**3GPP TSG- Meeting #**

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

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| ***Title:*** | Miscellaneous correction on R18 SL Evolution | | | | | | | | | |
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| ***Source to WG:*** | OPPO | | | | | | | | | |
| ***Source to TSG:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** |  | | | | |  | ***Date:*** | | | 2024-07-25 |
|  |  | | | |  | |  | | |  |
| ***Category:*** |  |  | | | | | ***Release:*** | | |  |
|  | *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 can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | 1. There are both “Additional RLC bearer” and “Additional sidelink RLC bearer” terms in the spec, while on the former has been defined. 2. In 5.8.9.1a.4, it is specified that RRC layer indicate “carrier**(s)**”, as indicated in *sl-FreqInfoList* / *sl-PreconfigFreqInfoList*, to lower layer, but neither *sl-FreqInfoList* nor *sl-PreconfigFreqInfoList* will include more than one carrier. 3. In 5.8.9.1a.6.1, one of the duplication configuration initiation condition is “for unicast, for sidelink SRB 1/2/3, if UE **decides to use** PDCP duplication after receiving RRCReconfigurationCompleteSidelink”, which comes from R2#123bis agreement that   ***Agreements on SRBs***  *1. SL PDCP duplication can be* ***applied*** *to SL-SRB3 only after receiving RRCReconfigurationCompleteSidelink.*  *2. SL PDCP duplication can be* ***applied*** *to SL-SRB1/2 only after receiving RRCReconfigurationCompleteSidelink.*  The real intention was to restrict the timing to “**apply**” the duplication, which has already been reflected in 5.8.9.1a.6.2, “for unicast, for SRB, **after receiving the *RRCReconfigurationCompleteSidelink* message**, if the additional Sidelink RLC bearer addition **was decided by UE**:”, and it is obvious that the duplication **decision** has to be done **before** the transmission of the RRCReconfiguratIonSidelink.   1. In 9.1.1.4/5, for the RLC and MAC configuration of additional SL RLC bearer, terminologies are not aligned. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 1. Align the terminology as “Additional sidelink RLC bearer” 2. Remove the plural form of the “carrier**~~(s)~~**” in 5.8.9.1a.4 3. Remove the restriction of “after receiving RRCReconfigurationCompleteSidelink”, and add the condition of UE capability, to align with DRB case. 4. Align the terms, to be “Additional RLC configuration”, and “MAC configuration associated to additional RLC configuration”   **Impact analysis**  Impacted 5G architecture options:  NR SA  Impacted functionality:  R18 SL Operation  Inter-operability:  If the network is implemented according to the CR and the UE is not, there are no inter-operability issues, since this CR only relates to the UE internal operation.  If the UE is implemented according to the CR and the network is not, there are no inter-operability issues, since this CR only relates to the UE internal operation.  If one UE is implemented according to the CR and the other UE is not, there are no inter-operability issues, since this CR only relates to the UE internal operation. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | 1. Undefined term of “Additional sidelink RLC bearer” 2. Misunderstanding that there can be more than one carrier (as indicated in *sl-FreqInfoList* / *sl-PreconfigFreqInfoList*) being indicated to lower layer 3. Wrong UE behavior of SRB PDCP duplication decision 4. Term misalignment | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 3.1, 5.8.9.1a.4, 5.8.9.1a.6.1, 6.3.5, 9.1.1.4, 9.1.1.5 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

*Start Change*

## 3.1 Definitions

For the purposes of the present document, the terms and definitions given in TR 21.905 [1] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in TR 21.905 [1].

**2Rx XR UE:** Two antenna port XR UE as specified in TS 38.101-1 [15].

**A2X communication:** A communication to support A2X services leveraging PC5 reference points, as defined in TS 23.256 [76]. A2X services are realized by various types of A2X applications, e.g., BRID or DAA.

**Additional sidelink RLC bearer:** If the sidelink PDCP entity is associated with two sidelink RLC entities, the additional sidelink RLC bearer is the RLC bearer configured by *sl-RLC-BearerToAddModListSizeExt* in *sl-ConfigDedicatedNR*, or *sl-RLC-BearerConfigListSizeExt* in *SIB12* or in *SidelinkPreconfigNR*.

**Aerial UE:** UE performingAerial UE communication, as defined in TS 38.300 [2], clause 16.18 and TS 23.256 [76].

**AM MRB:** An MRB associated with at least an AM RLC bearer for PTP transmission.

**BH RLC channel:** An RLC channel between two nodes, which is used to transport backhaul packets.

**Broadcast MRB:** A radio bearer configured for MBS broadcast delivery.

**CEIL:** Mathematical function used to 'round up' i.e. to the nearest integer having a higher or equal value.

**DAPS bearer:** a bearer whose radio protocols are located in both the source gNB and the target gNB during DAPS handover to use both source gNB and target gNB resources.

**Data Burst:** A set of multiple PDUs generated and sent by the application in a short period of time, as defined in TS 23.501 [32].

**Dedicated signalling:** Signalling sent on DCCH logical channel between the network and a single UE.

**Dormant BWP:** The dormant BWP is one of downlink BWPs configured by the network via dedicated RRC signalling. In the dormant BWP, the UE stops monitoring PDCCH on/for the SCell, but continues performing CSI measurements, Automatic Gain Control (AGC) and beam management, if configured. For each serving cell other than the SpCell or PUCCH SCell, the network may configure one BWP as a dormant BWP.

**Earth-fixed cell:** An NTN cell fixed with respect to a certain geographic area on Earth. It can be provisioned by beam(s) continuously covering the same geographical area (e.g., the case of GSO satellites).

