**3GPP TSG-RAN WG2 Meeting #119bis-e *R2-2210930***

**E-meeting, 10th – 19th October, 2022**

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
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|  | **38.331** | **CR** | **3541** | **rev** | **1** | **Current version:** | **17.2.0** |  |
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| *For* [***HELP***](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:***  | Rapporteur CR on TS 38.331 for SL enhancements |
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| ***Source to WG:*** | Huawei, HiSilicon (Rapporteur) |
| ***Source to TSG:*** | RAN2 |
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| ***Work item code:*** | NR\_SL\_enh-Core |  | ***Date:*** | 2022-10-19 |
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| ***Category:*** | **F** |  | ***Release:*** | Rel-17 |
|  | *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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
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| ***Reason for change:*** | 1. In clause 5.8.8, for out of coverage case, "sensing using the pools of resources indicated by *sl-TxPoolSelectedNormal* in *SidelinkPreconfigNR*" is not clear as "*sl-AllowedResourceSelectionConfig"* can be also configured for *sl-TxPoolSelectedNormal* in *SidelinkPreconfigNR*.3. In clause 6.3.5 IEs " SL-PSBCH-Config " and " SL-ResourcePool ", between Rel-16 and Rel-17 OLPC parameters for sidelink, there is ambiguity on how UE shall treat them. 4. For NR sidelink unicast transmission, only when the TX UE is operating in mode 1 should the TX UE report the assistance information and/or the DRX configuration reject information to the gNB.5. “sl-CSI-SchedulingRequestId” is also used to indicate the scheduling request configuration applicable for Sidelink DRX Command MAC CE.6. It’s not clear on whether and how to set the field sl-LatencyBoundIUC-Report in RRCReconfigurationSidelink message. Therefore, some text is updated to clarify the UE behaviour.7. Based on LS response from RAN1 in R2-2209311, the following RAN2 understanding is confirmed and should be captured in the RRC Spec:When the sl-AllowedResourceSelectionConfig is absent for a mode-2 transmission resource pool indicated by sl-TxPoolSelectedNormal (which can be included within sl-BWP-PoolConfig-r16/sl-BWP-PoolConfigCommon-r16 and within sl-BWP-PoolConfigPS-r17/sl-BWP-PoolConfigCommonPS-r17, as specified in TS 38.331), the UE is only allowed to use full sensing based resource selection scheme for transmission in this resource pool.7. Editorial errors.  |
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| ***Summary of change:*** | 1. Change "sensing" to "resource selection operation according to *sl-AllowedResourceSelectionConfig*". 3. Add clarification that when Rel-17 sidelink OLPC parameters are present, UE shall ignore Rel-16 sidelink OLPC parameters. 4. In section 5.8.3.2, clarify that when the UE is configured with sl-ScheduledConfig, the UE reports the assistance information or the DRX configuration reject information for unicast transmission and the sidelink DRX on/off indication for the associated Destination Layer-2 ID for groupcast transmission.5. Add “Sidelink DRX Command MAC CE” in the field description of “sl-CSI-SchedulingRequestId”.6. In clause 5.8.9.1.2, clarify the Tx UE behaviour on whether/how to set the field sl-LatencyBoundIUC-Report in NOTE 1.7. In 6.3.5, specify that only full sensing based operation is allowed in a resource pool, if the field sl-AllowedResourceSelectionConfig is not configured in the corresponding pool configuration.8. Correct editorial errors.**Impact analysis****Impacted 5G architecture options:**NR SA, NR-DC**Impacted functionality:**SL DRX**Inter-operability:** If the network is implemented according to this CR while the UE is not, there is no inter-operability issue.If the UE is implemented according to this CR while the network is not, there is no inter-operability issue.If one UE is implemented according to this CR while the other UE is not, there is no inter-operability issue. |
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| ***Consequences if not approved:*** | 1. It is not clear how sensing is done for out of coverage case.3. There is ambiguity on UE beharior regarding Rel-16/Rel-17 sidelink OLPC parameter. 4. Ambiguity exists on the condition to report the assistance information or the DRX configuration reject information for unicast transmission and on the condition to report the sidelink DRX on/off indication for the associated Destination Layer-2 ID for groupcast transmission.5. SL DRX Command MAC CE cannot trigger SR.6. The UE behavior on setting the field sl-LatencyBoundIUC-Report in RRCReconfigurationSidelink message is not clear.7. RAN2 agreement on the default resource selection scheme in a mode-2 transmission resource pool is missing in the Spec 8. Editorial errors still remain. |
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| ***Clauses affected:*** | 5.8.3, 5.8.8, 6.2.2, 6.3.5 |
|  |  |
|  | **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 ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

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| *START OF CHANGE* |

#### 5.8.3.2 Initiation

A UE capable of NR sidelink communication or NR sidelink discovery or NR sidelink U2N relay operation that is in RRC\_CONNECTED may initiate the procedure to indicate it is (interested in) receiving or transmitting NR sidelink communication or NR sidelink discovery or NR sidelink U2N relay operation in several cases including upon successful connection establishment or resuming, upon change of interest, upon changing QoS profile(s), upon receiving *UECapabilityInformationSidelink* from the associated peer UE, upon RLC mode information updated from the associated peer UE or upon change to a PCell providing *SIB12* including *sl-ConfigCommonNR*. A UE capable of NR sidelink communication may initiate the procedure to request assignment of dedicated sidelink DRB configuration and transmission resources for NR sidelink communication transmission. A UE capable of NR sidelink communication may initiate the procedure to report to the network that a sidelink radio link failure or sidelink RRC reconfiguration failure has been declared. A UE capable of NR sidelink discovery may initiate the procedure to request assignment of dedicated resources for NR sidelink discovery transmission or NR sidelink discovery reception. A UE capable of U2N relay operation may initiate the procedure to report/update parameters for acting as U2N Relay UE or U2N Remote UE (including L2 Remote UE's source L2 ID).

A UE capable of NR sidelink operation that is in RRC\_CONNECTED may initiate the procedure to report the sidelink DRX configuration received from the associated peer UE for NR sidelink unicast reception, upon accepting the sidelink DRX configuration from the associated peer UE. A UE capable of NR sidelink communication that is configured with *sl-ScheduledConfig* and is performing sidelink unicast transmission may initiate the procedure to report the sidelink DRX assistance information or the sidelink DRX configuration reject information received from the associated peer UE, upon receiving either of them from the associated peer UE. A UE capable of NR sidelink communication that is configured with *sl-ScheduledConfig* and is performing sidelink groupcast transmission may initiate the procedure to report the sidelink DRX on/off indication for the associated Destination Layer-2 ID.

A UE capable of NR sidelink operation that is in RRC\_CONNECTED may initiate the procedure to report the Destination Layer-2 ID and QoS profile(s) associated with its interested service(s) that sidelink DRX is applied, for NR sidelink groupcast or broadcast reception.

Upon initiating this procedure, the UE shall:

1> if *SIB12* including *sl-ConfigCommonNR* is provided by the PCell:

2> ensure having a valid version of *SIB12* for the PCell;

2> if configured by upper layers to receive NR sidelink communication on the frequency included in *sl-FreqInfoList* in *SIB12* of the PCell:

3> if the UE did not transmit a *SidelinkUEInformationNR* message since last entering RRC\_CONNECTED state; or

3> if since the last time the UE transmitted a *SidelinkUEInformationNR* message the UE connected to a PCell not providing *SIB12* including *sl-ConfigCommonNR*; or

3> if the last transmission of the *SidelinkUEInformationNR* message did not include *sl-RxInterestedFreqList*; or if the frequency configured by upper layers to receive NR sidelink communication on has changed since the last transmission of the *SidelinkUEInformationNR* message:

4> initiate transmission of the *SidelinkUEInformationNR* message to indicate the NR sidelink communication reception frequency of interest in accordance with 5.8.3.3;

2> else:

3> if the last transmission of the *SidelinkUEInformationNR* message included *sl-RxInterestedFreqList*:

4> initiate transmission of the *SidelinkUEInformationNR* message to indicate it is no longer interested in NR sidelink communication reception in accordance with 5.8.3.3;

2> if configured by upper layers to transmit non-relay NR sidelink communication on the frequency included in *sl-FreqInfoList* in *SIB12* of the PCell:

3> if the UE did not transmit a *SidelinkUEInformationNR* message since last entering RRC\_CONNECTED state; or

3> if since the last time the UE transmitted a *SidelinkUEInformationNR* message the UE connected to a PCell not providing *SIB12* including *sl-ConfigCommonNR*; or

3> if the last transmission of the *SidelinkUEInformationNR* message did not include *sl-TxResourceReqList*; or if the information carried by the *sl-TxResourceReqList* has changed since the last transmission of the *SidelinkUEInformationNR* message:

4> initiate transmission of the *SidelinkUEInformationNR* message to indicate the NR sidelink communication transmission resources required by the UE in accordance with 5.8.3.3;

2> else:

3> if the last transmission of the *SidelinkUEInformationNR* message included *sl-TxResourceReqList*:

4> initiate transmission of the *SidelinkUEInformationNR* message to indicate it no longer requires NR sidelink communication transmission resources in accordance with 5.8.3.3.

2> if configured by upper layer to receive NR sidelink non-relay discovery messages on the frequency included in *sl-FreqInfoList* in *SIB12* of the PCell including *sl-NonRelayDiscovery*:

3> if the UE did not transmit a *SidelinkUEInformationNR* message since last entering RRC\_CONNECTED state; or

3> if since the last time the UE transmitted a *SidelinkUEInformationNR* message the UE connected to a PCell not providing *SIB12* including *sl-ConfigCommonNR* or connected to a PCell providing *SIB12* but not including *sl-NonRelayDiscovery*; or

3> if the last transmission of the *SidelinkUEInformationNR* message did not include *sl-RxInterestedFreqListDisc*; or if the frequency configured by upper layers to receive NR sidelink L2 U2N relay discovery messages or NR sidelink L3 U2N relay discovery messages on has changed since the last transmission of the *SidelinkUEInformationNR* message:

4> initiate transmission of the *SidelinkUEInformationNR* message to indicate the NR sidelink discovery reception frequency of interest in accordance with 5.8.3.3;

2> else:

3> if the last transmission of the *SidelinkUEInformationNR* message included *sl-RxInterestedFreqListDisc*:

4> initiate transmission of the *SidelinkUEInformationNR* message to indicate it is no longer interested in NR sidelink discovery messages reception in accordance with 5.8.3.3;

2> if configured by upper layer to receive NR sidelink L2 U2N relay discovery messages on the frequency included in *sl-FreqInfoList* in *SIB12* of the PCell including *sl-L2U2N-Relay*; or if configured by upper layer to receive NR sidelink L3 U2N relay discovery messages on the frequency included in *sl-FreqInfoList* in *SIB12* of the PCell including *sl-L3U2N-RelayDiscovery*:

3> if the UE did not transmit a *SidelinkUEInformationNR* message since last entering RRC\_CONNECTED state; or

3> if since the last time the UE transmitted a *SidelinkUEInformationNR* message the UE connected to a PCell not providing *SIB12* including *sl-ConfigCommonNR* or connected to a PCell providing *SIB12* but not including *sl-L2U2N-Relay* in case of L2 U2N relay operation or connected to a PCell providing *SIB12* but not including *sl-L3U2N-RelayDiscovery* in case of L3 U2N relay operation; or

3> if the last transmission of the *SidelinkUEInformationNR* message did not include *sl-RxInterestedFreqListDisc*; or if the frequency configured by upper layers to receive NR sidelink discovery messages on has changed since the last transmission of the *SidelinkUEInformationNR* message:

4> if the UE is capable of U2N Relay UE, and if *SIB12* includes *sl-RelayUE-ConfigCommon*, and if the U2N Relay UE threshold conditions as specified in 5.8.14.2 are met; or

4> if the UE is selecting a U2N Relay UE / has a selected U2N Relay UE, and if *SIB12* includes *sl-RemoteUE-ConfigCommon*, and if the U2N Remote UE threshold conditions as specified in 5.8.15.2 are met:

5> initiate transmission of the *SidelinkUEInformationNR* message to indicate the NR relay sidelink discovery reception frequency of interest in accordance with 5.8.3.3;

2> else:

3> if the last transmission of the *SidelinkUEInformationNR* message included *sl-RxInterestedFreqListDisc*:

4> initiate transmission of the *SidelinkUEInformationNR* message to indicate it is no longer interested in NR relay sidelink discovery messages reception in accordance with 5.8.3.3;

2> if configured by upper layer to transmit NR sidelink non-relay discovery messages on the frequency included in *sl-FreqInfoList* in *SIB12* of the PCell including *sl-NonRelayDiscovery*:

3> if the UE did not transmit a *SidelinkUEInformationNR* message since last entering RRC\_CONNECTED state; or

3> if since the last time the UE transmitted a *SidelinkUEInformationNR* message the UE connected to a PCell not providing *SIB12* including *sl-ConfigCommonNR* or connected to a PCell providing *SIB12* but not including *sl-NonRelayDiscovery*; or

3> if the last transmission of the *SidelinkUEInformationNR* message did not include *sl-TxResourceReqListDisc*; or if the information carried by the *sl-TxResourceReqListDisc* has changed since the last transmission of the *SidelinkUEInformationNR* message:

4> initiate transmission of the *SidelinkUEInformationNR* message to indicate the NR sidelink non-relay discovery messages resources required by the UE in accordance with 5.8.3.3;

2> else:

3> if the last transmission of the *SidelinkUEInformationNR* message included *sl-TxResourceReqListDisc*:

4> initiate transmission of the *SidelinkUEInformationNR* message to indicate it no longer requires NR sidelink non-relay discovery messages resources in accordance with 5.8.3.3;

2> if configured by upper layer to transmit NR sidelink L2 U2N relay discovery messages on the frequency included in *sl-FreqInfoList* in *SIB12* of the PCell including *sl-L2U2N-Relay*; or if configured by upper layer to transmit NR sidelink L3 U2N relay discovery messages on the frequency included in *sl-FreqInfoList* in *SIB12* of the PCell including *sl-L3U2N-RelayDiscovery*:

3> if the UE did not transmit a *SidelinkUEInformationNR* message since last entering RRC\_CONNECTED state; or

3> if since the last time the UE transmitted a *SidelinkUEInformationNR* message the UE connected to a PCell not providing *SIB12* including *sl-ConfigCommonNR* or connected to a PCell providing *SIB12* but not including *sl-L2U2N-Relay* in case L2 U2N relay operation or connected to a PCell providing *SIB12* but not including *sl-L3U2N-RelayDiscovery* in case of L3 U2N relay operation; or

3> if the last transmission of the *SidelinkUEInformationNR* message did not include *sl-TxResourceReqListDisc*; or if the information carried by the *sl-TxResourceReqListDisc* has changed since the last transmission of the *SidelinkUEInformationNR* message:

4> if the UE is capable of U2N Relay UE, and if *SIB12* includes *sl-RelayUE-ConfigCommon*, and if the U2N Relay UE threshold conditions as specified in 5.8.14.2 are met; or

4> if the UE is selecting a U2N Relay UE / has a selected U2N Relay UE, and if *SIB12* includes *sl-RemoteUE-ConfigCommon*, and if the U2N Remote UE threshold conditions as specified in 5.8.15.2 are met:

