**3GPP TSG-RAN WG2 Meeting #126 *R2-240XXXX***

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| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
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|  |  | **CR** |  | **rev** | **3** | **Current version:** |  |  |
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| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network | **X** | Core Network |  |

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|  |
| ***Title:***  | Correction on resource pool selection for A2X communication |
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| ***Source to WG:*** | Samsung, Sharp, ZTE, Sanechips |
| ***Source to TSG:*** | RAN2 |
|  |  |
| ***Work item code:*** | NR\_UAV-Core |  | ***Date:*** | 2024-05-24 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-18 |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)…Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19) Rel-20 (Release 20)* |
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| ***Reason for change:*** | This CR is to address the issues discussed in R2 #125 and R2 #126 meetings as below.R2-2401202 Correction on resource pools selection for A2X communication Sharp discussionProposal 1: If both sl-BWP-PoolConfigA2X and sl-BWP-PoolConfigCommonA2X are not configured, the UE selects any configured resource poolsProposal 2: If sl-BWP-PoolConfigA2X or sl-BWP-PoolConfigCommonA2X is configured and the value of sl-A2X-Service doesn’t match with the service type of A2X communication, the UE selects any configured resource pools except for A2X resource pools.Proposal 3: Adopt the text proposal in Annex.=> The rapporteur will address the issues in the spec=> NotedAs pointed out in R2-2401202, existing procedure texts are not clear in case that *sl-BWP-PoolConfigA2X* or *sl-BWP-PoolConfigCommmonA2X* is configured but *sl-A2X-Service* is not met with the service type for SL data to be transmitted.In addition, there needs clarification to exclude the pool(s) in *sl-BWP-DiscPoolConfig* or *sl-BWP-DiscPoolConfigCommon* in the case that A2X UE needs to select a resource from any sidelink resource pool.[R2-2405461](file:///C%3A%5C%5CUsers%5C%5Cpanidx%5C%5COneDrive%20-%20InterDigital%20Communications%2C%20Inc%5C%5CDocuments%5C%5C3GPP%20RAN%5C%5CTSGR2_126%5C%5CDocs%5C%5CR2-2405461.zip) discussion on SL LCP for A2X ZTE Corporation, Sanechips discussion Rel-18 NR\_UAV-Core=> exclude the Destination associated to A2X communication if the new transmission is not associated to a sidelink grant in A2X dedicated resource pool when the UE is configured with A2X dedicated resource pool in SL LCP procedure, and adopt the following TP for TS38.321.=> Noted |
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| ***Summary of change:*** | In clause 5.22.1.1, the case that *sl-BWP-PoolConfigA2X* or *sl-BWP-PoolConfigCommonA2X* is configured but *sl-A2X-Service* of the BWP configuration does not match with the service type of SL data is explicitly specified.The proposed change is like:4> else if SL data is available in the logical channel for BRID for A2X communication:5> if *sl-BWP-PoolConfigA2X* or *sl-BWP-PoolConfigCommonA2X* is configured according to TS 38.331 [5]:6> if resource pool(s) is configured with *sl-A2X-Service* ~~in~~ *~~sl-TxPoolSelectedNormal~~* ~~configured in~~ *~~sl-BWP-PoolConfigA2X~~* ~~or~~ *~~sl-BWP-PoolConfigCommonA2X~~* indicating~~es~~ *brid* or *bridAndDAA* ~~according to TS 38.331 [5]~~:7> select ~~the~~ any pool of resources among the resource pool(s) configured with *sl-A2X-Service* indicating *brid* or *bridAndDAA* in *sl-TxPoolSelectedNormal* configured in *sl-BWP-PoolConfigA2X* or *sl-BWP-PoolConfigCommonA2X* for the transmission of SL data for A2X communication.6> else:7> select any pool of resources among the configured pools of resources except the pool(s) in *sl-BWP-PoolConfigA2X*, *sl-BWP-PoolConfigCommonA2X*, *sl-BWP-DiscPoolConfig* or *sl-BWP-DiscPoolConfigCommon*, if configured or SL-PRS dedicated resource pool, if configured.5> else:6> select any pool of resources among the configured pools of resources except the pool(s) in *sl-BWP-DiscPoolConfig* or *sl-BWP-DiscPoolConfigCommon*, if configured or ~~for~~ SL-PRS dedicated resource pool, if configured.In clause 5.22.1.4.1.2, the change is implemented as below to exclude the Destination(s) associated to A2X communication:2> else:3> select a Destination associated to one of unicast, groupcast and broadcast (excluding the Destination(s) associated with NR sidelink discovery as specified in TS 23.304 [26] or A2X communication), that is in the SL Active time for the SL transmission occasion if SL DRX is applied for the destination, and having at least one of the MAC CE and the logical channel and pending SL-PRS transmission(s) with the highest priority, among the logical channels that satisfy all the following conditions and MAC CE(s), if any, and SL-PRS(s), if any for the SL grant associated to the SCI: |
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| ***Consequences if not approved:*** | UE behaviour on resource pool selection for A2X communication remains unclear. |
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| ***Clauses affected:*** | 5.22.1.1, 5.22.1.4.1.2 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  | **X** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** | rev1: wording is improvedrev2: no content changed (IPA of RAN2#125bis meeting)rev3: revised with the agreement from RAN2#126 meeting. |

START OF CHANGE

## 5.22 SL-SCH Data transfer and SL-PRS transmission

### 5.22.1 SL-SCH Data and SL-PRS transmission

#### 5.22.1.1 SL Grant reception and SCI transmission

Sidelink grant is received dynamically on the PDCCH, configured semi-persistently by RRC or autonomously selected by the MAC entity. The MAC entity may have a sidelink grant on an active SL BWP to determine a set of PSCCH duration(s) in which transmission of SCI occurs and a set of PSSCH duration(s) in which transmission of SL-SCH associated with the SCI occurs. The MAC entity may have a sidelink grant on the SL-PRS shared resource pool of an active BWP to determine a set of PSCCH durations(s) in which transmission of SCI occurs and a set of SL-PRS transmission occasion(s) and PSSCH duration(s) in which transmission of SL-PRS and SL-SCH associated with the SCI occur. The MAC entity may have a sidelink grant on the SL-PRS dedicated resource pool of an active BWP to determine a set of PSCCH duration(s) in which transmission of SCI occurs and a set of SL-PRS transmission occasion(s) in which transmission of SL-PRS associated to the SCI occurs. A sidelink grant addressed to SL-CS-RNTI with NDI = 1 is considered as a dynamic sidelink grant. A sidelink grant addressed to SL-PRS-CS-RNTI with Activation/Release indication = 1 as in clause 7.3.1.4.3 in TS 38.212 [9] is considered as a dynamic sidelink grant*.*

If the MAC entity has been configured with Sidelink resource allocation mode 1 as indicated in TS 38.331 [5] or if the MAC entity has been configured with Sidelink resource allocation scheme 1 as indicated in TS 38.331 [5] and PDCCH is received for resource allocation on SL-PRS shared resource pool, the MAC entity shall for each PDCCH occasion and for each grant received for this PDCCH occasion:

1> if a sidelink grant has been received on the PDCCH for the MAC entity's SL-RNTI:

2> if the NDI received on the PDCCH has not been toggled compared to the value in the previously received HARQ information for the HARQ Process ID:

3> use the received sidelink grant to determine PSCCH duration(s) and PSSCH duration(s) and SL-PRS transmission occasion(s), if available, for one or more retransmissions of a single MAC PDU for the corresponding Sidelink process according to clause 8.1.2 of TS 38.214 [7] and SL-PRS according to clause 8.1.4 of TS 38.214 [7].

2> else:

3> use the received sidelink grant to determine PSCCH duration(s) and PSSCH duration(s) and SL-PRS transmission occasion(s), if available, for initial transmission and, if available, retransmission(s) of a single MAC PDU and SL-PRS according to clause 8.1.2 of TS 38.214 [7].

NOTE 0: When SL-PRS is transmitted on SL-PRS shared resource pool, the PSSCH duration(s) and SL-PRS transmission occasion(s) are determined only after the LCP procedure in clause 5.22.1.4.1.

1> else if a sidelink grant has been received on the PDCCH for the MAC entity's SL-CS-RNTI:

2> if PDCCH contents indicate retransmission(s) for the identified HARQ process ID that has been set for an activated configured sidelink grant identified by *sl-ConfigIndexCG*:

3> use the received sidelink grant to determine PSCCH duration(s) and PSSCH duration(s) and SL-PRS transmission occasion(s), if available, for one or more retransmissions of a single MAC PDU and SL-PRS according to clause 8.1.2 of TS 38.214 [7].

2> else if PDCCH contents indicate configured grant Type 2 deactivation for a configured sidelink grant:

3> trigger configured sidelink grant confirmation for the configured sidelink grant.

2> else if PDCCH contents indicate configured grant Type 2 activation for a configured sidelink grant:

3> trigger configured sidelink grant confirmation for the configured sidelink grant;

3> store the configured sidelink grant;

3> initialise or re-initialise the configured sidelink grant to determine the set of PSCCH durations and the set of PSSCH durations for transmissions of multiple MAC PDUs according to clause 8.1.2 of TS 38.214 [7] and the set of SL-PRS transmission occasions for transmission of multiple SL-PRS according to clause of 8.2.4 of TS 38.214 [7], if available.

1> if a dynamic sidelink grant is available for retransmission(s) of a MAC PDU which has been positively acknowledged as specified in clause 5.22.1.3.1a:

2> clear the PSCCH duration(s) and PSSCH duration(s) corresponding to retransmission(s) of the MAC PDU from the sidelink grant.

