**3GPP TSG-WG4 Meeting #108bis *R4-2316525***

**Xiamen, China, Oct 9 - Oct 13, 2023**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.101-1** | **CR** |  | **rev** |  | **Current version:** | **18.3.0** |  |
|  | | | | | | | | |
| *For* ***[HE](http://www.3gpp.org/3G_Specs/CRs.htm" \l "_blank)******[LP](http://www.3gpp.org/3G_Specs/CRs.htm" \l "_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 to TS 38.101-1: clause 6.5J,7.1J,7.2J | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | ZTE Corporation | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_ATG-Core | | | | |  | ***Date:*** | | | 2023-09-24 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | To introduce the ATG UE RF requirement including output RF spectrum emission, receiver general and diversity; | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | To add the output RF spectrum emission for ATG, receiver general and diversity requirement for ATG | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | RF requirement for ATG CPE is not defined. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.5J, 7.1J, 7.2J | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  |  | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | | **X** |  | Test specifications | | | | TS 38.521-1 | | |
| ***(show related CRs)*** | |  |  | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

## **<Start of Change>**

## 6.5J Output RF spectrum emissions for ATG

### 6.5J.1 Occupied bandwidth for ATG

The requirements for occupied bandwidth in clause 6.5.1 apply.

### 6.5J.2 Out of band emission for ATG

#### 6.5J.2.1 General

This clause contains requirements for out of band emissions for ATG UE.

#### 6.5J.2.2 Spectrum emission mask

If rated maximum output power of ATG UE is less than or equal to 31dBm, the requirements for spectrum emission mask in clause 6.5.2.2 apply; if rated maximum output power of ATG UE is larger than 31dBm, the requirements for spectrum emission mask in clause 6.5.2.2 relaxed with scaling factor *RatedMOPATG-31;*

#### 6.5J.2.3 Adjacent channel leakage ratio

NR Adjacent Channel Leakage power Ratio (NRACLR) is the ratio of the filtered mean power centred on the assigned NR channel frequency to the filtered mean power centred on an adjacent NR channel frequency at nominal channel spacing.

The assigned NR channel power and adjacent NR channel power are measured with rectangular filters with measurement bandwidths specified in Table 6.5J.2.3-1.

If the measured adjacent channel power is greater than –50 dBm then the NRACLR shall be higher than the value 30dBc.

Table 6.5J.2.3-1: NR ACLR measurement bandwidth

|  |  |  |  |
| --- | --- | --- | --- |
| Channel bandwidth | (MHz) | 5,10,15,20,25,30,35,40,45,50 | 60,70,80,90,100 |
| REF\_SCS | (kHz) | 15 | 30 |
| NR ACLR measurement bandwidth | (MHz) | MBW=REF\_SCS\*(12\*NRB+1)/1000 | |
| NOTE : “NRB” in the formula is the maximum transmission bandwidth configuration as defined in Table 5.3.2-1. | | | |



### 6.5J.3 Spurious emissions for ATG

The requirements for spurious emission in clause 6.5.3.1 apply.

## 7.1J General for ATG

Unless otherwise stated, the receiver characteristics are specified at the antenna connector(s) of the ATG UE with one or multiple omni-direction antenna(s) or at the *transceiver array boundary* (TAB) connectors of the ATG UE with the antenna array. The definition about *transceiver array boundary* (TAB) is specified in clause 4.3.2 of TS 38.104 [X].

For the ATG UE with multiple omni-direction antennas, the receiver RF requirements are defined on top of each antenna connector.

For the ATG UE with the phase antenna array, the receiver RF requirements are defined on top of each TAB connector.

## 7.2J  Diversity characteristics for ATG

The ATG UE is required to be equipped with a minimum of two Rx antenna ports in all operating bands. ATG UE is required optionally to be equipped with four Rx antenna ports.

## **<End of Change>**