**3GPP TSG-RAN4 Meeting # 116 *R4-2510723***

**Bangalore, India, 25 Aug - 29 Aug, 2025**

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| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
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|  | **38.133** | **CR** | **draftCR** | **rev** | **-** | **Current version:** | **19.1.0** |  |
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| *For* ***[HE](http://www.3gpp.org/3G_Specs/CRs.htm%22%20%5Cl%20%22_blank)******[LP](http://www.3gpp.org/3G_Specs/CRs.htm%22%20%5Cl%20%22_blank)*** *on using this form: comprehensive instructions can be found at <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:***  | Draft CR on scheduling applicability of R19 SBFD |
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| ***Source to WG:*** | ZTE Corporation, Sanechips |
| ***Source to TSG:*** | R4 |
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| ***Work item code:*** | NR\_duplex\_evo-Core |  | ***Date:*** | 2025-08-15 |
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| ***Category:*** | B |  | ***Release:*** | Rel-19 |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)…Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19) Rel-20 (Release 20)* |
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| ***Reason for change:*** | The scheduling availability relevant to the UE-to-UE L1-SRS-RSRP measurement were discussed in R19 SBFD and approved the following agreements

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| Agreements * For scheduling restriction,
	+ For L1-SRS-RSRP,
		- For FR1, R16 requirements are re-used as baseline, FFS exact number of restricted symbols considering the impact of timing assumption
		- For FR2, FFS whether R16 requirements are re-used as baseline, considering the impact of Rx beam determination, and timing assumption
	+ For L1-CLI-RSSI, FFS whether R16 requirements are re-used as baseline, considering the measurement is based on DL timing.

Agreements* For L1-SRS-RSRP,
	+ For UL, scheduling restrictions always apply, for both FR1 and FR2.
	+ For DL, scheduling restriction does not apply to the symbols with SRS if UE is able to support FDM-ed DL reception and SRS measurement if RAN1 will define optional UE capability for FDMed DL reception and SRS measurement; otherwise (if UE does not support the capability or RAN1 does not define the capability), scheduling restriction applies.
	+ The restricted symbols at least include symbols for measurement resource and Y symbols before symbols for measurement resource and Y is re-using same number as R16 requirements,
		- Note: this time has accounted for the UL/DL switching time.
	+ FFS whether there is restriction on symbols after the symbols for measurement resource considering UL/DL transition.

Agreements* for L1-SRS-RSRP:
	+ For UL,
		- Scheduling restrictions always apply, for both FR1 and FR2.
		- The restricted symbols include symbols for SRS resource and Y symbols before, where Y is re-using same number as R16 requirements.
		- For the symbols after the SRS resource, not define scheduling restriction on symbols after symbols for SRS resource in TS 38.133, with the understanding that the UL/DL switching time is covered by RAN1 specification TS 38.211.
	+ For DL,
		- if UE is able to support FDM-ed DL reception and SRS measurement, scheduling restriction does not apply except when SRS resources are not TypeD QCL-ed with PDCCH/PDSCH in FR2, otherwise (if UE does not support the capability), scheduling restriction applies.
		- The restricted symbols include symbols for SRS resource and Y symbols before symbols for SRS resource, where Y is re-using same number as R16 requirements.
* FFS whether restricted symbol(s) is needed for the symbol(s) after SRS resource to consider the switching
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These requirements should be captured in 38.133. |
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| ***Summary of change:*** |  Capture the relevant requirements of scheduling restriction for UE-to-UE L1-SRS-RSRP measurement. |
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| ***Consequences if not approved:*** | The requirements of scheduling restriction for UE-to-UE L1-SRS-RSRP measurement are missing. |
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| ***Clauses affected:*** |  |
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|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** | **X** |  |  Test specifications | TS 38.533 |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
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| ***Other comments:*** |  |
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| ***This CR's revision history:*** |  |

# <Start of Change #1>

### 9.x.2.6 Scheduling availability of UE during L1-CLI measurements

Scheduling availability when the UE is performing L1-CLI measurements which are L1-SRS-RSRP and L1-CLI-RSSI are described in the following clause.

#### 9.x.2.6.1 Scheduling availability of UE performing L1-SRS-RSRP measurement on FR1

The following scheduling restriction applies due to L1-SRS-RSRP measurements.

- The UE is not expected to transmit PUCCH/PUSCH/SRS on OFDM symbols on which the UE performs L1-SRS-RSRP measurements, and on 1 data symbol before the OFDM symbol(s) used for L1-SRS-RSRP measurements for 15 kHz and 30 kHz subcarrier spacing.

