**3GPP TSG-RAN WG4 Meeting #102-e R4-2205678**

**Electronic Meeting, 21 February – 03 March 2022**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.101-1** | **CR** | **1025** | **rev** |  | **Current version:** | **17.4.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | CR to add NR intra-band FR1 in TS 38.101-1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_CA\_R17\_Intra | | | | |  | ***Date:*** | | | 2022-03-03 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | B |  | | | | | ***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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Adding approved NR Intra-band FR1 combinations | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Adding the following intra-band contiguous combinations:  CA\_n3B  CA\_n38B  Adding the following intra-band contiguous configuration:  CA\_n40B BCS1 with CA\_n40B as UL  Adding the following intra-band non-contiguous configuration:  CA\_n3(2A)\_BCS1  Adding missing n5 in Table 5.2A.1-2 | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Approved NR Intra-band FR1 combinations are not added | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.2, 5.5, 6.2, 6.5, 7.6 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **x** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | | **x** |  | Test specifications | | | | TS 38.521-3 | | |
| ***(show related CRs)*** | |  | **x** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

---Start of changes---

Table 5.2A.1-1: Intra-band contiguous CA operating bands in FR1

|  |  |
| --- | --- |
| NR CA Band | NR Band  (Table 5.2-1) |
| CA\_n1 | n1 |
| CA\_n2 | n2 |
| CA\_n3 | n3 |
| CA\_n5 | n5 |
| CA\_n7 | n7 |
| CA\_n25 | n25 |
| CA\_n38 | n38 |
| CA\_n40 | n40 |
| CA\_n41 | n41 |
| CA\_n46 | n46 |
| CA\_n48 | n48 |
| CA\_n66 | n66 |
| CA\_n71 | n71 |
| CA\_n77 | n77 |
| CA\_n78 | n78 |
| CA\_n79 | n79 |
| CA\_n96 | n96 |
| NOTE 1: The minimum requirements only apply for non simultaneous Tx/Rx between all carriers for TDD combinations. | |

Table 5.2A.1-2: Intra-band non-contiguous CA operating bands in FR1

|  |  |
| --- | --- |
| NR CA Band | NR Band  (Table 5.2-1) |
| CA\_n1(\*) | n1 |
| CA\_n3(\*) | n3 |
| CA\_n5(\*) | n5 |
| CA\_n7(\*) | n7 |
| CA\_n12(\*) | n12 |
| CA\_n25(\*) | n25 |
| CA\_n41(\*) | n41 |
| CA\_n48(\*) | n48 |
| CA\_n66(\*) | n66 |
| CA\_n71(\*) | n71 |
| CA\_n77(\*) | n77 |
| CA\_n78(\*) | n78 |
| CA\_n96(\*) | n96 |
| NOTE 1: The minimum requirements only apply for non simultaneous Tx/Rx between all carriers for TDD combinations.  NOTE 2: The notation CA\_nX(\*) in this table indicates intra-band non-contiguous CA for band nX. The configurations for each band are in 5.5A.2. | |

### ---Text omitted---

Table 5.5A.1-1: NR CA configurations and bandwidth combination sets defined for intra-band contiguous CA