5> initiate transmission of the *SidelinkUEInformationNR* message to indicate the NR sidelink relay discovery messages resources required by the UE in accordance with 5.8.3.3;

2> else:

3> if the last transmission of the *SidelinkUEInformationNR* message included *sl-TxResourceReqListDisc*:

4> initiate transmission of the *SidelinkUEInformationNR* message to indicate it no longer requires NR sidelink relay discovery messages resources in accordance with 5.8.3.3;

2> if configured by upper layer to transmit NR sidelink L2 U2N relay communication on the frequency included in *sl-FreqInfoList* in *SIB12* of the PCell including *sl-L2U2N-Relay* or if configured by upper layer to transmit NR sidelink L3 U2N relay communication on the frequency included in *sl-FreqInfoList* in *SIB12* of the PCell including *sl-L3U2N-RelayDiscovery*:

3> if the UE did not transmit a *SidelinkUEInformationNR* message since last entering RRC\_CONNECTED state; or

3> if since the last time the UE transmitted a *SidelinkUEInformationNR* message the UE connected to a PCell not providing *SIB12* including *sl-ConfigCommonNR* or connected to a PCell providing *SIB12* but not including *sl-L2U2N-Relay* in case L2 U2N relay operation or connected to a PCell providing *SIB12* but not including *sl-L3U2N-RelayDiscovery* in case of L3 U2N relay operation; or

3> if the last transmission of the *SidelinkUEInformationNR* message did not include *sl-TxResourceReqL2U2N-Relay*; or if the information carried by the *sl-TxResourceReqL2U2N-Relay* has changed since the last transmission of the *SidelinkUEInformationNR* message; or if the last transmission of the *SidelinkUEInformationNR* message did not include *sl-TxResourceReqL3U2N-Relay*; or if the information carried by the *sl-TxResourceReqL3U2N-Relay* has changed since the last transmission of the *SidelinkUEInformationNR* message:

4> if the UE is capable of U2N Relay UE, and if *SIB12* includes *sl-RelayUE-ConfigCommon*, and if the U2N Relay UE threshold conditions as specified in 5.8.14.2 are met; or

4> if the UE is selecting a U2N Relay UE / has a selected U2N Relay UE, and if *SIB12* includes *sl-RemoteUE-ConfigCommon*, and if the U2N Remote UE threshold conditions as specified in 5.8.15.2 are met:

5> initiate transmission of the *SidelinkUEInformationNR* message to indicate the NR sidelink relay communication transmission resources required by the UE in accordance with 5.8.3.3;

2> else:

3> if the last transmission of the *SidelinkUEInformationNR* message included *sl-TxResourceReqL2U2N-Relay* or *sl-TxResourceReqL3U2N-Relay*:

4> initiate transmission of the *SidelinkUEInformationNR* message to indicate it no longer requires NR sidelink relay communication transmission resources in accordance with 5.8.3.3;

2> if configured by upper layers to perform NR sidelink reception on the frequency included in *sl-FreqInfoList* in *SIB12* of the PCell and if *sl-DRX-ConfigCommonGC-BC* is included in *SIB12-IEs*:

3> if the UE received a sidelink DRX configuration in the *RRCReconfigurationSidelink* message for NR sidelink unicast reception from the associated peer UE and the UE accepted the sidelink DRX configuration:

4> if the UE did not transmit a *SidelinkUEInformationNR* message since last entering RRC\_CONNECTED state; or

4> if since the last time the UE transmitted a *SidelinkUEInformationNR* message the UE connected to a PCell not providing *SIB12* including *sl-DRX-ConfigCommonGC-BC*; or

4> if the last transmission of the *SidelinkUEInformationNR* message did not include *sl-RxDRX-ReportList*; or if the information carried by *sl-RxDRX-ReportList* has changed since the last transmission of the *SidelinkUEInformationNR* message:

5> initiate transmission of the *SidelinkUEInformationNR* message to report the sidelink DRX configuration in accordance with 5.8.3.3;

3> else:

4> if the last transmission of the *SidelinkUEInformationNR* message included *sl-RxDRX-ReportList*:

5> initiate transmission of the *SidelinkUEInformationNR* message to indicate the sidelink DRX configuration is no longer used in accordance with 5.8.3.3;

3> if the UE is performing NR sidelink groupcast or broadcast reception and is interested in a service that sidelink DRX is applied:

4> if the UE did not transmit a *SidelinkUEInformationNR* message since last entering RRC\_CONNECTED state; or

4> if since the last time the UE transmitted a *SidelinkUEInformationNR* message the UE connected to a PCell not providing *SIB12* including *sl-DRX-ConfigCommonGC-BC*; or

4> if the last transmission of the *SidelinkUEInformationNR* message did not include *sl-RxInterestedGC-BC-DestList*; or if the information carried by *sl-RxInterestedGC-BC-DestList* has changed since the last transmission of the *SidelinkUEInformationNR* message:

5> initiate transmission of the *SidelinkUEInformationNR* message to report the Destination Layer-2 ID and QoS profile(s) associated with the service(s) in accordance with 5.8.3.3;

3> else:

4> if the last transmission of the *SidelinkUEInformationNR* message included *sl-RxInterestedGC-BC-DestList*:

5> initiate transmission of the *SidelinkUEInformationNR* message to indicate it is no longer interested in the service that sidelink DRX is applied in accordance with 5.8.3.3;

2> if configured by upper layers to perform NR sidelink transmission on the frequency included in *sl-FreqInfoList* in *SIB12* of the PCell and *if sl-DRX-ConfigCommonGC-BC* is included in *SIB12-IEs* andif the UE is configured with *sl-ScheduledConfig*:

3> if the UE received a sidelink DRX assistance information or a sidelink DRX configuration reject information from the associated peer UE for NR sidelink unicast transmission:

4> initiate transmission of the *SidelinkUEInformationNR* message to report the sidelink DRX assistance information or the sidelink DRX configuration reject information in accordance with 5.8.3.3;

3> if the UE is performing NR sidelink groupcast transmission:

4> initiate transmission of the *SidelinkUEInformationNR* message to report sidelink DRX on/off indication for the corresponding destination in accordance with 5.8.3.3;

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| *NEXT CHANGE* |

5.8.3.3 Actions related to transmission of *SidelinkUEInformationNR* message

The UE shall set the contents of the *SidelinkUEInformationNR* message as follows:

1> if the UE initiates the procedure to indicate it is (no more) interested to receive NR sidelink communication or to request (configuration/ release) of NR sidelink communication transmission resources or to report to the network that a sidelink radio link failure or sidelink RRC reconfiguration failure has been declared or to report to the network the sidelink DRX configuration for NR sidelink unicast reception or to report to the network the sidelink DRX assistance information or the sidelink DRX configuration reject information for NR sidelink unicast transmission or to report to the network the Destination Layer-2 ID and QoS profile(s) associated with its interested service(s) that sidelink DRX is applied for NR sidelink groupcast or broadcast reception or to report to the network the Destination Layer-2 ID and the sidelink DRX on/off indication for the corresponding destination for NR sidelink groupcast transmission or to indicate it is (no more) interested to receive NR sidelink discovery messages or to request (configuration/ release) of NR sidelink discovery messages transmission resources or to request (configuration/ release) of NR sidelink U2N relay communication transmission resources (i.e. UE includes all concerned information, irrespective of what triggered the procedure):

2> if *SIB12* including *sl-ConfigCommonNR* is provided by the PCell:

3> if configured by upper layers to receive NR sidelink communication:

4> include *sl-RxInterestedFreqList* and set it to the frequency for NR sidelink communication reception;

3> if configured by upper layers to transmit non-relay NR sidelink communication:

4> include *sl-TxResourceReqList* and set its fields (if needed) as follows for each destination for which it requests network to assign NR sidelink communication resource:

5> set *sl-DestinationIdentity* to the destination identity configured by upper layer for NR sidelink communication transmission;

5> set *sl-CastType* to the cast type of the associated destination identity configured by the upper layer for the NR sidelink communication transmission;

5> set *sl-RLC-ModeIndication* to include the RLC mode(s) and optionally QoS profile(s) of the sidelink QoS flow(s) of the associated RLC mode(s), if the associated bi-directional sidelink DRB has been established due to the configurationby *RRCReconfigurationSidelink*;

5> set *sl-QoS-InfoList* to include QoS profile(s) of the sidelink QoS flow(s) of the associated destination configured by the upper layer for the NR sidelink communication transmission;

5> set *sl-InterestedFreqList* to indicate the frequency of the associated destination for NR sidelink communication transmission;

5> set *sl-TypeTxSyncList* to the current synchronization reference type used on the associated *sl-InterestedFreqList* for NR sidelink communication transmission.

5> set *sl-CapabilityInformationSidelink* to include *UECapabilityInformationSidelink* message, if any, received from the associated peer UE.

4> if a sidelink radio link failure or a sidelink RRC reconfiguration failure has been declared, according to clauses 5.8.9.3 and 5.8.9.1.8, respectively;

5> include *sl-FailureList* and set its fields as follows for each destination for which it reports the NR sidelink communication failure:

6> set *sl-DestinationIdentity* to the destination identity configured by upper layer for NR sidelink communication transmission;

6> if the sidelink RLF is detected as specified in clause 5.8.9.3:

7> set *sl-Failure* as *rlf* for the associated destination for the NR sidelink communication transmission;

6> else if *RRCReconfigurationFailureSidelink* is received:

7> set *sl-Failure* as *configFailure* for the associated destination for the NR sidelink communication transmission;

3> if *SIB12* including *sl-NonRelayDiscovery* and if configured by upper layers to receive NR sidelink non-relay discovery messages, or if *SIB12* including *sl-L2U2N-Relay* and if configured by upper layers to receive NR sidelink L2 U2N relay discovery messages, or if *SIB12* including *sl-L3U2N-RelayDiscovery* and if configured by upper layers to receive NR sidelink L3 U2N relay discovery messages:

4> include *sl-RxInterestedFreqListDisc* and set it to the frequency for NR sidelink discovery messages reception;

4> if the UE is capable of L2 U2N remote UE:

5> include *sl-SourceIdentityRemoteUE* and set it to the source identity configured by upper layer for NR sidelink L2 U2N relay communication transmission;

3> if *SIB12* including *sl-NonRelayDiscovery* and if configured by upper layers to transmit NR sidelink non-relay discovery messages, or if *SIB12* including *sl-L2U2N-Relay* and if configured by upper layers to transmit NR sidelink L2 U2N relay discovery messages, or if *SIB12* including *sl-L3U2N-RelayDiscovery* and if configured by upper layers to transmit NR sidelink L3 U2N relay discovery messages:

4> include *sl-TxResourceReqListDisc* and set its fields (if needed) as follows for each destination for which it requests network to assign NR sidelink discovery messages resource:

5> set *sl-DestinationIdentityDisc* to the destination identity configured by upper layer for NR sidelink discoverymessages transmission;

5> if the UE is acting as L2 U2N Relay UE:

6> set *sl-SourceIdentityRelayUE* to the source identity configured by upper layer for NR sidelink L2 U2N relay discovery messages transmission;

5> set *sl-CastTypeDisc* to the cast type of the associated destination identity configured by the upper layer for the NR sidelink discovery messages transmission;

5> set *sl-TxInterestedFreqListDisc* to indicate the frequency of the associated destination for NR sidelink discovery messages transmission;

5> set *sl-TypeTxSyncListDisc* to the current synchronization reference type used on the associated *sl-InterestedFreqList* for NR sidelink discovery messages transmission;

5> set *sl-DiscoveryType* to the current discovery type of the associated destination identity configured by the upper layer for NR sidelink discovery messages transmission;

3> if *SIB12* including *sl-L2U2N-Relay* and if configured by upper layers to transmit NR sidelink L2 U2N relay communication and the UE is acting as L2 U2N Relay UE:

4> include *sl-TxResourceReqL2U2N-Relay* in *sl-TxResourceReqListCommRelay* and set its fields (if needed) as follows for each destination for which it requests network to assign NR sidelink L2 U2N relay communication resource:

5> set *sl-DestinationIdentityL2U2N* to the destination identity configured by upper layer for NR sidelink L2 U2N relay communication transmission;

5> set *sl-TxInterestedFreqListL2U2N* to indicate the frequency of the associated destination for NR sidelink L2 U2N relay communication transmission;

5> set *sl-TypeTxSyncListL2U2N* to the current synchronization reference type used on the associated *sl-InterestedFreqListL2U2N* for NR sidelink L2 U2N relay communication transmission;

5> set *sl-LocalID-Request* to request local ID for L2 U2N Remote UE;

5> set *sl-PagingIdentityRemoteUE* to the paging UE ID received from peer L2 U2N Remote UE, if it is not released as in 5.8.9.8.3;

5> set *sl-CapabilityInformationSidelink* to include *UECapabilityInformationSidelink* message, if any, received from peer UE.

4> include *ue-Type* and set it to *relayUE*;

3> if *SIB12* including *sl-L2U2N-Relay* and if configured by upper layers to transmit NR sidelink L2 U2N relay communication and the UE has a selected L2 U2N Relay UE:

4> include *sl-TxResourceReqL2U2N-Relay* in *sl-TxResourceReqListCommRelay* and set its fields (if needed) as follows to request network to assign NR sidelink L2 U2N relay communication resource:

5> set *sl-TxInterestedFreqListL2U2N* to indicate the frequency of the associated destination for NR sidelink L2 U2N relay communication transmission;

5> set *sl-TypeTxSyncListL2U2N* to the current synchronization reference type used on the associated *sl-InterestedFreqListL2U2N* for NR sidelink L2 U2N relay communication transmission;

5> set *sl-CapabilityInformationSidelink* to include *UECapabilityInformationSidelink* message, if any, received from peer UE.

4> include *ue-Type* and set it to *remoteUE*;

3> if *SIB12* including *sl-L3U2N-RelayDiscovery* and if configured by upper layers to transmit NR sidelink L3 U2N relay communication:

4> include *sl-TxResourceReqL3U2N-Relay* in *sl-TxResourceReqListCommRelay* and set its fields (if needed) as follows for each destination for which it requests network to assign NR sidelink L3 U2N relay communication resource:

5> set *sl-DestinationIdentity* to the destination identity configured by upper layer for NR sidelink L3 U2N relay communication transmission;

5> set *sl-CastType* to the cast type of the associated destination identity configured by the upper layer for the NR sidelink L3 U2N relay communication transmission;

5> set *sl-RLC-ModeIndication* to include the RLC mode(s) and optionally QoS profile(s) of the sidelink QoS flow(s) of the associated RLC mode(s), if the associated bi-directional sidelink DRB has been established due to the configurationby *RRCReconfigurationSidelink*;

5> set *sl-QoS-InfoList* to include QoS profile(s) of the sidelink QoS flow(s) of the associated destination configured by the upper layer for the NR sidelink L3 U2N relay communication transmission;

5> set *sl-TxInterestedFreqList* to indicate the frequency of the associated destination for NR sidelink L3 U2N relay communication transmission;

5> set *sl-TypeTxSyncList* to the current synchronization reference type used on the associated *sl-InterestedFreqList* for NR sidelink L3 U2N relay communication transmission.

