource (*SA*) according to existing L1 resource allocation procedure - R16/17 behavior.
* Step 3: Higher layer selects a set of resources either randomly (R16/17 behavior) or according to a consecutive-slots criterion (new behavior) to achieve MCSt.
* Step 4: Repeat Step 1-3 for different TB if required.

Approach 2: “guarantee MCSt for single TB and best effort for multiple TBs”* Step 1: Higher layer triggers L1 resource selection for one TB with one set of parameters (, remaining PDB, and ) + “number of slots for MCSt” which could be derived based on CAPC of the logical channel/TB or other means.
* Step 2: L1 report a set of candidate multi-slot resource (*SA*) according to most of the existing L1 resource allocation procedure (FFS: RSRP calculation / threshold may need to change)
* Step 3: Higher layer selects a candidate multi-slot resource either randomly (R16/17 behavior) or according to a consecutive-slots criterion (new behavior).
* Step 4: Repeat Step 1-3 for different TB if required.

RAN1 #114 agreement:In Mode 2 resource allocation,* The higher layer can indicate a “number of consecutive slots for MCSt” () larger than 1 for L1 reporting multi-slots candidates to the higher layer. The candidate multi-slots resource definition is applied.
	+ Otherwise, the candidate single-slot resource definition is applied (same as R16/17).
* The higher layer selects resources from the reported according to one of the following based on UE implementation:
	+ Random selection as per R16/17
	+ Higher layer is not restricted to select resources at random, and can select in consecutive slots
		- It is up to RAN2 to define detailed behaviour as needed
	+ It is RAN1 intention that, once the higher layer selects a multi-slots candidate from the set , it will use all the single-slot resources of the selected multi-slots candidate for transmission. This RAN1 agreement has no intention on potential RAN2 discussion about how SL resource selection processes are defined in MCSt.
* Note, the above is intended to support Approach 1 and 2 only.
* Send an LS to RAN2 informing that it is up to RAN2 to decide in regards to the HARQ RTT timing (minimum time gap)
	+ whether a single TB transmitted over consecutive slots is supported in a resource pool configured with PSFCH resource

[Sharp2]: Thank you for the response. Yet, we have a different understanding on implementation of Approach 1/2. As can be seen from the above referred Approach 2, “Step 2: L1 report a set of candidate multi-slot resource (*SA*) according to most of the existing L1 resource allocation procedure”, a candidate resource in Approach 2 is a resource spanning for multiple slots and the number of the slots is . As for the agreement in RAN1#114, if MAC layers indicate larger than 1, physical layer shall apply candidate multi-slot resource in Approach 2 (marked in cyan). The yellow highlight part refers to resource selection only in Approach 1, since in Approach 1, physical layer reports candidate single-slot resource and RAN1 indicates MAC layers can select as R16/17 or consecutive resources (it is up to RAN2). In Approach 2, obviously once MAC layers select a candidate resource, the resource is in consecutive slots.[Rapp 2] The yellow highlight is an agreement that applies to approach 1/2. Rapporteur believes that UE behavior was captured in the running CR using a procedure that best matches the RAN1 agreement. Additionally, the added NOTE was written to include both cases where MAC indicates a “number of slots for MCSt” larger than 1 and cases where it did not.[Sharp3]: Thank you for further response. We still have concern for MCSt of a single TB/MAC PDU. As we already agreed that “For a resource pool configured with PSFCH resource, UE can NOT select consecutive slots (i.e., MCSt) for transmissions of a single TB”, the natural interpretation could be MCSt of a single TB without PSFCH resources (HARQ retransmissions) is supported in SL-U. If the above interpretation is correct, then current CR seems not to apply for the case. Specifically, current procedures in 5.22.1.1 are for resource selection for one or multiple (periodic) TB, and if HARQ retransmission is selected, all the resources including initial transmission and all the retransmissions shall be selected. For the above case, i.e. MCSt of a single TB without HARQ, the sentence (“3> if one or more HARQ retransmissions are selected:”) looks strange to us, as MAC layers shall select multiple consecutive resources (N\_slot,MCSt) while the resources except for the first one actually are not for HARQ retransmissions. Therefore, we propose to echo the above case as e.g. “if MCSt without HARQ retransmissions is selected”.[Rapp 3] I still think that when the current MAC running CR and PHY running CR are combined, the MCSt procedure based on RAN1/RAN2 agreements is supported.I will think more about what approach (e.g., add additional normative text or add additional NOTE or current running CR text is sufficient and etc) MCSt procedure (e.g., approach 1/2, MCSt of a single TB for resource pool without PSFCH configured and etc) can be supported in MAC specification and discuss it as a stage-3 detail open issue in the next meeting. |
| OPPO | 5.22.1.1 | *if Sidelink consistent LBT Failure is detected as specified in clause 5.31.2 in some RB set(s) of the selected resource pool that spans multiple RB sets for the logical channel for single carrier frequency:*Yet this agreement is more about resource reselection rather than pool reselection? Now seems this would lead to pool reselection? | Thanks for pointing this out. The text will be corrected in the next Rapp\_version. |