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| NR CA configuration / Bandwidth combination set | | | | | | | | |
| NR CA configuration | Uplink CA configurations or single uplink carrier5 | Channel bandwidths for carrier (MHz) | Channel bandwidths for carrier (MHz) | Channel bandwidths for carrier (MHz) | Channel bandwidths for carrier (MHz) | Channel bandwidths for carrier (MHz) | Maximum aggregated  bandwidth (MHz) | Bandwidth combination set |
| CA\_n1B | - | 10 | 10,15 |  |  |  | 40 | 0 |
|  |  | 15 | 15,20 |  |  |  |  |  |
|  |  | 20 | 20 |  |  |  |  |  |
| CA\_n2B | - | 5 | 15 |  |  |  | 20 | 0 |
|  |  | 10 | 10 |  |  |  |  |  |
| CA\_n3B | - | 5 | 15, 20, 25, 30 |  |  |  | 60 | 0 |
|  |  | 10 | 10, 15, 20, 25, 30 |  |  |  |  |  |
|  |  | 15, 20, 25, 30 | 5, 10, 15, 20, 25, 30 |  |  |  |  |  |
| CA\_n5B | CA\_n5B | 5, 10, 15 | 5, 10, 15 |  |  |  | 20 | 0 |
| CA\_n7B | CA\_n7B | 10 | 10, 15, 20, 30, 40 |  |  |  | 50 | 0 |
|  |  | 15 | 15, 20, 30 |  |  |  |  |  |
|  |  | 20 | 20, 30 |  |  |  |  |  |
| CA\_n25B | - | 5 | 15 |  |  |  | 20 | 0 |
|  |  | 10 | 10 |  |  |  |  |  |
| CA\_n38B | - | 5 | 15, 20, 25 |  |  |  | 50 | 0 |
|  |  | 10 | 10, 15, 20, 25 |  |  |  |  |  |
|  |  | 15, 20, 25 | 5, 10, 15, 20, 25 |  |  |  |  |  |
| CA\_n40B | - | 20 | 80 |  |  |  | 100 | 0 |
|  |  | 50 | 50 |  |  |  |  |  |
|  | CA\_n40B | 10,15, 20, 30, 40, 50, 60, 80 | 10, 15, 20, 30, 40, 50, 60, 80 |  |  |  | 100 | 1 |
| CA\_n41B | CA\_n41B | 10, 20, 30, 40, 50 | 10, 20, 30, 40, 50 |  |  |  | 100 | 0 |
| CA\_n41C | n413,4  CA\_n41C | 40 | 80, 100 |  |  |  | 180 | 0 |
| 50, 60, 80 | 60, 80, 100 |  |  |  |  |  |
| 10 | 100 |  |  |  | 190 | 1 |
| 15, 20 | 90, 100 |  |  |  |  |  |
| 40 | 80, 90, 100 |  |  |  |  |  |
| 50, 60, 80, 90 | 60, 80, 90, 100 |  |  |  |  |  |
| 10 | 100 |  |  |  | 190 | 2 |
| 15, 20 | 90, 100 |  |  |  |  |  |
| 30, 40 | 80, 90, 100 |  |  |  |  |  |
| 50, 60, 80, 90 | 60, 80, 90, 100 |  |  |  |  |  |
|  |  | See n41 channel bandwidths in Table 5.3.5-1 for each carrier2 | |  |  |  | 190 | 4 and 5 |
| CA\_n46B | - | 20, 40, 60 | 20, 40 |  |  |  | 100 | 0 |
| CA\_n46C | - | 60, 80 | 60, 80 |  |  |  | 160 | 0 |
| CA\_n46D | - | 60, 80 | 80 | 80 |  |  | 240 | 0 |
| CA\_n46M | - | 20, 40, 60 | 20, 40 | 20, 40 |  |  | 140 | 0 |
| CA\_n46N | - | 20, 40, 80 | 20, 40 | 20, 40 | 20, 40 |  | 200 | 0 |
| CA\_n46O | - | 20, 60 | 20, 40 | 20, 40 | 20, 40 | 20, 40 | 220 | 0 |
| CA\_n48B | CA\_n48B | 5 | 15, 20 |  |  |  | 40 | 0 |
|  |  | 10, 15, 20 | 10, 15, 20 |  |  |  |  |  |
|  |  | 15, 20 | 15, 20 |  |  |  |  |  |
|  | - | 10 | 50, 60, 80, 90 |  |  |  | 100 | 1 |
|  |  | 15, 20 | 40, 50, 60, 80 |  |  |  |  |  |
|  |  | 40 | 40, 50, 60 |  |  |  |  |  |
