**3GPP TSG-RAN WG4 Meeting # 97-e R4-20xxxx**

**Electronic Meeting, 2-13 Nov., 2020**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **38.101-3** | **CR** | **0384** | **rev** | **1** | **Current version:** | **15.11.0** |  |
|  | | | | | | | | |
| *For* ***[HELP](http://www.3gpp.org/3G_Specs/CRs.htm)*** *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:*** | CR to TS 38.101-3: Some corrections on the ENDC | | | | | | | | | |
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| ***Source to WG:*** | ZTE Corporation | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_newRAT-Core | | | | |  | | ***Date:*** | | 2020-10-17 |
|  |  | | | |  | | |  | |  |
| ***Category:*** | **F** |  | | | | | | ***Release:*** | | Rel-15 |
|  | *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-12 (Release 12) Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | First, the requirements clauses with suffix D in TS38.101-2 are defined for UL-MIMO, however, the original sentence dosen’t include the UL-MIMO description.  Second, for spectrum emission mask requirements for intra-band non-contiguous EN-DC should be defined generally, which is for sub-block, rather than CC.  Last, for intra-band non-contiguous EN-DC, no need to consider TS38.101-2 for ACLR requirements. | | | | | | | | |
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| ***Summary of change:*** | | 1. Add some wording related to UL-MIMO in the sentence. 2. Correct the spectrum emission mask requirements for intra-band non-contiguous EN-DC 3. Remove ‘TS38.101-2’ for ACLR for intra-band non-contiguous ENDC | | | | | | | | |
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| ***Consequences if not approved:*** | | Incorrect information will be existed in the spec. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.3B.0, 6.4B.2.4/5, 6.5B.1.4/5, 6.5B.2.2.1/3, 6.5B.2.2.3, 6.5B.2.4/5, 6.5B.3.4.1/2, 6.5B.3.5. | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | |  | | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | TS/TR ... CR ... | | | |
| ***affected:*** | | **X** |  | Test specifications | | | TS38.521-3 | | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | TS/TR ... CR ... | | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |

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| ***This CR's revision history:*** |  |

## << Start of change >>

6.3B Output power dynamics for DC

### 6.3B.0 General

The E-UTRA and NR switching time mask defines the observation period between E-UTRA subframe and NR slot/mini-slot boundary. Both E-UTRA subframe and NR slot/mini-slot have ON power transmissions. The ON power is defined as the mean power over the symbol duration excluding any transient period. For E-UTRA subframe or NR slot/mini-slot having OFF power transmission, the general time mask for E-UTRA or NR shall apply.

For inter-band EN-DC, output power dynamics requirement for E-UTRA single carrier and CA operation specified in clauses 6.3 and 6.3A of TS 36.101 [4] and for NR single carrier and CA operation specified in clause 6.3 and 6.3A of TS 38.101-1 [2] and for NR single carrier, CA operation and UL-MIMO specified in clause 6.3, 6.3A and 6.3D of TS 38.101-2 [3] apply.

## << Next change >>

6.4B.1.4 Frequency error for inter-band EN-DC including FR2

Frequency error requirement for E-UTRA single carrier and CA operation specified in clauses 6.5.1 and 6.5.1A of TS 36.101 [4] and for NR single carrier, CA operation and UL-MIMO specified in clause 6.4.1, 6.4A.1 and 6.4D.1 of TS 38.101-2 [3] apply.

6.4B.1.5 Frequency error for inter-band EN-DC including both FR1 and FR2

Frequency error requirement for E-UTRA single carrier and CA operation specified in clauses 6.5.1 and 6.5.1A of TS 36.101 [4] and for NR single carrier and CA operation specified in clause 6.4.1 and 6.4A.1 of TS 38.101-1 [2] and for NR single carrier, CA operation and UL-MIMO specified in clause 6.4.1, 6.4A.1 and 6.4D.1 of TS 38.101-2 [3] apply.

## << Next change >>

#### 6.4B.2.4 Transmit modulation quality for Inter-band EN-DC including FR2

Transmit modulation quality requirement for E-UTRA single carrier and CA operation specified in clauses 6.5.2 and 6.5.2A of TS 36.101 [4] and for NR single carrier, CA operation and UL-MIMO specified in clause 6.4.2, 6.4A.2 and 6.4D.2 of TS 38.101-2 [3] apply.

#### 6.4B.2.5 Transmit modulation quality for inter-band EN-DC including both FR1 and FR2

Transmit modulation quality requirement for E-UTRA single carrier and CA operation specified in clauses 6.5.2 and 6.5.2A of TS 36.101 [4] and for NR single carrier and CA operation specified in clause 6.4.2 and 6.4A.2 of TS 38.101-1 [2] and for NR single carrier, CA operation and UL-MIMO specified in clause 6.4.2, 6.4A.2 and 6.4D.2 of TS 38.101-2 [3] apply.

## << Next change >>

#### 6.5B.1.4 Inter-band EN-DC including FR2

Occupied bandwidth requirement for E-UTRA single carrier and CA operation specified in clauses 6.6.1 and 6.6.1A of TS 36.101 [4] and for NR single carrier, CA operation and UL-MIMO specified in clause 6.5.1, 6.5A.1 and 6.5D.1 of TS 38.101-2 [3] apply.

#### 6.5B.1.5 Inter-band EN-DC including both FR1 and FR2

Occupied bandwidth requirement for E-UTRA single carrier and CA operation specified in clauses 6.6.1 and 6.6.1A of TS 36.101 [4] and for NR single carrier and CA operation specified in clause 6.5.1 and 6.5A.1 of TS 38.101-1 [2] and for NR single carrier, CA operation and UL-MIMO specified in clause 6.5.1, 6.5A.1 and 6.5D.1 of TS 38.101-2 [3] apply.