5> set *sl-CapabilityInformationSidelink* to include *UECapabilityInformationSidelink* message, if any, received from peer UE.

4> include *ue-Type* and set it to *relayUE* if the UE is acting as NR sidelink L3 U2N Relay UE or to *remoteUE* otherwise;

3> if *sl-DRX-ConfigCommonGC-BC* is included in *SIB12-IEs*:

4> if configured by upper layers to perform NR sidelink reception:

5> include *sl-RxDRX-ReportList* and set its fields (if needed) as follows for each destination for which it reports to network:

6> set *sl-DRX-ConfigFromTx* to include the accepted sidelink DRX configuration of the associated destination for NR sidelink unicast communication, if received from the associated peer UE;

5> include *sl-RxInterestedGC-BC-DestList* and set its fields (if needed) as follows for each Destination Layer-2 ID for which it reports to network:

6> set *sl-RxInterestedQoS-InfoList* to include the QoS profile of its interested service(s) that sidelink DRX is applied for the associated destination for NR sidelink groupcast or broadcast reception;

NOTE: It is up to UE implementation to set the QoS profile in *sl-RxInterestedQoS-InfoList* for reception of NR sidelink discovery message or ProSe Direct Link Establishment Request message as described in TS 24.554 [72],or for reception of Direct Link Establishment Request message as described in TS 24.587 [57].

6> set *sl-DestinationIdentity* to the associated destination identity configured by upper layer for NR sidelink groupcast or broadcast reception;

4> if configured by upper layers to perform NR sidelink transmission and configured with *sl-ScheduledConfig*:

5> include *sl-TxResourceReqList* and/or *sl-TxResourceReqListCommRelay* and set its fields (if needed) as follows for each destination for which it reports to network:

6> set *sl-DRX-InfoFromRxList* to include the sidelink DRX assistance information of the associated destination, if any, received from the associated peer UE;

6> if the *RRCReconfigurationCompleteSidelink* message includes the *sl-DRX-ConfigReject*:

7> set *sl-Failure* as *drxReject-v1710* for the associated destination for the NR sidelink communication transmission;

6> set *sl-DRX-Indication* to include the sidelink DRX on/off indication for the associated destination for NR sidelink groupcast transmission;

1> if the UE initiates the procedure while connected to an E-UTRA PCell:

2> submit the *SidelinkUEInformationNR* to lower layers via SRB1, embedded in E-UTRA RRC message *ULInformationTransferIRAT* as specified in TS 36.331 [10], clause 5.6.28;

1> else:

2> submit the *SidelinkUEInformationNR* message to lower layers for transmission.

|  |
| --- |
| *NEXT CHANGE* |

### 5.8.8 Sidelink communication transmission

A UE capable of NR sidelink communication that is configured by upper layers to transmit NR sidelink communication and has related data to be transmitted shall:

1> if the conditions for NR sidelink communication operation as defined in 5.8.2 are met:

2> if the frequency used for NR sidelink communication is included in *sl-FreqInfoToAddModList* in *sl-ConfigDedicatedNR* within *RRCReconfiguration* message or includedin *sl-ConfigCommonNR* within *SIB12*:

3> if the UE is in RRC\_CONNECTED and uses the frequency included in *sl-ConfigDedicatedNR* within *RRCReconfiguration* message:

4> if the UE is configured with *sl-ScheduledConfig*:

5> if T310 for MCG or T311 is running; and if *sl-TxPoolExceptional* is included in *sl-FreqInfoList* for the concerned frequency in *SIB12* or included in *sl-ConfigDedicatedNR* in *RRCReconfiguration*; or

5> if T301 is running and the cell on which the UE initiated RRC connection re-establishment provides *SIB12* including *sl-TxPoolExceptional* for the concerned frequency; or

5> if T304 for MCG is running and the UE is configured with *sl-TxPoolExceptional* included in *sl-ConfigDedicatedNR* for the concerned frequency in *RRCReconfiguration*:

6> configure lower layers to perform the sidelink resource allocation mode 2 based on random selection using the pool of resources indicated by *sl-TxPoolExceptional* as defined in TS 38.321 [3];

5> else:

6> configure lower layers to perform the sidelink resource allocation mode 1 for NR sidelink communication;

5> if T311 is running, configure the lower layers to release the resources indicated by *rrc-ConfiguredSidelinkGrant* (if any);

4> if the UE is configured with *sl-UE-SelectedConfig*:

5> if a result of full/partial sensing, if selected and is allowed by *sl-AllowedResourceSelectionConfig*, on the resources configured in *sl-TxPoolSelectedNormal* for the concerned frequency included in *sl-ConfigDedicatedNR* within *RRCReconfiguration* is not available in accordance with TS 38.214 [19];

6> if *sl-TxPoolExceptional* for the concerned frequency is included in *RRCReconfiguration*; or

6> if the PCell provides *SIB12* including *sl-TxPoolExceptional* in *sl-FreqInfoList* for the concerned frequency:

7> configure lower layers to perform the sidelink resource allocation mode 2 based on random selection using the pool of resources indicated by *sl-TxPoolExceptional* as defined in TS 38.321 [3];

5> else, if the *sl-TxPoolSelectedNormal* for the concerned frequency is included in the *sl-ConfigDedicatedNR* within *RRCReconfiguration*:

6> configure lower layers to perform the sidelink resource allocation mode 2 based on resource selection operation according to *sl-AllowedResourceSelectionConfig* (as defined in TS 38.321 [3] and TS 38.214 [19]) using the pools of resources indicated by *sl-TxPoolSelectedNormal* for the concerned frequency;

3> else:

4> if the cell chosen for NR sidelink communication transmission provides *SIB12*:

5> if *SIB12* includes *sl-TxPoolSelectedNormal* for the concerned frequency,and a result of full/partial sensing, if selected and is allowed by *sl-AllowedResourceSelectionConfig*, on the resources configured in the *sl-TxPoolSelectedNormal* is available in accordance with TS 38.214 [19] or random selection, if allowed by *sl-AllowedResourceSelectionConfig*, is selected:

6> configure lower layers to perform the sidelink resource allocation mode 2 based on resource selection operation according to *sl-AllowedResourceSelectionConfig* using the pools of resources indicated by *sl-TxPoolSelectedNormal* for the concerned frequency as defined in TS 38.321 [3];

5> else if *SIB12* includes *sl-TxPoolExceptional* for the concerned frequency:

6> from the moment the UE initiates RRC connection establishment or RRC connection resume, until receiving an *RRCReconfiguration* including *sl-ConfigDedicatedNR*, or receiving an *RRCRelease* or an *RRCReject*; or

6> if a result of full/partial sensing, if selected and is allowed by *sl-AllowedResourceSelectionConfig*, on the resources configured in *sl-TxPoolSelectedNormal* for the concerned frequency in *SIB12* is not available in accordance with TS 38.214 [19]:

7> configure lower layers to perform the sidelink resource allocation mode 2 based on random selection (as defined in TS 38.321 [3]) using the pool of resources indicated by *sl-TxPoolExceptional* for the concerned frequency;

2> else:

3> configure lower layers to perform the sidelink resource allocation mode 2 based on resource selection operation according to *sl-AllowedResourceSelectionConfig* (as defined in TS 38.321 [3] and TS 38.213 [13]) using the pools of resources indicated by *sl-TxPoolSelectedNormal* in *SidelinkPreconfigNR* for the concerned frequency.

NOTE 1: The UE continues to use resources configured in *rrc-ConfiguredSidelinkGrant* (while T310 is running) until it is released (i.e. until T310 has expired). The UE does not use sidelink configured grant type 2 resources while T310 is running.

NOTE 2: In case of RRC reconfiguration with sync, the UE uses resources configured in *rrc-ConfiguredSidelinkGrant* (while T304 on the MCG is running) if provided by the target cell.

NOTE 3: It is up to UE implementation to determine, in accordance with TS 38.321[3], which resource pool to use if multiple resource pools are configured, and which resource allocation scheme is used in the AS based on UE capability (for a UE in RRC\_IDLE/RRC\_INACTIVE) and the allowed resource schemes *sl-allowedResourceSelectionConfig* in the resource pool configuration.

If configured to perform sidelink resource allocation mode 2, the UE capable of NR sidelink communication that is configured by upper layers to transmit NR sidelink communication shall perform resource selection operation according to *sl-AllowedResourceSelectionConfig* on all pools of resources which may be used for transmission of the sidelink control information and the corresponding data. The pools of resources are indicated by *SidelinkPreconfigNR*, *sl-TxPoolSelectedNormal* in *sl-ConfigDedicatedNR*, or *sl-TxPoolSelectedNormal* in *SIB12* for the concerned frequency, as configured above.

|  |
| --- |
| *NEXT CHANGE* |

##### 5.8.9.1.2 Actions related to transmission of *RRCReconfigurationSidelink* message

The UE shall set the contents of *RRCReconfigurationSidelink* message as follows:

1> for each sidelink DRB that is to be released, according to clause 5.8.9.1a.1.1, due to configuration by *sl-ConfigDedicatedNR,* *SIB12*, *SidelinkPreconfigNR* or by upper layers:

2> set the entryincluded in the *slrb-ConfigToReleaseList* corresponding to the sidelink DRB;

1> for each sidelink DRB that is to be established or modified, according to clause 5.8.9.1a.2.1, due to receiving *sl-ConfigDedicatedNR,* *SIB12* or *SidelinkPreconfigNR*:

2> set the *SLRB-Config* included in the *slrb-ConfigToAddModList*, according to the received *sl-RadioBearerConfig* and *sl-RLC-BearerConfig* corresponding to the sidelink DRB;

1> set the *sl-MeasConfig* as follows:

2> If the frequency used for NR sidelink communication is included in *sl-FreqInfoToAddModList* in *sl-ConfigDedicatedNR* within *RRCReconfiguration* message or included in *sl-ConfigCommonNR* within SIB12:

3> if UE is in RRC\_CONNECTED:

4> set the *sl-MeasConfig* according to stored NR sidelink measurement configuration information for this destination;

3> if UE is in RRC\_IDLE or RRC\_INACTIVE:

4> set the *sl-MeasConfig* according to stored NR sidelink measurement configuration received from *SIB12*;

2> else:

3> set the *sl-MeasConfig* according to the *sl-MeasPreconfig* in *SidelinkPreconfigNR*;

1> set the *sl-LatencyBoundIUC-Report;*

1> start timer T400 for the destination;

1> set the *sl-CSI-RS-Config*;

1> set the *sl-LatencyBoundCSI-Report*;

1> set the *sl-ResetConfig*;

NOTE 1: Whether/how to set the parameters included in *sl-LatencyBoundIUC-Report*, *sl-CSI-RS-Config*, *sl-LatencyBoundCSI-Report* and *sl-ResetConfig* is up to UE implementation.

|  |
| --- |
| *NEXT CHANGE* |

6.2.2 Message definitions

**<<<<Skipped>>>>**

– *SidelinkUEInformationNR*

The *SidelinkUEinformationNR* message is used for the indication of NR sidelink UE information to the network.

Signalling radio bearer: SRB1

RLC-SAP: AM

Logical channel: DCCH

Direction: UE to Network

***SidelinkUEInformationNR* message**

-- ASN1START

-- TAG-SIDELINKUEINFORMATIONNR-START

SidelinkUEInformationNR-r16::= SEQUENCE {

 criticalExtensions CHOICE {

 sidelinkUEInformationNR-r16 SidelinkUEInformationNR-r16-IEs,

 criticalExtensionsFuture SEQUENCE {}

 }

}

SidelinkUEInformationNR-r16-IEs ::= SEQUENCE {

 sl-RxInterestedFreqList-r16 SL-InterestedFreqList-r16 OPTIONAL,

 sl-TxResourceReqList-r16 SL-TxResourceReqList-r16 OPTIONAL,

 sl-FailureList-r16 SL-FailureList-r16 OPTIONAL,

 lateNonCriticalExtension OCTET STRING OPTIONAL,

 nonCriticalExtension SidelinkUEInformationNR-v1700-IEs OPTIONAL

}

SidelinkUEInformationNR-v1700-IEs ::= SEQUENCE {

 sl-TxResourceReqList-v1700 SL-TxResourceReqList-v1700 OPTIONAL,

 sl-RxDRX-ReportList-v1700 SL-RxDRX-ReportList-v1700 OPTIONAL,

 sl-RxInterestedGC-BC-DestList-r17 SL-RxInterestedGC-BC-DestList-r17 OPTIONAL,

 sl-RxInterestedFreqListDisc-r17 SL-InterestedFreqList-r16 OPTIONAL,

 sl-TxResourceReqListDisc-r17 SL-TxResourceReqListDisc-r17 OPTIONAL,

 sl-TxResourceReqListCommRelay-r17 SL-TxResourceReqListCommRelay-r17 OPTIONAL,

 ue-Type-r17 ENUMERATED {relayUE, remoteUE} OPTIONAL,

 sl-SourceIdentityRemoteUE-r17 SL-SourceIdentity-r17 OPTIONAL,

 nonCriticalExtension SEQUENCE {} OPTIONAL

}

SL-InterestedFreqList-r16 ::= SEQUENCE (SIZE (1..maxNrofFreqSL-r16)) OF INTEGER (1..maxNrofFreqSL-r16)

SL-TxResourceReqList-r16 ::= SEQUENCE (SIZE (1..maxNrofSL-Dest-r16)) OF SL-TxResourceReq-r16

SL-TxResourceReq-r16 ::= SEQUENCE {

 sl-DestinationIdentity-r16 SL-DestinationIdentity-r16,

 sl-CastType-r16 ENUMERATED {broadcast, groupcast, unicast, spare1},

 sl-RLC-ModeIndicationList-r16 SEQUENCE (SIZE (1.. maxNrofSLRB-r16)) OF SL-RLC-ModeIndication-r16 OPTIONAL,

 sl-QoS-InfoList-r16 SEQUENCE (SIZE (1..maxNrofSL-QFIsPerDest-r16)) OF SL-QoS-Info-r16 OPTIONAL,

 sl-TypeTxSyncList-r16 SEQUENCE (SIZE (1..maxNrofFreqSL-r16)) OF SL-TypeTxSync-r16 OPTIONAL,

 sl-TxInterestedFreqList-r16 SL-TxInterestedFreqList-r16 OPTIONAL,

 sl-CapabilityInformationSidelink-r16 OCTET STRING OPTIONAL

}

SL-TxResourceReqList-v1700 ::= SEQUENCE (SIZE (1..maxNrofSL-Dest-r16)) OF SL-TxResourceReq-v1700

SL-RxDRX-ReportList-v1700 ::= SEQUENCE (SIZE (1..maxNrofSL-Dest-r16)) OF SL-RxDRX-Report-v1700

SL-TxResourceReq-v1700 ::= SEQUENCE {

 sl-DRX-InfoFromRxList-r17 SEQUENCE (SIZE (1..maxNrofSL-RxInfoSet-r17)) OF SL-DRX-ConfigUC-SemiStatic-r17 OPTIONAL,

 sl-DRX-Indication-r17 ENUMERATED {on, off} OPTIONAL,

 ...