If the MAC entity has been configured with Sidelink resource allocation scheme 1 as in TS 38.331 [5] and PDCCH is received for resource allocation on SL-PRS dedicated resource pool, the MAC entity shall for each PDCCH occasion:

1> if a sidelink grant has been received on the PDCCH for the MAC entity's SL-PRS-RNTI: (i.e., dynamic grant)

2> use the received sidelink grant to determine the PSCCH duration(s) and the corresponding SL-PRS occasion(s) for the transmission of SL-PRS.

1> else if a sidelink grant has been received on the PDCCH for MAC entity's SL-PRS-CS-RNTI: (i.e., configured sidelink grant type 2)

2> if the PDCCH content indicates the configured grant Type 2 activation for a configured sidelink grant:

3> store the configured sidelink grant;

3> trigger configured grant confirmation for the configured sidelink grant;

3> initialise or re-initialise the configured sidelink grant to determine the set of PSCCH duration(s) and the corresponding SL-PRS occasion for the transmission of SL-PRS.

2> else if the PDCCH content indicates the configured Type 2 deactivation for a configured sidelink grant:

3> trigger configured grant confirmation for the configured sidelink grant.

If the MAC entity has been configured with Sidelink resource allocation mode 2 to transmit or Sidelink resource allocation scheme 2 using pool(s) of resources in one or multiple carriers as indicated in TS 38.331 [5] or TS 36.331 [21] based on full sensing, or partial sensing, or random selection or any combination(s), the MAC entity shall for each Sidelink process:

NOTE 0A: For SL-PRS transmission by Sidelink resource allocation scheme 2 on SL-PRS dedicated resource pool, partial sensing is not supported.

NOTE 1: If the MAC entity is configured with Sidelink resource allocation mode 2 or Sidelink resource allocation scheme 2 to transmit using a pool of resources in one or multiple carriers as indicated in TS 38.331 [5] or TS 36.331 [21], the MAC entity can create a selected sidelink grant on the pool of resources based on random selection, or partial sensing, or full sensing only after releasing configured sidelink grant(s), if any.

NOTE 2: For each carrier configured by upper layers associated with the concerned sidelink logical channel, the MAC entity expects that PSFCH is always configured by RRC for at least one pool of resources in *sl-TxPoolSelectedNormal* and for the resource pool in *sl-TxPoolExceptional* in case that at least a logical channel configured with *sl-HARQ-FeedbackEnabled* is set to *enabled*.

NOTE 2A: For the transmission of Sidelink Inter-UE Coordination Request MAC CE, the MAC entity selects the TX pool of resource where the IUC resource set is required. For the transmission of Sidelink Inter-UE Coordination Information MAC CE, the MAC entity selects the TX pool of resource where the IUC resource set is located.

NOTE 2B: For dynamic co-channel coexistence of LTE sidelink and NR sidelink, when the same TB or different TBs are transmitted on the NR SL slots overlapping with the LTE SL subframe, it is up to UE implementation how to avoid transmitting NR PSCCH/PSSCH only in the subsequent NR SL slot overlapping with an LTE SL subframe for NR PSCCH/PSSCH transmissions of 30kHz SCS.

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; or

1> if the MAC entity has selected to create a selected sidelink grant corresponding to transmission(s) of multiple SL-PRS(s), which have been triggered by the upper layer or by the reception of a SCI from a peer UE:

NOTE 2B1: The multiplicity/singularity of SL-PRS transmission and the reservation period for multiple SL-PRS transmission is determined by the UE's own upper layers by implementation within the service layer requirement for the Ranging/Sidelink positioning.

2> if the MAC entity has not selected a pool of resources allowed for the logical channel or SL-PRS transmission:

3> if single carrier frequency is configured:

4> if SL data is available in the logical channel for NR sidelink discovery:

5> if *sl-BWP-DiscPoolConfig* or *sl-BWP-DiscPoolConfigCommon* is configured according to TS 38.331 [5]:

6> select the *sl-DiscTxPoolSelected* configured in *sl-BWP-DiscPoolConfig* or *sl-BWP-DiscPoolConfigCommon* for the transmission of NR sidelink discovery message.

5> else:

6> select any pool of resources among the configured pools of resources except for SL-PRS dedicated resource pool, if configured.

4> else if SL data is available in the logical channel for BRID for A2X communication:

5> if *sl-BWP-PoolConfigA2X* or *sl-BWP-PoolConfigCommonA2X* is configured according to TS 38.331 [5]:

6> if resource pool(s) is configured with *sl-A2X-Service* indicating *brid* or *bridAndDAA*:

7> select any pool of resources among the resource pool(s) configured with *sl-A2X-Service* indicating *brid* or *bridAndDAA* in *sl-TxPoolSelectedNormal* configured in *sl-BWP-PoolConfigA2X* or *sl-BWP-PoolConfigCommonA2X* for the transmission of SL data for A2X communication.

6> else:

7> select any pool of resources among the configured pools of resources except the pool(s) in *sl-BWP-PoolConfigA2X*, *sl-BWP-PoolConfigCommonA2X*, *sl-BWP-DiscPoolConfig* or *sl-BWP-DiscPoolConfigCommon*, if configured or SL-PRS dedicated resource pool, if configured.

5> else:

6> select any pool of resources among the configured pools of resources except the pool(s) in *sl-BWP-DiscPoolConfig* or *sl-BWP-DiscPoolConfigCommon*, if configured or SL-PRS dedicated resource pool, if configured.

4> else if SL data is available in the logical channel for DAA for A2X communication:

5> if *sl-BWP-PoolConfigA2X* or *sl-BWP-PoolConfigCommonA2X* is configured according to TS 38.331 [5]:

6> if resource pool(s) is configured with *sl-A2X-Service* indicating *daa* or *bridAndDAA*:

7> select any pool of resources among the resource pool(s) configured with *sl-A2X-Service* indicating *daa* or *bridAndDAA* in *sl-TxPoolSelectedNormal* configured in *sl-BWP-PoolConfigA2X* or *sl-BWP-PoolConfigCommonA2X* for the transmission of SL data for A2X communication.

6> else:

7> select any pool of resources among the configured pools of resources except the pool(s) in *sl-BWP-PoolConfigA2X*, *sl-BWP-PoolConfigCommonA2X*, *sl-BWP-DiscPoolConfig* or *sl-BWP-DiscPoolConfigCommon*, if configured or SL-PRS dedicated resource pool, if configured.

5> else:

6> select any pool of resources among the configured pools of resources except the pool(s) in *sl-BWP-DiscPoolConfig* or *sl-BWP-DiscPoolConfigCommon*, if configured or SL-PRS dedicated resource pool, if configured.

NOTE 2C: The MAC entity identifies the logical channel(s) for BRID or DAA based on the QoS information associated to BRID or DAA, i.e. PQI(s), from upper layers.

4> else if *sl-HARQ-FeedbackEnabled* is set to *enabled* for the logical channel:

5> select any pool of resources configured with PSFCH resources among the pools of resources except the pool(s) in *sl-BWP-DiscPoolConfig*, *sl-BWP-DiscPoolConfigCommon*, *sl-BWP-PoolConfigA2X* or *sl-BWP-PoolConfigCommonA2X*, if configured or SL-PRS dedicated resource pool, if configured.

4> else if SL-PRS is pending for transmission:

5> select any resource pool among the resource pool(s) allowing for SL-PRS transmission.

4> else:

5> select any pool of resources among the pools of resources except the pool(s) in *sl-BWP-DiscPoolConfig*, *sl-BWP-DiscPoolConfigCommon*, *sl-BWP-PoolConfigA2X* or *sl-BWP-PoolConfigCommonA2X*, if configured or SL-PRS dedicated resource pool, if configured.

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.

2> if Sidelink consistent LBT failure is detected as specified in clause 5.31.2 in all RB sets of the selected resource pool, if single carrier frequency is configured:

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) in which all RB sets had Sidelink consistent LBT failure detected and not cancelled.

3> else:

4> select any pool of resources among the pools of resources except the pool(s) in *sl-BWP-DiscPoolConfig* or *sl-BWP-DiscPoolConfigCommon*, if configured and the pool(s) in which all RB sets had Sidelink consistent LBT failure detected and not cancelled.

2> perform the TX resource (re-)selection check on the selected pool of resources as specified in clause 5.22.1.2;

NOTE 2D: It is up to UE implementation how to select a resource pool that has at least one RB set in which SL consistent LBT failure was not detected.

NOTE 3: The MAC entity continuously performs the TX resource (re-)selection check until the corresponding pool of resources is released by RRC or the MAC entity decides to cancel creating a selected sidelink grant corresponding to transmissions of multiple MAC PDUs.

2> if the TX resource (re-)selection is triggered as the result of the TX resource (re-)selection check:

3> if *sl-lbt-FailureRecoveryConfig* is configured in the SL BWP:

4> indicate to the physical layer RB set information for which Sidelink consistent LBT failure was detected and not cancelled as specified in clause 5.31.2.

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 resource selection procedure as specified in this clause for each Sidelink process on each (re-)selected carrier according to the order.

3> if one or multiple SL DRX(s) is configured in the destination UE(s) receiving SL-SCH data:

4> indicate to the physical layer SL DRX Active time in the destination UE(s) receiving SL-SCH data, as specified in clause 5.28.2.

NOTE 3A: The MAC entity selects a value for the resource reservation interval which is larger than the remaining PDB of SL data available in the logical channel or remaining SL-PRS delay budget. The value of the SL-PRS delay budget is provided by the UE's own upper layers by implementation.