**Earth-moving cell:** An NTN cell moving on the ground. It can be provisioned by beam(s) whose coverage area slides over the Earth's surface (e.g., the case of NGSO satellites generating fixed or non-steerable beams).

**eRedCap UE:** A UE with enhanced reduced capabilities as specified in clause 4.2.22.1 in TS 38.306 [26].

**Field:** The individual contents of an information element are referred to as fields.

**FLOOR:** Mathematical function used to 'round down' i.e. to the nearest integer having a lower or equal value.

**Frequency Selection Area ID:** An identity used for broadcast MBS session to guide the frequency selection of the UE as defined in TS 23.247 [67].

**Global cell identity:** An identity to uniquely identifying an NR cell. It is consisted of *cellIdentity* and *plmn-Identity* of the first *PLMN-Identity* in *plmn-IdentityList* in SIB1.

**Information element:** A structural element containing single or multiple fields is referred as information element.

**Candidate configuration:** A configuration part of an *RRCReconfiguration* message associated with a candidate cell, e.g., for LTM or subsequent CPAC. A candidate configuration can be a complete candidate configuration or a delta configuration relatively to a reference configuration.

**Reference configuration:** A configuration provided by the network to the UE that is common, within the same cell group, to a group of configured non-complete candidate configurations.

**MBS Radio Bearer:** A radio bearer that is configured for MBS delivery.

**Mobile IAB-MT**: mobile IAB-node function that terminates the Uu interface to the parent node using the procedures and behaviours specified for UEs unless stated otherwise. The mobile IAB-MT uses the same procedures and behaviours specified for the IAB-MT, unless explicitly stated otherwise.

**Mobile IAB-node**: RAN node that supports NR access links to UEs and an NR backhaul link to a parent node, and that can conduct physical mobility across the RAN area. The mobile IAB-node function used in 38-series of 3GPP Specifications corresponds to the MBSR function defined in TS 23.501 [32]. The mobile IAB-node uses the same procedures and behaviours specified for the IAB-node, unless explicitly stated otherwise.

**Multicast/Broadcast Service:** A point-to-multipoint service as defined in TS 23.247 [67].

**Multicast MRB:** A radio bearer configured for MBS multicast delivery.

**MUSIM gap:** Period that the UE may use to perform MUSIM operations.

**Multi-path:** Mode of operation of a UE in RRC\_CONNECTED configured with one direct path on which the UE connects to gNB using NR Uu, and one indirect path on which the UE connects to the same gNB via another UE using PC5 unicast link or Non-3GPP Connection.

**MP remote UE:** A UE configured with Multi-path. When the connectivity of indirect path is PC5 unicast link, the MP remote UE is acting as a L2 U2N Remote UE. When the connectivity of indirect path is Non-3GPP Connection, the MP remote UE is acting as a N3C remote UE.

**MP relay UE:** A UE that provides connectivity of indirect path to a MP remote UE. When the connectivity is PC5 unicast link, the MP relay UE is acting as a L2 U2N Relay UE. When the connectivity is Non-3GPP Connection, the MP relay UE is acting as a N3C relay UE.

**NCSG:** Network controlled small gap as defined in TS 38.133 [14].

**NPN-only Cell**: A cell that is only available for normal service for NPNs' subscriber. An NPN-capable UE determines that a cell is NPN-only Cell by detecting that the *cellReservedForOtherUse* IE is set to true while the *npn-IdentityInfoList* IE is present in *CellAccessRelatedInfo*.

**N3C indirect path:** In Multi-path, the indirect path using Non-3GPP Connection between remote UE and relay UE.

**NR sidelink communication**: AS functionality enabling at least V2X Communication as defined in TS 23.287 [55] and/or A2X Communication as defined in TS 23.256 [76] and/or ProSe Communication (including ProSe UE-to-Network Relay, non-Relay communication, and ProSe UE-to-UE Relay Communication including UE-to-UE Relay communication with integrated discovery) as defined in TS 23.304 [65] between two or more nearby UEs, using NR technology but not traversing any network node.

**NR sidelink discovery**: AS functionality enabling ProSe non-Relay Discovery, ProSe UE-to-Network Relay discovery and ProSe UE-to-UE Relay discovery for Proximity based Services as defined in TS 23.304 [65] between two or more nearby UEs, using NR technology but not traversing any network node.

**NR sidelink positioning:** AS functionality which determines geographical or relative location and possibly velocity of a target UE or ranging via PC5 interface using SL-PRS transmission and reception as defined in TS 38.305 [73] and TS 38.355 [77].

**PNI-NPN identity:** an identifier of a PNI-NPN comprising of a PLMN ID and a CAG-ID combination.

**Primary Cell**: The MCG cell, operating on the primary frequency, in which the UE either performs the initial connection establishment procedure or initiates the connection re-establishment procedure.

**PC5 Relay RLC channel**: An RLC channel between L2 U2N Remote UE and L2 U2N Relay UE, or between L2 U2U Remote UE and L2 U2U Relay UE, which is used to transport packets over PC5 for L2 UE-to-Network relay or L2 UE-to-UE relay.

**PDU Set**: one or more PDUs carrying the payload of one unit of information generated at the application level (e.g. frame(s) or video slice(s) for XR Services), as defined in TS 23.501 [32].

**Primary SCG Cell**: For dual connectivity operation, the SCG cell in which the UE performs random access when performing the Reconfiguration with Sync procedure.

**Primary Timing Advance Group**: Timing Advance Group containing the SpCell.

**PUCCH SCell:** An SCell configured with PUCCH by *PUCCH-Config*.

**PUSCH-Less SCell:** An SCell configured without PUSCH.

**Quasi-Earth-fixed cell**: An NTN cell fixed with respect to a certain geographic area on Earth during a certain time duration. It can be provisioned by beam(s) covering one geographic area for a limited period and a different geographic area during another period (e.g., the case of NGSO satellites generating steerable beams).