}

SL-RxDRX-Report-v1700 ::= SEQUENCE {

 sl-DRX-ConfigFromTx-r17 SL-DRX-ConfigUC-SemiStatic-r17,

 ...}

SL-RxInterestedGC-BC-DestList-r17 ::= SEQUENCE (SIZE (1..maxNrofSL-Dest-r16)) OF SL-RxInterestedGC-BC-Dest-r17

SL-RxInterestedGC-BC-Dest-r17 ::= SEQUENCE {

 sl-RxInterestedQoS-InfoList-r17 SEQUENCE (SIZE (1..maxNrofSL-QFIsPerDest-r16)) OF SL-QoS-Info-r16,

 sl-DestinationIdentity-r16 SL-DestinationIdentity-r16

}

SL-TxResourceReqListDisc-r17 ::= SEQUENCE (SIZE (1..maxNrofSL-Dest-r16)) OF SL-TxResourceReqDisc-r17

SL-TxResourceReqDisc-r17 ::= SEQUENCE {

 sl-DestinationIdentityDisc-r17 SL-DestinationIdentity-r16,

 sl-SourceIdentityRelayUE-r17 SL-SourceIdentity-r17 OPTIONAL,

 sl-CastTypeDisc-r17 ENUMERATED {broadcast, groupcast, unicast, spare1},

 sl-TxInterestedFreqListDisc-r17 SL-TxInterestedFreqList-r16,

 sl-TypeTxSyncListDisc-r17 SEQUENCE (SIZE (1..maxNrofFreqSL-r16)) OF SL-TypeTxSync-r16,

 sl-DiscoveryType-r17 ENUMERATED {relay, non-Relay},

 ...

}

SL-TxResourceReqListCommRelay-r17 ::= SEQUENCE (SIZE (1..maxNrofSL-Dest-r16)) OF SL-TxResourceReqCommRelayInfo-r17

SL-TxResourceReqCommRelayInfo-r17 ::= SEQUENCE {

 sl-RelayDRXConfig-r17 SL-TxResourceReq-v1700 OPTIONAL,

 sl-TxResourceReqCommRelay-r17 SL-TxResourceReqCommRelay-r17

}

SL-TxResourceReqCommRelay-r17 ::= CHOICE {

 sl-TxResourceReqL2U2N-Relay-r17 SL-TxResourceReqL2U2N-Relay-r17,

 sl-TxResourceReqL3U2N-Relay-r17 SL-TxResourceReq-r16

}

SL-TxResourceReqL2U2N-Relay-r17 ::= SEQUENCE {

 sl-DestinationIdentityL2U2N-r17 SL-DestinationIdentity-r16 OPTIONAL,

 sl-TxInterestedFreqListL2U2N-r17 SL-TxInterestedFreqList-r16,

 sl-TypeTxSyncListL2U2N-r17 SEQUENCE (SIZE (1..maxNrofFreqSL-r16)) OF SL-TypeTxSync-r16,

 sl-LocalID-Request-r17 ENUMERATED {true} OPTIONAL,

 sl-PagingIdentityRemoteUE-r17 SL-PagingIdentityRemoteUE-r17 OPTIONAL,

 sl-CapabilityInformationSidelink-r17 OCTET STRING OPTIONAL,

 ...

}

SL-TxInterestedFreqList-r16 ::= SEQUENCE (SIZE (1..maxNrofFreqSL-r16)) OF INTEGER (1..maxNrofFreqSL-r16)

SL-QoS-Info-r16 ::= SEQUENCE {

 sl-QoS-FlowIdentity-r16 SL-QoS-FlowIdentity-r16,

 sl-QoS-Profile-r16 SL-QoS-Profile-r16 OPTIONAL

}

SL-RLC-ModeIndication-r16 ::= SEQUENCE {

 sl-Mode-r16 CHOICE {

 sl-AM-Mode-r16 NULL,

 sl-UM-Mode-r16 NULL

 },

 sl-QoS-InfoList-r16 SEQUENCE (SIZE (1..maxNrofSL-QFIsPerDest-r16)) OF SL-QoS-Info-r16

}

SL-FailureList-r16 ::= SEQUENCE (SIZE (1..maxNrofSL-Dest-r16)) OF SL-Failure-r16

SL-Failure-r16 ::= SEQUENCE {

 sl-DestinationIdentity-r16 SL-DestinationIdentity-r16,

 sl-Failure-r16 ENUMERATED {rlf,configFailure, drxReject-v1710, spare5, spare4, spare3, spare2, spare1}

}

-- TAG-SIDELINKUEINFORMATIONNR-STOP

-- ASN1STOP

| ***SidelinkUEinformationNR* field descriptions** |
| --- |
| ***sl-RxDRX-ReportList***Indicates the accepted DRX configuration that is received from the peer UE and reported to the network for NR sidelink unicast communication. |
| ***sl-RxInterestedFreqList***Indicates the index of frequency on which the UE is interested to receive NR sidelink communication. The value 1 corresponds to the frequency of first entry in *sl-FreqInfoList* broadcast in *SIB12*, the value 2 corresponds to the frequency of second entry in *sl-FreqInfoList* broadcast in *SIB12* and so on. In this release, only value 1 can be included in the interested frequency list.  |
| ***sl-RxInterestedGC-BC-DestList***Indicates the reported QoS profile and associated destination for which UE is interested in reception to the network for NR sidelink groupcast and broadcast communication, or for NR sidelink discovery or Direct Link Establishment Request as described in TS 24.587 [57], or for ProSe Direct Link Establishment Request (TS 24.554 [72]). |
| ***sl-SourceIdentityRemoteUE***This field is used to indicate the Source Layer-2 ID to be used to establish PC5 link with the target L2 U2N Relay UE for path switch. |
| ***sl-TxResourceReq***Parameters to request the transmission resources for NR sidelink communication to the network in the Sidelink UE Information report. |
| ***sl-TxResourceReqList***List of parameters to request the transmission resources for NR sidelink communication for the associated destination. If *sl-TxResourceReqList-v1700* is present, it shall contain the same number of entries, listed in the same order as in *sl-TxResourceReqList* (without suffix). |
| ***ue-Type***Indicates the UE is acting as U2N Relay UE or U2N Remote UE. |

| ***SL-TxResourceReq* field descriptions** |
| --- |
| ***sl-CapabilityInformationSidelink***Includes the *UECapabilityInformationSidelink* message (which can be also included in *ueCapabilityInformationSidelink-r16* in *UECapabilityEnquirySidelink* from peer UE) received from the peer UE. |
| ***sl-CastType***Indicates the cast type for the corresponding destination for which to request the resource. |
| ***sl-DestinationIdentity***Indicates the destination for which the TX resource request and allocation from the network are concerned. |
| ***sl-DRX-Indication***Indicates the sidelink DRX is applied (value *on*) or not applied (value *off*) for the associated destination. This field is only valid for NR sidelink groupcast communication. |
| ***sl-DRX-InfoFromRxList***Indicates list of the sidelink DRX configurations as assistance information received from the peer UE for NR sidelink unicast communication. |
| ***sl-QoS-InfoList***Includes the QoS profile of the sidelink QoS flow as specified in TS 23.287 [55]. |
| ***sl-QoS-FlowIdentity***This identity uniquely identifies one sidelink QoS flow between the UE and the network in the scope of UE, which is unique for different destination and cast type. |
| ***sl-RLC-ModeIndication***This field indicates the RLC mode and optionally the related QoS profiles for the sidelink radio bearer, which has not been configured by the network and is initiated by another UE in unicast. The RLC mode for one sidelink radio bearer is aligned between UE and NW by the *sl-QoS-FlowIdentity*. |
| ***sl-TxInterestedFreqList***Each entry of this field indicates the index of frequency on which the UE is interested to transmit NR sidelink communication. The value 1 corresponds to the frequency of first entry in *sl-FreqInfoList* broadcast in *SIB12*, the value 2 corresponds to the frequency of second entry in *sl-FreqInfoList broadcast* in *SIB12* and so on. In this release, only value 1 can be included in the interested frequency list. In this release, only one entry can be included in the list. |
| ***sl-TypeTxSyncList***A list of synchronization reference used by the UE. The UE shall include the same number of entries, listed in the same order, as in *sl-TxInterestedFreqList*, i.e. one for each carrier frequency included in *sl-TxInterestedFreqList*. |

| ***SL-Failure* field descriptions** |
| --- |
| ***sl-DestinationIdentity***Indicates the destination for which the SL failure is reporting for unicast. |
| ***sl-Failure***Indicates the sidelink cause for the sidelink RLF (value *rlf*), sidelink AS configuration failure (value *configFailure*) and the rejection of sidelink DRX configuration (value *drxReject-v1710*) for the associated destination for unicast. |

| ***SL-RxDRX-Report* field descriptions** |
| --- |
| ***sl-DRX-ConfigFromTx***Indicates the sidelink DRX configuration received from the peer UE for NR sidelink unicast communication. |

| ***SL-RxInterestedGC-BC-Dest* field descriptions** |
| --- |
| ***sl-RxInterestedQoS-InfoList***Indicates the QoS profile for which UE reports its interested service to which SL DRX is applied to the network, for NR sidelink groupcast or broadcast reception. |

| ***SL-TxResourceReqDisc* field descriptions** |
| --- |
| ***sl-DestinationIdentityDisc***This field is used to indicate the destination L2 ID for which the TX resource request and allocation from the network are concerned for relay discovery and non-relay discovery. |
| ***sl-SourceIdentityRelayUE***This field is used to indicate the source L2 ID of relay-related discovery transmission by L2 U2N Relay UE. |
| ***sl-TxInterestedFreqListDisc***Each entry of this field indicates the index of frequency on which the UE is interested to transmit NR sidelink discovery. The value 1 corresponds to the frequency of first entry in *sl-FreqInfoList* broadcast in *SIB12*, the value 2 corresponds to the frequency of second entry in *sl-FreqInfoList broadcast* in *SIB12* and so on. In this release, only value 1 can be included in the interested frequency list. In this release, only one entry can be included in the list. |

| ***SL-TxResourceReqCommRelayInfo* field descriptions** |
| --- |
| ***sl-RelayDRXConfig***This field is used to indicate the applied sidelink DRX configuration for the relay related communication. |
| ***sl-DestinationIdentityL2U2N***This field is used to indicate the destination L2 ID for which the TX resource request and allocation from the network are concerned for the established PC5 link for relay by L2 U2N Relay UE, or L3 U2N Relay UE, or L3 U2N Remote UE. |
| ***sl-LocalID-Request***This field is used to request local UE ID for the corresponding destination by the L2 U2N Relay UE. |
| ***sl-TxInterestedFreqListL2U2N***Each entry of this field indicates the index of frequency on which the UE is interested to transmit NR sidelink communication for established PC5 link for relay. The value 1 corresponds to the frequency of first entry in *sl-FreqInfoList* broadcast in SIB12, the value 2 corresponds to the frequency of second entry in *sl-FreqInfoList* broadcast in *SIB12* and so on. In this release, only value 1 can be included in the interested frequency list. In this release, only one entry can be included in the list. |
| ***sl-PagingIdentityRemoteUE***This field is used to indicate the paging UE ID(s) for the corresponding destination(s) by the L2 U2N Relay UE. |

|  |
| --- |
| *NEXT CHANGE* |

6.3.5 Sidelink information elements

**<<<<Skipped>>>>**

– *SL-ConfigDedicatedNR*

The IE *SL-ConfigDedicatedNR* specifies the dedicated configuration information for NR sidelink communication.

***SL-ConfigDedicatedNR* information element**

-- ASN1START

-- TAG-SL-CONFIGDEDICATEDNR-START

SL-ConfigDedicatedNR-r16 ::= SEQUENCE {

 sl-PHY-MAC-RLC-Config-r16 SL-PHY-MAC-RLC-Config-r16 OPTIONAL, -- Need M

 sl-RadioBearerToReleaseList-r16 SEQUENCE (SIZE (1..maxNrofSLRB-r16)) OF SLRB-Uu-ConfigIndex-r16 OPTIONAL, -- Need N

 sl-RadioBearerToAddModList-r16 SEQUENCE (SIZE (1..maxNrofSLRB-r16)) OF SL-RadioBearerConfig-r16 OPTIONAL, -- Need N

 sl-MeasConfigInfoToReleaseList-r16 SEQUENCE (SIZE (1..maxNrofSL-Dest-r16)) OF SL-DestinationIndex-r16 OPTIONAL, -- Need N

 sl-MeasConfigInfoToAddModList-r16 SEQUENCE (SIZE (1..maxNrofSL-Dest-r16)) OF SL-MeasConfigInfo-r16 OPTIONAL, -- Need N

 t400-r16 ENUMERATED {ms100, ms200, ms300, ms400, ms600, ms1000, ms1500, ms2000} OPTIONAL, -- Need M

 ...,

 [[

 sl-PHY-MAC-RLC-Config-v1700 SetupRelease { SL-PHY-MAC-RLC-Config-v1700 } OPTIONAL, -- Need M

 sl-DiscConfig-r17 SetupRelease { SL-DiscConfig-r17} OPTIONAL -- Need M

 ]]

}

SL-DestinationIndex-r16 ::= INTEGER (0..maxNrofSL-Dest-1-r16)

SL-PHY-MAC-RLC-Config-r16::= SEQUENCE {

 sl-ScheduledConfig-r16 SetupRelease { SL-ScheduledConfig-r16 } OPTIONAL, -- Need M

 sl-UE-SelectedConfig-r16 SetupRelease { SL-UE-SelectedConfig-r16 } OPTIONAL, -- Need M

 sl-FreqInfoToReleaseList-r16 SEQUENCE (SIZE (1..maxNrofFreqSL-r16)) OF SL-Freq-Id-r16 OPTIONAL, -- Need N

 sl-FreqInfoToAddModList-r16 SEQUENCE (SIZE (1..maxNrofFreqSL-r16)) OF SL-FreqConfig-r16 OPTIONAL, -- Need N

 sl-RLC-BearerToReleaseList-r16 SEQUENCE (SIZE (1..maxSL-LCID-r16)) OF SL-RLC-BearerConfigIndex-r16 OPTIONAL, -- Need N

 sl-RLC-BearerToAddModList-r16 SEQUENCE (SIZE (1..maxSL-LCID-r16)) OF SL-RLC-BearerConfig-r16 OPTIONAL, -- Need N

 sl-MaxNumConsecutiveDTX-r16 ENUMERATED {n1, n2, n3, n4, n6, n8, n16, n32} OPTIONAL, -- Need M

 sl-CSI-Acquisition-r16 ENUMERATED {enabled} OPTIONAL, -- Need R

 sl-CSI-SchedulingRequestId-r16 SetupRelease {SchedulingRequestId} OPTIONAL, -- Need M

 sl-SSB-PriorityNR-r16 INTEGER (1..8) OPTIONAL, -- Need R

 networkControlledSyncTx-r16 ENUMERATED {on, off} OPTIONAL -- Need M

}

SL-PHY-MAC-RLC-Config-v1700 ::= SEQUENCE {

 sl-DRX-Config-r17 SL-DRX-Config-r17 OPTIONAL, -- Need M

 sl-RLC-ChannelToReleaseList-r17 SEQUENCE (SIZE (1..maxSL-LCID-r16)) OF SL-RLC-ChannelID-r17 OPTIONAL, -- Cond L2U2N

 sl-RLC-ChannelToAddModList-r17 SEQUENCE (SIZE (1..maxSL-LCID-r16)) OF SL-RLC-ChannelConfig-r17 OPTIONAL, -- Cond L2U2N

 ...