3> randomly select, with equal probability, an integer value in the interval [5, 15] for the resource reservation interval higher than or equal to 100ms or in the interval $\left[5×\left⌈\frac{100}{max\left(20, P\_{rsvp\\_TX}\right)}\right⌉,15×\left⌈\frac{100}{max\left(20, P\_{rsvp\\_TX}\right)}\right⌉\right] $ for the resource reservation interval lower than 100ms and set *SL\_RESOURCE\_RESELECTION\_COUNTER* to the selected value;

3> if the selected resource pool is not SL-PRS dedicated resource pool:

4> select one of the allowed values configured by RRC in *sl-ResourceReservePeriodList* and set the resource reservation interval, *P*rsvp\_TX, with the selected value;

4> select the number of HARQ retransmissions from the allowed numbers, if configured by RRC, in *sl-MaxTxTransNumPSSCH* included in *sl-PSSCH-TxConfigList* and, if configured by RRC, overlapped in *sl-MaxTxTransNumPSSCH* indicated in *sl-CBR-PriorityTxConfigList* for the highest priority of the logical channel(s) and pending SL-PRS transmission(s), if available, allowed on the carrier and the CBR measured by lower layers according to clause 5.1.27 of TS 38.215 [24] if CBR measurement results are available or the corresponding *sl-defaultTxConfigIndex* configured by RRC if CBR measurement results are not available or the corresponding *sl-DefaultCBR-PartialSensing* configured by RRC if partial sensing is selected and CBR measurement results are not available, or the corresponding *sl-DefaultCBR-RandomSelection* configured by RRC if random selection is selected and CBR measurement results are not available in case the *sl-TxPoolExceptional* is not used;

NOTE 3A0: The priority of SL-PRS is provided by the UE's own upper layers by implementation within the service layer requirement of the Ranging/Sidelink Positioning.

NOTE 3Aa: For Multi-consecutive slots transmission as specified in clause 8.1.4 of TS 38.214 [7], during resource (re)selection, leave it to UE implementation, regarding whether to calculate the number of HARQ retransmissions from the allowed numbers based on the number of MCSt transmissions, or the number of slot(s) within Multi-consecutive slots transmission.

4> select an amount of frequency resources within the range, if configured by RRC, between *sl-MinSubChannelNumPSSCH* and *sl-MaxSubchannelNumPSSCH* included in *sl-PSSCH-TxConfigList* and, if configured by RRC, overlapped between *sl-MinSubChannelNumPSSCH* and *sl-MaxSubchannelNumPSSCH* indicated in *sl-CBR-PriorityTxConfigList* for the highest priority of the logical channel(s) and pending SL-PRS transmission(s), if available, allowed on the carrier and the CBR measured by lower layers according to clause 5.1.27 of TS 38.215 [24] if CBR measurement results are available or the corresponding *sl-defaultTxConfigIndex* configured by RRC if CBR measurement results are not available or the corresponding *sl-DefaultCBR-PartialSensing* configured by RRC if partial sensing is selected and CBR measurement results are not available, or the corresponding *sl-DefaultCBR-RandomSelection* configured by RRC if random selection is selected and CBR measurement results are not available in case the *sl-TxPoolExceptional* is not used;

3> else if the selected resource pool is SL-PRS dedicated resource pool:

4> select one of the allowed values configured by RRC in *sl-PRS-ResourceReservePeriodList* and set the resource reservation interval, $P\_{rsvp\\_TX}$, with the selected value;

4> select the number of SL-PRS retransmissions from the allowed numbers, if configured by RRC, in *sl-PRS-MaxNum-Transmissions* included in *sl-CBR-SL-PRS-TxConfigList*.

3> if *sl-InterUE-CoordinationScheme1* enabling reception/transmission of preferred resource set and non-preferred resource set is not configured by RRC:

4> if transmission based on random selection is configured by upper layers:

5> if the selected resource pool is not SL-PRS dedicated resource pool:

6> randomly select the time and frequency resources for one transmission opportunity from the resource pool which occur within the SL DRX Active time, if configured, as specified in clause 5.28.2 of the destination UE selected for indicating to the physical layer the SL DRX Active time above, and the pool(s) in which all RB sets had Sidelink consistent LBT failure detected and not cancelled are excluded, if configured, according to the amount of selected frequency resources, the remaining PDB of SL data available in the logical channel(s), and the remaining SL-PRS delay budget of the SL-PRS transmission(s), if available, allowed on the carrier.

NOTE 3Ab: When there are both SL data available in the logical channel(s) and SL-PRS pending for transmission, the resources are selected based on the shorter one of the corresponding remaining PDB and the corresponding remaining SL-PRS delay budget.

5> else if the selected resource pool is SL-PRS dedicated resource pool:

6> randomly select the time and frequency resources for one transmission opportunity from the resource pool as specified in clause 5.28.2, according to the remaining SL-PRS delay budget of the SL-PRS transmission(s).

4> else:

5> if *sl-NRPSSCH-EUTRA-ThresRSRP-List* is configured by the RRC:

6> 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;

7> when SCS of NR SL is (pre-)configured as *μ* = 1:

8> select the time and frequency resources in the first of NR SL slots overlapping with an LTE SL subframe;

8> may additionally select the time and frequency resources in the subsequent NR SL slot overlapping with the LTE SL subframe.

5> else if the selected resource pool is not SL-PRS dedicated resource pool:

6> 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] which occur within the SL DRX Active time, if configured, as specified in clause 5.28.2 of the destination UE selected for indicating to the physical layer the SL DRX Active time above, according to the amount of selected frequency resources, the remaining PDB of SL data available in the logical channel(s), and the remaining SL-PRS delay budget of the SL-PRS transmission(s), if available, allowed on the carrier.

5> else if the selected resource pool is SL-PRS dedicated resource pool:

6> randomly select the time and frequency resources for one transmission opportunity from the resources indicated by physical layer as clasue 8.2.4 of TS 38.214 [7] as specified in clause 5.28.2, according to the remaining SL-PRS delay budget of the SL-PRS transmission(s).

3> if *sl-InterUE-CoordinationScheme1* enabling reception/transmission of preferred resource set and non-preferred resource set is configured by RRC and preferred resource set is not received from a UE:

4> if transmission based on random selection is configured by upper layers:

5> if the selected resource pool is not SL-PRS dedicated resource pool:

6> randomly select the time and frequency resources for one transmission opportunity from the resources pool excluding all RB sets had Sidelink consistent LBT failure detected and not cancelled, if configured, according to the amount of selected frequency resources, the remaining PDB of SL data available in the logical channel(s), and the remaining SL-PRS delay budget of the SL-PRS transmission(s), if available, allowed on the carrier.

5> else if the selected resource pool is SL-PRS dedicated resource pool:

6> randomly select the time and frequency resources for one transmission opportunity from the resource pool which as specified in clause 5.28.2, according to the remaining SL-PRS delay budget of the SL-PRS transmission(s).

4> else:

5> if the selected resource pool is not SL-PRS dedicated resource pool:

6> 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 remaining PDB of SL data available in the logical channel(s), and the remaining SL-PRS delay budget of the SL-PRS transmission(s), if available, allowed on the carrier.

5> else if the selected resource pool is SL-PRS dedicated resource pool:

6> randomly select the time and frequency resources for one transmission opportunity from the resources indicated by physical layer as clause 8.2.4 of TS 38.214 [7], according to the remaining SL-PRS delay budget of the SL-PRS transmission.

3> if *sl-InterUE-CoordinationScheme1* enabling reception/transmission of preferred resource set and non-preferred resource set is configured by RRC and when the UE does not have its own sensing result as specified in clause 8.1.4 of TS 38.214 [7] and if a preferred resource set is received from a UE and if the selected resource pool is not SL-PRS dedicated resource pool:

4> randomly select the time and frequency resources for one transmission opportunity from the resources belonging to the received preferred resource set for SL-SCH data to be transmitted to the UE providing the preferred resource set, according to the amount of selected frequency resources and the remaining PDB of SL data available in the logical channel(s), and the remaining SL-PRS delay budget of the SL-PRS transmission(s), if available, allowed on the carrier.

3> if *sl-InterUE-CoordinationScheme1* enabling reception/transmission of preferred resource set and non-preferred resource set is configured by RRC and when the UE has its own sensing result as specified in clause 8.1.4 of TS 38.214 [7] and if a preferred resource set is received from a UE and if the selected resource pool is not SL-PRS dedicated resource pool:

4> randomly select the time and frequency resources for one transmission opportunity within the intersection of the received preferred resource set and the resources indicated by the physical layer as specified in clause 8.1.4 of TS 38.214 [7] for an SL-SCH data to be transmitted to the UE providing the preferred resource set, according to the amount of selected frequency resources, the remaining PDB of SL data available in the logical channel(s), and the remaining SL-PRS delay budget of the SL-PRS transmission(s), if available, allowed on the carrier.

4> if there are no resources within the intersection that can be selected as the time and frequency resources for the one transmission opportunity 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.

5> 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 remaining PDB of SL data available in the logical channel(s), and the remaining SL-PRS delay budget of the SL-PRS transmission(s), if available, allowed on the carrier.

3> use the randomly selected resource to select a set of periodic resources spaced by the resource reservation interval for transmissions of PSCCH, PSSCH and SL-PRS corresponding to the number of transmission opportunities of MAC PDUs or SL-PRSs determined in TS 38.214 [7].

3> if one or more SL-PRS retransmissions are selected and the selected resource pool is SL-PRS dedicated resource pool:

4> randomly select the time and frequency resources for one or more transmission opportunities from the available resources, according to the selected number of retransmissions and the remaining SL-PRS delay budget and that a retransmission resource can be indicated by the time resource assignment of a prior SCI according to clause 8.3.1.1 of TS 38.212 [9];

4> use the randomly selected resource to select a set of periodic resources spaced by the resource reservation interval for transmissions of PSCCH and SL-PRS corresponding to the number of retransmission opportunities of SL-PRS;

4> consider the first set of transmission opportunities as the initial transmission opportunities and the other set(s) of transmission opportunities as the retransmission opportunities;

4> consider the sets of initial transmission opportunities and retransmission opportunities as the selected sidelink grant.