- For the UE which does not support *L1-SRS-RSRP-FDM\_DL*, the UE is not expected to receive PDCCH/PDSCH/CSI-RS for tracking/CSI-RS for CQI on OFDM symbol(s) on which the UE performs L1-SRS-RSRP measurements, and on 1 data symbol before the OFDM symbol(s) used for L1-SRS-RSRP measurements for 15 kHz and 30 kHz subcarrier spacing.

- The UE is not expected to transmit PUCCH/PUSCH/SRS on OFDM symbols on which the UE performs L1-SRS-RSRP measurement, and on 2 data symbols before the OFDM symbol(s) used for L1-SRS-RSRP measurements for 60 kHz subcarrier spacing.

- For the UE which does not support *L1-SRS-RSRP-FDM\_DL*, the UE is not expected to receive PDCCH/PDSCH/CSI-RS for tracking/CSI-RS for CQI on OFDM symbols on which the UE performs L1-SRS-RSRP measurement, and on 2 data symbols before the OFDM symbol(s) used for L1-SRS-RSRP measurements for 60 kHz subcarrier spacing.

When TDD intra-band carrier aggregation is configured, the scheduling restrictions on serving cell where CLI measurements are performed apply to all serving cells in the same band on the symbols that fully or partially overlap with restricted symbols.

When intra-band non-contiguous carrier aggregation is configured for a UE indicating *intraBandNR-CA-non-collocated-r18* and if *nonCollocatedTypeNR-CA-r18* is not provided, there are no scheduling restrictions on FR1 serving cell(s) to be measured and configured on the non-contiguous CC(s) in the same band. Otherwise, the scheduling restrictions on serving cell where CLI measurements are performed apply to all serving cells in the same band on the symbols that fully or partially overlap with restricted symbols if *nonCollocatedTypeNR-CA-r18* is provided.

#### 9.x.2.6.2 Scheduling availability of UE performing L1-SRS-RSRP measurement on FR2

The following scheduling restriction applies due to L1-SRS-RSRP measurements.

- The UE is not expected to transmit PUCCH/PUSCH/SRS on OFDM symbols on which the UE performs L1-SRS-RSRP measurements, and on 1 data symbol before the OFDM symbol(s) used for L1-SRS-RSRP measurements for 60 kHz subcarrier spacing.

- For the UE which does not support *L1-SRS-RSRP-FDM\_DL*, the UE is not expected to receive PDCCH/PDSCH/CSI-RS for tracking/CSI-RS for CQI on the OFDM symbols on which the UE performs L1-SRS-RSRP measurements, and on 1 data symbol before the OFDM symbol(s) used for L1-SRS-RSRP measurements for 60 kHz subcarrier spacing.

- For the UE which supports *L1-SRS-RSRP-FDM\_DL* but the SRS resources are not TypeD QCL-ed with PDCCH/PDSCH, the UE is not expected to receive PDCCH/PDSCH/CSI-RS for tracking/CSI-RS for CQI on OFDM symbols on which the UE performs L1-SRS-RSRP measurements, and on 1 data symbol before the OFDM symbol(s) used for L1-SRS-RSRP measurements for 60 kHz subcarrier spacing.

- The UE is not expected to transmit PUCCH/PUSCH/SRS on OFDM symbols on which the UE performs L1-SRS-RSRP measurements, and on 2 data symbols before the OFDM symbol(s) used for L1-SRS-RSRP measurements for 120 kHz subcarrier spacing.

- For the UE which does not support *L1-SRS-RSRP-FDM\_DL*, the UE is not expected to receive PDCCH/PDSCH/CSI-RS for tracking/CSI-RS for CQI on the OFDM symbol(s) on which the UE performs L1-SRS-RSRP measurements, and on 2 data symbols before the OFDM symbol(s) used for L1-SRS-RSRP measurements for 120 kHz subcarrier spacing.

- For the UE which supports *L1-SRS-RSRP-FDM\_DL* but the SRS resources are not TypeD QCL-ed with PDCCH/PDSCH, the UE is not expected to receive PDCCH/PDSCH/CSI-RS for tracking/CSI-RS for CQI on the OFDM symbols on which the UE performs L1-SRS-RSRP measurements, and on 2 data symbols before the OFDM symbol(s) used for SRS-RSRP measurements for 120 kHz subcarrier spacing.

When TDD intra-band carrier aggregation is configured, the scheduling restrictions on serving cell where L1-SRS-RSRP measurements are performed apply on all serving cells in the same band on the symbols that fully or partially overlap with restricted symbols.

# <End of Change #1>