|  | 5.22.1.2 | *[1> if a MAC PDU is not transmitted in all of the resources for MCSt due to the Sidelink LBT failure:]*Given we had 5.22.1.2c already, should this be merged into it as well? | [Rapp 2] There are already several sections that refer to 5.22.1.2, and from the perspective of minimizing the MAC spec, from rapporteur perspective, it is recommended to utilize them as much as possible. |
|  | 5.22.1.3.3 | *4> carrier whose numConsecutiveDTX has reached sl-maxNumConsecutiveDTX are* ***removed from the carrier configuration available to the UE as specified in clasue x.x.x of TS 38.331 [5].***Maybe this part can be replaced by just an indication to upper layer (i.e., RRC), and then the release operation can be reflected by procedural text in RRC, by referring to the related IE | In the next version, I will modify the text to pass the indication to RRC, similar to the C-LBT based RLF detection text. |
|  | 5.22.1.4.1.2 | For the change to reflect:For the subsequent slots in MCSt, LCP procedure for COT initiating UE is enhanced: the LCHs with lower or equal CAPC than the CAPC value used for LBT check for the first TB.Indeed we had this agreement, yet when we double check the R1 status, seems R1 already concluded thatWhen a UE applies Type 1 channel access procedure to initiate a channel occupancy for multiple SL transmissions over one slot or multiple consecutive slots, the highest CAPC value among the associated CAPC values with the multiple SL transmissions is used for performing the Type 1 channel access procedure.So given the R1 conclusion above, seems the LCP restriction is a bit redundant.. | It is true that there is a need for clarification of the RAN2 agreement according to the mentioned RAN1 agreement.This is a separate issue and can be discussed at the next meeting. No big issue, just a little clarification is needed.I plan to include this issue in the rapp paper as a stage 3 MAC open issue.First, let's capture RNA2's agreement itself in the running CR. I will handle the ambiguous parts with square bracket. Please check the next version. |
|  | 5.22.1.4.1.2 | Also for the Q above, if we do want to continue with the R2 agreement, 5> if a CAPC value of the subsequent SL transmission has an equal or smaller CAPC value than a CAPC value **indicated in the prior SL transmission**; and#123bis agreement:For the subsequent slots in MCSt, LCP procedure for COT initiating UE is enhanced: the LCHs with lower or equal CAPC than the **CAPC value used for LBT check for the first TB**.It does not = CAPC value **indicated** in the **prior** SL transmission, since 1/ the first SL transmission does not have to indicate it 2/ it may not be the prior one, but should be the very first one. Finally, we are still wonder, if there is still a need for this, given the R1 conclusion. | Same comment as above. |
|  | 5.22.1.4.1.2 | Now the LCP restriction for COT-sharing and MCSt case are merged together, but since the two requires different operation of destination selection1/ COT-sharing requires destination towards COT initiator2/ MCSt does not have such requirementIt seems cleaner to capture the two separately | Even without separation, isn't the sentence in running CR clear now? DST restrictions in running CR is not considered in MCSt. |
|  | 5.15.2 | Similar to the case of NR-U, should we add a condition to 2> stop the sl-lbt-FailureDetectionTimer for all RB sets in the SL BWP, if running.Like 2> if *sl-lbt-FailureRecoveryConfig* is configured: | Thanks.I will incorporate your suggestions in the next version. |
|  | 5.22.1.2c | Should we increase the levels of the following bullets by 1?2> if transmission based on random selection is configured by upper layers:3> randomly select the time and frequency resources for one transmission opportunity from the resource pool, according to the amount of selected frequency resources, the selected number of HARQ retransmissions and the remaining PDB of SL data available in the logical channel(s) by ensuring the minimum time gap between any two selected resources of the selected sidelink grant in case that PSFCH is configured for this pool of resources.2> else:3> randomly select the time and frequency resources for one transmission opportunity from the resources indicated by the physical layer as specified in clause 8.1.4 of TS 38.214 [7], according to the amount of selected frequency resources, the selected number of HARQ retransmissions and the remaining PDB of SL data available in the logical channel(s) by ensuring the minimum time gap between any two selected resources of the selected sidelink grant in case that PSFCH is configured for this pool of resources. | [Rapp 2] Suggestion is reflected in the next Rapp\_version.  |
|  | 5.22.1.3.3 | Can we merge the two into one?- *numConsecutiveDTX*, which is maintained for each PC5-RRC connection if single carrier frequency is used for NR sidelink. - *numConsecutiveDTX*, which is maintained per carrier associated with a PC5-RRC connection if multiple carrier frequencies are used for NR sidelink. | Let’s hear a little more about the companies’ views. |
|  | 5.22.1.4.1.1 | The following part should be applicable to both destination selection and LCH selection?If duplication is activated as specified in TS 38.323 [4], the MAC entity shall map different sidelink logical channels which correspond to the same PDCP entity onto different carriers in accordance with clause 5.22.1.11, or onto different carriers of different carrier sets (if configured in [*allowedCarrierFreqList*] for the corresponding destination). For a given sidelink logical channel, it is up to UE implementation which carrier set to select among the carrier sets configured in [*allowedCarrierFreqList*] (if configured) for the corresponding destination. | It seems to only apply to the selection of logical channels, but is there any problem if this sentence is included in general? Or do you have any other suggestions? |
