**3GPP TSG- RAN WG4 Meeting # 111R4-2410594**

**Fukuoka, Japan, 20th–24th May, 2024**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.101-1** | **CR** | **2312** | **rev** | **1** | **Current version:** | **17.13.0** |  |
|  | | | | | | | | |
| *For* ***[HELP](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:*** | (NR\_RF\_FR1\_enh-Core) CR for TS 38.101-1: Add ACLR requirement for PC2 intra-band non-contiguous UL CA | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | ZTE Corporation, Sanechips | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_RF\_FR1\_enh-Core | | | | |  | ***Date:*** | | | 2024-05-10 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *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:*** | | PC2 intra-band non-contiguous UL CA was introduced in Rel-17. In current specification, there are only general requirements for intra-band non-contiguous CA ACLR. However, ACLR requirement for PC2 is different from PC3, so the separate requirement table for PC2 intra-band contiguous CA ACLR is needed. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Add a separate ACLR requirement table for PC2 intra-band non-contiguous UL CA. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The feature to support PC2 intra-band non-contiguous UL CA is not completed. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.5A.2.4.1.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **x** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | | **x** |  | Test specifications | | | | 38.521-1 | | |
| ***(show related CRs)*** | |  | **x** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

## << Start of changes >>

6.5A.2.4.1.1 NR ACLR for intra-band contiguous CA

For intra-band contiguous carrier aggregation the carrier aggregation the Adjacent Channel Leakage power Ratio is the ratio of the filtered mean power centred on the aggregated channel bandwidth to the filtered mean power centred on an adjacent aggregated channel bandwidth at nominal channel spacing. The assigned aggregated channel bandwidth power and adjacent aggregated channel bandwidth power are measured with rectangular filters with measurement bandwidths specified in Table 6.5A.2.4.1.1-1 for power class 3 and 6.5A.2.4.1.1-2 for power class 2. If the measured adjacent channel power is greater than –50dBm then the NRACLR shall be higher than the value specified in Table 6.5A.2.4.1.1-1 for power class 3 and 6.5A.2.4.1.1-2 for power class 2.

Table 6.5A.2.4.1.1-1: General requirements for intra-band contiguous CA ACLR power class 3

|  |  |
| --- | --- |
|  | ACLR / Measurement bandwidth |
| CA ACLR | 30 dB |
| CA Measurement bandwidth  (NOTE 1) | Nominal channel space+MBWACLR,low/2+ MBWACLR,high/2 |
| Adjacent channel centre frequency offset (in MHz) | + BWChannel\_CA  /  - BWChannel\_CA |
| Difference between ACLR MBW center and Fc,low | MBWshift= (MBWACLR\_CA-MBWACLR,low)/2 |
| NOTE 1: MBWACLR,low and MBWACLR,high are the single-channel ACLR measurement bandwidths specified for channel bandwidths BWchannel(low) and BWchannel(high) in 6.5.2.4.1, respectively. | |

Table 6.5A.2.4.1.1-2: General requirements for intra-band contiguous CA ACLR power class 2

|  |  |
| --- | --- |
|  | ACLR / Measurement bandwidth |
| CA ACLR | 31 dB |
| CA Measurement bandwidth  (NOTE 1) | Nominal channel space+MBWACLR,low/2+ MBWACLR,high/2 |
| Adjacent channel centre frequency offset (in MHz) | + BWChannel\_CA  /  - BWChannel\_CA |
| Difference between ACLR MBW center and Fc,low | MBWshift= (MBWACLR\_CA-MBWACLR,low)/2 |
| NOTE 1: MBWACLR,low and MBWACLR,high are the single-channel ACLR measurement bandwidths specified for channel bandwidths BWchannel(low) and BWchannel(high) in 6.5.2.4.1, respectively. | |

6.5A.2.4.1.2 NR ACLR for intra-band non-contiguous CA

For intra-band non-contiguous carrier aggregation, CA Adjacent Channel Leakage power Ratio(CAACLR) is the ratio of the sum of the filtered mean power centred on each assigned channel frequency to the filtered mean power centred on an adjacent NR channel frequency at nominal channel spacing. In case the gap bandwidth Wgap between 2 uplink CCs is smaller than maximum of the 2 uplink channel bandwidths then no CAACLR requirement is set for the gap. Each assigned NR channel power and adjacent NR channel power are measured with rectangular filters with measurement bandwidths specified in Table 6.5A.2.4.1.2-1 for power class 3 and 6.5A.2.4.1.2-2 for power class 2. If the measured adjacent channel power is greater than –50dBm then the ACLR shall be higher than the value specified in Table 6.5A.2.4.1.2-1 for power class 3 and 6.5A.2.4.1.2-2 for power class 2.

Table 6.5A.2.4.1.2-1: General requirements for intra-band non-contiguous CA ACLR power class 3

|  |  |
| --- | --- |
|  | ACLR / Measurement bandwidth |
| CA ACLR | 30 dB |
| CA Measurement bandwidth for each sub block  (NOTE 1) | MBWACLR |
| Adjacent channel centre frequency offset (in MHz) | + BWChannel  /  - BWChannel |
| NOTE 1: MBWACLR is the single-channel ACLR measurement bandwidths specified in 6.5.2.4.1. | |

Table 6.5A.2.4.1.2-2: General requirements for intra-band non-contiguous CA ACLR power class 2

|  |  |
| --- | --- |
|  | ACLR / Measurement bandwidth |
| CA ACLR | 31 dB |
| CA Measurement bandwidth for each sub block  (NOTE 1) | MBWACLR |
| Adjacent channel centre frequency offset (in MHz) | + BWChannel  /  - BWChannel |
| NOTE 1: MBWACLR is the single-channel ACLR measurement bandwidths specified in 6.5.2.4.1. | |

## << End of changes >>