}

SL-DiscConfig-r17::= SEQUENCE {

 sl-RelayUE-Config-r17 SetupRelease { SL-RelayUE-Config-r17} OPTIONAL, -- Cond L2RelayUE

 sl-RemoteUE-Config-r17 SetupRelease { SL-RemoteUE-Config-r17} OPTIONAL -- Cond L2RemoteUE

}

-- TAG-SL-CONFIGDEDICATEDNR-STOP

-- ASN1STOP

| ***SL-ConfigDedicatedNR* field descriptions** |
| --- |
| ***sl-MeasConfigInfoToAddModList***This field indicates the RSRP measurement configurations for unicast destinations to add and/or modify. |
| ***sl-MeasConfigInfoToReleaseList***This field indicates the RSRP measurement configurations for unicast destinations to remove. |
| ***sl-PHY-MAC-RLC-Config***This field indicates the lower layer sidelink radio bearer configurations. |
| ***sl-RadioBearerToAddModList***This field indicates one or multiple sidelink radio bearer configurations to add and/or modify. This field is not configured to the PC5 connection used for L2 U2N relay operation. |
| ***sl-RadioBearerToReleaseList***This field indicates one or multiple sidelink radio bearer configurations to remove. This field is not configured to the PC5 connection used for L2 U2N relay operation. |

| ***SL-PHY-MAC-RLC-Config* field descriptions** |
| --- |
| ***networkControlledSyncTx***This field indicates whether the UE shall transmit synchronisation information (i.e. become synchronisation source). Value *on* indicates the UE to transmit synchronisation information while value *off* indicates the UE to not transmit such information. |
| ***sl-DRX-Config***This field indicates the sidelink DRX configuration(s) for unicast, groupcast and/or broadcast communication, as specified in TS 38.321 [3]. |
| ***sl-MaxNumConsecutiveDTX***This field indicates the maximum number of consecutive HARQ DTX before triggering sidelink RLF. Value n1 corresponds to 1, value n2 corresponds to 2, and so on. |
| ***sl-FreqInfoToAddModList***This field indicates the NR sidelink communication configuration on some carrier frequency (ies) to add and/or modify. In this release, only one entry can be configured in the list. |
| ***sl-FreqInfoToReleaseList***This field indicates the NR sidelink communication configuration on some carrier frequency (ies) to remove. In this release, only one entry can be configured in the list. |
| ***sl-RLC-BearerToAddModList***This field indicates one or multiple sidelink RLC bearer configurations to add and/or modify. |
| ***sl-RLC-BearerToReleaseList***This field indicates one or multiple sidelink RLC bearer configurations to remove. |
| ***sl-ScheduledConfig***Indicates the configuration for UE to transmit NR sidelink communication based on network scheduling. This field is not configured simultaneously with sl-UE-SelectedConfig. This field is not configured to a L2 U2N Remote UE. |
| ***sl-UE-SelectedConfig***Indicates the configuration used for UE autonomous resource selection. This field is not configured simultaneously with *sl-ScheduledConfig*. |
| ***sl-CSI-Acquisition***Indicates whether CSI reporting is enabled in sidelink unicast. If the field is absent, sidelink CSI reporting is disabled. |
| ***sl-CSI-SchedulingRequestId***If present, it indicates the scheduling request configuration applicable for Sidelink CSI reporting MAC CE and Sidelink DRX Command MAC CE, as specified in TS 38.321 [3]. |
| ***sl-SSB-PriorityNR***This field indicates the priority of NR sidelink SSB transmission and reception. |

|  |  |
| --- | --- |
| **Conditional Presence** | **Explanation** |
| *L2RelayUE* | For L2 U2N Relay UE, the field is optionally present, Need M. Otherwise, it is absent. |
| *L2RemoteUE* | For L2 U2N Remote UE, the field is optionally present, Need M. Otherwise, it is absent. |
| *L2U2N* | The field is optional present for L2 U2N Relay UE and L2 U2N Remote UE, need N. Otherwise, it is absent. |

**<<<<Skipped>>>>**

*– SL-DRX-ConfigGC-BC*

The IE *SL-DRX-ConfigGC-BC* is used to configure DRX related parameters for NR sidelink groupcast and broadcast communication, unicast/broadcast based communication of Direct Link Establishment Request (TS 24.587 [57]), and discovery message (TS 24.554 [72]).

***SL-DRX-ConfigGC-BC* information element**

-- ASN1START

-- TAG-SL-DRX-CONFIGGC-BC-START

SL-DRX-ConfigGC-BC-r17 ::= SEQUENCE {

 sl-DRX-GC-BC-PerQoS-List-r17 SEQUENCE (SIZE (1..maxSL-GC-BC-DRX-QoS-r17)) OF SL-DRX-GC-BC-QoS-r17 OPTIONAL, -- Need M

 sl-DRX-GC-generic-r17 SL-DRX-GC-Generic-r17 OPTIONAL, -- Need M

 sl-DefaultDRX-GC-BC-r17 SL-DRX-GC-BC-QoS-r17 OPTIONAL, -- Need M

 ...

}

SL-DRX-GC-BC-QoS-r17 ::= SEQUENCE {

 sl-DRX-GC-BC-MappedQoS-FlowList-r17 SEQUENCE (SIZE (1..maxNrofSL-QFIs-r16)) OF SL-QoS-Profile-r16 OPTIONAL, -- Need M

 sl-DRX-GC-BC-OnDurationTimer-r17 CHOICE {

 subMilliSeconds INTEGER (1..31),

 milliSeconds ENUMERATED {

 ms1, ms2, ms3, ms4, ms5,ms6, ms8, ms10, ms20, ms30, ms40, ms50, ms60,

 ms80, ms100, ms200, ms300, ms400, ms500, ms600, ms800, ms1000, ms1200,

 ms1600, spare8, spare7, spare6, spare5, spare4, spare3, spare2, spare1}

 },

 sl-DRX-GC-InactivityTimer-r17 ENUMERATED {

 ms0, ms1, ms2, ms3, ms4, ms5, ms6, ms8, ms10, ms20, ms30, ms40, ms50, ms60, ms80,

 ms100, ms200, ms300, ms500, ms750, ms1280, ms1920, ms2560, spare9, spare8,

 spare7, spare6, spare5, spare4, spare3, spare2, spare1},

 sl-DRX-GC-BC-Cycle-r17 ENUMERATED {

 ms10, ms20, ms32, ms40, ms60, ms64, ms70, ms80, ms128, ms160, ms256, ms320, ms512,

 ms640, ms1024, ms1280, ms2048, ms2560, ms5120, ms10240, spare12, spare11, spare10,

 spare9, spare8, spare7, spare6, spare5, spare4, spare3, spare2, spare1},

 ...

}

SL-DRX-GC-Generic-r17 ::= SEQUENCE {

 sl-DRX-GC-HARQ-RTT-Timer1-r17 ENUMERATED {sl0, sl1, sl2, sl4, spare4, spare3, spare2, spare1} OPTIONAL, -- Need M

 sl-DRX-GC-HARQ-RTT-Timer2-r17 ENUMERATED {sl0, sl1, sl2, sl4, spare4, spare3, spare2, spare1} OPTIONAL, -- Need M

 sl-DRX-GC-RetransmissionTimer-r17 ENUMERATED {

 sl0, sl1, sl2, sl4, sl6, sl8, sl16, sl24, sl33, sl40, sl64, sl80, sl96, sl112, sl128,

 sl160, sl320, spare15, spare14, spare13, spare12, spare11, spare10, spare9, spare8,

 spare7, spare6, spare5, spare4, spare3, spare2, spare1}

}

-- TAG-SL-DRX-CONFIGGC-BC-STOP

-- ASN1STOP

|  |
| --- |
| ***SL-DRX-ConfigGC-BC field descriptions*** |
| ***sl-DefaultDRX-GC-BC***Indicates the default sidelink DRX configuration for groupcast and broadcast communications, which is used for QoS profile(s) that cannot be mapped into DRX configuration(s) configured for dedicated QoS profile(s). This field can be applied for the broadcast based or unicast based communication of Direct Link Establishment Request as described in TS 24.587 [57] and discovery message as described in TS 24.554 [72]. |
| ***sl-DRX-GC-BC-PerQoS-List***List of one or multiple sidelink DRX configurations for groupcast and broadcast communication, which are mapped from QoS profile(s). |
| ***sl-DRX-GC-BC-Cycle***Value in ms, ms10 corresponds to 10ms, ms20 corresponds to 20 ms, ms32 corresponds to 32 ms, and so on.  |
| ***sl-DRX-GC-BC-MappedQoS-FlowsList***List of QoS profiles of the NR sidelink communication, which are mapped to a sidelink DRX configuration. |
| ***sl-DRX-GC-BC-OnDurationTimer***Value in multiples of 1/32 ms (subMilliSeconds) or in ms (milliSecond). For the latter, value ms1 corresponds to 1 ms, value ms2 corresponds to 2 ms, and so on. |
| ***sl-DRX-GC-HARQ-RTT-Timer1, sl-DRX-GC-HARQ-RTT-Timer2***Value in number of slot lengths of the BWP where the transport block was received. Value sl0 corresponds to 0 slots, sl1 corresponds to 1 slot, sl2 corresponds to 2 slots, and so on. *sl-DRX-GC-HARQ-RTT-Timer1* is used for HARQ feedback enabled sidelink retransmission if SCI does not indicate retransmission resource(s). *sl-DRX-GC-HARQ-RTT-Timer2* is used for HARQ feedback disabled sidelink retransmission in resource pool configured with PSFCH if SCI does not indicate retransmission resource(s). |
| ***sl-DRX-GC-Generic***Indicates a sidelink DRX configuration for groupcast communication, which is applicable to any QoS profile or any Destination Layer-2 ID. |
| ***sl-DRX-GC-InactivityTimer***Value in multiple integers of 1 ms, ms0 corresponds to 0, ms1 corresponds to 1 ms, ms2 corresponds to 2 ms, and so on. This field is only valid for groupcast communication. |
| ***sl-DRX-GC-RetransmissionTimer***Value in number of slot lengths of the BWP where the transport block was received. Value sl0 corresponds to 0 slots, sl1 corresponds to 1 slot, sl2 corresponds to 2 slots, and so on. |

*– SL-DRX-ConfigUC*

The IE *SL*-*DRX-ConfigUC* is used to configure sidelink DRX related parameters for unicast communication.

***SL-DRX-ConfigUC* information element**

-- ASN1START

-- TAG-DRX-CONFIGUC-START

SL-DRX-ConfigUC-r17 ::= SEQUENCE {

 sl-drx-onDurationTimer-r17 CHOICE {

 subMilliSeconds INTEGER (1..31),

 milliSeconds ENUMERATED {

 ms1, ms2, ms3, ms4, ms5, ms6, ms8, ms10, ms20, ms30, ms40, ms50, ms60,

 ms80, ms100, ms200, ms300, ms400, ms500, ms600, ms800, ms1000, ms1200,

 ms1600, spare8, spare7, spare6, spare5, spare4, spare3, spare2, spare1}

 },

 sl-drx-InactivityTimer-r17 ENUMERATED {

 ms0, ms1, ms2, ms3, ms4, ms5, ms6, ms8, ms10, ms20, ms30, ms40, ms50, ms60, ms80,

 ms100, ms200, ms300, ms500, ms750, ms1280, ms1920, ms2560, spare9, spare8,

 spare7, spare6, spare5, spare4, spare3, spare2, spare1},

 sl-drx-HARQ-RTT-Timer1-r17 ENUMERATED {sl0, sl1, sl2, sl4, spare4, spare3, spare2, spare1} OPTIONAL, -- Need M

 sl-drx-HARQ-RTT-Timer2-r17 ENUMERATED {sl0, sl1, sl2, sl4, spare4, spare3, spare2, spare1} OPTIONAL, -- Need M

 sl-drx-RetransmissionTimer-r17 ENUMERATED {

 sl0, sl1, sl2, sl4, sl6, sl8, sl16, sl24, sl33, sl40, sl64, sl80, sl96, sl112, sl128,

 sl160, sl320, spare15, spare14, spare13, spare12, spare11, spare10, spare9,

 spare8, spare7, spare6, spare5, spare4, spare3, spare2, spare1},

 sl-drx-CycleStartOffset-r17 CHOICE {

 ms10 INTEGER(0..9),

 ms20 INTEGER(0..19),

 ms32 INTEGER(0..31),

 ms40 INTEGER(0..39),

 ms60 INTEGER(0..59),

 ms64 INTEGER(0..63),

 ms70 INTEGER(0..69),

 ms80 INTEGER(0..79),

 ms128 INTEGER(0..127),

 ms160 INTEGER(0..159),

 ms256 INTEGER(0..255),

 ms320 INTEGER(0..319),

 ms512 INTEGER(0..511),

 ms640 INTEGER(0..639),

 ms1024 INTEGER(0..1023),

 ms1280 INTEGER(0..1279),

 ms2048 INTEGER(0..2047),

 ms2560 INTEGER(0..2559),

 ms5120 INTEGER(0..5119),

 ms10240 INTEGER(0..10239)

 },

 sl-drx-SlotOffset INTEGER (0..31)

}

-- TAG-SL-DRX-CONFIGUC-STOP

-- ASN1STOP

|  |
| --- |
| ***SL-DRX-ConfigUC* field descriptions** |
| ***sl-drx-CycleStartOffset***Sidelink *drx-Cycle* in ms and sidelink *drx-StartOffset* in multiples of 1 ms. |
| ***sl-drx-HARQ-RTT-Timer1, sl-drx-HARQ-RTT-Timer2***Value in number of slot lengths of the BWP where the transport block was received. Value sl0 corresponds to 0 slots, sl1 corresponds to 1 slot, sl2 corresponds to 2 slots, and so on. *sl-drx-HARQ-RTT-Timer1* is used for HARQ feedback enabled sidelink retransmission if SCI does not indicate retransmission resource(s). *sl-drx-HARQ-RTT-Timer2* is used for HARQ feedback disabled sidelink retransmission in resource pool configured with PSFCH if SCI does not indicate retransmission resource(s). |
| ***sl-drx-InactivityTimer***Value in number of slot lengths of the BWP where the transport block was received, sl0 corresponds to 0, sl1 corresponds to 1 slot, sl2 corresponds to 2 slots, and so on. |
| ***sl-drx-onDurationTimer***Value in multiples of 1/32 ms (subMilliSeconds) or in ms (milliSecond). For the latter, value ms1 corresponds to 1 ms, value ms2 corresponds to 2 ms, and so on. |
| ***sl-drx-RetransmissionTimer***Value in number of slot lengths of the BWP where the transport block was received. Value sl0 corresponds to 0 slots, sl1 corresponds to 1 slot, sl2 corresponds to 2 slots, and so on. |
| ***sl-drx-SlotOffset***Value in 1/32 ms. Value 0 corresponds to 0 ms, value 1 corresponds to 1/32 ms, value 2 corresponds to 2/32 ms, and so on. |

*– SL-DRX-ConfigUC-SemiStatic*

The IE *SL*-*DRX-ConfigUC-SemiStatic* is used to indicate the semi-static sidelink DRX related parameters for unicast communication.