|  | 5.22.1.4.1.2 | Should we change the format of the following text to be also in the shape of per-level operation? As for the other stepsIn case of NR sidelink on multiple carrier frequencies, only consider sidelink logical channels which meet the following conditions and only consider one sidelink logical channel among sidelink logical channels corresponding to same PDCP entity, if duplication is activated as specified in TS 38.323 [4];- allowed on the carrier where the SCI is transmitted for NR sidelink, if the carrier is configured by upper layers according to TS 38.331 [5] and TS 23.287 [19];- having a priority whose associated [*sl-threshCBR-FreqReselection*] is no lower than the CBR of the carrier when the carrier is (re-)selected in accordance with 5.22.1.11. | OK. I will try in the next Rapp\_version. |
|  | 5.31.2 | In the following 3 bullets, the first and second is per-RB-set, while the third is for all RB-sets, maybe good to differentiate1> if all triggered SL consistent LBT failures are cancelled in the RB sets; or1> if the *sl-lbt-FailureDetectionTimer* expires; or1> if *sl-lbt-FailureDetectionTimer* or *sl-lbt-FailureInstanceMaxCount* is reconfigured by upper layers: | Thanks for suggestion. Your suggestion is acceptable. Correction will be reflected in the next Rapp\_version. |
|  | 5.31.2 | Should we say for the following sentence that it is only for mode-2?The MAC entity maintains an *sl-LBT-RecoveryTimer* per RB set. The *sl-LBT-RecoveryTimer* is used for recovery of the triggered SL consistent LBT failure. | Correction will be reflected in the next Rapp\_version. |
|  | 5.31.2 | Is the following action only for mode-2?3> start the *sl-LBT-RecoveryTimer*. | Correction will be reflected in the next Rapp\_version. |
|  | 6.1.3.66 | should the following actually be RB-set Index, rather than PRB index?- Ri: If there is a RB set configured for the MAC entity with **Resource Block index** i as specified in TS 38.214 [7] and if SL consistent LBT failure have been triggered and not cancelled in this RB set, the field is set to 1, otherwise the field is set to 0. | Correction will be reflected in the next Rapp\_version. |
| NEC | 5.22.1.1 and following related sections | The following crossing sentence is not necessary since we did not agree to adopt SL-U for relay case(also there are multiple similar description in the following sections)2> if Sidelink consistent LBT Failure is detected as specified in clause 5.31.2 in all RB sets of the selected resource pool for single carrier frequency:3> if *sl-HARQ-FeedbackEnabled* is set to *enabled* for the logical channel: 4> select any pool of resources configured with PSFCH resources among the pools of resources ~~except the pool(s) in~~ *~~sl-BWP-DiscPoolConfig~~* ~~or~~ *~~sl-BWP-DiscPoolConfigCommon~~*, if configured and the pool(s) including all RB sets for which Sidelink consistent LBT failures were detected and not cancelled. | [Rapp 2] When written as NR Sidelink, it is interpreted as a general wording that includes both NR sidleink communication and NR sidelink discovery according to the definition below. Therefore, the “NR sielink” wording was removed from the running CR, and from rapporteur perspective, the fact that SL CA does not apply to the relay case should not be specified in the spec, but should be understood in R18 WI. **NR sidelink communication**: AS functionality enabling at least V2X Communication as defined in TS 23.287 [19] and ProSe communication (including ProSe non-Relay and UE-to-Network Relay communication) as defined in TS 23.304 [26], between two or more nearby UEs, using NR technology but not traversing any network node.**NR sidelink discovery**: AS functionality enabling ProSe non-Relay discovery and ProSe UE-to-Network Relay discovery for Proximity based Services as defined in TS 23.304 [26], between two or more nearby UEs, using NR technology but not traversing any network node.**NR sidelink transmission**: Any NR Sidelink-based transmission, including both transmission for NR sidelink discovery and transmission for NR sidelink communication. |
|  | 5.22.1.1 | The following highlighted procedure is not completed, i.e. perform the following for each sidelink process, what is the following?2> if the TX resource (re-)selection is triggered as the result of the TX resource (re-)selection check:3> if the TX carrier (re-)selection procedure was triggered in above and one or more carriers have been (re-)selected in the TX carrier (re-)selection according to clause 5.22.1.11:4> determine the order of the (re-)selected carriers, according to the decreasing order based on the highest priority of logical channels which are allowed on each (re-)selected carrier, and perform the following for each Sidelink process on each (re-)selected carrier according to the order: | “Following” means the UE behaviour of the 3> level that follows below.Rapporteur perspective this approach seems to be appropriate out of all the options I've thought so far. Other options require lots of modification of the existing text. Are there any other good suggestions?[NEC] Thanks for further clarification, I see rapp has moved the next 3> /4> bullet once, yet it is still confused.Maybe one possible way is to move the next 3>/4> into 5.31.2 since the whole section describe LBT related operation.[Rapp]Since “*3> if sl-lbt-FailureRecoveryConfig is configured in the SL BWP:, 4>*” is the correct procedure to perform when resource selection is triggered, how about moving it right after “*2> if the TX resource (re-)selection is triggered as the result of the TX resource (re-)selection check:*”? |