## << Next change >>

#### 6.5B.2.2 Intra-band non-contiguous EN-DC

##### 6.5B.2.2.1 Spectrum emissions mask

The spectral emission mask for intra-band non-contiguous EN-DC is a composite of the emission mask for individual sub-block. In case of the sub-block consist of one component carrier with the level set to the maximum value from each mask for each frequency outside of the transmission bandwidth of either carrier. A composite spectrum emission mask is a combination of individual sub-block spectrum emissions masks. Where two masks overlap the most relaxed limit is used. Composite spectrum emission mask applies to frequencies up to ± ΔfOOB starting from the edges of the sub-blocks. If for some frequency an individual sub-block spectrum emission mask overlaps with the bandwidth of another sub-block then the emission mask does not apply for that frequency.

##### 6.5B.2.2.2 Additional spectrum emissions mask

When additional spectrum emission mask or masks apply, the additional SEM(s) shall be used to calculate the composite SEM described in 6.5B.2.2.1.

##### 6.5B.2.2.3 Adjacent channel leakage ratio

For intra-band non-contiguous EN-DC, the EN-DC Adjacent Channel Leakage power Ratio (EN-DCACLR) is the ratio of the sum of the filtered mean powers centred on the assigned E-UTRA and NR sub-block frequencies to the filtered mean power centred on an adjacent channel frequency at nominal channel spacing. In case the sub-block gap bandwidth Wgap is smaller than a E-UTRA or NR sub-block bandwidth, no EN-DCACLR requirement is set for the corresponding sub-block for the gap. The assigned EN-DC sub-block power and adjacent channel power are measured with rectangular filters with measurement bandwidths specified in TS 36.101 [4] for the E-UTRA sub-block, and TS 38.101-1 [2] for the NR sub-block. If the measured adjacent channel power is greater than –50dBm then the EN-DCACLR shall be higher than the value specified in for E-UTRAACLR and NRACLR.

## << Next change >>

#### 6.5B.2.4 Inter-band EN-DC including FR2

Unless otherewise stated, out-of-band emissions requirement for E-UTRA single carrier and CA operation specified in clauses 6.6.2 of TS 36.101 [4] and for NR single carrier, CA operation and UL-MIMO specified in clause 6.5.2, 6.5A.2 and 6.5D.2 of TS 38.101-2 [3] apply.

#### 6.5B.2.5 Inter-band EN-DC including both FR1 and FR2

Unless otherewise stated, out-of-band emissions requirement for E-UTRA single carrier and CA operation specified in clauses 6.6.2 of TS 36.101 [4] and for NR single carrier and CA operation specified in clause 6.5.2 and 6.5A.2 of TS 38.101-1 [2] and for NR single carrier, CA operation and UL-MIMO specified in clause 6.5.2, 6.5A.2 and 6.5D.2 of TS 38.101-2 [3] apply.

## << Next change >>

#### 6.5B.3.4 Inter-band EN-DC including FR2

General spurious requirement for E-UTRA single carrier and CA operation specified in clauses 6.6.3.1 and 6.6.3.1A of TS 36.101 [4] and for NR single carrier, CA operation and UL-MIMO specified in clause 6.5.3, 6.5A.3 and 6.5D.3 of TS 38.101-2 [3] apply.

##### 6.5B.3.4.1 Spurious emission band UE co-existence

This clause specifies the requirements for the specified EN-DC, for coexistence with protected bands. Unless otherwise stated, for inter-band EN-DC configurations defined in table 5.5B.5.1-1, no requirements for FR2 NR bands to protect E-UTRA and FR1 NR bands are applied to the constituent FR2 NR bands. Spurious emission band UE co-existence requirements specified in TS 36.101 [4] are applied to the constituent E-UTRA bands for the EN-DC configuration.

Spurious emission band UE co-existence requirement for E-UTRA single carrier and CA operation specified in clauses 6.6.3.2 and 6.6.3.2A of TS 36.101 [4] and for NR single carrier, CA operation and UL-MIMO specified in clause 6.5.3.1, 6.5A.3.1 and 6.5D.3.1 of TS 38.101-2 [3] apply.

Table 6.5B.3.4.1-1: Void

#### 6.5B.3.5 Inter-band EN-DC including both FR1 and FR2

General spurious requirement for E-UTRA single carrier and CA operation specified in clauses 6.6.3.1 and 6.6.3.1A of TS 36.101 [4] and for NR single carrier and CA operation specified in clause 6.5.3.1 and 6.5A.3.1 of TS 38.101-1 [2] and for NR single carrier, CA operation and UL-MIMO specified in clause 6.5.3, 6.5A.3 and 6.5D.3 of TS 38.101-2 [3] apply.

##### 6.5B.3.5.1 Spurious emission band UE co-existence

This clause specifies the requirements for the specified EN-DC, for coexistence with protected bands. Unless otherwise stated, for inter-band EN-DC configurations defined in clause 5.5B.6, no requirements for FR2 NR bands to protect E-UTRA and FR1 NR bands are applied to the constituent FR2 NR bands. Spurious emission band UE co-existence requirements for constituent E-UTRA and FR1 NR bands for the inter-band EN-DC are the same as those for the corresponding EN-DC configuration without the FR2 bands specified in 6.5B.3.2.2.

Spurious emission band UE co-existence requirement for E-UTRA single carrier and CA operation specified in clauses 6.6.3.2 and 6.6.3.2A of TS 36.101 [4] and for NR single carrier and CA operation specified in clause 6.5.3.2 and 6.5A.3.2 of TS 38.101-1 [2] and for NR single carrier, CA operation and UL-MIMO specified in clause 6.5.3.1, 6.5A.3.1 and 6.5D.3.1 of TS 38.101-2 [3] apply.

## << End change >>