|  | - | 10, 15, 20, 30, 40 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90 |  |  |  | 100 | 2 |
| CA\_n48C | - | 10 | 100 |  |  |  | 140 | 0 |
|  |  | 15 | 90,100 |  |  |  |  |  |
|  |  | 20 | 90, 100 |  |  |  |  |  |
|  |  | 40 | 80, 90, 100 |  |  |  |  |  |
|  | - | 10, 15, 20, 30, 40 | 70, 80, 90, 100 |  |  |  | 140 | 1 |
| CA\_n66B | - | 5 1 | 20, 40 |  |  |  | 50 | 0 |
|  |  | 10 | 15, 20, 40 |  |  |  |  |  |
|  |  | 15 | 15, 20 |  |  |  |  |  |
| CA\_n71B | - | 5 | 20 |  |  |  | 25 | 0 |
|  |  | 10 | 15 |  |  |  |  |  |
|  |  | 10 | 20 |  |  |  | 35 | 1 |
|  |  | 15 | 15, 20 |  |  |  |  |  |
|  |  | 5, 10, 15 | 15, 20 |  |  |  | 35 | 2 |
| CA\_n77B | - | 20 | 25, 30, 40 |  |  |  | 60 | 0 |
|  |  | 25 | 30 |  |  |  |  |  |
| CA\_n77C | CA\_n77C | 50 | 60, 80, 100 |  |  |  | 200 | 0 |
|  |  | 60 | 60, 80, 100 |  |  |  |  |  |
|  |  | 80 | 80, 100 |  |  |  |  |  |
|  |  | 100 | 100 |  |  |  |  |  |
|  |  | 10 | 100 |  |  |  | 200 | 1 |
|  |  | 15, 20 | 90, 100 |  |  |  |  |  |
|  |  | 25, 30 | 80, 90, 100 |  |  |  |  |  |
|  |  | 40 | 70, 80, 90, 100 |  |  |  |  |  |
|  |  | 50, 60, 70, 80, 90, 100 | 60, 70, 80, 90, 100 |  |  |  |  |  |
| CA\_n77D | - | 100 | 100 | 100 |  |  | 300 | 0 |
| CA\_n78B | - | 20 | 50 |  |  |  | 70 | 0 |
| CA\_n78C | CA\_n78C | 50 | 60, 80, 100 |  |  |  | 200 | 0 |
|  |  | 60 | 60, 80, 100 |  |  |  |  |  |
|  |  | 80 | 80, 100 |  |  |  |  |  |
|  |  | 100 | 100 |  |  |  |  |  |
|  |  | 10 | 100 |  |  |  | 200 | 1 |
|  |  | 15, 20 | 90, 100 |  |  |  |  |  |
|  |  | 25, 30 | 80, 90, 100 |  |  |  |  |  |
|  |  | 40 | 70, 80, 90, 100 |  |  |  |  |  |
|  |  | 50, 60, 70, 80, 90, 100 | 60, 70, 80, 90, 100 |  |  |  |  |  |
| CA\_n78D | - | 100 | 100 | 100 |  |  | 300 | 0 |
| CA\_n79C | CA\_n79C | 50 | 60, 80, 100 |  |  |  | 200 | 0 |
|  |  | 60 | 60, 80, 100 |  |  |  |  |  |
|  |  | 80 | 80, 100 |  |  |  |  |  |
|  |  | 100 | 100 |  |  |  |  |  |
| CA\_n79D | - | 100 | 100 | 100 |  |  | 300 | 0 |
| CA\_n96B | CA\_n96B | 20, 40 | 20, 40, 60, 80 |  |  |  | 100 | 0 |
| CA\_n96C | CA\_n96C | 80 | 40, 60, 80 |  |  |  | 160 | 0 |
| CA\_n96D |  | 80 | 80 | 60, 80 |  |  | 240 | 0 |
| CA\_n96E |  | 80 | 80 | 80 | 80 |  | 320 | 0 |
| NOTE 1: 5 MHz is not applicable for 30/60 kHz SCS.  NOTE 2: The aggregated bandwidth must be greater than or equal to the minimum for the bandwidth class defined in Table 5.3A.5-1, and smaller than or equal to the maximum aggregated bandwidth.  NOTE 3: Power Class 2 is allowed for this uplink combination or single uplink carrier in this downlink/uplink combination  NOTE 4: Power Class 1.5 is allowed for this uplink combination or single uplink carrier in this downlink/uplink combination  NOTE 5: Only single uplink carriers with power class other than PC3 are listed. | | | | | | | | |