|  | 5.22.1.1 | Just to confirm, whether the wording “NR sidelink” include relay case since the following sub-bullet include the relay case1> if the MAC entity has selected to create a selected sidelink grant corresponding to transmission(s) of a single MAC PDU, and if SL data is available in a logical channel, or an SL-CSI reporting is triggered, or a Sidelink DRX Command indication is triggered or a Sidelink Inter-UE Coordination Information reporting is triggered, or a Sidelink Inter-UE Coordination Request is triggered:2> if single carrier frequency is configured for NR sidelink:3> if SL data is available in the logical channel for NR sidelink discovery:4> if *sl-BWP-DiscPoolConfig* or *sl-BWP-DiscPoolConfigCommon* is configured according to TS 38.331 [5]:5> select the *sl-DiscTxPoolSelected* configured in *sl-BWP-DiscPoolConfig* or *sl-BWP-DiscPoolConfigCommon* for the transmission of NR sidelink discovery message.4> else: | [Rapp] same comment as above. |
|  | 5.22.1.1 | Suggest a rewording “MAC entity, based on UE implementation, decides the value of the number of consecutive slots for MCSt if it decides the number of consecutive slots for MCSt larger than 1, as long as…..”NOTE 3A3: MAC entity, based on UE implementation, decides the value of the number of consecutive slots for MCSt, as long as it meets the CAPC maximum COT duration requirement as specified in TS 37.213 [18]. | Thanks for your good suggestion. I will consider your suggestion in the next Rapp\_version. |
|  | 5.22.1.2 | Our understanding is the added sentence just capture the initial transmission case, so whether to add additional sentence to capture retransmission case according to the agreement.1> if transmission(s) with the selected sidelink grant cannot fulfil the remaining PDB of the data in a logical channel, and the MAC entity selects not to perform transmission(s) corresponding to a single MAC PDU; or[1> if a MAC PDU is not transmitted in all of the resources for MCSt due to the Sidelink LBT failure:]NOTE 2: If the remaining PDB is not met, it is left for UE implementation whether to perform transmission(s) corresponding to single MAC PDU or sidelink resource reselection. | Correction will be reflected in the next Rapp\_version. |
|  | 5.22.1.4.1.2 | According to the WID, only mode 2 is supported for CA in this release, so one more condition should be added.2> else:In case of NR sidelink on multiple carrier frequencies, only consider sidelink logical channels which meet the following conditions and only consider one sidelink logical channel among sidelink logical channels corresponding to same PDCP entity, if duplication is activated as specified in TS 38.323 [4];- allowed on the carrier where the SCI is transmitted for NR sidelink, if the carrier is configured by upper layers according to TS 38.331 [5] and TS 23.287 [19];- having a priority whose associated [*sl-threshCBR-FreqReselection*] is no lower than the CBR of the carrier when the carrier is (re-)selected in accordance with 5.22.1.11. | Rather than adding a condition to the sentence below, it seems to be a more desirable approach to add a NOTE that CA is only supported in mode 2. I will add new text in the next rapp\_version. |
|  | 5.22.1.11 | Doubt the necessity of the highlighted sentences since it is more like constraint to network, prefer to use a note to address it is up to network implementation6> the carrier includes [at least] one pool of resources configured with PSFCH resources among the pools of resources except the pool(s) in *sl-BWP-DiscPoolConfig* or *sl-BWP-DiscPoolConfigCommon*, if configured. 5> else:6> the carrier includes any pool of resources among the pools of resources except the pool(s) in *sl-BWP-DiscPoolConfig* or *sl-BWP-DiscPoolConfigCommon*, if configured.  | Similar to the pool selection procedure considering HARQ attributes in R16, the carrier selection procedure considering HARQ attributes needs to be specified. In the 123bis offline discussion, several companies agreed on the need for text.However, the text of the running CR can be modified based on the ongoing discussion in the issue list. |
| Xiaomi | 5.4.4 | The MAC entity may stop, if any, ongoing Random Access procedure due to a pending SR for SL consistent ~~SL~~ LBT failure recovery, which has no valid PUCCH resources configured, if:-    a MAC PDU is transmitted using a UL grant other than a UL grant provided by Random Access Response or a UL grant determined as specified in clause 5.1.2a for the transmission of the MSGA payload, and this PDU includes an SL LBT failure MAC CE that indicates SL consistent LBT failure; or-    all the triggered SL consistent ~~SL~~ LBT failure recovery are cancelled (see clause 5.31.2).It should be SL consistent LBT failure | Thanks |
| Xiaomi | 5.22.1.1 | 3> else (i.e. multiple carrier frequencies are configured for NR sidelink):4> trigger the TX carrier (re-)selection procedure as specified in clause 5.22.1.11.TX carrier reselection is triggered according to section 5.22.1.2, i.e., upon resource reselection, so why tx carrier reselection is triggered upon RP selection? Also we think if multiple carrier is configured and as long as one carrier is selected, the RP selection on this carrier is as in legacy (SL-U and CA co-existence is not supported) while if single carrier is configured, then RP selection should consider the LBT impact. So we think the correction should be as below. | [Rapp] In running CR, the UE selects only one carrier or selects multiple carriers among multiple carriers, and performs carrier selection (in other words, it is consistent with the principle of resource pool selection in legacy operation.) including a resource pool suitable for the HARQ attribute. Therefore, I do not think any further modifications are necessary. |
