**3GPP TSG-WG4 Meeting #113 *R4-2419877***

 **Orlando, US, 18th - 22nd November, 2024**

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| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  | **38.115-1** | **CR** | **0052** | **rev** | **1** | **Current version:** | **18.6.0** |  |
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| *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 |  | Radio Access Network | **x** | Core Network |  |

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| ***Title:***  | CR to 38.115-1: ACLR requirements for NCR |
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| ***Source to WG:*** | NEC |
| ***Source to TSG:*** | R4 |
|  |  |
| ***Work item code:*** | NR\_netcon\_repeater-Perf |  | ***Date:*** | 2024-11-8 |
|  |  |  |  |  |
| ***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 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:*** | For simultaneous NCR-Fwd and NCR-MT transmission cases, ACLR requirements may not be specified. |
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| ***Summary of change:*** | Add text to make the nominal channel bandwidth to be the possible widest channel bandwidth of the NCR-Fwd carrier. |
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| ***Consequences if not approved:*** | ACLR requirements may remain not specified for simultaneous NCR-Fwd and NCR-MT transmission cases. |
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| ***Clauses affected:*** | 6.5.2.6.1.1, 6.5.2.6.1.2 |
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|  | **Y** | **N** |  |  |
| ***Other specs*** | **x** |  |  Other core specifications  | TS 38.106 |
| ***affected:*** | **x** |  |  Test specifications | TS 38.115-2 |
| ***(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:*** | Updated the text note for the case NCR-MT is adjacent to the passband. |

**--------------Start of change-------------**

#### 6.5.2.6 Test requirement for *NCR*

##### 6.5.2.6.1 Test requirements for NCR-Fwd

6.5.2.6.1.1 Test requirements for NCR-Fwd type 1-C

The ACLR (CACLR) absolute *basic limits* or the ACLR (CACLR) *limits* as specified in clause 6.5.2.5, whichever is less stringent, shall apply for each *antenna connector*.

For simultaneous NCR-Fwd and NCR-MT transmission, if the NCR-MT carrier is within the passband then the nominal channel bandwidth shall be calculated based on the the bandwidth between the lower edge of the passband and the lower edge of the NCR-MT carrier for lower side, or between the upper edge of the passband and the upper edge of the NCR-MT carrier for upper side. If the NCT-MT carrier is adjacent to the passband then ACLR requirement for NCR-MT based on NCR-MT channel bandwidth shall be applied for the NCR-MT carrier side and the nominal channel bandwidth calculated with the passband bandwidth shall be used for the passband side. If the NCR-MT carrier is not adjacent to the passband then CACLR shall be applied in the gap between the passband and the NCR-MT carrier.

6.5.2.6.1.2 Test requirement for *NCR-Fwd type 1-H*

The ACLR (CACLR) absolute *basic limits* + X (where X = 10log10(NTXU,countedpercell) for DL and for WA UL and X=0 for LA UL) or the ACLR (CACLR) *limits* as specified in clause 6.5.2.5, whichever is less stringent, shall apply for each *TAB connector TX min cell group*. For joint transmission of NCR-Fwd and NCR-MT in uplink, the limits shall apply to the sum of emissions from both NCR-Fwd and NCR-MT.

For simultaneous NCR-Fwd and NCR-MT transmission, if the NCR-MT carrier is within the passband then the nominal channel bandwidth shall be calculated based on the the bandwidth between the lower edge of the passband and the lower edge of the NCR-MT carrier for lower side, or between the upper edge of the passband and the upper edge of the NCR-MT carrier for upper side. If the NCT-MT carrier is adjacent to the passband then ACLR requirement for NCR-MT based on NCR-MT channel bandwidth shall be applied for the NCR-MT carrier side and the nominal channel bandwidth calculated with the passband bandwidth shall be used for the passband side. If the NCR-MT carrier is not adjacent to the passband then CACLR shall be applied in the gap between the passband and the NCR-MT carrier.

NOTE: Conformance to the *NCR-Fwd type 1-H* ACLR requirement can be demonstrated by meeting at least one of the following criteria as determined by the manufacturer:

1) The ratio of the sum of the filtered mean power measured on each *TAB connector* in the *TAB connector TX min cell group* at the assigned channel frequency to the sum of the filtered mean power measured on each *TAB connector* in the *TAB connector TX min cell group* at the adjacent channel frequency shall be greater than or equal to the ACLR *basic limit* of the repeater. This shall apply for each *TAB connector TX min cell group*.

Or

2) The ratio of the filtered mean power at the *TAB connector* centred on the assigned channel frequency to the filtered mean power at this *TAB connector* centred on the adjacent channel frequency shall be greater than or equal to the ACLR *basic limit* of the repeater for every *TAB connector* in the *TAB connector TX min cell group*, for each *TAB connector TX min cell group*.

 In case the ACLR (CACLR) absolute *basic limit* of *repeater type 1-H* are applied, the conformance can be demonstrated by meeting at least one of the following criteria as determined by the manufacturer:

1) The sum of the filtered mean power measured on each *TAB connector* in the *TAB connector TX min cell group* at the adjacent channel frequency shall be less than or equal to the ACLR (CACLR) absolute ba*sic limit* + X of the repeater. This shall apply to each *TAB* connector *TX min cell group.*

Or

2) The filtered mean power at each *TAB connector* centred on the adjacent channel frequency shall be less than or equal to the ACLR (CACLR) absolute *basic limit* + X of the repeater scaled by X -10log10(*n*) for every *TAB connector* in the *TAB connector TX min cell group*, for each *TAB connector TX min cell group*, where *n* is the number of *TAB connectors* in the *TAB connector TX min cell group.*

**--------------End of change-------------**