3> else if one or more HARQ retransmissions are selected and the selected resource pool is not SL-PRS dedicated resource pool:

4> if *sl-InterUE-CoordinationScheme1* enabling reception/transmission of preferred resource set and non-preferred resource set is not configured by RRC:

5> if transmission based on full sensing or partial sensing is configured by upper layers and there are available resources left in the resources indicated by the physical layer according to clause 8.1.4 of TS 38.214 [7] for more transmission opportunities; or

5> if transmission based on random selection is configured by upper layers and there are available resources left in the resource pool for more transmission opportunities:

6> if *sl-NRPSSCH-EUTRA-ThresRSRP-List* is configured by the RRC:

7> randomly select the time and frequency resources for one or more transmission opportunities from the available resources, 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) allowed on the carrier by ensuring the minimum time gap between any two selected resources in case that PSFCH is configured for this pool of resources and that a retransmission resource can be indicated by the time resource assignment of a prior SCI according to clause 8.3.1.1 of TS 38.212 [9].

8> when SCS of NR SL is (pre-)configured as *μ* = 1:

9> select the time and frequency resources in the second of NR SL slots of NR SL slots overlapping with an LTE SL subframe to which the selected initial transmission resources belongs, or at least select the time and frequency resources in the first of NR SL slots overlapping with an LTE SL subframe.

6> else:

7> randomly select the time and frequency resources for one or more transmission opportunities from the available resources which occur within the SL DRX Active time, if configured, as specified in clause 5.28.2 of the destination UE selected for indicating to the physical layer the SL DRX Active time above, and the pool(s) in which all RB sets with Sidelink consistent LBT failure detected and not cancelled are excluded, if configured, according to the amount of selected frequency resources, the selected number of HARQ retransmissions, the remaining PDB of SL data available in the logical channel(s), and the remaining SL-PRS delay budget of the SL-PRS transmission(s), if available, allowed on the carrier by ensuring the minimum time gap between any two selected resources in case that PSFCH is configured for this pool of resources and that a retransmission resource can be indicated by the time resource assignment of a prior SCI according to clause 8.3.1.1 of TS 38.212 [9].

4> if *sl-InterUE-CoordinationScheme1* enabling reception/transmission of preferred resource set and non-preferred resource set is configured by RRC and preferred resource set is not received from a UE:

5> if transmission based on full sensing or partial sensing is configured by upper layers and there are available resources left in the resources indicated by the physical layer according to clause 8.1.4 of TS 38.214 [7] for more transmission opportunities; or

5> if transmission based on random selection is configured by upper layers and there are available resources left in the resource pool for more transmission opportunities:

6> randomly select the time and frequency resources for one or more transmission opportunities from the available resources excluding all RB sets had Sidelink consistent LBT failure detected and not cancelled, if configured according to the amount of selected frequency resources, the selected number of HARQ retransmissions, the remaining PDB of SL data available in the logical channel(s), and the remaining SL-PRS delay budget of the SL-PRS transmission(s), if available, allowed on the carrier by ensuring the minimum time gap between any two selected resources in case that PSFCH is configured for this pool of resources and that a retransmission resource can be indicated by the time resource assignment of a prior SCI according to clause 8.3.1.1 of TS 38.212 [9].

4> if *sl-InterUE-CoordinationScheme1* enabling reception/transmission of preferred resource set and non-preferred resource set is configured by RRC and when the UE has own sensing result as specified in clause 8.1.4 of TS 38.214 [7] and if a preferred resource set is received from a UE:

5> if there are available resources left in the intersection of the received preferred resource set and the resources indicated by the physical layer as specified in clause 8.1.4 of TS 38.214 [7] for more transmission opportunities:

6> randomly select the time and frequency resources for one or more transmission opportunities from the available resources within the intersection for SL-SCH data to be transmitted to the UE providing the preferred resource set, according to the amount of selected frequency resources, the selected number of HARQ retransmissions, the remaining PDB of SL data available in the logical channel(s) , and the remaining SL-PRS delay budget of the SL-PRS transmission(s), if available, allowed on the carrier by ensuring the minimum time gap between any two selected resources in case that PSFCH is configured for this pool of resources and that a retransmission resource can be indicated by the time resource assignment of a prior SCI according to clause 8.3.1.1 of TS 38.212 [9].

5> if the number of time and frequency resources that has been maximally selected for one or more transmission opportunities from the available resources within the intersection is smaller than the selected number of HARQ retransmissions and there are available resources left in the resources indicated by the physical layer for more transmission opportunities:

6> randomly select the time and frequency resources for the remaining transmission opportunities except for the selected resources within the intersection from the available resources outside the intersection but left in the resources indicated by the physical layer according to clause 8.1.4 of TS 38.214 [7], according to the amount of selected frequency resources, the selected number of HARQ retransmissions, the remaining PDB of SL data available in the logical channel(s), and the remaining SL-PRS delay budget of the SL-PRS transmission(s), if available, allowed on the carrier by ensuring the minimum time gap between any two selected resources in case that PSFCH is configured for this pool of resources and that a retransmission resource can be indicated by the time resource assignment of a prior SCI according to clause 8.3.1.1 of TS 38.212 [9].

4> if *sl-InterUE-CoordinationScheme1* enabling reception/transmission of preferred resource set and non-preferred resource set is configured by RRC and when the UE does not have own sensing result as specified in clause 8.1.4 of TS 38.214 [7] and if a preferred resource set is received from a UE; and

4> if there are available resources left in the received preferred resource set for more transmission opportunities:

5> randomly select the time and frequency resources for one or more transmission opportunities from the available resources belonging to the received preferred resource set for SL-SCH data to be transmitted to the UE providing the preferred resource set, according to the amount of selected frequency resources, the selected number of HARQ retransmissions, the remaining PDB of SL data available in the logical channel(s), and the remaining SL-PRS delay budget of the SL-PRS transmission(s), if available, allowed on the carrier by ensuring the minimum time gap between any two selected resources in case that PSFCH is configured for this pool of resources and that a retransmission resource can be indicated by the time resource assignment of a prior SCI according to clause 8.3.1.1 of TS 38.212 [9].

4> use the randomly selected resource to select a set of periodic resources spaced by the resource reservation interval for transmissions of PSCCH, PSSCH, if available and SL-PRS, if available corresponding to the number of retransmission opportunities of the MAC PDUs determined in TS 38.214 [7] or SL-PRS(s);

4> consider the first set of transmission opportunities as the initial transmission opportunities and the other set(s) of transmission opportunities as the retransmission opportunities;

4> consider the sets of initial transmission opportunities and retransmission opportunities as the selected sidelink grant.

3> else:

4> consider the set as the selected sidelink grant.

3> use the selected sidelink grant to determine the set of PSCCH durations and the set of PSSCH durations and the set of SL-PRS transmission occasion(s), if available, according to TS 38.214 [7] if the selected resource pool is not SL-PRS dedicated resource pool or to determine the set of PSCCH durations and SL-PRS transmission occasion(s) if the selected resource pool is SL-PRS dedicated resource pool according to TS 38.214 [7].

2> else if *SL\_RESOURCE\_RESELECTION\_COUNTER* = 0 and when *SL\_RESOURCE\_RESELECTION\_COUNTER* was equal to 1 the MAC entity randomly selected, with equal probability, a value in the interval [0, 1] which is less than or equal to the probability configured by RRC in *sl-ProbResourceKeep*:

3> clear the selected sidelink grant, if available;

3> randomly select, with equal probability, an integer value in the interval [5, 15] for the resource reservation interval higher than or equal to 100ms or in the interval $\left[5×\left⌈\frac{100}{max\left(20, P\_{rsvp\\_TX}\right)}\right⌉,15×\left⌈\frac{100}{max\left(20, P\_{rsvp\\_TX}\right)}\right⌉\right] $ for the resource reservation interval lower than 100ms and set *SL\_RESOURCE\_RESELECTION\_COUNTER* to the selected value;

3> reuse the previously selected sidelink grant for the number of transmissions of the MAC PDUs or SL-PRS(s) determined in TS 38.214 [7] with the resource reservation interval to determine the set of PSCCH durations, the set of PSSCH durations, and the pending SL-PRS transmission(s), if available, according to TS 38.214 [7].

1> 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; or

1> if the MAC entity has selected to create a selected sidelink grant corresponding to transmission of a single SL-PRS, which has been triggered by the upper layer or by the reception of a SCI from a peer UE:

2> if single carrier frequency is configured:

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:

5> select any pool of resources among the configured pools of resources except for SL-PRS dedicated resource pool, if configured.

3> else if SL data is available in the logical channel for BRID for A2X communication:

4> if *sl-BWP-PoolConfigA2X* or *sl-BWP-PoolConfigCommonA2X* is configured according to TS 38.331 [5]:

5> if resource pool(s) is configured with *sl-A2X-Service* indicating *brid* or *bridAndDAA*:

6> select any pool of resources among the resource pool(s) configured with *sl-A2X-Service* indicating *brid* or *bridAndDAA* in *sl-TxPoolSelectedNormal* configured in *sl-BWP-PoolConfigA2X* or *sl-BWP-PoolConfigCommonA2X* for the transmission of SL data for A2X communication.

5> else:

6> select any pool of resources among the configured pools of resources except the pool(s) in *sl-BWP-PoolConfigA2X*, *sl-BWP-PoolConfigCommonA2X*, *sl-BWP-DiscPoolConfig* or *sl-BWP-DiscPoolConfigCommon*, if configured or SL-PRS dedicated resource pool, if configured.

4> else:

5> select any pool of resources among the configured pools of resources except the pool(s) in *sl-BWP-DiscPoolConfig* or *sl-BWP-DiscPoolConfigCommon*, if configured or SL-PRS dedicated resource pool, if configured.