| Xiaomi | 5.22.1.1 | 2> if Sidelink consistent LBT Failure is detected as specified in clause 5.31.2 in all RB sets of the selected resource pool for single carrier frequency:Why this bullet is put here? The intention is to trigger RP reselection? Then it should be removed to the upper level 2>, in parallel with 2> if the MAC entity has not selected a pool of resources allowed for the logical channel or if Sidelink consistent LBT Failure is detected as specified in clause 5.31.2 in all RB sets of the selected resource pool | [Rapp] There is no problem in achieving the desired UE behavior using either approach, and rapporteur believes that the 2> statement is also used in legacy operation, so rapporteur prefers to maintain the current structure rather than modifying that part. |
| Xiaomi | 5.22.1.1 | 3> if the TX carrier (re-)selection procedure was triggered in above and one or more carriers have been (re-)selected in the TX carrier (re-)selection according to clause 5.22.1.11:4> determine the order of the (re-)selected carriers, according to the decreasing order based on the highest priority of logical channels which are allowed on each (re-)selected carrier, and perform the following for each Sidelink process on each (re-)selected carrier according to the order:The following is for resource selection, which should be performed on the selected RP? Why it is directly performed on the CC? | [Rapp] According to this current structure, “perform the following”-based SL grant generation is performed for the resource pool linked to the selected carrier. Besides, carrier selection is performed to generate an SL grant on that carrier. So there seems to be no problem.  |
| Xiaomi | 5.22.1.1 | 2> if Sidelink consistent LBT Failure is detected as specified in clause 5.31.2 in all RB sets of the selected resource pool for the logical channel for single carrier frequency; or2> if Sidelink consistent LBT Failure is detected as specified in clause 5.31.2 in some RB set(s) of the selected resource pool that spans multiple RB sets for the logical channel for single carrier frequency:This two bullets can be combined to single bullet as below?2> if Sidelink consistent LBT Failure is detected as specified in clause 5.31.2 in any RB sets of the selected resource pool for the logical channel for single carrier frequency;  | [Rapp] From a Rapporteur perspective, the current text seems preferable in terms of clearly specifying the intention of the RAN2 agreement. |
| Xiaomi | 5.22.1.1 | number of consecutive slotsduring resource selection procedure, this parameter should be delivered from MAC to PHY, so this parameter should be added to the delivered parameters (we have a note on the parameters to deliver to PHY).Also the following agreement should be reflected:=> For a resource pool configured with PSFCH resource, UE can NOT select consecutive slots (i.e., MCSt) for transmissions of a single TB. | [Rapp] Similar to R16, “delivering the number of consecutive slots for MCSt”does not need to be captured in the MAC because the delivering behaviour from the higher layer to the PHY can be captured in the RAN1 specification.Besides, it has already been specified in running CR of TS38.214 as follows.“In resource allocation mode 2, the higher layer can request the UE to determine a subset of resources from which the higher layer will select resources for PSSCH/PSCCH transmission. To trigger this procedure, in slot *n,* the higher layer provides the following parameters for this PSSCH/PSCCH transmission:- the resource pool from which the resources are to be reported;- L1 priority, ;- the remaining packet delay budget;- optionally, the number of consecutive slots for Multi-consecutive slots transmission, .”The agreement below will be captured in CR.- “For a resource pool configured with PSFCH resource, UE can NOT select consecutive slots (i.e., MCSt) for transmissions of a single TB.” |
| Xiaomi | 5.22.1.2 | 2> if multiple carrier frequencies are used for NR sidelink:Used->configured to align with 5.22.1.1 | Thanks. |
| Xiaomi | 5.22.1.3 | Since we have used “for each carrier associated with the PC5-RRC connection” for the carrier which should be performed with HARQ based RLF,the following part can be revised2> if more than one carrier is associated with the PC5-RRC connection~~as specified in clause x.x.x of TS 38.331 [5] is considered as the carriers for HARQ-based Sidelink RLF detection~~:3> if *numConsecutiveDTX* reaches *sl-maxNumConsecutiveDTX* for a carrier a~~pplied for HARQ-based Sidelink RLF detection~~:4> trigger the TX carrier (re-)selection procedure as specified in clause 5.22.1.11; ~~and~~ 4> Remove the carrier ~~whose~~ *~~numConsecutiveDTX~~* ~~has reached~~ *~~sl-maxNumConsecutiveDTX~~* ~~are removed~~ from the carrier configuration ~~available to the UE~~ as specified in clasue x.x.x of TS 38.331 [5]. 3> else if *numConsecutiveDTX* reaches *sl-maxNumConsecutiveDTX* for all carriers ~~applied for HARQ-based Sidelink RLF detection~~:4> indicate HARQ-based Sidelink RLF detection to RRC. | [Rapp] Thanks for the suggestion. I will consider OPPO's suggestions and make changes in the next Rapp\_version. |
| Xiaomi | 5.22.1.4.1 | How to select the carrier set should distinguish between RRC connected and RRC IDLE/INACTIVE/OOC.1. For STCH, if TX profile indicates backwards-incompatible, for RRC\_IDLE/RRC\_INACTIVE/OOC case, leave the decision of per-LCH carrier set for PDCP duplication to Tx UE implementation.
