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

**Fukuoka, Japan, May 20 - 24, 2024**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.306** | **CR** | **1091** | **rev** | **2** | **Current version:** | **18.1.0** |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network | **X** | Core Network |  |

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| ***Title:*** | Correction for SL Relay UE capability | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Samsung | | | | | | | | | |
| ***Source to TSG:*** | R2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_SL\_relay\_enh-Core | | | | |  | ***Date:*** | | | 2024-05-31 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-18 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories 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:*** | | The agreements on UE capability during RAN2 #125bis and #126 meetings need to be implemented in 38.306 and 38.331.   |  | | --- | | Agreements in R2#125bis meeting:  IMS voice over split bearer is not supported for MP operation.  Postpone the discussion of new UE capability to indicate whether UE supports UL transmission via direct path and DL reception via either direct path or indirect path for split SRB.  Introduce new UE capability to indicate whether UE supports UL transmission via both direct path and indirect path for the split DRB. |  |  | | --- | | Agreements in R2#126 meeting:  No capability is introduced to indicate that the UE supports only one path in UL while two paths in DL for MP split RB.  If the UE does not support duplication with split SRB, the network cannot configure DL-only duplication for this UE.  Confirm that split SRB1 without duplication or direct SRB1 can be configured even when the remote or relay UE does not support PC5-RRC trigger (e.g., because the gNB knows the relay UE is in connected mode). No normative spec impact expected.  N122 moves to Agreed. | | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | (1) Added a text on IMS voice over split bearer for L2 multi-path relay into the NOTE in 4.2.13:  NOTE: In this release of specification, IMS voice over split bearer is not supported for NR-DC, ~~and~~ NE-DC, and L2 multi-path relay.  (2) Added a new parameter for UL transmission via both direct path and indirect path for split DRB is added in 4.2.16.1.1 and in A.4 (Table A.4-1):  ***splitDRB-withUL-Both-Direct-Indirect*** | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | UE capability parameters for Release 18 SL relay operation are incomplete. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.2.13, 4.2.16.1.1, A.4 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS 38.331 CR #4774 | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | rev1: no content changed (IPA of RAN2#125bis meeting)  rev2: implemented the agreement in RAN2#126 meeting | | | | | | | | |

START OF CHANGES

### 4.2.13 IMS Parameters

| Definitions for parameters | Per | M | FDD-TDD  DIFF | FR1-FR2  DIFF |
| --- | --- | --- | --- | --- |
| ***voiceFallbackIndicationEPS-r16***  Indicates whether the UE supports *voiceFallbackIndication* in *RRCRelease* and *MobilityFromNRCommand*. If this field is included, the UE shall support IMS voice over NR and IMS voice over E-UTRA via EPC. | UE | No | No | No |
| ***voiceOverEUTRA-5GC***  Indicates whether the UE supports IMS voice over E-UTRA via 5GC. It is mandated to the UE if the UE is capable of IMS voice over E-UTRA via 5GC. Otherwise, the UE does not include this field. If this field is included and the UE is capable of E-UTRA with EPC, the UE shall support IMS voice over E-UTRA via EPC. | UE | No | No | No |
| ***voiceOverNR, voiceOverNR-r17***  Indicates whether the UE supports IMS voice over NR. It is mandated to the UE if the UE is capable of IMS voice over NR (including SNPN if the UE is SNPN capable). Otherwise, the UE does not include this field. If this field is included and the UE is capable of E-UTRA with EPC, the UE shall support IMS voice over E-UTRA via EPC. | UE | No | No | Yes  (Incl FR2-2 DIFF) |
| ***voiceOverSCG-BearerEUTRA-5GC***  Indicates whether the UE supports IMS voice over SCG bearer of NE-DC. | UE | No | No | N/A |

NOTE: In this release of specification, IMS voice over split bearer is not supported for NR-DC, NE-DC, and L2 multi-path relay.