***SL-DRX-ConfigUC*-SemiStatic information element**

-- ASN1START

-- TAG-DRX-CONFIGUCSEMISTATIC-START

SL-DRX-ConfigUC-SemiStatic-r17 ::= SEQUENCE {

 sl-drx-onDurationTimer-r17 CHOICE {

 subMilliSeconds INTEGER (1..31),

 milliSeconds ENUMERATED {

 ms1, ms2, ms3, ms4, ms5, ms6, ms8, ms10, ms20, ms30, ms40, ms50, ms60,

 ms80, ms100, ms200, ms300, ms400, ms500, ms600, ms800, ms1000, ms1200,

 ms1600, spare8, spare7, spare6, spare5, spare4, spare3, spare2, spare1}

 },

 sl-drx-CycleStartOffset-r17 CHOICE {

 ms10 INTEGER(0..9),

 ms20 INTEGER(0..19),

 ms32 INTEGER(0..31),

 ms40 INTEGER(0..39),

 ms60 INTEGER(0..59),

 ms64 INTEGER(0..63),

 ms70 INTEGER(0..69),

 ms80 INTEGER(0..79),

 ms128 INTEGER(0..127),

 ms160 INTEGER(0..159),

 ms256 INTEGER(0..255),

 ms320 INTEGER(0..319),

 ms512 INTEGER(0..511),

 ms640 INTEGER(0..639),

 ms1024 INTEGER(0..1023),

 ms1280 INTEGER(0..1279),

 ms2048 INTEGER(0..2047),

 ms2560 INTEGER(0..2559),

 ms5120 INTEGER(0..5119),

 ms10240 INTEGER(0..10239)

 },

 sl-drx-SlotOffset-r17 INTEGER (0..31)

}

-- TAG-SL-DRX-CONFIGUCSEMISTATIC-STOP

-- ASN1STOP

|  |
| --- |
| *NEXT CHANGE* |

6.3.5 Sidelink information elements

**<<<<Skipped>>>>**

– *SL-InterUE-CoordinationConfig*

The IE *SL*-*InterUE-CoordinationConfig* is used to configure the sidelink inter-UE coordination parameters.

***SL-InterUE-CoordinationConfig* information element**

-- ASN1START

-- TAG-SL-INTERUE-COORDINATIONCONFIG-START

SL-InterUE-CoordinationConfig-r17 ::= SEQUENCE {

 sl-InterUE-CoordinationScheme1-r17 SL-InterUE-CoordinationScheme1-r17 OPTIONAL, -- Need M

 sl-InterUE-CoordinationScheme2-r17 SL-InterUE-CoordinationScheme2-r17 OPTIONAL, -- Need M

 ...

}

SL-InterUE-CoordinationScheme1-r17 ::= SEQUENCE {

 sl-IUC-Explicit-r17 ENUMERATED {enabled, disabled} OPTIONAL, -- Need M

 sl-IUC-Condition-r17 ENUMERATED {enabled, disabled} OPTIONAL, -- Need M

 sl-Condition1-A-2-r17 ENUMERATED {disabled} OPTIONAL, -- Need M

 sl-ThresholdRSRP-Condition1-B-1-Option1List-r17 SEQUENCE (SIZE (1..8)) OF SL-ThresholdRSRP-Condition1-B-1-r17 OPTIONAL, -- Need M

 sl-ThresholdRSRP-Condition1-B-1-Option2List-r17 SEQUENCE (SIZE (1..8)) OF SL-ThresholdRSRP-Condition1-B-1-r17 OPTIONAL, -- Need M

 sl-ContainerCoordInfo-r17 ENUMERATED {enabled, disabled} OPTIONAL, -- Need M

 sl-ContainerRequest-r17 ENUMERATED {enabled, disabled} OPTIONAL, -- Need M

 sl-TriggerConditionCoordInfo-r17 INTEGER (0..1) OPTIONAL, -- Need M

 sl-TriggerConditionRequest-r17 INTEGER (0..1) OPTIONAL, -- Need M

 sl-PriorityCoordInfoExplicit-r17 INTEGER (1..8) OPTIONAL, -- Need M

 sl-PriorityCoordInfoCondition-r17 INTEGER (1..8) OPTIONAL, -- Need M

 sl-PriorityRequest-r17 INTEGER (1..8) OPTIONAL, -- Need M

 sl-PriorityPreferredResourceSet-r17 INTEGER (1..8) OPTIONAL, -- Need M

 sl-MaxSlotOffsetTRIV-r17 INTEGER (1..8000) OPTIONAL, -- Need M

 sl-NumSubCH-PreferredResourceSet-r17 INTEGER (1..27) OPTIONAL, -- Need M

 sl-ReservedPeriodPreferredResourceSet-r17 INTEGER (1..16) OPTIONAL, -- Need M

 sl-DetermineResourceType-r17 ENUMERATED {uea, ueb} OPTIONAL, -- Need M

 ...

}

SL-InterUE-CoordinationScheme2-r17 ::= SEQUENCE {

 sl-IUC-Scheme2-r17 ENUMERATED {enabled} OPTIONAL, -- Need R

 sl-RB-SetPSFCH-r17 BIT STRING (SIZE (10..275)) OPTIONAL, -- Need M

 sl-TypeUE-A-r17 ENUMERATED {enabled} OPTIONAL, -- Need R

 sl-PSFCH-Occasion-r17 INTEGER (0..1) OPTIONAL, -- Need M

 sl-SlotLevelResourceExclusion-r17 ENUMERATED {enabled} OPTIONAL, -- Need R

 sl-OptionForCondition2-A-1-r17 INTEGER (0..1) OPTIONAL, -- Need M

 sl-IndicationUE-B-r17 ENUMERATED {enabled, disabled} OPTIONAL, -- Need M

 ...,

 [[

 sl-DeltaRSRP-Thresh-v1720 INTEGER (-30..30) OPTIONAL -- Need M

 ]]

}

SL-ThresholdRSRP-Condition1-B-1-r17 ::= SEQUENCE {

 sl-Priority-r17 INTEGER (1..8),

 sl-ThresholdRSRP-Condition1-B-1-r17 INTEGER (0..66)

}

-- TAG-SL-INTERUE-COORDINATIONCONFIG-STOP

-- ASN1STOP

| ***SL-InterUE-CoordinationScheme1* field descriptions** |
| --- |
| ***sl-Condition1-A-2***Indicates disabling the use of condition of excluding from preferred resource set resource(s) in slot(s) where UE-A, when it is intended receiver of UE-B, does not expect to perform SL reception from UE-B due to half duplex operation. |
| ***sl-ContainerCoordInfo***Indicates whether a SCI format 2-C can be used as the container of inter-UE coordination information transmission from UE-A to UE-B in Scheme 1 in addition to using MAC CE. |
| ***sl-ContainerRequest***Indicates whether a SCI format 2-C can be used as the container of an explicit request for inter-UE coordination information transmission from UE-B to UE-A in Scheme 1 in addition to using MAC CE. |
| ***sl-DetermineResourceType***Indicates how to determine the resource set type to be provided by inter-UE coordination information transmission. Value "*uea*" means the resource set type is determined by UE-A's implementation. Value "*ueb*" means the resource set type is determined by UE-B's request. |
| ***sl-IUC-Condition***Indicates whether inter-UE coordination information triggered by a condition is enabled or not other than explicit request reception. |
| ***sl-IUC-Explicit***Indicates whether inter-UE coordination information triggered by an explicit request is enabled or not.  |
| ***sl-MaxSlotOffsetTRIV***Indicates the maximum value of logical slot offset with respect to a reference slot that is used for representing the first resource location of each TRIV to indicate the set of resources in Scheme 1 as specified in TS 38.214 [19]. |
| ***sl-NumSubCH-PreferredResousrceSet***Indicates the number of sub-channels used for determining the preferred resource set in Scheme 1 when the inter-UE coordination information transmission is triggered by a condition other than explicit request reception. |
| ***sl-PriorityCoordInfoCondition***Parameter used to determine, for the purpose defined in TS 38.213 [13] and TS 38.214 [19] including, the priority value for sensing and candidate resource (re-)selection for transmitting the TB carrying the IUC MAC CE and the priority value in the SCI Format 1-A corresponding to the TB carrying the IUC MAC CE, triggered by a condition other than explicit request reception in Scheme 1. The priority value of IUC MAC CE used in LCP procedure (see TS 38.321 [3]) is fixed as "1". |
| ***sl-PriorityCoordInfoExplicit***Parameter used to determine, for the purpose defined in TS 38.213 [13] and TS 38.214 [19] including, the priority value for sensing and candidate resource (re-)selection for transmitting the TB carrying the IUC MAC CE and the priority value in the SCI Format 1-A corresponding to the TB carrying the IUC MAC CE, triggered by an explicit request in Scheme 1. |
| ***sl-PriorityPreferredResourceSet***Indicates the priority value used for determining the preferred resource set in Scheme 1 when the inter-UE coordination information transmission is triggered by a condition other than explicit request reception. |
| ***sl-PriorityRequest***Parameter used to determine, for the purpose defined in TS 38.213 [13] and TS 38.214 [19] including, the priority value for sensing and candidate resource (re-)selection for transmitting the TB carrying the IUC request MAC CE and the priority value in the SCI Format 1-A corresponding to the TB carrying the IUC request MAC CE, in an explicit request for inter-UE coordination information in Scheme 1. The priority value of IUC request MAC CE used in LCP procedure (see TS 38.321 [3]) is fixed as "1". |
| ***sl-ReservedPeriodPreferredResourceSet***Indicates the resource reservation interval used for determining the preferred resource set in Scheme 1 when the inter-UE coordination information transmission is triggered by a condition, by means of an index to the corresponding entry of *sl-ResourceReservePeriodList-r16*.  |
| ***sl-TriggerConditionCoordInfo***Indicates the additional alternative trigger condition of inter-UE coordination information triggered by a condition rather than request reception in Scheme-1 from UE-A to UE-B. Value 0 means inter-UE coordination information is triggered by UE-A's implementation. Value 1 means inter-UE coordination information can be triggered only when UE-A has data to be transmitted together with the inter-UE coordination information to UE-B. |
| ***sl-TriggerConditionRequest***Indicates the trigger condition of an explicit request from UE-B to UE-A. Value 0 means the explicit request is triggered by UE-B's implementation. Value 1 means the explicit request can be triggered only when UE-B has data to be transmitted to UE-A. |
| ***sl-ThresholdRSRP-Condition1-B-1-Option1List***Indicates the RSRP threshold used to determine reserved resource(s) of other UE(s) whose RSRP measurement is larger than it as the set of resource(s) non-preferred for UE-B's transmission for Condition 1-B-1 of Scheme 1, as specified in TS 38.214 [19]. Value 0 corresponds to minus infinity dBm, value 1 corresponds to -128dBm, value 2 corresponds to -126dBm, value n corresponds to (-128 + (n-1)\*2) dBm and so on, value 66 corresponds to infinity dBm. |
| ***sl-ThresholdRSRP-Condition1-B-1-Option2List***Indicates the RSRP threshold used to determine reserved resource(s) of other UE(s) whose RSRP measurement is smaller than it as the set of resource(s) non-preferred for UE-B's transmission for Condition 1-B-1 of Scheme 1, as specified in TS 38.214 [19]. Value 0 corresponds to minus infinity dBm, value 1 corresponds to -128dBm, value 2 corresponds to -126dBm, value n corresponds to (-128 + (n-1)\*2) dBm and so on, value 66 corresponds to infinity dBm. |

| ***SL-InterUE-CoordinationScheme2* field descriptions** |
| --- |
| ***sl-DeltaRSRP-Thresh***Indicates the RSRP threshold delta value corresponding to *deltaRSRPThresh* specified in clause 16.3.0 of TS 38.213 [13] and used to determine reserved resource(s) of other UE(s). Value in dB. Only even values (step size 2) allowed. |
| ***sl-IndicationUE-B***Indicates whether to enable or disable the usage of 1 LSB of reserved bits of a SCI format 1-A to indicate of whether UE scheduling a conflict TB can be UE-B or not. |
| ***sl-IUC-Scheme2***Indicates whether inter-UE coordination scheme 2 is enabled or not. |
| ***sl-OptionForCondition2-A-1***Indicates the RSRP threshold used to consider additional criteria for condition 2-A-1. Value 0 corresponds to using the RSRP threshold according to the priorities included in the SCI, UE uses thresholds *sl-Thres-RSRP-List*, in its resource pool configuration *sl-UE-SelectedConfigRP*, corresponding to *ThresPSSCH-RSRP-List* specified in clause 16.3.0 of TS 38.213 [13]. Value 1 corresponds to using a (pre)configured RSRP threshold delta value *sl-DeltaRSRP-Thresh,* corresponding to *deltaRSRPThresh* specified in clause 16.3.0 of TS 38.213 [13]. |
| ***sl-PSFCH-Occasion***Indicates the reference slot from which a PSFCH occasion for inter-UE coordination information transmission is derived. Value 0 corresponds to the slot where UE-B's SCI is transmitted and value 1 corresponds to the slot where expected/potential resource conflict occurs on PSSCH resource indicated by UE-B's SCI. |
| ***sl-RB-SetPSFCH***Indicates the set of PRBs that are actually used for inter-UE coordination information transmission and reception in Scheme 2. The leftmost bit of the bitmap refers to the lowest RB index in the resource pool, and so on. |
| ***sl-SlotLevelResourceExclusion***Indicates that physical layer of UE-B reports resources in a slot including the next reserved resource indicated by the corresponding UE-B's SCI for current TB transmission to higher layer. |
| ***sl-TypeUE-A***Indicates that a non-destination UE of a TB transmitted by UE-B can be UE-A which sends inter-UE coordination information to UE-B, when UE-A is a destination UE of another TB conflicting with the TB transmitted by UE-B. |

**<<<<Skipped>>>>**

– *SL-PBPS-CPS-Config*

The IE *SL-PBPS-CPS-Config* specifies the operation information for a resource pool which can be (pre-)configured to enable full sensing only, partial sensing only, random resource selection only, or any combination(s) thereof.

***SL-PBPS-CPS-Config* information element**

-- ASN1START

-- TAG-SL-PBPS-CPS-CONFIG-START

SL-PBPS-CPS-Config-r17 ::= SEQUENCE {

sl-AllowedResourceSelectionConfig-r17 ENUMERATED {c1, c2, c3, c4, c5, c6, c7} OPTIONAL, -- Need M

sl-MinNumCandidateSlotsPeriodic-r17 INTEGER (1..32) OPTIONAL, -- Need M

sl-PBPS-OccasionReservePeriodList-r17 SEQUENCE (SIZE (1..16)) OF INTEGER (1..16) OPTIONAL, -- Need M

sl-Additional-PBPS-Occasion-r17 ENUMERATED { monitored } OPTIONAL, -- Need M

sl-CPS-WindowPeriodic-r17 INTEGER (5..30) OPTIONAL, -- Need M

sl-MinNumCandidateSlotsAperiodic-r17 INTEGER (1..32) OPTIONAL, -- Need M

sl-MinNumRssiMeasurementSlots-r17 INTEGER (1..800) OPTIONAL, -- Need M

sl-DefaultCBR-RandomSelection-r17 INTEGER (0..100) OPTIONAL, -- Need M

sl-DefaultCBR-PartialSensing-r17 INTEGER (0..100) OPTIONAL, -- Need M

sl-CPS-WindowAperiodic-r17 INTEGER (0..30) OPTIONAL, -- Need M

sl-PartialSensingInactiveTime-r17 ENUMERATED { enabled, disabled } OPTIONAL, -- Need M

 ...