**RedCap UE:** A UE with reduced capabilities as specified in clause 4.2.21.1 in TS 38.306 [26].

**RLC bearer configuration:** The lower layer part of the radio bearer configuration comprising the RLC and logical channel configurations.

**Secondary Cell**: For a UE configured with CA, a cell providing additional radio resources on top of Special Cell.

**Secondary Cell Group**: For a UE configured with dual connectivity, the subset of serving cells comprising of the PSCell and zero or more secondary cells.

**Serving Cell**: For a UE in RRC\_CONNECTED not configured with CA/DC there is only one serving cell comprising of the primary cell. For a UE in RRC\_CONNECTED configured with CA/ DC the term 'serving cells' is used to denote the set of cells comprising of the Special Cell(s) and all secondary cells.

**Small Data Transmission**: A procedure used for transmission of data and/or signalling over allowed radio bearers in RRC\_INACTIVE state (i.e. without the UE transitioning to RRC\_CONNECTED state). The SDT procedure is considered to be ongoing once the conditions for initating SDT as specified in clause 5.3.13.1b are fulfilled until the SDT procedure is completed either successfully or unsuccessfully as specified in clause 18.0 in TS 38.300 [2].

**SNPN identity:** an identifier of an SNPN comprising of a PLMN ID and an NID combination.

**SL indirect path:** In Multi-path, the indirect path using PC5 unicast link between remote UE and relay UE.

**Special Cell:** For Dual Connectivity operation the term Special Cell refers to the PCell of the MCG or the PSCell of the SCG, otherwise the term Special Cell refers to the PCell.

**Split DRB:** In MR-DC, a DRB that supports transmission via MCG and SCG, as well as duplication of PDCP PDUs as defined in TS 37.340 [41]; or in MP, a DRB that supports transmission via direct path and indirect path, as well as duplication of PDCP PDUs.

**Split SRB**: In MR-DC, an SRB that supports transmission via MCG and SCG as well as duplication of RRC PDUs as defined in TS 37.340 [41]; or in MP, a SRB that supports transmission via direct path and indirect path, as well as duplication of PDCP PDUs.

**SSB Frequency**: Frequency referring to the position of resource element RE=#0 (subcarrier #0) of resource block RB#10 of the SS block.

**U2N Relay UE**: A UE that provides functionality to support connectivity to the network for U2N Remote UE(s).

**U2N Remote UE**: A UE that communicates with the network via a U2N Relay UE.

**U2U Relay UE:** A UE that provides functionality to support connectivity between two U2U Remote UEs.

**U2U Remote UE:** A UE that communicates with other UEs via a U2U Relay UE.

**Uu Relay RLC channel**: An RLC channel between L2 U2N Relay UE and gNB, which is used to transport packets over Uu for L2 UE-to-Network relay or for indirect path in case of MP**.**

**UE Inactive AS Context**: UE Inactive AS Context is stored when the connection is suspended and restored when the connection is resumed. It includes information as defined in clause 5.3.8.3.

**V2X sidelink communication**: AS functionality enabling V2X Communication as defined in TS 23.285 [56], between nearby UEs, using E-UTRA technology but not traversing any network node.

*Next Change*

##### 5.8.9.1a.4 Sidelink SRB addition

The UE shall:

1> if transmission of PC5-S message for a specific destination is requested by upper layers for sidelink SRB:

2> establish PDCP entity, RLC entity and the logical channel of a sidelink SRB for PC5-S message if needed, as specified in clause 9.1.1.4;

2> if in coverage on the frequency used for the NR sidelink communication as defined in TS 38.304 [20]:

3> indicate the allowed carrier for the RLC bearer of the SRB before the reception of initial *RRCReconfigurationCompleteSidelink* message which confirms SL CA carrier(s) addition as indicated in *sl-FreqInfoList*, to lower layer;

2> else:

3> indicate the allowed carrier for the RLC bearer of the SRB before the reception of initial *RRCReconfigurationCompleteSidelink* message which confirms SL CA carrier(s) addition as indicated in *sl-PreconfigFreqInfoList*, to lower layer;

1> if transmission of discovery message for a specific destination is requested by upper layers for sidelink SRB:

2> establish PDCP entity, RLC entity and the logical channel of a sidelink SRB4 for discovery message, as specified in clause 9.1.1.4;

1> if a PC5-RRC connection establishment for a specific destination is indicated by upper layers:

2> establish PDCP entity, RLC entity and the logical channel of a sidelink SRB for PC5-RRC message of the specific destination if needed, as specified in clause 9.1.1.4;

2> consider the PC5-RRC connection is established for the destination;

2> if in coverage on the frequency used for the NR sidelink communication as defined in TS 38.304 [20]:

3> indicate the allowed carrier for the RLC bearer of the SRB before the reception of initial *RRCReconfigurationCompleteSidelink* message which confirms SL CA carrier(s) addition, as indicated in *sl-FreqInfoList*, to lower layer;

2> else:

3> indicate the allowed carrier for the RLC bearer of the SRB before the reception of initial *RRCReconfigurationCompleteSidelink* message which confirms SL CA carrier(s) addition as specified in clause 5.8.9.1.9, as indicated in *sl-PreconfigFreqInfoList*, to lower layer;

1> for end-to-end SRB1/2/3:

2> if the UE is acting L2 U2U Remote UE:

3> consider the SL-U2U-RLC as specified in clause 9.1.1.4 as the egress PC5 Relay RLC channel;

4> associate this end-to-end sidelink SRB with the SL-U2U-RLC and configure the mapping between the end-to-end sidelink SRB and the egress PC5 Relay RLC channel to SRAP.