3> else if SL data is available in the logical channel for DAA for A2X communication:

4> if *sl-BWP-PoolConfigA2X* or *sl-BWP-PoolConfigCommonA2X* is configured according to TS 38.331 [5]:

5> if resource pool(s) is configured with *sl-A2X-Service* indicating *daa* or *bridAndDAA*:

6> select any pool of resources among the resource pool(s) configured with *sl-A2X-Service* indicating *daa* or *bridAndDAA* in *sl-TxPoolSelectedNormal* configured in *sl-BWP-PoolConfigA2X* or *sl-BWP-PoolConfigCommonA2X* for the transmission of SL data for A2X communication.

5> else:

6> select any pool of resources among the configured pools of resources except the pool(s) in *sl-BWP-PoolConfigA2X*, *sl-BWP-PoolConfigCommonA2X*, *sl-BWP-DiscPoolConfig* or *sl-BWP-DiscPoolConfigCommon*, if configured or SL-PRS dedicated resource pool, if configured.

4> else:

5> select any pool of resources among the configured pools of resources except the pool(s) in *sl-BWP-DiscPoolConfig* or *sl-BWP-DiscPoolConfigCommon*, if configured or SL-PRS dedicated resource pool, if configured.

NOTE 3Ac: The MAC entity identifies the logical channel(s) for BRID or DAA based on the QoS information associated to BRID or DAA, i.e. PQI(s), from upper layers.

3> else if SL data for NR sidelink communication is available in the logical channel:

4> if *sl-HARQ-FeedbackEnabled* is set to *enabled* for the logical channel:

5> select any pool of resources configured with PSFCH resources among the pools of resources except the pool(s) in *sl-BWP-DiscPoolConfig*, *sl-BWP-DiscPoolConfigCommon*, *sl-BWP-PoolConfigA2X* or *sl-BWP-PoolConfigCommonA2X*, if configured or SL-PRS dedicated resource pool, if configured.

4> else:

5> select any pool of resources among the pools of resources except the pool(s) in *sl-BWP-DiscPoolConfig*, *sl-BWP-DiscPoolConfigCommon*, *sl-BWP-PoolConfigA2X* or *sl-BWP-PoolConfigCommonA2X*, if configured or SL-PRS dedicated resource pool, if configured.

3> else if SL-PRS is pending for transmission:

4> select any resource pool among the resource pool(s) allowing for SL-PRS transmission.

3> else if an SL-CSI reporting or a Sidelink DRX Command or a Sidelink Inter-UE Coordination Request or a Sidelink Inter-UE Coordination Information is triggered:

4> select any pool of resources among the pools of resources except the pool(s) in *sl-BWP-DiscPoolConfig*, *sl-BWP-DiscPoolConfigCommon*, *sl-BWP-PoolConfigA2X* or *sl-BWP-PoolConfigCommonA2X*, if configured or SL-PRS dedicated resource pool, if configured.

2> else (i.e. multiple carrier frequencies are configured):

3> trigger the TX carrier (re-)selection procedure as specified in clause 5.22.1.11.

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, if single carrier frequency is configured:

3> clear the selected sidelink grant on the selected pool of resources.

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.

3> else:

4> select any pool of 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.

2> perform the TX resource (re-)selection check on the selected pool of resources as specified in clause 5.22.1.2;

2> if the TX resource (re-)selection is triggered as the result of the TX resource (re-)selection check

3> if *sl-lbt-FailureRecoveryConfig* is configured in the SL BWP:

4> indicate to the physical layer RB set information for which Sidelink consistent LBT failure was detected as specified in clause 5.31.2.

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 resource selection procedure as specified in this clause for each Sidelink process on each (re-)selected carrier according to the order.

3> if one or multiple SL DRX(s) is configured in the destination UE(s) receiving SL-SCH data:

4> indicate to the physical layer SL DRX Active time in the destination UE(s) receiving SL-SCH data, as specified in clause 5.28.2.

3> if the selected resource pool is not SL-PRS dedicated resource pool:

4> select the number of HARQ retransmissions from the allowed numbers, if configured by RRC, in *sl-MaxTxTransNumPSSCH* included in *sl-PSSCH-TxConfigList* and, if configured by RRC, overlapped in *sl-MaxTxTransNumPSSCH* indicated in *sl-CBR-PriorityTxConfigList* for the highest priority of the logical channel(s) and pending SL-PRS transmission(s), if available allowed on the carrier and the CBR measured by lower layers according to clause 5.1.27 of TS 38.215 [24] if CBR measurement results are available or the corresponding *sl-defaultTxConfigIndex* configured by RRC if CBR measurement results are not available or the corresponding *sl-DefaultCBR-PartialSensing* configured by RRC if partial sensing is selected and CBR measurement results are not available, or the corresponding *sl-DefaultCBR-RandomSelection* configured by RRC if random selection is selected and CBR measurement results are not available in case the *sl-TxPoolExceptional* is not used;

NOTE 3Ad: For Multi-consecutive slots transmission as specified in clause 8.1.4 of TS 38.214 [7], during resource (re)selection, leave it to UE implementation, regarding whether to calculate the number of HARQ retransmissions from the allowed numbers based on the number of MCSt transmissions, or the number of slot(s) within Multi-consecutive slots transmission.

4> select an amount of frequency resources within the range, if configured by RRC, between *sl-MinSubChannelNumPSSCH* and *sl-MaxSubChannelNumPSSCH* included in *sl-PSSCH-TxConfigList* and, if configured by RRC, overlapped between *sl-MinSubChannelNumPSSCH* and *sl-MaxSubChannelNumPSSCH* indicated in *sl-CBR-PriorityTxConfigList* for the highest priority of the logical channel(s) and pending SL-PRS transmission(s), if available allowed on the carrier and the CBR measured by lower layers according to clause 5.1.27 of TS 38.215 [24] if CBR measurement results are available or the corresponding *sl-defaultTxConfigIndex* configured by RRC if CBR measurement results are not available or the corresponding *sl-DefaultCBR-PartialSensing* configured by RRC if partial sensing is selected and CBR measurement results are not available, or the corresponding *sl-DefaultCBR-RandomSelection* configured by RRC if random selection is selected and CBR measurement results are not available in case the *sl-TxPoolExceptional* is not used;

3> if the selected resource pool is SL-PRS dedicated resource pool:

4> select the number of SL-PRS retransmissions from the allowed numbers, if configured by RRC, in *sl-PRS-MaxNum-Transmissions* included in *sl-CBR-SL-PRS-TxConfigList*.

3> if *sl-InterUE-CoordinationScheme1* enabling reception/transmission of preferred resource set and non-preferred resource set is not configured by RRC:

4> if transmission based on random selection is configured by upper layers:

5> if the selected resource pool is not SL-PRS dedicated resource pool:

6> randomly select the time and frequency resources for one transmission opportunity from the resources pool which occur within the SL DRX Active time, if configured, as specified in clause 5.28.2 of the destination UE selected for indicating to the physical layer the SL DRX Active time above, and the pool(s) in which all RB sets had Sidelink consistent LBT failure detected and not cancelled, if configured, according to the amount of selected frequency resources, the remaining PDB of SL data available in the logical channel(s), and the remaining SL-PRS delay budget of the SL-PRS transmission(s), if available, allowed on the carrier, and the latency requirement of the triggered SL-CSI reporting.

5> if the selected resource pool is SL-PRS dedicated resource pool:

6> randomly select the time and frequency resources for one transmission opportunity from the resource pool as specified in clause 5.28.2, according to the remaining SL-PRS delay budget of the SL-PRS transmission.

4> else:

5> if *sl-NRPSSCH-EUTRA-ThresRSRP-List* is configured by the RRC:

6> 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, and/or the latency requirement of the triggered SL-CSI reporting;

7> when SCS of NR SL is (pre-)configured as *μ* = 1:

8> select the time and frequency resources in the first of NR SL slots overlapping with an LTE SL subframe;

8> may additionally select the time and frequency resources in the subsequent NR SL slot overlapping with the LTE SL subframe.

5> else if the selected resource pool is not SL-PRS dedicated resource pool:

6> 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] which occur within the SL DRX Active time, if configured, as specified in clause 5.28.2 of the destination UE selected for indicating to the physical layer the SL DRX Active time above, according to the amount of selected frequency resources, the remaining PDB of SL data available in the logical channel(s), and the remaining SL-PRS delay budget of the SL-PRS transmission(s), if available, allowed on the carrier, and/or the latency requirement of the triggered SL-CSI reporting.

5> if the selected resource pool is SL-PRS dedicated resource pool:

6> randomly select the time and frequency resources for one transmission opportunity from the resources indicated by physical layer as clasue 8.2.4 of TS 38.214 [7] as specified in clause 5.28.2, according to the remaining SL-PRS delay budget of the SL-PRS transmission.

3> if *sl-InterUE-CoordinationScheme1* enabling reception/transmission of preferred resource set and non-preferred resource set is configured by RRC and preferred resource set is not received from a UE:

4> if transmission based on random selection is configured by upper layers:

5> if the selected resource pool is not SL-PRS dedicated resource pool:

6> randomly select the time and frequency resources for one transmission opportunity from the resources pool excluding all RB sets had Sidelink consistent LBT failure detected and not cancelled, if configured according to the amount of selected frequency resources and the remaining PDB of SL data available in the logical channel(s), and the remaining SL-PRS delay budget of the SL-PRS transmission(s), if available, allowed on the carrier, and/or the latency requirement of the triggered SL-CSI reporting.

4> else:

5> if the selected resource pool is not SL-PRS dedicated resource pool:

6> 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 remaining PDB of SL data available in the logical channel(s), and the remaining SL-PRS delay budget of the SL-PRS transmission(s), if available, allowed on the carrier, and/or the latency requirement of the triggered SL-CSI reporting.