Table 5.5A.1-2: Void

### 5.5A.2 Configurations for intra-band non-contiguous CA

Table 5.5A.2-1: NR CA configurations and bandwidth combination sets defined for intra-band non-contiguous CA

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| NR CA Configuration | Uplink Configurations | Channel bandwidths for carrier  (MHz) | Channel bandwidths for carrier  (MHz) | Channel bandwidths for carrier  (MHz) | Channel bandwidths for carrier  (MHz) | Maximum  Aggregated bandwidth  (MHz) | Bandwidth combination set |
| CA\_n1(2A) | - | 5, 10, 15, 20 | 5, 10, 15, 20 |  |  | 40 | 0 |
| CA\_n2(2A) | - | 5, 10, 15, 20 | 5, 10, 15, 20 |  |  | 40 | 0 |
| CA\_n3(2A) | - | 5, 10, 15, 20 | 5, 10, 15, 20 |  |  | 40 | 0 |
|  | - | 5, 10, 15, 20, 25, 30 | 5, 10, 15, 20, 25, 30 |  |  | 60 | 1 |
| CA\_n5(2A) | - | 5, 10, 15, 20 | 5, 10, 15, 20 |  |  | 25 | 0 |
| CA\_n7(2A) | - | 5, 10, 15, 20 | 5, 10, 15, 20 |  |  | 40 | 0 |
| CA\_n12(2A) | - | 5 | 5 |  |  | 10 | 0 |
| CA\_n25(2A) | - | 5, 10, 15, 20 | 5, 10, 15, 20 |  |  | 40 | 0 |
|  |  | 5, 10, 15, 20, 25, 30, 40 | 5, 10, 15, 20, 25, 30, 40 |  |  | 60 | 1 |
| CA\_n25(3A) | - | 5, 10, 15, 20, 25, 30, 40 | 5, 10, 15, 20, 25, 30, 40 | 5, 10, 15, 20, 25, 30, 40 |  | 55 | 0 |
| CA\_n41(2A) | CA\_n41(2A) | 40, 50, 60, 80, 100 | 40, 50, 60, 80, 100 |  |  | 180 | 0 |
|  | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 10, 15, 20, 40, 50, 60, 80, 90, 100 |  |  | 190 | 1 |
| - | 10, 15, 20, 30, 40, 50, 60, 80, 90 | 15, 20, 30, 40, 50, 60, 80, 90, 100 |  |  | 190 | 2 |
|  |  | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 |  |  | 190 | 3 |
|  |  | See n41 channel bandwidths in Table 5.3.5-1 for each carrier | |  |  | 190 | 4 and 5 |
| CA\_n41(3A) | - | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 |  | 190 | 0 |
| CA\_n48(2A) |  | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 10, 15, 20, 40, 50, 60, 80, 90, 100 |  |  | 1402 | 0 |
|  | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 |  |  | 1402 | 1 |
| CA\_n48(3A) | - | 10, 15, 20, 40,50, 60, 80, 90, 100 | 10, 15, 20, 40,50, 60, 80, 90, 100 | 10, 15, 20, 40,50, 60, 80, 90, 100 |  | 1402 | 0 |
|  | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 |  | 1402 | 1 |
| CA\_n48(4A) | - | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 1352 | 0 |
|  | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 1352 | 1 |
| CA\_n66(2A) | - | 5, 10, 15, 20 | 5, 10, 15, 20, 40 |  |  | 60 | 0 |
| 5, 10, 15, 20, 25, 30, 40 | 5, 10, 15, 20, 25, 30, 40 |  |  | 80 | 1 |
| 5, 10, 15, 20, 40 | 5, 10, 15, 20, 40 |  |  | 80 | 2 |
| CA\_n66(3A) | - | 5, 10, 15, 20, 40 | 5, 10, 15, 20, 40 | 5, 10, 15, 20, 40 |  | 80 | 0 |
| CA\_n71(2A) | - | 5,10, 15, 20 | 5,10,15, 20 |  |  | 30 | 0 |
| CA\_n77(2A) | CA\_n77(2A) | 20, 40, 80, 100 | 20, 40, 80, 100 |  |  | 200 | 0 |
|  |  | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 |  |  | 200 | 1 |
| CA\_n77(3A) | - | 20, 40, 80, 100 | 20, 40, 80, 100 | 20, 40, 80, 100 |  | 300 | 0 |
| 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 |  | 300 | 1 |
| CA\_n78(2A) | CA\_n78(2A) | 10, 20, 40, 50, 60, 80, 90, 100 | 10, 20, 40, 50, 60, 80, 90, 100 |  |  | 200 | 0 |
|  |  | 10, 20, 25, 30, 40, 50, 60, 80, 90, 100 | 10, 20, 25, 30, 40, 50, 60, 80, 90, 100 |  |  | 200 | 1 |
|  |  | 10, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | 10, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 |  |  | 200 | 2 |
| CA\_n96(2A) | - | 20, 40, 60, 80 | 20, 40, 60, 80 |  |  | 160 | 0 |
| CA\_n96(3A) | - | 20, 40, 60, 80 | 20, 40, 60, 80 | 20, 40, 60, 80 |  | 240 | 0 |
| CA\_n96(4A) | - | 20, 40, 60, 80 | 20, 40, 60, 80 | 20, 40, 60, 80 | 20, 40, 60, 80 | 320 | 0 |
| NOTE 1: Void.  NOTE 2: Parameter value accounts for both, the maximum frequency range of band n48 (150 MHz), and the minimum frequency gaps in between NR non-contiguous component carriers. | | | | | | | |