*Next Change*

###### 5.8.9.1a.6.1 Additional Sidelink RLC Bearer addition/modification conditions

For NR sidelink communication, additional sidelink RLC bearer addition is initiated only in the following cases:

1> for unicast, for sidelink DRB, if *SL-RLC-BearerConfig* is received in *sl-RLC-BearerToAddModList* in the *RRCReconfigurationSidelink* for a *slrb-PC5-ConfigIndex*; or

1> for groupcast and broadcast, for sidelink DRB, if *SL-RLC-BearerConfig* is received in *sl-RLC-BearerToAddModListSizeExt* in *sl-ConfigDedicatedNR* for a *sl-ServedRadioBearer*; or

1> for unicast, for sidelink DRB, if *SL-RLC-BearerConfig* is received in *sl-RLC-BearerToAddModListSizeExt* in *sl-ConfigDedicatedNR* for a *sl-ServedRadioBearer*; or

1> for groupcast and broadcast, for sidelink DRB, if *SL-RLC-BearerConfig* is received in *sl-RLC-BearerConfigListSizeExt* in *SIB12* or in *SidelinkPreconfigNR* for a *sl-ServedRadioBearer*, if the sidelink DRB has been established as in clause 5.8.9.1a.2 and has not been released as in clause 5.8.9.1a.1, and if the *SL-TxProfile* of all associated QoS flow(s) for the *sl-ServedRadioBearer* indicates *backwardsIncompatible*; or

1> for groupcast and broadcast, for sidelink DRB, if *SL-RLC-BearerConfig* is received in *sl-RLC-BearerConfigListSizeExt* in *SIB12* or in *SidelinkPreconfigNR* for a *sl-ServedRadioBearer*, if the sidelink DRB has been established as in clause 5.8.9.1a.2 and has not been released as in clause 5.8.9.1a.1, and if the *SL-TxProfile* of at least one QoS flow for the *sl-ServedRadioBearer* indicates *backwardsCompatible* and UE decides to use PDCP duplication; or

1> for unicast, for sidelink DRB, if *SL-RLC-BearerConfig* is received in *sl-RLC-BearerConfigListSizeExt* in *SIB12* or in *SidelinkPreconfigNR* for a *sl-ServedRadioBearer*, and if both UEs support PDCP duplication; or

1> for unicast, for sidelink SRB 1/2/3, if both UEs support PDCP duplication and UE decides to use PDCP duplication;

For NR sidelink communication, additional sidelink RLC bearer modification is initiated only in the following cases:

1> if any of the additional sidelink RLC bearer related parameters is changed by *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR* or *RRCReconfigurationSidelink* for one additional sidelink RLC bearer, which is established;

*Next Change*

#### – *SL-LogicalChannelConfig*

The IE *SL*-*LogicalChannelConfig* is used to configure the sidelink logical channel parameters.

*SL-LogicalChannelConfig* information element

-- ASN1START

-- TAG-SL-LOGICALCHANNELCONFIG-START

SL-LogicalChannelConfig-r16 ::= SEQUENCE {

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

sl-PrioritisedBitRate-r16 ENUMERATED {kBps0, kBps8, kBps16, kBps32, kBps64, kBps128, kBps256, kBps512,

kBps1024, kBps2048, kBps4096, kBps8192, kBps16384, kBps32768, kBps65536, infinity},

sl-BucketSizeDuration-r16 ENUMERATED {ms5, ms10, ms20, ms50, ms100, ms150, ms300, ms500, ms1000,

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

sl-ConfiguredGrantType1Allowed-r16 ENUMERATED {true} OPTIONAL, -- Need R

sl-HARQ-FeedbackEnabled-r16 ENUMERATED {enabled, disabled } OPTIONAL, -- Need R

sl-AllowedCG-List-r16 SEQUENCE (SIZE (0.. maxNrofCG-SL-1-r16)) OF SL-ConfigIndexCG-r16

OPTIONAL, -- Need R

sl-AllowedSCS-List-r16 SEQUENCE (SIZE (1..maxSCSs)) OF SubcarrierSpacing OPTIONAL, -- Need R

sl-MaxPUSCH-Duration-r16 ENUMERATED {ms0p02, ms0p04, ms0p0625, ms0p125, ms0p25, ms0p5, spare2, spare1}

OPTIONAL, -- Need R

sl-LogicalChannelGroup-r16 INTEGER (0..maxLCG-ID) OPTIONAL, -- Need R

sl-SchedulingRequestId-r16 SchedulingRequestId OPTIONAL, -- Need R

sl-LogicalChannelSR-DelayTimerApplied-r16 BOOLEAN OPTIONAL, -- Need R

...,

[[

sl-ChannelAccessPriority-r18 INTEGER (1..4) OPTIONAL, -- Need R

sl-AllowedCarriers-r18 SEQUENCE (SIZE (1..maxNrofFreqSL-r16)) OF INTEGER (1..maxNrofFreqSL-r16) OPTIONAL -- Cond CONNECTED

]]