3> if *sl-InterUE-CoordinationScheme1* enabling reception/transmission of preferred resource set and non-preferred resource set is configured by RRC and when the UE does not have own sensing result as specified in clause 8.1.4 of TS 38.214 [7] and if a preferred resource set is received from a UE and if the selected resource pool is not SL-PRS dedicated resource pool:

4> randomly select the time and frequency resources for one transmission opportunity from the resources belonging to the received preferred resource set for a MAC PDU to be transmitted to the UE providing the preferred resource set, according to the amount of selected frequency resources, the remaining PDB of SL data available in the logical channel(s), and the remaining SL-PRS delay budget of the SL-PRS transmission(s), if available, allowed on the carrier, and/or the latency requirement of the triggered SL-CSI reporting.

3> if *sl-InterUE-CoordinationScheme1* enabling reception/transmission of preferred resource set and non-preferred resource set is configured by RRC and when the UE has own sensing result as specified in clause 8.1.4 of TS 38.214 [7] and if a preferred resource set is received from a UE and if the selected resource pool is not SL-PRS dedicated resource pool:

4> randomly select the time and frequency resources for one transmission opportunity within the intersection of the received preferred resource set and the resources indicated by the physical layer as specified in clause 8.1.4 of TS 38.214 [7] for a MAC PDU to be transmitted to the UE providing the preferred resource set, according to the amount of selected frequency resources, the remaining PDB of SL data available in the logical channel(s), and the remaining SL-PRS delay budget of the SL-PRS transmission(s), if available, allowed on the carrier, and/or the latency requirement of the triggered SL-CSI reporting;

4> if there are no resources within the intersection that can be selected as the time and frequency resources for the one transmission opportunity 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.

5> 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 remaining PDB of SL data available in the logical channel(s), and the remaining SL-PRS delay budget of the SL-PRS transmission(s), if available, allowed on the carrier, and/or the latency requirement of the triggered SL-CSI reporting.

3> if *sl-InterUE-CoordinationScheme1* enabling reception/transmission of preferred resource set and non-preferred resource set is configured by RRC and when the UE determines the resources for Sidelink Inter-UE Coordination Information transmission upon explicit request from a UE:

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 remaining PDB of SL data available in the logical channel(s) allowed on the carrier, and/or the latency requirement of the triggered SL-CSI reporting and the latency requirement of the Sidelink Inter-UE Coordination Information transmission, and the remaining SL-PRS delay budget of the SL-PRS transmission(s), if available.

3> if one or more SL-PRS retransmissions are selected and the selected resource pool is SL-PRS dedicated resource pool:

4> randomly select the time and frequency resources for one or more transmission opportunities from the available resources, according to the selected number of retransmissions and the remaining SL-PRS delay budget and that a retransmission resource can be indicated by the time resource assignment of a prior SCI according to clause 8.3.1.1 of TS 38.212 [9];

4> consider the first set of transmission opportunities as the initial transmission opportunities and the other set(s) of transmission opportunities as the retransmission opportunities;

4> consider the sets of initial transmission opportunities and retransmission opportunities as the selected sidelink grant.

3> else if one or more HARQ retransmissions are selected and the selected resource pool is not SL-PRS dedicated resource pool:

4> if *sl-InterUE-CoordinationScheme1* enabling reception/transmission of preferred resource set and non-preferred resource set is not configured by RRC:

5> if transmission based on full sensing or partial sensing is configured by upper layers and there are available resources left in the resources indicated by the physical layer according to clause 8.1.4 of TS 38.214 [7] for more transmission opportunities; or

5> if transmission based on random selection is configured by upper layers and there are available resources left in the resources pool for more transmission opportunities:

6> if *sl-NRPSSCH-EUTRA-ThresRSRP-List* is configured by the RRC:

7> 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, and/or the latency requirement of the triggered SL-CSI by ensuring the minimum time gap between any two selected resources in case that PSFCH is configured for this pool of resources, and that a retransmission resource can be indicated by the time resource assignment of a prior SCI according to clause 8.3.1.1 of TS 38.212 [9];

8> when SCS of NR SL is (pre-)configured as *μ* = 1:

9> select the time and frequency resources in the second of NR SL slots of NR SL slots overlapping with an LTE SL subframe to which the selected initial transmission resources belongs, or at least select the time and frequency resources in the first of NR SL slots overlapping with an LTE SL subframe.

6> else:

7> randomly select the time and frequency resources for one or more transmission opportunities from the available resources which occur within the SL DRX Active time, if configured, as specified in clause 5.28.2 of the destination UE selected for indicating to the physical layer the SL DRX Active time above, and the pool(s) in which all RB sets with Sidelink consistent LBT failure detected and not cancelled are excluded, if configured, 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) allowed on the carrier, and/or the latency requirement of the triggered SL-CSI reporting, and the remaining SL-PRS delay budget of the SL-PRS transmission(s), if available, by ensuring the minimum time gap between any two selected resources in case that PSFCH is configured for this pool of resources, and that a retransmission resource can be indicated by the time resource assignment of a prior SCI according to clause 8.3.1.1 of TS 38.212 [9];

4> if *sl-InterUE-CoordinationScheme1* enabling reception/transmission of preferred resource set and non-preferred resource set is configured by RRC and preferred resource set is not received from a UE:

5> if transmission based on sensing is configured by upper layers and there are available resources left in the resources indicated by the physical layer according to clause 8.1.4 of TS 38.214 [7] for more transmission opportunities; or

5> if transmission based on random selection is configured by upper layers and there are available resources left in the resource pool for more transmission opportunities:

6> randomly select the time and frequency resources for one or more transmission opportunities from the available resources excluding all RB sets had Sidelink consistent LBT failure detected and not cancelled, if configured 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) allowed on the carrier, and/or the latency requirement of the triggered SL-CSI reporting, and the remaining SL-PRS delay budget of the SL-PRS transmission(s), if available, by ensuring the minimum time gap between any two selected resources in case that PSFCH is configured for this pool of resources and that a retransmission resource can be indicated by the time resource assignment of a prior SCI according to clause 8.3.1.1 of TS 38.212 [9].

4> if *sl-InterUE-CoordinationScheme1* enabling reception/transmission of preferred resource set and non-preferred resource set is configured by RRC and when the UE has own sensing result as specified in clause 8.1.4 of TS 38.214 [7] and if a preferred resource set is received from a UE:

5> if there are available resources left in the intersection of the received preferred resource set and the resources indicated by the physical layer as specified in clause 8.1.4 of TS 38.214 [7] for more transmission opportunities:

6> randomly select the time and frequency resources for one or more transmission opportunities from the available resources within the intersection for a MAC PDU to be transmitted to the UE providing the preferred resource set, 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) allowed on the carrier, and/or the latency requirement of the triggered SL-CSI reporting, and the remaining SL-PRS delay budget of the SL-PRS transmission(s), if available, by ensuring the minimum time gap between any two selected resources in case that PSFCH is configured for this pool of resources and that a retransmission resource can be indicated by the time resource assignment of a prior SCI according to clause 8.3.1.1 of TS 38.212 [9].

5> if the number of time and frequency resources that has been maximally selected for one or more transmission opportunities from the available resources within the intersection is smaller than the selected number of HARQ retransmissions and there are available resources left in the resources indicated by the physical layer for more transmission opportunities:

6> randomly select the time and frequency resources for the remaining transmission opportunities except for the selected resources within the intersection from the available resources outside the intersection but left in the resources indicated by the physical layer according to 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) allowed on the carrier, and/or the latency requirement of the triggered SL-CSI reporting, and the remaining SL-PRS delay budget of the SL-PRS transmission(s), if available, by ensuring the minimum time gap between any two selected resources in case that PSFCH is configured for this pool of resources and that a retransmission resource can be indicated by the time resource assignment of a prior SCI according to clause 8.3.1.1 of TS 38.212 [9].

4> if *sl-InterUE-CoordinationScheme1* enabling reception/transmission of preferred resource set and non-preferred resource set is configured by RRC and when the UE does not have own sensing result as specified in clause 8.1.4 of TS 38.214 [7] and if a preferred resource set is received from a UE; and

4> if there are available resources left in the received preferred resource set for more transmission opportunities:

5> randomly select the time and frequency resources for one or more transmission opportunities from the available resources belonging to the received preferred resource set for a MAC PDU to be transmitted to the UE providing the preferred resource set, 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) allowed on the carrier, and/or the latency requirement of the triggered SL-CSI reporting, and the remaining SL-PRS delay budget of the SL-PRS transmission(s), if available, by ensuring the minimum time gap between any two selected resources in case that PSFCH is configured for this pool of resources and that a retransmission resource can be indicated by the time resource assignment of a prior SCI according to clause 8.3.1.1 of TS 38.212 [9].

4> if *sl-InterUE-CoordinationScheme1* enabling reception/transmission of preferred resource set and non-preferred resource set is configured by RRC and when the UE determines the resources for Sidelink Inter-UE Coordination Information transmission upon explicit request from a UE:

5> 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 remaining PDB of SL data available in the logical channel(s) allowed on the carrier, and/or the latency requirement of the triggered SL-CSI reporting and the latency requirement of the Sidelink Inter-UE Coordination Information transmission, and the remaining SL-PRS delay budget of the SL-PRS transmission(s), if available.

4> consider a transmission opportunity which comes first in time as the initial transmission opportunity and other transmission opportunities as the retransmission opportunities;

4> consider all the transmission opportunities as the selected sidelink grant.

3> else:

4> consider the set as the selected sidelink grant.

3> use the selected sidelink grant to determine PSCCH duration(s) and PSSCH duration(s) and the SL-PRS transmission occasion(s), if available, according to TS 38.214 [7] if the selected resource pool is not SL-PRS dedicated resource pool or to determine the PSCCH duration(s) and SL-PRS transmission occasion(s) if the selected resource pool is SL-PRS dedicated resource pool according to TS 38.214 [7].

NOTE 3Ae: MAC entity, based on UE implementation, decides whether to indicate the number of consecutive slots for Multi-consecutive slots transmission as specified in clause 8.1.4 of TS 38.214 [7] larger than 1.