NEXT CHANGE

### 4.2.16 Sidelink Parameters

#### 4.2.16.1 Sidelink Parameters in NR

##### 4.2.16.1.1 Sidelink General Parameters

| Definitions for parameters | Per | M | FDD-TDD DIFF | **FR1-FR2**  DIFF |
| --- | --- | --- | --- | --- |
| ***accessStratumReleaseSidelink-r16***  Indicates the access stratum release for NR sidelink communication the UE supports as specified in TS 38.331 [9]. | UE | Yes | No | No |
| ***multipathRelayUE-N3C-r18***  Indicates whether L2 multi-path relay UE operation using non-3GPP connection is supported by the UE. | UE | No | No | No |
| ***multipathRemoteUE-N3C-r18***  Indicates whether L2 multi-path remote UE operation using non-3GPP connection is supported by the UE. | UE | No | No | No |
| ***multipathRemoteUE-PC5L2-r18***  Indicates whether L2 multi-path remote UE operation using PC5 connection is supported by the UE. | UE | No | No | No |
| ***pdcp-DuplicationMoreThanOneUuRLC-r18***  Indicates whether L2 multi-path remote UE supports PDCP duplication with more than one RLC entity over Uu interface in L2 multi-path relay. | UE | No | No | No |
| ***pdcp-CADuplicationDirectpath-DRB-r18***  Indicates whether L2 multi-path remote UE supports CA-based PDCP duplication over DRB using Uu interface in L2 multi-path relay. | UE | No | No | No |
| ***pdcp-CADuplicationDirectpath-SRB-r18***  Indicates whether L2 multi-path remote UE supports CA-based PDCP duplication over SRB1/2 using Uu interface in L2 multi-path relay. | UE | No | No | No |
| ***pdcp-DuplicationMP-SplitDRB-r18***  Indicates whether L2 multi-path remote UE supports PDCP duplication over split DRB in L2 multi-path relay. | UE | No | No | No |
| ***pdcp-DuplicationMP-SplitSRB-r18***  Indicates whether L2 multi-path remote UE supports PDCP duplication over split SRB1/2 in L2 multi-path relay. | UE | No | No | No |
| ***directpathRLF-RecoveryViaSRB1-r18***  Indicates whether L2 multi-path remote UE supports recovery from direct path RLF via split SRB1 using either PC5 connection or non-3GPP connection (if supported) in TS 38.331 [9]. | UE | No | No | No |
| ***posSIB-ForwardingSupported-r18***  Indicates whether the UE, when operating as an NR L2 sidelink relay UE, supports forwarding of posSIBs. The UE capable of operation as an NR L2 sidelink relay UE shall set this field to *supported* if it is capable of obtaining posSIBs. | UE | CY | No | No |
| ***relayUE-Operation-L2-r17***  Indicates whether NR L2 sidelink relay UE operation is supported by the UE. | UE | No | No | No |
| ***relayUE-U2U-OperationL2-r18***  Indicates whether L2 U2U sidelink relay UE operation is supported by the UE. | UE | No | No | No |
| ***remoteUE-IndirectPathAddChangeToIdleInactiveRelay-r18***  Indicates whether L2 multi-path remote UE supports indirect path addition or indirect path change with target relay UE in RRC\_IDLE or RRC\_INACTIVE state. | UE | No | No | No |
| ***remoteUE-Operation-L2-r17***  Indicates whether NR L2 sidelink remote UE operation is supported by the UE. | UE | No | No | No |
| ***remoteUE-PathSwitchToIdleInactiveRelay-r17***  Indicates whether L2 sidelink remote UE supports direct to indirect path switch with target relay in RRC\_IDLE or RRC\_INACTIVE state. | UE | No | No | No |
| ***remoteUE-U2N-PathSwitchOperationL2-r18***  Indicates whether enhanced NR L2 U2N remote UE operation for intra-gNB path switch and inter-gNB path switch including separate SL-RSRP and SD-RSRP threshold configurations for events X1 and X2 is supported by the UE. | UE | No | No | No |
| ***remoteUE-U2U-OperationL2-r18***  Indicates whether L2 U2U sidelink remote UE operation is supported by the UE. | UE | No | No | No |
| ***sfn-DFN-OffsetSupported-r18***  Indicates whether the UE, when operating as an NR L2 sidelink relay UE, supports indication of the offset between SFN and DFN timelines. | UE | No | No | No |
| ***splitDRB-withUL-Both-Direct-Indirect-r18***  Indicates whether L2 multi-path remote UE supports UL transmission via both direct path and indirect path for split DRB. | UE | No | No | No |

NEXT CHANGE

# A.4: Sidelink capabilities applicable to Uu and PC5

Annex A.4 specifies for each sidelink related capability, in which interface (i.e., *UECapabilityInformation* in Uu RRC and *UECapabilityInformation*Sidelink in PC5 RRC) a UE supporting sidelink shall report the concerned capability:

- *UECapabilityInformation*: the concerned sidelink capability is reported within *UECapabilityInformation*;