### ---Text omitted---

Table 6.2A.1.1-1: UE Power Class for intra-band contiguous CA

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| NR CA Configuration | Class 1 (dBm) | Tolerance (dB) | Class 2 (dBm) | Tolerance (dB) | Class 3 (dBm) | Tolerance (dB) | Class 4 (dBm) | Tolerance (dB) |
| CA\_n7B |  |  |  |  | 23 | +2/-21 |  |  |
| CA\_n40B |  |  |  |  | 23 | +2/-21 |  |  |
| CA\_n41C |  |  | 26 | +2/-31 | 23 | +2/-21 |  |  |
| CA\_n48B |  |  |  |  | 23 | +2/-3 |  |  |
| CA\_n77C |  |  | 26 | +2/-31 | 23 | +2/-3 |  |  |
| CA\_n78C |  |  | 26 | +2/-31 | 23 | +2/-3 |  |  |
| CA\_n79C |  |  |  |  | 23 | +2/-3 |  |  |
| NOTE 1: If all transmitted resource blocks over all component carriers are confined within FUL\_low and FUL\_low + 4 MHz or/and FUL\_high – 4 MHz and FUL\_high, the maximum output power requirement is relaxed by reducing the lower tolerance limit by 1.5 dB  NOTE 2: PPowerClass is the maximum UE power specified without taking into account the tolerance  NOTE 3: For intra-band contiguous carrier aggregation the maximum power requirement shall apply to the total transmitted power over all component carriers (per UE). | | | | | | | | |

### ---Text omitted---

Table 6.5A.3.2.1-1: Requirements for uplink intra-band contiguous carrier aggregation