NOTE 3Af: MAC entity, based on UE implementation, decides the value of the number of consecutive slots for Multi-consecutive slots transmission if it decides the number of consecutive slots for Multi-consecutive slots transmission larger than 1, as long as it meets the CAPC maximum COT duration requirement as specified in TS 37.213 [18].

NOTE 3Ag: 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.

NOTE 3Ah: For a resource pool configured with PSFCH resource, UE cannot select consecutive slots for SL transmissions of a single TB for Multi-consecutive slots transmission.

NOTE 3Ai: UE may avoid selection of N consecutive resource(s) before a reserved resource of its own, where the selection of N is up to UE implementation from {0,1,2}. UE may avoid selection of M consecutive resource(s) after a reserved resource of its own, where the selection of M is up to UE implementation (at least including 0).

NOTE 3Aj: If configured, UE may avoid selection of N consecutive resource(s) before a reserved resource of other UE when the L1 SL priority value for the transmission is higher than the L1 SL priority value of the reserved resource, where the selection of N is up to UE implementation from {0,1,2}. UE may avoid selection of M consecutive resource(s) after a reserved resource of other UE when the transmitting symbols of the reserved resource overlap with LBT of its own selected resource, where the selection of M is up to UE implementation from {0,1,2}. It is up to UE implementation how the physical layer reports detected reserved resources to MAC layer.

NOTE 3Ak: If configured, if transmission in slot(s) at least $T\_{proc,0}^{SL}$ before a reserved resource of other UE is able to share its initiated COT to the reservation, UE may prioritize/select resource(s) in the slot(s) for transmission. It is up to UE implementation how the physical layer reports detected reserved resources to MAC layer.

NOTE 3Al: MAC entity, based on UE implementation, decides how to determine COT sharing cast type, COT sharing additional ID and remaining COT duration specified in TS 37.213 [18].

NOTE 3A1: If *sl-InterUE-CoordinationScheme1* enabling reception/transmission of preferred resource set and non-preferred resource set is configured by RRC and if multiple preferred resource sets are received from the same UE, it is up to UE implementation to use one or multiple of them in its resource (re)selection.

NOTE 3B1: If retransmission resource(s) cannot be selected by ensuring that the resource(s) can be indicated by the time resource assignment of a prior SCI, how to select the time and frequency resources for one or more transmission opportunities from the available resources is left for UE implementation by ensuring the minimum time gap between any two selected ‎resources in case that PSFCH is configured for this pool of ‎resources.

NOTE 3B2: When the UE receives both a single preferred resource set and a single non-preferred resource set from the same peer UE or different peer UEs, when the UE has own sensing results, it is up to the UE implementation to use the preferred resource set in its resource (re)selection for transmissions to the peer UE providing the preferred resource set.

NOTE 3B3: The UE is not required to use any resource from the preferred resource set in its resource (re-)selection if that resource is earlier than ($T\_{proc,0}^{SL}$+$T\_{proc,1}^{SL}$+$T\_{proc,2}^{SL}$) after the resource of Inter-UE Coordination Information transmission, where $T\_{proc,2}^{SL}$ is equal to ($T\_{proc,0}^{SL}$+$T\_{proc,1}^{SL}$) when only MAC CE is used for inter-UE Coordination Information transmission, or $T\_{proc,2}^{SL}$ is equal to $T\_{proc,0}^{SL}$ when MAC CE and SCI format 2-C are both used for Inter-UE Coordination Information transmission. The case when $T\_{proc,2}^{SL}$ is equal to $T\_{proc,0}^{SL}$ is assuming that SCI format 2-C is received. $ T\_{proc,0}^{SL}$ and $T\_{proc,1}^{SL}$ are specified in clause 8.1.4 of TS 38.214 [7].

NOTE 3B4: For Inter-UE Coordination Information triggered by an explicit Inter-UE Coordination Request in Scheme 1, whether or not to transmit the Inter-UE Coordination Information upon the Inter-UE Coordination Request reception is determined by UE implementation subject to Release-16 procedure of UL/SL prioritization, LTE SL/NR SL prioritization, and congestion control.

NOTE 3B5: If configured by RRC, *sl-IUC-Explicit* set to *enabled* and an SL-IUC request is received for the Source Layer-2 ID and Destination Layer-2 ID pair of a unicast, MAC layer indicates to physical layer the resource selection window, resource set type (i.e., preferred resource set), L1 priority, the number of sub-channels to be used for the PSSCH/PSCCH transmission and the resource reservation period for preferred resource set. If configured by RRC, *sl-IUC-Explicit* set to *enabled* and an SL-IUC request is received for the Source Layer-2 ID and Destination Layer-2 ID pair of a unicast, MAC layer indicates to physical layer resource set type (i.e., non-preferred resource set) and the resource selection window for non-preferred resource set.

NOTE 3B6: If either *sl-IUC-Explicit* or *sl-IUC-Condition* is configured as *enabled*,UE considers the reception of preferred and non-preferred resource is enabled.

NOTE 3B7: When *sl-TriggerConditionCoordInfo* is set to value 0, for groupcast or broadcast of Inter-UE Coordination Information triggered by a condition in Scheme 1, which Destination Layer-2 ID (and the corresponding cast-type) a UE selects among Destination Layer-2 IDs that are already used or interested in NR sidelink transmission is up to the UE implementation.

1> if a selected sidelink grant is available for retransmission(s) of a MAC PDU which has been positively acknowledged as specified in clause 5.22.1.3.1a, except a positive acknowledgement to Multi-consecutive slots transmission (i.e., multiple TBs case) of the MAC PDU and there is remaining slot(s) for this MAC PDU:

2> clear the PSCCH duration(s) and PSSCH duration(s) corresponding to retransmission(s) of the MAC PDU from the selected sidelink grant.

NOTE 3C: How the MAC entity determines the remaining PDB of SL data is left to UE implementation.

For a selected sidelink grant, the minimum time gap between any two selected resources comprises:

- a time gap between the end of the last symbol of a PSSCH transmission of the first resource and the start of the first symbol of the corresponding PSFCH reception determined by *sl-MinTimeGapPSFCH* and *sl-PSFCH-Period* for the pool of resources; and

- For SL operation with shared spectrum channel access, the time gap between the end of the last symbol of a PSSCH transmission of the first resource and the start of the first symbol of the last corresponding PSFCH reception determined by *sl-MinTimeGapPSFCH* and *sl-PSFCH-Period* for the pool of resources; and

- a time required for PSFCH reception and processing plus sidelink retransmission preparation including multiplexing of necessary physical channels and any TX-RX/RX-TX switching time.

NOTE 4: How to determine the time required for PSFCH reception and processing plus sidelink retransmission preparation is left to UE implementation.

The MAC entity shall for each PSSCH duration not on SL-PRS dedicated resource pool:

1> for each sidelink grant occurring in this PSSCH duration:

2> select a MCS table allowed in the pool of resource which is associated with the sidelink grant;

NOTE 4a: MCS table selection is up to UE implementation if more than one MCS table is configured.

2> if the MAC entity has been configured with Sidelink resource allocation mode 1 or Sidelink resource allocation Scheme 1 for SL-PRS transmission on SL-PRS shared resource pool:

3> select a MCS which is, if configured, within the range that is configured by RRC between *sl-MinMCS-PSSCH* and *sl-MaxMCS-PSSCH* associated with the selected MCS table included in *sl-ConfigDedicatedNR*;

3> set the resource reservation interval to 0ms.

2> else if the MAC entity has been configured with Sidelink resource allocation mode 2 or Sidelink resource allocation Scheme 2 for SL-PRS transmission on SL-PRS shared resource pool:

3> select a MCS which is, if configured, within the range, if configured by RRC, between *sl-MinMCS-PSSCH* and *sl-MaxMCS-PSSCH* associated with the selected MCS table included in *sl-PSSCH-TxConfigList* and, if configured by RRC, overlapped between *sl-MinMCS-PSSCH* and *sl-MaxMCS-PSSCH* associated with the selected MCS table indicated in *sl-CBR-PriorityTxConfigList* for the highest priority of the sidelink logical channel(s) in the MAC PDU or pending SL-PRS transmission(s), if available, and the CBR measured by lower layers according to clause 5.1.27 of TS 38.215 [24] if CBR measurement results are available or the corresponding *sl-defaultTxConfigIndex* configured by RRC if CBR measurement results are not available or the corresponding *sl-DefaultCBR-PartialSensing* configured by RRC if partial sensing is selected and CBR measurement results are not available, or the corresponding *sl-DefaultCBR-RandomSelection* configured by RRC if random selection is selected and CBR measurement results are not available in case the *sl-TxPoolExceptional* is not used;

3> if the MAC entity decides not to use the selected sidelink grant for the next PSSCH duration corresponding to an initial transmission opportunity:

4> set the resource reservation interval to 0ms.

3> else:

4> set the resource reservation interval to the selected value.

NOTE 5: MCS selection is up to UE implementation if the MCS or the corresponding range is not configured by RRC.

2> if the configured sidelink grant has been activated and this PSSCH duration corresponds to the first PSSCH transmission opportunity within this *sl-PeriodCG* of the configured sidelink grant:

3> set the HARQ Process ID to the HARQ Process ID associated with this PSSCH duration and, if available, all subsequent PSSCH duration(s) occuring in this *sl-PeriodCG* for the configured sidelink grant;

3> determine that this PSSCH duration is used for initial transmission;

3> flush the HARQ buffer of Sidelink process associated with the HARQ Process ID.

2> deliver the sidelink grant, the selected MCS, and the associated HARQ information to the Sidelink HARQ Entity for this PSSCH duration.

The MAC entity shall for each PSCCH duration on SL-PRS dedicated resource pool:

1> if the MAC entity is not configured with multiple SL-PRS transmissions with Sidelink resource allocation scheme 2; or

1> if the MAC entity is configured with Sidelink resource allocation scheme 1:

2> set the resource reservation period to 0.