- *UECapabilityInformationSidelink*: the concerned sidelink capability is reported within *UECapabilityInformationSidelink;*

Table A.4-1: Sidelink capability reported in *UECapabilityInformation*/ *UECapabilityInformationSidelink*

|  |  |  |
| --- | --- | --- |
| Sidelink Parameter | *UECapabilityInformation* | *UECapabilityInformationSidelink* |
| accessStratumReleaseSidelink |  | X |
| outOfOrderDeliverySidelink |  | X |
| am-WithLongSN-Sidelink | X | X |
| um-WithLongSN-Sidelink | X | X |
| lcp-RestrictionSidelink | X |  |
| logicalChannelSR-DelayTimerSidelink | X |  |
| multipleSR-ConfigurationsSidelink | X |  |
| multipleConfiguredGrantsSidelink | X |  |
| supportedBandCombinationListSidelinkEUTRA-NR | X |  |
| supportedBandCombinationListSidelinkNR |  | X |
| gnb-ScheduledMode3SidelinkEUTRA | X |  |
| gnb-ScheduledMode4SidelinkEUTRA | X |  |
| sl-Reception | X | X |
| sl-TransmissionMode1 | X |  |
| sl-TransmissionMode2 | X |  |
| sl-TransmissionMode2-PartialSensing | X |  |
| sl-TransmissionMode2-RandomResourceSelection | X |  |
| sync-Sidelink | X |  |
| congestionControlSidelink | X |  |
| sl-Tx-256QAM | X | X |
| sl-Rx-256QAM | X | X |
| psfch-FormatZeroSidelink | X |  |
| lowSE-64QAM-MCS-TableSidelink | X | X |
| csi-ReportSidelink |  | X |
| enb-sync-Sidelink | X |  |
| rankTwoReception |  | X |
| fewerSymbolSlotSidelink | X |  |
| sl-openLoopPC-RSRP-ReportSidelink | X | X |
| rx-IUC-Scheme1-PreferredMode2Sidelink | X | X |
| rx-IUC-Scheme1-NonPreferredMode2Sidelink | X | X |
| rx-IUC-Scheme2-Mode2Sidelink | X | X |
| rx-IUC-Scheme1-SCI | X | X |
| tx-Sidelink | X |  |
| rx-Sidelink | X |  |
| ue-PowerClassSidelink | X |  |
| drx-OnSidelink | X | X |
| enhancedUuDRX-forSidelink | X |  |
| relayUE-Operation-L2 | X |  |
| remoteUE-Operation-L2 | X |  |
| remoteUE-PathSwitchToIdleInactiveRelay | X |  |
| supportedBandCombinationListSL-RelayDiscovery | X |  |
| supportedBandCombinationListSL-NonRelayDiscovery | X |  |
| rx-IUC-Scheme1-SCI-ExplicitReq | X | X |
| scheme2-ConflictDeterminationRSRP |  | X |
| tx-IUC-Scheme2-Mode2Sidelink | X | X |
| tx-IUC-Scheme1-Mode2Sidelink | X | X |
| rx-sidelinkPSFCH | X |  |
| p0-OLPC-Sidelink | X |  |
| sl-LBT-FailureDectectionRecovery | X |  |
| pdcp-DuplicationSRB-sidelink | X | X |
| pdcp-DuplicationDRB-sidelink | X | X |
| supportedBandCombinationListSL-U2U-RelayDiscovery | X |  |
| relayUE-U2U-OperationL2 | X |  |
| remoteUE-U2U-OperationL2 | X |  |
| remoteUE-U2N-PathSwitchOperationL2 | X |  |
| multipathRemoteUE-PC5L2 | X |  |
| multipathRelayUE-N3C | X |  |
| multipathRemoteUE-N3C | X |  |
| remoteUE-IndirectPathAddChangeToIdleInactiveRelay | X |  |
| pdcp-DuplicationMoreThanOneUuRLC | X |  |
| sl-ReceptionIntraCarrierGuardBand | X | X |
| sl-PowerClassUnlicensed-r18 | X | X |
| pdcp-CADuplicationDirectpath-DRB | X |  |
| pdcp-CADuplicationDirectpath-SRB | X |  |
| pdcp-DuplicationMP-SplitDRB | X |  |
| pdcp-DuplicationMP-SplitSRB | X |  |
| directpathRLF-RecoveryViaSRB1 | X |  |
| splitDRB-withUL-Both-Direct-Indirect | X |  |

END OF CHANGES