2. For STCH, if TX profile indicates backwards-incompatible, for RRC\_CONNECTED, dedicated-RRC provides per-LCH carrier set configuration
 | [Rapp] It seems necessary to decide whether to capture in MAC or RRC. I will capture this agreement once the agreement becomes clearer.[Rapp2] I discussed this with RRC CR Rapporteur and agreed to capture these agreements in RRC. |
| Xiaomi | 5.22.1.4.2 | - allowed on the carrier where the SCI is transmitted for NR sidelink, if the carrier is configured by upper layers according to TS 38.331 [5] and TS 23.287 [19];- having a priority whose associated [*sl-threshCBR-FreqReselection*] is no lower than the CBR of the carrier when the carrier is (re-)selected in accordance with 5.22.1.11.This restriction should also be considered during LCH selection procedure.  | Thanks. |
| Xiaomi |  | 4> if resources used for initial transmission for the SL grant associated to the SCI are within the COT duration and MAC entity decides to use shared COT with type-2 LBT:5> if a Source Layer-1 ID and a Destination Layer-1 ID contained in the COT initiator’s SCI match to the corresponding Destination Layer-1 ID and a Source Layer-1 IDs relating to the same unicast at the receiving UE and cast type indicator in the SCI is set to unicast; or if a Destination Layer-1 ID contained in the COT initiator’s SCI match to a Destination Layer-1 ID known at the receiving UE and cast type indicator in the SCI is set to groupcast or broadcast; and4> if a CAPC value of the SL data has an equal or smaller CAPC value than a CAPC value indicated in the COT sharing information; andThis should be removed to 6>, otherwise MCSt case will also check this condition, also we are wondering if to have separate procedure for MCSt/COT sharing case? The existing LCP procedure is hard to read.  | [Rapp] I will try to separate it in the next Rapp\_version. |
| Xiaomi | 5.22.1.11 | The MAC entity shall:1> if one or more carriers are considered as the candidate carriers for TX carrier (re-)selection:2> if Tx carrier (re-)selection is triggered, for each sidelink logical channel allowed on the carrier where data is available:3> select one or more carrier(s) and associated pool(s) of resources among the candidate carriers with increasing order of CBR from the lowest CBR when the associated pool(s) satisfy all the following conditions;4> if *sl-HARQ-FeedbackEnabled* is set to *enabled* for the sidelink logical channel:5> the associated pool(s) is pool(s) of resources configured with PSFCH resources among the pools of resources except the pool(s) in *sl-BWP-DiscPoolConfig* or *sl-BWP-DiscPoolConfigCommon*, if configured.4> else:5> the associated pool(s) is any pool of resources among the pools of resources except the pool(s) in *sl-BWP-DiscPoolConfig* or *sl-BWP-DiscPoolConfigCommon*, if configured.This restriction is not needed here since already have this restriction when determining the candidate carrier, and the final carrier selection is among the candidate carrier, so no need to duplicate this restriction.  | [Rapp] Valid comment. I will remove the duplicates in the running CR. |
| Xiaomi | 5.31.2 | The MAC entity maintains an *sl-LBT-RecoveryTimer* per RB set. The *sl-LBT-RecoveryTimer* is used for recovery of the triggered SL consistent LBT failure.The MAC entity shall:1> if SL consistent LBT failure has been triggered, and not cancelled, in the RB set(s);2> if the *sl-LBT-RecoveryTimer* for the triggered SL consistent LBT failure is not running:3> start the *sl-LBT-RecoveryTimer*.> if the *sl-LBT-RecoveryTimer* for the triggered SL consistent LBT failure(s) expires:2> cancel the triggered SL consistent LBT failure(s) in RB set(s) for which SL consistent LBT failure was detected.This timer only applies to mode 2 right? | [Rapp] Right. Same comment as OPPO. I will fix it in the next Rapp\_version.  |
| Xiaomi | 5.31.2 | 1> if a MAC PDU is transmitted and this PDU includes the SL LBT failure MAC CE; orOr should be deleted. | Thanks. |
| Xiaomi | 6.2.4 | LCID for duplicated PC-S message should be added, e.g., SRB1/2.  | Thanks. |
| Huawei, HiSilicon | 6.2.4 | The description on the connection of duplicated LCID and the corresponding LCID shall be added, as the below word-by-word copying from 36.321 except the values: LCID: The Logical Channel ID field identifies the logical channel instance of the corresponding MAC SDU or the type of the corresponding MAC CE within the scope of one Source Layer-2 ID and Destination Layer-2 ID pair or padding as described in Tables 6.2.4-1 for SL-SCH. There is one LCID field per MAC subheader except for SL-SCH subheader. The values of LCID from "xx1" to "yy1" identify the logical channels used to send duplicated RLC SDUs from logical channels of which the values of LCID from "xx2" to "yy2" respectively in sequential order. The size of the LCID field is 6 bits; | [Rapp] Thanks for pointing this out.  |