}

-- TAG-SL-PBPS-CPS-CONFIG-STOP

-- ASN1STOP

| ***SL-PBPS-CPS-Config* field descriptions** |
| --- |
| ***sl-Additional-PBPS-Occasion***Indicates that UE additionally monitors periodic sensing occasions that correspond to a set of values. (see TS 38.214 [19], clause 8.1.4). |
| ***sl-AllowedResourceSelectionConfig***Indicates the allowed resource selection mechanism(s), i.e. full sensing only, partial sensing only, random resource selection only, or any combination(s) thereof. (see TS 38.214 [19], clause 8.1.4). Only c1, c4 , c5 or c7 can be configured for a Rel-16 resource pool. If this field is not configured for a resource pool included in *sl-TxPoolSelectedNormal*, only full sensing is allowed in the corresponding resource pool.c1: only full sensing allowedc2: only partial sensing allowedc3: only random selection allowedc4: full sensing+random selection allowedc5: full sensing+ partial sensing allowedc6: partial sensing + random selection allowedc7: full sensing+ partial sensing + random selection allowed. |
| ***sl-CPS-WindowAperiodic***Parameter that indicates the minimum size of contiguous partial sensing window in logical slot units for a resource (re)selection procedure and re-evaluation/pre-emption checking triggered by aperiodic transmission. (see TS 38.214 [19], clause 8.1.4). If not configured, the size of contiguous partial sensing window in logical slot units is 31. |
| ***sl-CPS-WindowPeriodic***Indicates the size of contiguous partial sensing window in logical slot units when UE performs periodic-based and contiguous partial sensing for a resource (re)selection procedure triggered by periodic transmission. If not configured, the size of contiguous partial sensing window in logical slot units is 31. |
| ***sl-DefaultCBR-PartialSensing***Indicates default value of SL CBR measurement for a UE that is configured to perform partial sensing by its higher layer (including when SL DRX is configured) if the number of SL RSSI measurement slots over CBR measurement window is below *sl-MinNumRssiMeasurementSlots*, (see TS 38.214 [19], clause 8.1.6). Value 0 corresponds to 0, value 1 to 0.01, value 2 to 0.02, and so on. |
| ***sl-DefaultCBR-RandomSelection***Indicates default value of CBR measurement for a UE that performs random resource selection if no SL CBR measurement result over SL CBR measurement window, (see TS 38.214 [19], clause 8.1.6). Value 0 corresponds to 0, value 1 to 0.01, value 2 to 0.02, and so on. |
| ***sl-MinNumCandidateSlotsAperiodic***Indicates the minimum number of Y' slots that are included in the possible candidate resources corresponding to periodic-based partial sensing and/or contiguous partial sensing for resource (re)selection triggered by aperiodic transmission. (see TS 38.214 [19], clause 8.1.4). |
| ***sl-MinNumCandidateSlotsPeriodic***Indicates the minimum number of Y slots that are included in the possible candidate resources corresponding to periodic-based partial sensing for resource (re)selection triggered by periodic transmission. (see TS 38.214 [19], clause 8.1.4). |
| ***sl-MinNumRssiMeasurementSlots***Indicates a threshold for a minimum number of SL RSSI measurement slots over CBR measurement window for which the SL RSSI is measured for a UE that is configured to perform partial sensing by its higher layer (including when SL DRX is configured). (see TS 38.214 [19], clause 8.1.6). |
| ***sl-PartialSensingInactiveTime***Indicates whether or not UE is required to perform SL reception of PSCCH and RSRP measurement for partial sensing on slots in SL DRX inactive time when partial sensing is configured by its higher layer. (see TS 38.214 [19], clause 8.1.4). |
| ***sl-PBPS-OccasionReservePeriodList***Indicates the subset of periodicity values from *sl-ResourceReservePeriodList* used to determine periodic sensing occasions in periodic-based partial sensing, by means of an index to the corresponding entry in *sl-ResourceReservePeriodList-r16*. If not configured, all periodicity values from *sl-ResourceReservePeriodList* are used to determine periodic sensing occasions in periodic-based partial sensing (see TS 38.214 [19], clause 8.1.4). |

|  |
| --- |
| *NEXT CHANGE* |

6.3.5 Sidelink information elements

**<<<<Skipped>>>>**

– *SL-PSBCH-Config*

The IE *SL-PSBCH-Config* indicates PSBCH transmission parameters on each sidelink bandwidth part.

***SL-PSBCH-Config* information element**

-- ASN1START

-- TAG-SL-PSBCH-CONFIG-START

SL-PSBCH-Config-r16 ::= SEQUENCE {

 dl-P0-PSBCH-r16 INTEGER (-16..15) OPTIONAL, -- Need M

 dl-Alpha-PSBCH-r16 ENUMERATED {alpha0, alpha04, alpha05, alpha06, alpha07, alpha08, alpha09, alpha1} OPTIONAL, -- Need M

 ...,

 [[

 dl-P0-PSBCH-r17 INTEGER (-202..24) OPTIONAL -- Need M

 ]]

}

-- TAG-SL-PSBCH-CONFIG-STOP

-- ASN1STOP

| ***SL-PSBCH-Config* field descriptions** |
| --- |
| ***dl-Alpha-PSBCH***Indicates alpha value for DL pathloss based power control for PSBCH. When the field is not configured the UE applies the value 1. |
| ***dl-P0-PSBCH***Indicates P0 value for DL pathloss based power control for PSBCH. If not configured, DL pathloss based power control is disabled for PSBCH. When *dl-P0-PSBCH-r17* is configured, the UE ignores *dl-P0-PSBCH-r16*. |

**<<<<Skipped>>>>**

– *SL-ResourcePool*

The IE *SL-ResourcePool* specifies the configuration information for NR sidelink communication resource pool.

***SL-ResourcePool* information element**

-- ASN1START

-- TAG-SL-RESOURCEPOOL-START

SL-ResourcePool-r16 ::= SEQUENCE {

 sl-PSCCH-Config-r16 SetupRelease { SL-PSCCH-Config-r16 } OPTIONAL, -- Need M

 sl-PSSCH-Config-r16 SetupRelease { SL-PSSCH-Config-r16 } OPTIONAL, -- Need M

 sl-PSFCH-Config-r16 SetupRelease { SL-PSFCH-Config-r16 } OPTIONAL, -- Need M

 sl-SyncAllowed-r16 SL-SyncAllowed-r16 OPTIONAL, -- Need M

 sl-SubchannelSize-r16 ENUMERATED {n10, n12, n15, n20, n25, n50, n75, n100} OPTIONAL, -- Need M

 dummy INTEGER (10..160) OPTIONAL, -- Need M

 sl-StartRB-Subchannel-r16 INTEGER (0..265) OPTIONAL, -- Need M

 sl-NumSubchannel-r16 INTEGER (1..27) OPTIONAL, -- Need M

 sl-Additional-MCS-Table-r16 ENUMERATED {qam256, qam64LowSE, qam256-qam64LowSE } OPTIONAL, -- Need M

 sl-ThreshS-RSSI-CBR-r16 INTEGER (0..45) OPTIONAL, -- Need M

 sl-TimeWindowSizeCBR-r16 ENUMERATED {ms100, slot100} OPTIONAL, -- Need M

 sl-TimeWindowSizeCR-r16 ENUMERATED {ms1000, slot1000} OPTIONAL, -- Need M

 sl-PTRS-Config-r16 SL-PTRS-Config-r16 OPTIONAL, -- Need M

 sl-UE-SelectedConfigRP-r16 SL-UE-SelectedConfigRP-r16 OPTIONAL, -- Need M

 sl-RxParametersNcell-r16 SEQUENCE {

 sl-TDD-Configuration-r16 TDD-UL-DL-ConfigCommon OPTIONAL, -- Need M

 sl-SyncConfigIndex-r16 INTEGER (0..15)

 } OPTIONAL, -- Need M

 sl-ZoneConfigMCR-List-r16 SEQUENCE (SIZE (16)) OF SL-ZoneConfigMCR-r16 OPTIONAL, -- Need M

 sl-FilterCoefficient-r16 FilterCoefficient OPTIONAL, -- Need M

 sl-RB-Number-r16 INTEGER (10..275) OPTIONAL, -- Need M

 sl-PreemptionEnable-r16 ENUMERATED {enabled, pl1, pl2, pl3, pl4, pl5, pl6, pl7, pl8} OPTIONAL, -- Need R

 sl-PriorityThreshold-UL-URLLC-r16 INTEGER (1..9) OPTIONAL, -- Need M

 sl-PriorityThreshold-r16 INTEGER (1..9) OPTIONAL, -- Need M

 sl-X-Overhead-r16 ENUMERATED {n0,n3, n6, n9} OPTIONAL, -- Need S

 sl-PowerControl-r16 SL-PowerControl-r16 OPTIONAL, -- Need M

 sl-TxPercentageList-r16 SL-TxPercentageList-r16 OPTIONAL, -- Need M

 sl-MinMaxMCS-List-r16 SL-MinMaxMCS-List-r16 OPTIONAL, -- Need M

 ...,

 [[

 sl-TimeResource-r16 BIT STRING (SIZE (10..160)) OPTIONAL -- Need M

 ]],

 [[

 sl-PBPS-CPS-Config-r17 SetupRelease { SL-PBPS-CPS-Config-r17 } OPTIONAL, -- Need M

 sl-InterUE-CoordinationConfig-r17 SetupRelease { SL-InterUE-CoordinationConfig-r17 } OPTIONAL -- Need M

 ]]

}

SL-ZoneConfigMCR-r16 ::= SEQUENCE {

 sl-ZoneConfigMCR-Index-r16 INTEGER (0..15),

 sl-TransRange-r16 ENUMERATED {m20, m50, m80, m100, m120, m150, m180, m200, m220, m250, m270, m300, m350,

 m370, m400, m420, m450, m480, m500, m550, m600, m700, m1000, spare9, spare8,

 spare7, spare6, spare5, spare4, spare3, spare2, spare1}

 OPTIONAL, -- Need M

 sl-ZoneConfig-r16 SL-ZoneConfig-r16 OPTIONAL, -- Need M

 ...

}

SL-SyncAllowed-r16 ::= SEQUENCE {

 gnss-Sync-r16 ENUMERATED {true} OPTIONAL, -- Need R

 gnbEnb-Sync-r16 ENUMERATED {true} OPTIONAL, -- Need R

 ue-Sync-r16 ENUMERATED {true} OPTIONAL -- Need R

}

SL-PSCCH-Config-r16 ::= SEQUENCE {

 sl-TimeResourcePSCCH-r16 ENUMERATED {n2, n3} OPTIONAL, -- Need M

 sl-FreqResourcePSCCH-r16 ENUMERATED {n10,n12, n15, n20, n25} OPTIONAL, -- Need M

 sl-DMRS-ScrambleID-r16 INTEGER (0..65535) OPTIONAL, -- Need M

 sl-NumReservedBits-r16 INTEGER (2..4) OPTIONAL, -- Need M

 ...

}

SL-PSSCH-Config-r16 ::= SEQUENCE {

 sl-PSSCH-DMRS-TimePatternList-r16 SEQUENCE (SIZE (1..3)) OF INTEGER (2..4) OPTIONAL, -- Need M

 sl-BetaOffsets2ndSCI-r16 SEQUENCE (SIZE (4)) OF SL-BetaOffsets-r16 OPTIONAL, -- Need M

 sl-Scaling-r16 ENUMERATED {f0p5, f0p65, f0p8, f1} OPTIONAL, -- Need M

 ...

}

SL-PSFCH-Config-r16 ::= SEQUENCE {

 sl-PSFCH-Period-r16 ENUMERATED {sl0, sl1, sl2, sl4} OPTIONAL, -- Need M

 sl-PSFCH-RB-Set-r16 BIT STRING (SIZE (10..275)) OPTIONAL, -- Need M

 sl-NumMuxCS-Pair-r16 ENUMERATED {n1, n2, n3, n6} OPTIONAL, -- Need M

 sl-MinTimeGapPSFCH-r16 ENUMERATED {sl2, sl3} OPTIONAL, -- Need M

 sl-PSFCH-HopID-r16 INTEGER (0..1023) OPTIONAL, -- Need M

 sl-PSFCH-CandidateResourceType-r16 ENUMERATED {startSubCH, allocSubCH} OPTIONAL, -- Need M

 ...

}

SL-PTRS-Config-r16 ::= SEQUENCE {

 sl-PTRS-FreqDensity-r16 SEQUENCE (SIZE (2)) OF INTEGER (1..276) OPTIONAL, -- Need M

 sl-PTRS-TimeDensity-r16 SEQUENCE (SIZE (3)) OF INTEGER (0..29) OPTIONAL, -- Need M

 sl-PTRS-RE-Offset-r16 ENUMERATED {offset01, offset10, offset11} OPTIONAL, -- Need M

 ...