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| NR CA combination | Spurious emission | | | | | | |
|  | Protected Band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
| CA\_n7 | E-UTRA Band 1, 2, 3, 4, 5, 7, 8, 12, 13, 14, 17, 20, 22, 26, 27, 28, 29, 30, 31, 32, 33, 34, 40, 42, 43, 50, 51, 52, 65, 66, 67, 68, 72, 74, 75, 76, 85,  NR Band n77, n78 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| CA\_n40 | E-UTRA Band 1, 3, 5, 7, 8, 11, 18, 19, 20, 21, 22, 26, 27, 28, 31, 32, 33, 34, 38, 39, 41, 42, 43, 44, 45, 50, 51, 52, 65, 67, 68, 69, 72, 74, 75, 76,  NR Band n77, n78 | FDL\_low | - | FDL\_high | -50 | 1 | 7 |
|  | NR Band n79 | FDL\_low | - | FDL\_high | -50 | 1 | 4 |
|  | Frequency range | 1884.5 | - | 1915.7 | -41 | 0.3 | 5 |
| CA\_n41 | E-UTRA Band 1, 2, 3, 4, 5, 8, 12, 13, 14, 17, 24, 25, 26, 27, 28, 29, 30, 34, 39, 42, 44, 45, 48, 50, 51, 52, 65, 66, 70, 71, 73, 74, 85,  NR Band n77, n78 | FDL\_low | - | FDL\_high | -50 | 1 |  |
|  | NR Band n79 | FDL\_low | - | FDL\_high | -50 | 1 | 2, 4 |
|  | E-UTRA Band 9, 11, 18, 19, 21 | FDL\_low | - | FDL\_high | -50 | 1 | 6 |
|  | E-UTRA Band 40 | FDL\_low | - | FDL\_high | -40 | 1 |  |
|  | Frequency range | 1884.5 |  | 1915.7 | -41 | 0.3 | 5, 6 |
| CA\_n48 | E-UTRA Band 2, 4, 5, 12, 13, 14, 17, 24, 25, 26, 29, 30, 41, 50, 51, 66, 70, 71, 74, 85 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| CA\_n77 | E-UTRA Band 1, 3, 5, 7, 8, 11, 18, 19, 20, 21, 26, 28, 34, 39, 40, 41, 65 | FDL\_low | - | FDL\_high | -50 | 1 |  |
|  | Frequency range | 1884.5 | - | 1915.7 | -41 | 0.3 | 5 |
| CA\_n78 | E-UTRA Band 1, 3, 5, 7, 8, 11, 18, 19, 20, 21, 26, 28, 34, 39, 40, 41, 65 | FDL\_low | - | FDL\_high | -50 | 1 |  |
|  | Frequency range | 1884.5 | - | 1915.7 | -41 | 0.3 | 5 |
| CA\_n79 | E-UTRA Band 1, 3, 5, 8, 11, 18, 19, 21, 28, 34, 39, 40, 41, 42, 65 | FDL\_low | - | FDL\_high | -50 | 1 |  |
|  | Frequency range | 1884.5 | - | 1915.7 | -41 | 0.3 | 5 |
| NOTE 1: Void  NOTE 2: Void  NOTE 3: Void  NOTE 4: As exceptions, measurements with a level up to the applicable requirements defined in Table 6.5.3.1-2 are permitted for each assigned NR carrier used in the measurement due to 2nd, 3rd, 4th or 5th harmonic spurious emissions. Due to spreading of the harmonic emission the exception is also allowed for the first 1 MHz frequency range immediately outside the harmonic emission on both sides of the harmonic emission. This results in an overall exception interval centred at the harmonic emission of (2 MHz + N x LCRB x RBsize kHz), where N is 2, 3, 4, 5 for the 2nd, 3rd, 4th or 5th harmonic respectively. The exception is allowed if the measurement bandwidth (MBW) totally or partially overlaps the overall exception interval.  NOTE 5: Applicable when co-existence with PHS system operating in 1884.5 - 1915.7 MHz.  NOTE 6: This requirement applies when the NR carrier is confined within 2545 – 2575 MHz or 2595 – 2645 MHz and the channel bandwidth is 10 or 20 MHz  NOTE 7: As exceptions, for 90 and 100 MHz aggregated bandwidth, -40 dBm/MHz is applicable in the frequency range of 2496 – 2505 MHz. | | | | | | | |

### ---Text omitted---

Table 7.6A.2.1-2a: In-band blocking for intra-band contiguous CA with FDL\_low < 2700 MHz and FUL\_low < 2700 MHz

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| NR band | Parameter | Unit | Case 1 | Case 2 | Case 3 |
|  | Pinterferer | dBm | -56 | -44 |  |
| n2, n3, n25, n38, n41, n66, n484, n40 | Finterferer (offset) | MHz | -BWchannel CA/2 –FIoffset, case 1  and  BWchannel CA/2 +FIoffset, case 1 | ≤ -BWchannel CA/2 –FIoffset, case 2  and  ≥ BWchannel CA/2 +FIoffset, case 2 |  |
|  | Finterferer | MHz | NOTE 2 | FDL\_low – 15  to  FDL\_high + 15 |  |
| n71 | Finterferer | MHz | NOTE 2 | FDL\_low – 12  to  FDL\_high + 15 | FDL\_low – 12 |
| NOTE 1: The absolute value of the interferer offset Finterferer (offset) shall be further adjusted to MHz with SCS the sub-carrier spacing of the carrier closest to the interferer in MHz. The interferer is an NR signal with 15 kHz SCS.  NOTE 2: For each carrier frequency, the requirement applies for two interferer carrier frequencies: a: -BWchannel CA/2 – FIoffset, case 1; b: BWchannel CA/2 + FIoffset, case 1  NOTE 3: BWchannel CA denotes the aggregated channel bandwidth of the wanted signal  NOTE 4: n48 follows the requirement in this frequency range according to the general requirement defined in Clause 7.1A. | | | | | |