}

-- TAG-SL-LOGICALCHANNELCONFIG-STOP

-- ASN1STOP

|  |
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| *SL-LogicalChannelConfig field* descriptions |
| ***sl-AllowedCarriers***  If present, SL MAC SDUs from this logical channel can only be mapped to the sidelink carriers indicated in this list. Otherwise, SL MAC SDUs from this logical channel can be mapped to any configured sidelink carriers. The value 1 corresponds to the frequency of first entry in *sl-FreqInfoList* broadcast in *SIB12*, the value 2 corresponds to the frequency of first entry in *sl-FreqInfoListSizeExt* broadcast in *SIB12*, the value 3 corresponds to the frequency of second entry in *sl-FreqInfoListSizeExt* broadcast in *SIB12* and so on. |
| ***sl-AllowedCG-List***  This restriction applies only when the SL grant is a configured grant. If present, SL MAC SDUs from this logical channel can only be mapped to the indicated configured grant configuration. If the size of the sequence is zero, then SL MAC SDUs from this logical channel cannot be mapped to any configured grant configurations. If the field is not present, SL MAC SDUs from this logical channel can be mapped to any configured grant configurations. If the field *sl-ConfiguredGrantType1Allowed* is present, only those sidelink configured grant type 1 configurations indicated in this sequence are allowed for use by this sidelink logical channel; otherwise, this sequence shall not include any sidelink configured grant type 1 configuration. Corresponds to "sl-AllowedCG-List" as specified in TS 38.321 [3]. |
| ***sl-AllowedSCS-List***  If present, it indicates the numerology of UL-SCH resources that this sidelink logical channel is mapped to, when checking the SR trigger condition. Corresponds to ' sl-AllowedSCS-List' in TS 38.321 [3]. |
| ***sl-BucketSizeDuration***  Value in ms. *ms5* corresponds to 5 ms, value *ms10* corresponds to 10 ms, and so on. |
| ***sl-ChannelAccessPriority***  Indicates the Channel Access Priority Class (CAPC), as specified in TS 38.300 [2], to be used on sidelink transmissions for operation with shared spectrum channel access in FR1. The network configures this field only for DRBs. |
| ***sl-ConfiguredGrantType1Allowed***  If present and set to true, or if the capability *lcp-RestrictionSidelink* as specified in TS 38.306 [26] is not indicated, SL MAC SDUs from this sidelink logical channel can be transmitted on a sidelink configured grant type 1. Otherwise, SL MAC SDUs from this logical channel cannot be transmitted on a sidelink configured grant type 1. Corresponds to 'sl-configuredGrantType1Allowed' in TS 38.321 [3]. |
| ***sl-HARQ-FeedbackEnabled***  Network always includes this field. It indicates the HARQ feedback enabled/disabled restriction in LCP for this sidelink logical channel. If set to *enabled*, the sidelink logical channel will be multiplexed only with a logical channel which enabling the HARQ feedback. If set to *disabled*, the sidelink logical channel cannot be multiplexed with a logical channel which enabling the HARQ feedback. Corresponds to 'sl-HARQ-FeedbackEnabled' in TS 38.321 [3]. If this field of at least one sidelink logical channel for the UE is set to enabled, *sl-PSFCH-Config* should be mandatory present in configuration *SL-ResourcePool* of at least one of the sidelink resource pools. |
| ***sl-LogicalChannelGroup***  ID of the sidelink logical channel group, as specified in TS 38.321 [3], which the sidelink logical channel belongs to. |
| ***sl-LogicalChannelSR-DelayTimerApplied***  Indicates whether to apply the delay timer for SR transmission for this sidelink logical channel. Set to false if *logicalChannelSR-DelayTimer* is not included in *sl-BSR-Config*. |
| ***sl-MaxPUSCH-Duration***  If present, it indicates the maximum PUSCH duration of UL-SCH resources that this sidelink logical channel is mapped to, when checking the SR trigger condition. Corresponds to "sl-MaxPUSCH-Duration" in TS 38.321 [3]. |
| ***sl-PrioritisedBitRate***  Value in kiloBytes/s. Value *kBps0* corresponds to 0 kiloBytes/s, value *kBps8* corresponds to 8 kiloBytes/s, value *kBps16* corresponds to 16 kiloBytes/s, and so on. |
| ***sl-Priority***  Sidelink logical channel priority, as specified in TS 38.321 [3]. |
| ***sl-SchedulingRequestId***  If present, it indicates the scheduling request configuration applicable for this sidelink logical channel, as specified in TS 38.321 [3]. |

|  |  |
| --- | --- |
| Conditional Presence | Explanation |
| *CONNECTED* | This field is optionally present, Need M, in an RRCReconfiguration message, for a SL DRB with additional sidelink RLC bearer being configured. The field is absent otherwise. |

*Next Change*

#### 9.1.1.4 SCCH configuration

Parameters that are specified for unicast of NR sidelink communication, which is used for the sidelink signalling radio bearer of PC5-RRC message. The SL-SRB using this SCCH configuration is named as SL-SRB3.