1> else if the MAC entity is configured with multiple SL-PRS transmission with Sidelink resource allocation scheme 2:

2> set the resource reservation period to the selected value.

1> if the configured sidelink grant has been activated and this PSSCH duration corresponds to the first PSSCH transmission opportunity within this *sl-PeriodCG* of the configured sidelink grant:

2> set the SL-PRS Process ID to the SL-PRS Process ID associated with this PSSCH duration and, if available, all subsequent SL-PRS transmission occasion(s) occuring in this *sl-PeriodCG* for the configured sidelink grant;

2> determine that this SL-PRS transmission occasion is used for initial transmission.

1> process the sidelink grant according to clause 5.22.1.3.4 with the corresponding SL-PRS transmission information.

For configured sidelink grants not on SL-PRS dedicated resource pool, the HARQ Process ID associated with the first slot of an SL transmission is derived from the following equation:

 HARQ Process ID = [floor(CURRENT\_slot / *PeriodicitySL*)] modulo *sl-NrOfHARQ-Processes*
 + *sl-HARQ-ProcID-offset*

For configured sidelink grant on SL-PRS dedicated resource pool, the SL-PRS Process ID associated with the first slot of an SL transmission is derived from the following equation:

 SL-PRS Process ID = [floor(CURRENT\_slot / *PeriodicitySL*)] modulo *[nrOfSL-PRSProc]*

where CURRENT\_slot refers to current logical slot in the associated resource pool, and *PeriodicitySL* is defined in clause 5.8.3.

NEXT CHANGE

###### 5.22.1.4.1.2 Selection of logical channels and SL-PRS

The MAC entity shall for each SCI corresponding to a new transmission:

1> if *sl-BWP-DiscPoolConfig*, *sl-BWP-DiscPoolConfigCommon*, *sl-BWP-PoolConfigA2X* or *sl-BWP-PoolConfigCommonA2X* is configured according to TS 38.331 [5]; and

1> if COT sharing information has not been received from lower layers as specified in TS 37.213[18]; and

1> if the new transmission is not associated to a sidelink grant on SL-PRS dedicated resource pool:

2> if the new transmission is associated to a sidelink grant in *sl-DiscTxPoolSelected* or *sl-DiscTxPoolScheduling* configured in *sl-BWP-DiscPoolConfig* or *sl-BWP-DiscPoolConfigCommon*:

3> select a Destination associated with NR sidelink discovery as specified in TS 23.304 [26], that is in the SL Active time for the SL transmission occasion if SL DRX is applied for the destination, and among the logical channels that satisfy all the following conditions for the SL grant associated to the SCI:

4> SL data for NR sidelink discovery is available for transmission; and

4> *SBj* > 0, in case there is any logical channel having *SBj* > 0; and

4> *sl-configuredGrantType1Allowed*, if configured, is set to *true* in case the SL grant is a Configured Grant Type 1; and

4> *sl-AllowedCG-List*, if configured, includes the configured grant index associated to the SL grant.

2> else if the new transmission is associated to a sidelink grant in *sl-TxPoolSelectedNormal* configured in *sl-BWP-PoolConfigA2X* or *sl-BWP-PoolConfigCommonA2X*:

3> select a Destination associated with BRID if *sl-A2X-Service* in *sl-TxPoolSelectedNormal* indicates *brid* or *bridAndDAA* or select a Destination associated with DAA if *sl-A2X-Service* in *sl-TxPoolSelectedNormal* indicates *daa* or *bridAndDAA* as specified in TS 23.256 [31], and the logical channel with the highest priority, among the logical channels that satisfy all the following conditions for the SL grant associated to the SCI:

4> SL data for A2X communication is available for transmission; and

4> *SBj* > 0, in case there is any logical channel having *SBj* > 0.

2> else:

3> select a Destination associated to one of unicast, groupcast and broadcast (excluding the Destination(s) associated with NR sidelink discovery as specified in TS 23.304 [26] or A2X communication), that is in the SL Active time for the SL transmission occasion if SL DRX is applied for the destination, and having at least one of the MAC CE and the logical channel and pending SL-PRS transmission(s) with the highest priority, among the logical channels that satisfy all the following conditions and MAC CE(s), if any, and SL-PRS(s), if any for the SL grant associated to the SCI:

4> SL data for NR sidelink communication is available for transmission; and

4> *SBj* > 0, in case there is any logical channel having *SBj* > 0; and

4> *sl-configuredGrantType1Allowed*, if configured, is set to *true* in case the SL grant is a Configured Grant Type 1; and

4> *sl-AllowedCG-List*, if configured, includes the configured grant index associated to the SL grant; and

4> *sl-HARQ-FeedbackEnabled* is set to *disabled*, if PSFCH is not configured for the SL grant associated to the SCI.

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

NOTE 0: A LCH is allowed in a carrier based on whether this selected carrier is within a subset of frequencies associated with all the PC5 QoS flows allowed to be mapped to this LCH based on RRC configuration.

4> 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 clause 5.22.1.11, if multiple carrier frequencies are configured and if the MAC entity has been configured with Sidelink resource allocation mode 2.

1> else:

2> if COT sharing information has been received from lower layers as specified in TS 37.213[18]:

3> 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:

4> select a Destination associated to one of unicast, groupcast and broadcast that satisfy the following destination condition and CAPC condition, and having at least one of the MAC CE and the logical channel with the highest priority, among the logical channels that satisfy all the following conditions and the MAC CE(s) that satisfies CAPC and destination requirement, if any, for the SL grant associated to the SCI:

5> if a Source Layer-1 ID and a Destination Layer-1 ID contained in the COT initiator's SCI or COT sharing information match to the corresponding Destination Layer-1 ID and a Source Layer-1 IDs relating to the transmission from the responding UE and the cast type indicator in the SCI is set to unicast; or if a Destination Layer-1 ID contained in the COT initiator's SCI or COT sharing information matches to a Destination Layer-1 ID relating to the transmission from the responding UE and the cast type indicator in the SCI is set to groupcast or broadcast; and

5> 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; and

5> SL data is available for transmission; and

5> *SBj* > 0, in case there is any logical channel having *SBj* > 0; and

5> *sl-configuredGrantType1Allowed*, if configured, is set to *true* in case the SL grant is a Configured Grant Type 1; and

5> *sl-AllowedCG-List*, if configured, includes the configured grant index associated to the SL grant; and

5> *sl-HARQ-FeedbackEnabled* is set to *disabled*, if PSFCH is not configured for the SL grant associated to the SCI.

2> else if sl-BWP-DiscPoolConfig or sl-BWP-DiscPoolConfigCommon is not configured according to TS 38.331 [5]; and

2> if the new transmission is not associated to a sidelink grant on SL-PRS dedicated resource pool:

3> select a Destination associated to one of unicast, groupcast and broadcast, that is in the SL Active time for the SL transmission occasion if SL DRX is applied for the destination, and having at least one of the MAC CE and the logical channel and pending SL-PRS transmission(s) with the highest priority, among the logical channels that satisfy all the following conditions and MAC CE(s), if any, and SL-PRS(s), if any, for the SL grant associated to the SCI:

4> SL data is available for transmission; and

4> *SBj* > 0, in case there is any logical channel having *SBj* > 0; and

4> *sl-configuredGrantType1Allowed*, if configured, is set to *true* in case the SL grant is a Configured Grant Type 1; and

4> *sl-AllowedCG-List*, if configured, includes the configured grant index associated to the SL grant; and

4> *sl-HARQ-FeedbackEnabled* is set to *disabled*, if PSFCH is not configured for the SL grant associated to the SCI; and

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

4> 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 clause 5.22.1.11, if multiple carrier frequencies are configured and if the MAC entity has been configured with Sidelink resource allocation mode 2.

NOTE 1: If multiple Destinations have the logical channels satisfying all conditions above with the same highest priority or if multiple Destinations have either the MAC CE and/or the logical channels satisfying all conditions above with the same priority as the MAC CE, which Destination is selected among them is up to UE implementation.

1> else: (i.e., the sidelink grant is associated with SL-PRS dedicated resource pool)

2> select a Destination corresponding to the cast type of the SL grant and having pending SL-PRS transmission(s) with the highest priority for the SL grant associated to the SCI.

1> select the logical channels satisfying all the following conditions among the logical channels belonging to the selected Destination when the UL grant is not associated to a sidelink grant on SL-PRS dedicated resource pool:

2> SL data is available for transmission; and

2> *sl-configuredGrantType1Allowed*, if configured, is set to *true* in case the SL grant is a Configured Grant Type 1; and.

2> *sl-AllowedCG-List*, if configured, includes the configured grant index associated to the SL grant; and

2> 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

2> 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 clause 5.22.1.11, if multiple carrier frequencies are configured if the MAC entity has been configured with Sidelink resource allocation mode 2; and

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; and

2> *sl-HARQ-FeedbackEnabled* is set to the value that satisfies the following conditions:

3> if PSFCH is configured for the sidelink grant associated to the SCI and the UE is capable of PSFCH reception:

4> *sl-HARQ-FeedbackEnabled* is set to *enabled*, if *sl-HARQ-FeedbackEnabled* is set to *enabled* for the highest priority logical channel satisfying the above conditions; or

4> *sl-HARQ-FeedbackEnabled* is set to *disabled*, if *sl-HARQ-FeedbackEnabled* is set to *disabled* for the highest priority logical channel satisfying the above conditions.

3> else:

4> *sl-HARQ-FeedbackEnabled* is set to disabled.

NOTE 2: HARQ feedback enabled/disabled indicator is set to disabled for the transmission of a MAC PDU only carrying CSI reporting MAC CE or Sidelink DRX Command MAC CE or Sidelink Inter-UE Coordination Request MAC CE or Sidelink Inter-UE Coordination Information MAC CE.

END OF CHANGES