| Lenovo | 5.22.1.1 | 1> if the MAC entity has selected to create a selected sidelink grant corresponding to transmissions of multiple MAC PDUs, and SL data is available in a logical channel:2> if the MAC entity has not selected a pool of resources allowed for the logical channel:3> if single carrier frequency is configured:*<text omitted>*3> else (i.e. multiple carrier frequencies are configured):4> trigger the TX carrier (re-)selection procedure as specified in clause 5.22.1.11.We understand the purpose of this part is to select a resource pool for following resource (re)selection and determine selected SL grant. For single carrier case, there has no problem since as in legacy, a pool will be selected. For multiple carrier case, Tx carrier (re)selection procedure will be performed and one or more carriers will be selected, together with associated pools for each selected carrier according to 5.22.1.11. However, for each selected Tx carrier, seems resource pool selection part is missing and there will not select a pool for each selected carrier.If above understanding is correct, then we think resource pool selection procedure as in single carrier case needs to be performed for each selected carrier. | [Rapp] Rapporteur understand that the pool selected for CBR measurement is the pool for grant creation, and the UE procedure for selecting the pool is already covered by the yellow highlight below.1> if there is no selected sidelink grant on any carrier allowed for the sidelink logical channel where data is available as indicated by upper layers (TS 38.331 [5] and TS 23.287 [19]):2> for each carrier configured by upper layers associated with the concerned sidelink logical channel:3> if the CBR of the carrier is below *sl-threshCBR-FreqReselection* associated with the priority of the sidelink logical channel:NOTE x: In the case of multiple resource pools configured on a carrier, which specific resource pool is used to determine the CBR of this carrier is up to UE implementation.4> consider the carrier as a candidate carrier for TX carrier (re-)selection for the concerned sidelink logical channel when the carrier satisfies all the following conditions;5> if *sl-HARQ-FeedbackEnabled* is set to *enabled* for the sidelink logical channel:6> the carrier includes at least one pool of resources configured with PSFCH resources among the pools of resources except the pool(s) in *sl-BWP-DiscPoolConfig* or *sl-BWP-DiscPoolConfigCommon*, if configured. 5> else:6> the carrier includes any pool of resources among the pools of resources except the pool(s) in *sl-BWP-DiscPoolConfig* or *sl-BWP-DiscPoolConfigCommon*, if configured. The MAC entity shall:1> if one or more carriers are considered as the candidate carriers for TX carrier (re-)selection:2> if Tx carrier (re-)selection is triggered, for each sidelink logical channel allowed on the carrier where data is available:3> select one or more carrier(s) and associated pool(s) of resources among the candidate carriers with increasing order of CBR from the lowest CBR |
| Lenovo | 5.22.1.1 | 2> if Sidelink consistent LBT Failure is detected as specified in clause 5.31.2 in all RB sets of the selected resource pool for single carrier frequency:We understand the highlighted part is for single carrier frequency case since SL-U is not co-existed with multiple carrier. But maybe align with former text with “if single carrier frequency is configured” is better for reading. | [Rapp] Thanks for the suggestion of better wording. |
| Lenovo | 5.22.1.2 | 1> if Sidelink consistent LBT Failure is detected as specified in clause 5.31.2 in some RB set(s) of the selected resource pool that spans multiple RB sets for the logical channel for single carrier frequency; orSimilar comments as above | Thanks |
| Lenovo | 5.22.1.4.1.2 | 4> if resources used for initial transmission for the SL grant associated to the SCI are within the COT duration and MAC entity decides to use shared COT with type-2 LBT (i.e., in case of COT sharing):5> if a Source Layer-1 ID and a Destination Layer-1 ID contained in the COT initiator’s SCI match to the corresponding Destination Layer-1 ID and a Source Layer-1 IDs relating to the same unicast at the receiving UE and cast type indicator in the SCI is set to unicast; or if a Destination Layer-1 ID contained in the COT initiator’s SCI match to a Destination Layer-1 ID known at the receiving UE and cast type indicator in the SCI is set to groupcast or broadcast; and4> if a CAPC value of the SL data has an equal or smaller CAPC value than a CAPC value indicated in the COT sharing information; andThe highlighted indentation index seems to be 5>, which is under COT sharing case | Thanks  |
| Lenovo | 5.22.1.4.1.2 | 4> allowed on the carrier where the SCI is transmitted, if the carrier is configured by upper layers according to TS 38.331 [5] and TS 23.287 [19], if multiple carrier frequencies are configured and if the MAC entity has been configured with Sidelink resource allocation mode 2; and | Thanks |
| Lenovo | 5.22.1.4.1.2 | 2> CAPC value of the SL data has an equal or smaller CAPC value than a CAPC value indicated in the COT sharing information if MAC decides to use the shared COT or a CAPC value of the SL data has an equal or smaller CAPC value than the highest CAPC value among the associated CAPC values with the multiple SL transmissions over one slot or multiple consecutive slots; andA typo of redundant space | Thanks |
| Lenovo | 5.22.1.4.1.2 | 5> if a CAPC value of the SL data has an equal or smaller CAPC value than the highest CAPC value among the associated CAPC values with the multiple SL transmissions over one slot or multiple consecutive slots; and*<text omitted>*2> CAPC value of the SL data has an equal or smaller CAPC value than a CAPC value indicated in the COT sharing information if MAC decides to use the shared COT or a CAPC value of the SL data has an equal or smaller CAPC value than the highest CAPC value among the associated CAPC values with the multiple SL transmissions over one slot or multiple consecutive slots; andWe understand the above CAPC restriction is described based on RAN1 agreement. On the other hand, in RAN2 we have following agreement for CAPC restriction for MCSt case:1. For the subsequent slots in MCSt, LCP procedure for COT initiating UE is enhanced: the LCHs with lower or equal CAPC than the CAPC value used for LBT check for the first TB.