| Name | Value | Semantics description | Ver |
| --- | --- | --- | --- |
| PDCP configuration |  |  |  |
| *>t-Reordering* | Undefined | Selected by the receiving UE, up to UE implementation |  |
| *>pdcp-SN-Size* | 12 |  |  |
| SRAP configuration |  | Specified for L2 U2U relay operation, which is used for U2U Remote UE's SL-SRB3 with the peer U2U Remote UE. |  |
| *>sl-RemoteUE-SLRB-Identity* | 3 | This parameter is only applicable to L2 U2U relay operation. |  |
| RLC configuration |  | AM RLC |  |
| *>sn-FieldLength* | 12 |  |  |
| *>t-Reassembly* | Undefined | Selected by the receiving UE, up to UE implementation |  |
| *>t-PollRetransmit* | Undefined | Selected by the transmitting UE, up to UE implementation |  |
| *>pollPDU* | Undefined | Selected by the transmitting UE, up to UE implementation |  |
| *>pollByte* | Undefined | Selected by the transmitting UE, up to UE implementation |  |
| *>maxRetxThreshold* | Undefined | Selected by the transmitting UE, up to UE implementation |  |
| *>t-StatusProhibit* | Undefined | Selected by the receiving UE, up to UE implementation |  |
| *>logicalChannelIdentity* | 3 |  |  |
| MAC configuration |  |  |  |
| *>priority* | 1 |  |  |
| *>prioritisedBitRate* | infinity |  |  |
| *>logicalChannelGroup* | 0 |  |  |
| >*schedulingRequestId* | 0 | The scheduling request configuration with this value is applicable for this SCCH if configured by the network. |  |
| >*sl-HARQ-FeedbackEnabled* | Undefined | Selected by the transmitting UE, up to UE implementation |  |
| Additional RLC configuration |  | AM RLC  This RLC is used for PDCP duplication | v1800 |
| *>sn-FieldLength* | 12 |  | v1800 |
| *>t-Reassembly* | Undefined | Selected by the receiving UE, up to UE implementation | v1800 |
| *>t-PollRetransmit* | Undefined | Selected by the transmitting UE, up to UE implementation | v1800 |
| *>pollPDU* | Undefined | Selected by the transmitting UE, up to UE implementation | v1800 |
| *>pollByte* | Undefined | Selected by the transmitting UE, up to UE implementation | v1800 |
| *>maxRetxThreshold* | Undefined | Selected by the transmitting UE, up to UE implementation | v1800 |
| *>t-StatusProhibit* | Undefined | Selected by the receiving UE, up to UE implementation | v1800 |
| *>logicalChannelIdentity* | 22 |  | v1800 |
| MAC configuration associated to additional RLC configuration |  | This logical channel is used for PDCP duplication | v1800 |
| *>priority* | 1 |  | v1800 |
| *>prioritisedBitRate* | infinity |  | v1800 |
| *>logicalChannelGroup* | 0 |  | v1800 |
| *>schedulingRequestId* | 0 | The scheduling request configuration with this value is applicable for this SCCH if configured by the network. | v1800 |
| *>sl-HARQ-FeedbackEnabled* | Undefined | Selected by the transmitting UE, up to UE implementation | v1800 |

Parameters that are specified of NR sidelink communication, which is used for the sidelink signalling radio bearer of unprotected PC5-S message (e.g. Direct Link Establishment Request, TS 24.587 [57] or Prose Direct Link Establishment Request, TS 24.554 [72]). The SL-SRB using this SCCH configuration is named as SL-SRB0.

| Name | Value | Semantics description | Ver |
| --- | --- | --- | --- |
| PDCP configuration |  |  |  |
| *>t-Reordering* | Undefined | Selected by the receiving UE, up to UE implementation |  |
| *>pdcp-SN-Size* | 12 |  |  |
| SRAP configuration |  | Specified for L2 U2U relay operation, which is used for U2U Remote UE's SL-SRB0 with the peer U2U Remote UE. |  |
| *>sl-RemoteUE-SLRB-Identity* | 0 | This parameter is only applicable to L2 U2U relay operation. |  |
| RLC configuration |  | UM RLC |  |
| *>sn-FieldLength* | 6 |  |  |
| *>t-Reassembly* | Undefined | Selected by the receiving UE, up to UE implementation |  |
| *>logicalChannelIdentity* | 0 |  |  |
| MAC configuration |  |  |  |
| *>priority* | 1 |  |  |
| *>prioritisedBitRate* | infinity |  |  |
| *>logicalChannelGroup* | 0 |  |  |
| >*schedulingRequestId* | 0 | The scheduling request configuration with this value is applicable for this SCCH if configured by the network. |  |
| >*sl-HARQ-FeedbackEnabled* | Undefined | Selected by the transmitting UE, up to UE implementation |  |

Parameters that are specified for unicast of NR sidelink communication, which is used for the sidelink signalling radio bearer of PC5-S message establishing PC5-S security (e.g. Direct Link Security Mode Command and Direct Link Security Mode Complete, TS 24.587 [57] or ProSe Direct Link Security Mode Command and ProSe Direct Link Security Mode Complete, TS 24.554 [72]). The SL-SRB using this SCCH configuration is named as SL-SRB1.