}

SL-UE-SelectedConfigRP-r16 ::= SEQUENCE {

 sl-CBR-PriorityTxConfigList-r16 SL-CBR-PriorityTxConfigList-r16 OPTIONAL, -- Need M

 sl-Thres-RSRP-List-r16 SL-Thres-RSRP-List-r16 OPTIONAL, -- Need M

 sl-MultiReserveResource-r16 ENUMERATED {enabled} OPTIONAL, -- Need M

 sl-MaxNumPerReserve-r16 ENUMERATED {n2, n3} OPTIONAL, -- Need M

 sl-SensingWindow-r16 ENUMERATED {ms100, ms1100} OPTIONAL, -- Need M

 sl-SelectionWindowList-r16 SL-SelectionWindowList-r16 OPTIONAL, -- Need M

 sl-ResourceReservePeriodList-r16 SEQUENCE (SIZE (1..16)) OF SL-ResourceReservePeriod-r16 OPTIONAL, -- Need M

 sl-RS-ForSensing-r16 ENUMERATED {pscch, pssch},

 ...,

 [[

 sl-CBR-PriorityTxConfigList-v1650 SL-CBR-PriorityTxConfigList-v1650 OPTIONAL -- Need M

 ]]

}

SL-ResourceReservePeriod-r16 ::= CHOICE {

 sl-ResourceReservePeriod1-r16 ENUMERATED {ms0, ms100, ms200, ms300, ms400, ms500, ms600, ms700, ms800, ms900, ms1000},

 sl-ResourceReservePeriod2-r16 INTEGER (1..99)

}

SL-SelectionWindowList-r16 ::= SEQUENCE (SIZE (8)) OF SL-SelectionWindowConfig-r16

SL-SelectionWindowConfig-r16 ::= SEQUENCE {

 sl-Priority-r16 INTEGER (1..8),

 sl-SelectionWindow-r16 ENUMERATED {n1, n5, n10, n20}

}

SL-TxPercentageList-r16 ::= SEQUENCE (SIZE (8)) OF SL-TxPercentageConfig-r16

SL-TxPercentageConfig-r16 ::= SEQUENCE {

 sl-Priority-r16 INTEGER (1..8),

 sl-TxPercentage-r16 ENUMERATED {p20, p35, p50}

}

SL-MinMaxMCS-List-r16 ::= SEQUENCE (SIZE (1..3)) OF SL-MinMaxMCS-Config-r16

SL-MinMaxMCS-Config-r16 ::= SEQUENCE {

 sl-MCS-Table-r16 ENUMERATED {qam64, qam256, qam64LowSE},

 sl-MinMCS-PSSCH-r16 INTEGER (0..27),

 sl-MaxMCS-PSSCH-r16 INTEGER (0..31)

}

SL-BetaOffsets-r16 ::= INTEGER (0..31)

SL-PowerControl-r16 ::= SEQUENCE {

 sl-MaxTransPower-r16 INTEGER (-30..33),

 sl-Alpha-PSSCH-PSCCH-r16 ENUMERATED {alpha0, alpha04, alpha05, alpha06, alpha07, alpha08, alpha09, alpha1} OPTIONAL, -- Need M

 dl-Alpha-PSSCH-PSCCH-r16 ENUMERATED {alpha0, alpha04, alpha05, alpha06, alpha07, alpha08, alpha09, alpha1} OPTIONAL, -- Need S

 sl-P0-PSSCH-PSCCH-r16 INTEGER (-16..15) OPTIONAL, -- Need S

 dl-P0-PSSCH-PSCCH-r16 INTEGER (-16..15) OPTIONAL, -- Need M

 dl-Alpha-PSFCH-r16 ENUMERATED {alpha0, alpha04, alpha05, alpha06, alpha07, alpha08, alpha09, alpha1} OPTIONAL, -- Need S

 dl-P0-PSFCH-r16 INTEGER (-16..15) OPTIONAL, -- Need M

 ...,

 [[

 dl-P0-PSSCH-PSCCH-r17 INTEGER (-202..24) OPTIONAL, -- Need M

 sl-P0-PSSCH-PSCCH-r17 INTEGER (-202..24) OPTIONAL, -- Need S

 dl-P0-PSFCH-r17 INTEGER (-202..24) OPTIONAL -- Need M

 ]]

}

-- TAG-SL-RESOURCEPOOL-STOP

-- ASN1STOP

| ***SL-ZoneConfigMCR* field descriptions** |
| --- |
| ***sl-TransRange***Indicates the communication range requirement for the corresponding *sl-ZoneConfigMCR-Index*. |
| ***sl-ZoneConfig***Indicates the zone configuration for the corresponding *sl-ZoneConfigMCR-Index*. |
| ***sl-ZoneConfigMCR-Index***Indicates the codepoint of the communication range requirement field in SCI. |

|  |
| --- |
| ***SL-ResourcePool* field descriptions** |
| ***dummy***This field is not used in the specification. If received it shall be ignored by the UE. |
| ***sl-Additional-MCS-Table***Indicates the MCS table(s) additionally used in the resource pool. 64QAM table is (pre-)configured as default. Zero, one or two can be additionally (pre-)configured using the 256QAM and/or low-SE MCS tables. If two MCS tables are indicated, 256QAM MCS table is the 1st table and qam64lowSE MCS table is the 2nd table as specified in TS 38.214 [19], clause 8.1.3.1. |
| ***sl-FilterCoefficient***This field indicates the filtering coefficient for long-term measurement and reference signal power derivation used for sidelink open-loop power control. |
| ***sl-InterUE-CoordinationConfig***Indicates the configured sidelink inter-UE coordination parameters. |
| ***sl-NumSubchannel***Indicates the number of subchannels in the corresponding resource pool, which consists of contiguous PRBs only. |
| ***sl-PBPS-CPS-Config***Indicates the allowed resource allocation schemes of full sensing only, partial sensing only, random resource selection only, or any combination(s), and the related configuration for power saving resource allocation schemes. This field is absent for *sl-TxPoolExceptional*. |
| ***sl-PreemptionEnable***Indicates whether pre-emption is disabled or enabled in a resource pool. If the field is present and the value is *pl1*, *pl2*, and so on (but not *enabled*), it means that pre-emption is enabled and a priority level p\_preemption is configured. If the field is present and the value is *enabled*, the pre-emption is enabled (but p\_preemption is not configured) and pre-emption is applicable to all levels. |
| ***sl-PriorityThreshold-UL-URLLC***Indicates the threshold used to determine whether NR sidelink transmission is prioritized over uplink transmission of priority index 1 as specified in TS 38.213[13], clause 16.2.4.3, or whether PUCCH transmission carrying SL HARQ is prioritized over PUCCH transmission carrying UCI of priority index 1 if they overlap in time as specified in TS 38.213 [13], clause 9.2.5.0. |
| ***sl-PriorityThreshold***Indicates the threshold used to determine whether NR sidelink transmission is prioritized over uplink transmission of priority index 0 as specified in TS 38.213[13], clause 16.2.4.3, or whether PUCCH transmission carrying SL HARQ is prioritized over PUCCH transmission carrying UCI of priority index 0 if they overlap in time as specified in TS 38.213 [13], clause 9.2.5.0. |
| ***sl-RB-Number***Indicates the number of PRBs in the corresponding resource pool, which consists of contiguous PRBs only. The remaining RB cannot be used (See TS 38.214[19], clause 8). |
| ***sl-StartRB-Subchannel***Indicates the lowest RB index of the subchannel with the lowest index in the resource pool with respect to the lowest RB index of a SL BWP. |
| ***sl-SubchannelSize***Indicates the minimum granularity in frequency domain for the sensing for PSSCH resource selection in the unit of PRB. |
| ***sl-SyncAllowed***Indicates the allowed synchronization reference(s) which is (are) allowed to use the configured resource pool. |
| ***sl-SyncConfigIndex***Indicates the synchronisation configuration that is associated with a reception pool, by means of an index to the corresponding entry *SL-SyncConfigList* of in *SIB12* for NR sidelink communication. |
| ***sl-TDD-Configuration***Indicates the TDD configuration associated with the reception pool of the cell indicated by *sl-SyncConfigIndex*. |
| ***sl-ThreshS-RSSI-CBR***Indicates the S-RSSI threshold for determining the contribution of a sub-channel to the CBR measurement. Value 0 corresponds to -112 dBm, value 1 to -110 dBm, value n to (-112 + n\*2) dBm, and so on. |
| ***sl-TimeResource***Indicates the bitmap of the resource pool, which is defined by repeating the bitmap with a periodicity during a SFN or DFN cycle. |
| ***sl-TimeWindowSizeCBR***Indicates the time window size for CBR measurement. |
| ***sl-TimeWindowSizeCR***Indicates the time window size for CR evaluation. |
| ***sl-TxPercentageList***Indicates the portion of candidate single-slot PSSCH resources over the total resources. Value p20 corresponds to 20%, and so on. |
| ***sl-X-Overhead***Accounts for overhead from CSI-RS, PT-RS. If the field is absent, the UE applies value *n0* (see TS 38.214 [19], clause 5.1.3.2). |

| ***SL-SyncAllowed* field descriptions** |
| --- |
| ***gnbEnb-Sync***If configured, the (pre-) configured resources can be used if the UE is directly or indirectly synchronized to eNB or gNB (i.e., synchronized to a reference UE which is directly synchronized to eNB or gNB). |
| ***gnss-Sync***If configured, the (pre-) configured resources can be used if the UE is directly or indirectly synchronized to GNSS (i.e., synchronized to a reference UE which is directly synchronized to GNSS). |
| ***ue-Sync***If configured, the (pre-) configured resources can be used if the UE is synchronized to a reference UE which is not synchronized to eNB, gNB and GNSS directly or indirectly. |

| ***SL-PSCCH-Config* field descriptions** |
| --- |
| ***sl-FreqResourcePSCCH***Indicates the number of PRBs for PSCCH in a resource pool where it is not greater than the number PRBs of the subchannel. |
| ***sl-DMRS-ScrambleID***Indicates the initialization value for PSCCH DMRS scrambling. |
| ***sl-NumReservedBits***Indicates the number of reserved bits in first stage SCI. |
| ***sl-TimeResourcePSCCH***Indicates the number of symbols of PSCCH in a resource pool. |

| ***SL-PSSCH-Config* field descriptions** |
| --- |
| ***sl-BetaOffsets2ndSCI***Indicates candidates of beta-offset values to determine the number of coded modulation symbols for second stage SCI. The value indicates the index of Table 9.3-2 of TS 38.213 [13]. |
| ***sl-PSSCH-DMRS-TimePatternList***Indicates the set of PSSCH DMRS time domain patterns in terms of PSSCH DMRS symbols in a slot that can be used in the resource pool. |
| ***sl-Scaling***Indicates a scaling factor to limit the number of resource elements assigned to the second stage SCI on PSSCH. Value *f0p5* corresponds to 0.5, value *f0p65* corresponds to 0.65, and so on. |

| ***SL-PSFCH-Config* field descriptions** |
| --- |
| ***sl-MinTimeGapPSFCH***The minimum time gap between PSFCH and the associated PSSCH in the unit of slots. |
| ***sl-NumMuxCS-Pair***Indicates the number of cyclic shift pairs used for a PSFCH transmission that can be multiplexed in a PRB. |
| ***sl-PSFCH-CandidateResourceType***Indicates the number of PSFCH resources available for multiplexing HARQ-ACK information in a PSFCH transmission (see TS 38.213 [13], clause 16.3). |
| ***sl-PSFCH-HopID***Scrambling ID for sequence hopping of the PSFCH used in the resource pool. |
| ***sl-PSFCH-Period***Indicates the period of PSFCH resource in the unit of slots within this resource pool. If set to *sl0*, no resource for PSFCH, and HARQ feedback for all transmissions in the resource pool is disabled. |
| ***sl-PSFCH-RB-Set***Indicates the set of PRBs that are actually used for PSFCH transmission and reception. The leftmost bit of the bitmap refers to the lowest RB index in the resource pool, and so on. Value 0 in the bitmap indicates that the corresponding PRB is not used for PSFCH transmission and reception while value 1 indicates that the corresponding PRB is used for PSFCH transmission and reception (see TS 38.213 [13]). |

| ***SL-PTRS-Config* field descriptions** |
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| ***sl-PTRS-FreqDensity***Presence and frequency density of SL PT-RS as a function of scheduled BW. If the field is not configured, the UE uses K\_PT-RS = 2 |
| ***sl-PTRS-TimeDensity***Presence and time density of SL PT-RS as a function of MCS. If the field is not configured, the UE uses L\_PT-RS = 1 |
| ***sl-PTRS-RE-Offset***Indicates the subcarrier offset for SL PT-RS . If the field is not configured, the UE applies the value *offset00* (see TS 38.211 [16], clause 8.4.1.2.2). |

| ***SL-UE-SelectedConfigRP* field descriptions** |
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| ***sl-CBR-PriorityTxConfigList***Indicates the mapping between PSSCH transmission parameter (such as MCS, PRB number, retransmission number, CR limit) sets by using the indexes of the configurations in *sl-CBR-PSSCH-TxConfigList*, CBR ranges by using the indexes to the entry of the CBR range configurations in *sl-CBR-RangeConfigList*, and priority ranges. It also indicates the default PSSCH transmission parameters to be used when CBR measurement results are not available, and MCS range for the MCS tables used in the resource pool. The field *sl-CBR-PriorityTxConfigList-v1650* is present only when *sl-CBR-PriorityTxConfigList-r16* is configured. |
| ***sl-MaxNumPerReserve***Indicates the maximum number of reserved PSCCH/PSSCH resources that can be indicated by an SCI. |
| ***sl-MultiReserveResource***Indicates if it is allowed to reserve a sidelink resource for an initial transmission of a TB by an SCI associated with a different TB, based on sensing and resource selection procedure. |
| ***sl-ResourceReservePeriodList***Set of possible resource reservation period allowed in the resource pool in the unit of ms. Up to 16 values can be configured per resource pool. The value *ms0* is always configured. |
| ***sl-RS-ForSensing***Indicates whether DMRS of PSCCH or PSSCH is used for L1 RSRP measurement in the sensing operation. |
| ***sl-SensingWindow***Parameter that indicates the start of the sensing window. |
| ***sl-SelectionWindowList***Parameter that determines the end of the selection window in the resource selection for a TB with respect to priority indicated in SCI. Value n1 corresponds to 1\*2µ, value n5 corresponds to 5\*2µ, and so on, where µ = 0,1,2,3 refers to SCS 15,30,60,120 kHz respectively. |
| ***sl-Thres-RSRP-List***Indicates a list of 64 thresholds, and the threshold should be selected based on the priority in the decoded SCI and the priority in the SCI to be transmitted. A resource is excluded if it is indicated or reserved by a decoded SCI and PSSCH/PSCCH RSRP in the associated data resource is above a threshold. |

| ***SL-PowerControl* field descriptions** |
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| ***sl-MaxTransPower***Indicates the maximum value of the UE's sidelink transmission power on this resource pool. The unit is dBm. |
| ***sl-Alpha-PSSCH-PSCCH***Indicates alpha value for sidelink pathloss based power control for PSCCH/PSSCH when *sl-P0-PSSCH-PSCCH* is configured. When the field is absent the UE applies the value 1.  |
| ***sl-P0-PSSCH-PSCCH***Indicates P0 value for sidelink pathloss based power control for PSCCH/PSSCH. If not configured, sidelink pathloss based power control is disabled for PSCCH/PSSCH. When *sl-P0-PSSCH-PSCCH-r17* is configured, the UE ignores *sl-P0-PSSCH-PSCCH-r16*. |
| ***dl-Alpha-PSSCH-PSCCH***Indicates alpha value for downlink pathloss based power control for PSCCH/PSSCH when *dl-P0-PSSCH-PSCCH* is configured. When the field is absent the UE applies the value 1.  |
| ***dl-P0-PSSCH-PSCCH***Indicates P0 value for downlink pathloss based power control for PSCCH/PSSCH. If not configured, downlink pathloss based power control is disabled for PSCCH/PSSCH. When *dl-P0-PSSCH-PSCCH-r17* is configured, the UE ignores *dl-P0-PSSCH-PSCCH-r16*. |
| ***dl-Alpha-PSFCH***Indicates alpha value for downlink pathloss based power control for PSFCH when *dl-P0-PSFCH* is configured. When the field is absent the UE applies the value 1.  |
| ***dl-P0-PSFCH***Indicates P0 value for downlink pathloss based power control for PSFCH. If not configured, downlink pathloss based power control is disabled for PSFCH. When *dl-P0-PSFCH-r17* is configured, the UE ignores *dl-P0-PSFCH-r16.* |

| ***SL-MinMaxMCS-Config* field descriptions** |
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| ***sl-MaxMCS-PSSCH***Indicates the maximum MCS value when using the associated MCS table. If no MCS is configured, UE autonomously selects MCS from the full range of values. |
| ***sl-MinMCS-PSSCH***Indicates the minimum MCS value when using the associated MCS table. If no MCS is configured, UE autonomously selects MCS from the full range of values. |

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| *END OF CHANGE* |