Just wondering if we need to follow RAN2’s agreement to describe CAPC restriction in LCP procedure | [Rapp] In order to use E-LCP for MCSt, it is correct to write it like the running CR. This is a text that takes into account both RAN1 agreement and RAN2 agreement. Regarding this issue, I will submit a rapporteur paper with MAC detailed open issue[] at the next meeting. |
| Lenovo | 5.31.2 | The MAC entity maintains an *sl-LBT-RecoveryTimer* per RB set. The *sl-LBT-RecoveryTimer* is used for ~~recovery~~ cancellation of the triggered SL consistent LBT failure, when RRC configures Sidelink resource allocation mode 2.The timer is used for cancel triggered C-LBT failure, and recovery of C-LBT failure relies on resource (pool) (re)selection in mode 2 and relies on gNB implementation in mode 1. So we think update the name of the timer to *sl-LBT-CancellationTimer* seems better for understanding.  | Your interpretation is also correct. However, the parameters have already been captured through “*sl-LBT-RecoveryTimer*” in RRC. I will keep this text for now. However, I will include it in the MAC detailed open issue paper to discuss whether “cancellation” is more suitable at the next meeting. |
| Qualcomm | 5.22.1.1 |  2> if Sidelink consistent LBT Failure is detected as specified in clause 5.31.2 in all RB sets of the selected resource pool, or if single carrier frequency is configured: |  |
|  |  | 3> In case of dynamic co-channel coexistence of LTE sidelink and NR sidelink as specified in TS 38.214 [7], 4> randomly select the time and frequency resources for one transmission opportunity from the resources indicated by the physical layer as specified in clause 8.1.4 of TS 38.214 [7], according to the amount of selected frequency resources and the remaining PDB of SL data available in the logical channel(s) allowed on the carrier;This is for not mixed numerology (e.g., SCS=15KHz), i.e. Same comment for the co-channel in other places.4> when SCS of NR SL is (pre-)configured as , select the time and frequency resources in the first of NR SL slots overlapping with an LTE SL subframe.5> may additionally select the time and frequency resources in the subsequent NR SL slot overlapping with the LTE SL subframe. |  |
|  |  | NOTE 3A4: When the MAC entity selects the time and frequency resources from the resources indicated by the physical layer as specified in clause 8.1.4 of TS 38.214 [7], it is up to the UE implementation whether to randomly select resources for transmission opportunities from the resources indicated by the physical layer or to select resources in consecutive slots by UE implementation from the resources indicated by the physical layer.Is this for Approach 1? |  |
| Qualcomm | 5.22.1.2 | 1> if Sidelink consistent LBT Failure is detected as specified in clause 5.31.2 in some RB set(s) of the selected resource pool that spans multiple RB sets for the logical channel, or if single carrier frequency is configured; or |  |
| Qualcomm | 5.22.1.2c  | 1> if SL LBT failure indication is received from lower layers;2> for the resource(s) where SL LBT failure is detected from the selected sidelink grant associated to the Sidelink process:3> if transmission based on random selection is configured by upper layers:4> randomly select the time and frequency resources for one transmission opportunity from the resource pool, according to the amount of selected frequency resources, the selected number of HARQ retransmissions and the remaining PDB of SL data available in the logical channel(s) by ensuring the minimum time gap between any two selected resources of the selected sidelink grant in case that PSFCH is configured for this pool of resources.3> else:4> randomly select the time and frequency resources for one transmission opportunity from the resources indicated by the physical layer as specified in clause 8.1.4 of TS 38.214 [7], according to the amount of selected frequency resources, the selected number of HARQ retransmissions and the remaining PDB of SL data available in the logical channel(s) by ensuring the minimum time gap between any two selected resources of the selected sidelink grant in case that PSFCH is configured for this pool of resources.Not sure if each LBT failure will trigger resource selection if there is at least one selected resource available. |  |
| Qualcomm | 5.28.2 | 5> start the *sl-drx-HARQ-RTT-Timer* for the corresponding Sidelink process in the first slot after the end of the corresponding PSFCH transmission carrying the SL HARQ feedback; or5> start the *sl-drx-HARQ-RTT-Timer* for the corresponding Sidelink process in the first slot after the end of the corresponding PSFCH resource for the SL HARQ feedback when the SL HARQ feedback is not transmitted due to UL/SL prioritization or SL LBT failure.The above two for single PSFCH occasion5> start the *sl-drx-HARQ-RTT-Timer* for the corresponding Sidelink process in the first slot after the end of corresponding PSFCH transmission carrying the SL HARQ Feedback when the SL HARQ feedback is successfully transmitted in one of PSFCH occasions from *[sl-multiple-PSFCH-Occasion],* if configured; or5> start the *sl-drx-HARQ-RTT-Timer* for the corresponding Sidelink process in the first slot after the end of the last PSFCH occasion for the SL HARQ Feedback when the SL HARQ feedback is not transmitted in all PSFCH occasions from *[sl-multiple PSFCH-Occasion]*, if configured.The above two for single PSFCH occasion1. Do we need if/else to group these two cases for singl and multiple PSFCH occasions?
2. Should Tx UE mirror the same behaviour?
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