| Name | Value | Semantics description | Ver |
| --- | --- | --- | --- |
| PDCP configuration |  |  |  |
| *>t-Reordering* | Undefined | Selected by the receiving UE, up to UE implementation |  |
| *>pdcp-SN-Size* | 12 |  |  |
| SRAP configuration |  | Specified for L2 U2U relay operation, which is used for U2U Remote UE's SL-SRB1 with the peer U2U Remote UE. |  |
| *>sl-RemoteUE-SLRB-Identity* | 1 | This parameter is only applicable to L2 U2U relay operation. |  |
| RLC configuration |  | AM RLC |  |
| *>sn-FieldLength* | 12 |  |  |
| *>t-Reassembly* | Undefined | Selected by the receiving UE, up to UE implementation |  |
| *>t-PollRetransmit* | Undefined | Selected by the transmitting UE, up to UE implementation |  |
| *>pollPDU* | Undefined | Selected by the transmitting UE, up to UE implementation |  |
| *>pollByte* | Undefined | Selected by the transmitting UE, up to UE implementation |  |
| *>maxRetxThreshold* | Undefined | Selected by the transmitting UE, up to UE implementation |  |
| *>t-StatusProhibit* | Undefined | Selected by the receiving UE, up to UE implementation |  |
| *>logicalChannelIdentity* | 1 |  |  |
| MAC configuration |  |  |  |
| *>priority* | 1 |  |  |
| *>prioritisedBitRate* | infinity |  |  |
| *>logicalChannelGroup* | 0 |  |  |
| >*schedulingRequestId* | 0 | The scheduling request configuration with this value is applicable for this SCCH if configured by the network. |  |
| >*sl-HARQ-FeedbackEnabled* | Undefined | Selected by the transmitting UE, up to UE implementation |  |
| Additional RLC configuration |  | AM RLC  This RLC is used for PDCP duplication | v1800 |
| *>sn-FieldLength* | 12 |  | v1800 |
| *>t-Reassembly* | Undefined | Selected by the receiving UE, up to UE implementation | v1800 |
| *>t-PollRetransmit* | Undefined | Selected by the transmitting UE, up to UE implementation | v1800 |
| *>pollPDU* | Undefined | Selected by the transmitting UE, up to UE implementation | v1800 |
| *>pollByte* | Undefined | Selected by the transmitting UE, up to UE implementation | v1800 |
| *>maxRetxThreshold* | Undefined | Selected by the transmitting UE, up to UE implementation | v1800 |
| *>t-StatusProhibit* | Undefined | Selected by the receiving UE, up to UE implementation | v1800 |
| *>logicalChannelIdentity* | 20 |  | v1800 |
| MAC configuration associated to additional RLC configuration |  | This logical channel is used for PDCP duplication | v1800 |
| *>priority* | 1 |  | v1800 |
| *>prioritisedBitRate* | infinity |  | v1800 |
| *>logicalChannelGroup* | 0 |  | v1800 |
| *>schedulingRequestId* | 0 | The scheduling request configuration with this value is applicable for this SCCH if configured by the network. | v1800 |
| *>sl-HARQ-FeedbackEnabled* | Undefined | Selected by the transmitting UE, up to UE implementation | v1800 |

Parameters that are specified for unicast of NR sidelink communication, which is used for the sidelink signalling radio bearer of protected PC5-S message except Direct Link Security Mode Complete, TS 24.587 [57] or Prose Direct Link Security Mode Complete, TS 24.554 [72]. The SL-SRB using this SCCH configuration is named as SL-SRB2.

| Name | Value | Semantics description | Ver |
| --- | --- | --- | --- |
| PDCP configuration |  |  |  |
| *>t-Reordering* | Undefined | Selected by the receiving UE, up to UE implementation |  |
| *>pdcp-SN-Size* | 12 |  |  |
| SRAP configuration |  | Specified for L2 U2U relay operation, which is used for U2U Remote UE's SL-SRB2 with the peer U2U Remote UE. |  |
| *>sl-RemoteUE-SLRB-Identity* | 2 | This parameter is only applicable to L2 U2U relay operation. |  |
| RLC configuration |  | AM RLC |  |
| *>sn-FieldLength* | 12 |  |  |
| *>t-Reassembly* | Undefined | Selected by the receiving UE, up to UE implementation |  |
| *>t-PollRetransmit* | Undefined | Selected by the transmitting UE, up to UE implementation |  |
| *>pollPDU* | Undefined | Selected by the transmitting UE, up to UE implementation |  |
| *>pollByte* | Undefined | Selected by the transmitting UE, up to UE implementation |  |
| *>maxRetxThreshold* | Undefined | Selected by the transmitting UE, up to UE implementation |  |
| *>t-StatusProhibit* | Undefined | Selected by the receiving UE, up to UE implementation |  |
| *>logicalChannelIdentity* | 2 |  |  |
| MAC configuration |  |  |  |
| *>priority* | 1 |  |  |
| *>prioritisedBitRate* | infinity |  |  |
| *>logicalChannelGroup* | 0 |  |  |
| >*schedulingRequestId* | 0 | The scheduling request configuration with this value is applicable for this SCCH if configured by the network. |  |
| >*sl-HARQ-FeedbackEnabled* | Undefined | Selected by the transmitting UE, up to UE implementation |  |
| Additional RLC configuration |  | AM RLC  This RLC is used for PDCP duplication | v1800 |
| *>sn-FieldLength* | 12 |  | v1800 |
| *>t-Reassembly* | Undefined | Selected by the receiving UE, up to UE implementation | v1800 |
| *>t-PollRetransmit* | Undefined | Selected by the transmitting UE, up to UE implementation | v1800 |
| *>pollPDU* | Undefined | Selected by the transmitting UE, up to UE implementation | v1800 |
| *>pollByte* | Undefined | Selected by the transmitting UE, up to UE implementation | v1800 |
| *>maxRetxThreshold* | Undefined | Selected by the transmitting UE, up to UE implementation | v1800 |
| *>t-StatusProhibit* | Undefined | Selected by the receiving UE, up to UE implementation | v1800 |
| *>logicalChannelIdentity* | 21 |  | v1800 |
| MAC configuration associated to additional RLC configuration |  | This logical channel is used for PDCP duplication | v1800 |
| *>priority* | 1 |  | v1800 |
| *>prioritisedBitRate* | infinity |  | v1800 |
| *>logicalChannelGroup* | 0 |  | v1800 |
| *>schedulingRequestId* | 0 | The scheduling request configuration with this value is applicable for this SCCH if configured by the network. | v1800 |
| *>sl-HARQ-FeedbackEnabled* | Undefined | Selected by the transmitting UE, up to UE implementation | v1800 |

Parameters that are specified for NR sidelink discovery, which is used for the sidelink signalling radio bearer of NR sidelink discovery messages (e.g., Announcement message, Solicitation message and Response message, see TS 23.304 [65]). The SL-SRB using this SCCH configuration is named as SL-SRB4.

| Name | Value | Semantics description | Ver |
| --- | --- | --- | --- |
| PDCP configuration |  |  |  |
| *>*t-Reordering | Undefined | Selected by the receiving UE, up to UE implementation |  |
| *>*pdcp-SN-Size | 12 |  |  |
| RLC configuration |  | UM RLC |  |
| *>sn-FieldLength* | 6 |  |  |
| *>*t-Reassembly | Undefined | Selected by the receiving UE, up to UE implementation |  |
| *>*logicalChannelIdentity | 58 |  |  |
| MAC configuration |  |  |  |
| *>priority* | 1 |  |  |
| *>prioritisedBitRate* | infinity |  |  |
| *>logicalChannelGroup* | 0 |  |  |
| >*schedulingRequestId* | 0 | The scheduling request configuration with this value is applicable for this SCCH if configured by the network. |  |
| >*sl-HARQ-FeedbackEnabled* | disabled | HARQ feedback is not supported for NR sidelink discovery transmission |  |

Parameters that are specified for NR sidelink L2 U2N Relay operations, which is used for the PC5 Relay RLC channel for Remote UE's SRB0 message transmission/reception. The PC5 Relay RLC channel using this configuration is named as SL-RLC0.

| Name | Value | Semantics description | Ver |
| --- | --- | --- | --- |
| RLC configuration |  | AM |  |
| *>sn-FieldLength* | 12 |  |  |
| *>t-Reassembly* | Undefined | Selected by the receving UE, up to UE implementation |  |
| *>t-PollRetransmit* | Undefined | Selected by the transmitting UE, up to UE implementation |  |
| *>pollPDU* | Undefined | Selected by the transmitting UE, up to UE implementation |  |
| *>pollByte* | Undefined | Selected by the transmitting UE, up to UE implementation |  |
| *>maxRetxThreshold* | Undefined | Selected by the transmitting UE, up to UE implementation |  |
| *>t-StatusProhibit* | Undefined | Selected by the receiving UE, up to UE implementation |  |
| *>logicalChannelIdentity* | 56 |  |  |
| MAC configuration |  |  |  |
| *>priority* | 1 |  |  |
| *>prioritisedBitRate* | Infinity |  |  |
| *>logicalChannelGroup* | 0 |  |  |
| >*schedulingRequestId* | 0 | The scheduling request configuration with this value is applicable for this SCCH if configured by the network. The scheduling request configuration is not applicable to L2 U2N Remote UE. |  |
| >*sl-HARQ-FeedbackEnabled* | Undefined | Selected by the transmitting UE, up to UE implementation |  |

Parameters that are specified for NR sidelink L2 U2U Relay operations, which is used for the PC5 Relay RLC channel for U2U Remote UE's SL-SRB0/1/2/3 message transmission/reception with the peer U2U Remote UE. The PC5 Relay RLC channel using this configuration is named as SL-U2U-RLC.

| Name | Value | Semantics description | Ver |
| --- | --- | --- | --- |
| RLC configuration |  | AM |  |
| *>sn-FieldLength* | 12 |  |  |
| *>t-Reassembly* | Undefined | Selected by the receving UE, up to UE implementation |  |
| *>t-PollRetransmit* | Undefined | Selected by the transmitting UE, up to UE implementation |  |
| *>pollPDU* | Undefined | Selected by the transmitting UE, up to UE implementation |  |
| *>pollByte* | Undefined | Selected by the transmitting UE, up to UE implementation |  |
| *>maxRetxThreshold* | Undefined | Selected by the transmitting UE, up to UE implementation |  |
| *>t-StatusProhibit* | Undefined | Selected by the receiving UE, up to UE implementation |  |
| *>logicalChannelIdentity* | 55 |  |  |
| MAC configuration |  |  |  |
| *>priority* | 1 |  |  |
| *>prioritisedBitRate* | Infinity |  |  |
| *>logicalChannelGroup* | 0 |  |  |
| >*schedulingRequestId* | 0 | The scheduling request configuration with this value is applicable for this SCCH if configured by the network. |  |
| >*sl-HARQ-FeedbackEnabled* | Undefined | Selected by the transmitting UE, up to UE implementation |  |

#### 9.1.1.5 STCH configuration

Parameters that are specified for NR sidelink communication, which is used for the sidelink data radio bearer.

| Name | Value | Semantics description | Ver |
| --- | --- | --- | --- |
| PDCP configuration |  |  |  |
| *>t-Reordering* | Undefined | Selected by the receiving UE, up to UE implementation |  |
| *>pdcp-SN-Size* | 12 | For broadcast and groupcast of NR sidelink communication |  |
| *>maxCID* | 15 | For broadcast and groupcast of NR sidelink communication |  |
| *>profiles* |  |  |  |
| RLC configuration |  | For broadcast and groupcast of NR sidelink communication, uni-directional UM RLC  UM window size is set to 32 |  |
| *>t-Reassembly* | Undefined | Selected by the receiving UE, up to Up to UE implementation |  |
| *>sn-FieldLength* | 6 | For broadcast and groupcast of NR sidelink communication |  |
| *>logicalChannelIdentity* | Undefined | Selected by the transmitting UE, up to UE implementation |  |
| MAC configuration |  |  |  |
| *>priority* |  |  |  |
| Additional RLC configuration |  | For broadcast and groupcast of NR sidelink communication, uni-directional UM RLC  UM window size is set to 32  This RLC is used for PDCP duplication | v1810 |
| *>t-Reassembly* | Undefined | Selected by the receiving UE, up to Up to UE implementation | v1810 |
| *>sn-FieldLength* | 6 | For broadcast and groupcast of NR sidelink communication | v1810 |
| *>logicalChannelIdentity* | Undefined | Selected by the transmitting UE, up to UE implementation | v1810 |
| MAC configuration associated to additional RLC configuration |  |  |  |
| *>priority* |  |  |  |