### ---Text omitted---

Table 7.6A.3-2: Out of-band blocking for intra-band contiguous CA

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| NR band | Parameter | Unit | Range1 | Range 2 | Range 3 |
|  | Pinterferer | dBm | -45 | -30 | -15 |
| n2, n3, n25, n38, n41, n66, n71, n485, n40 | Finterferer (CW) | MHz | -60 < f – FDL\_low < -15  or  15 < f – FDL\_high < 60 | -85 < f – FDL\_low ≤ -60  or  60 ≤ f – FDL\_high < 85 | 1 ≤ f ≤ FDL\_low – 85  or  FDL\_high + 85 ≤ f  ≤ 12750 |
| n77, n78  (NOTE 3) | Finterferer (CW) | MHz | N/A | N/A | 1 ≤ f ≤ FDL\_low – MAX(200,3\*BWChannel\_CA)  or  FDL\_high+ MAX(200,3\*BWChannel\_CA)  ≤ f ≤ 12750 |
| n79  (NOTE 4) | Finterferer (CW) | MHz | N/A | N/A | 1 ≤ f ≤ FDL\_low – MAX(150,3\*BWChannel\_CA)  or  FDL\_high + MAX(150,3\*BWChannel\_CA)  ≤ f ≤ 12750 |
| NOTE 1: The power level of the interferer (PInterferer) for Range 3 shall be modified to -20 dBm for FInterferer > 6000 MHz.  NOTE 2: BWChannel\_CA denotes the aggregated channel bandwidth of the wanted signal  NOTE 3: The power level of the interferer (PInterferer) for Range 3 shall be modified to -20 dBm, for FInterferer > 2700 MHz and FInterferer < 4800 MHz. For BWChannel\_CA > 15 MHz, the requirement for Range 1 is not applicable and Range 2 applies from the frequency offset of 3\*BWChannel\_CA from the band edge. For BWChannel\_CA larger than 60 MHz, the requirement for Range 2 is not applicable and Range 3 applies from the frequency offset of 3\*BWChannel\_CA from the band edge.  NOTE 4: The power level of the interferer (PInterferer) for Range 3 shall be modified to -20 dBm, for FInterferer > 3650 MHz and FInterferer < 5750 MHz. For BWChannel\_CA≥ 40 MHz, the requirement for Range 2 is not applicable and Range 3 applies from the frequency offset of 3\*BWChannel\_CA from the band edge.  NOTE 5: The power level of the interferer (PInterferer) for Range 3 shall be modified to -20 dBm for FInterferer > 2700 MHz and FInterferer < 4800 MHz | | | | | |

### ---Text omitted---

Table 7.6A.4.1-1: Narrow-band blocking for intra-band contiguous CA

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| NR band | Parameter | Unit | NR CA bandwidth class | |
|  |  |  | B | C |
| n1, n2, n3, n25, n38, n41, n66, n71, n48, n40 | Pw in Transmission Bandwidth Configuration, per CC | dBm | REFSENS + NR CA Bandwidth Class specific value below | |
|  |  |  | 16 | 16 |
|  | Puw (CW) | dBm | -55 | -55 |
|  | Fuw (offset for*f* = 15 kHz, 30 kHz) | MHz | - Foffset – 0.2  /  + Foffset + 0.2 | - Foffset – 0.2  /  + Foffset + 0.2 |
|  |  |  |  |  |
| NOTE 1: The transmitter shall be set a 4 dB below PCMAX\_L,f,c at the minimum UL configuration specified in Table 7.3.2-3 with PCMAX\_L,f,c defined in clause 6.2.4.  NOTE 2: Reference measurement channel is specified in Annexes A.3.2 and A3.2 with one sided dynamic OCNG Pattern OP.1 FDD/TDD as described in Annex A.5.1.1/A.5.2.1.  NOTE 3: The PREFSENS power level is specified in Table 7.3.2-1 and Table 7.3.2-2 for two and four antenna ports, respectively.  NOTE 4: The Fuw (offset) is the frequency separation of the center frequency of the carrier closest to the interferer and the center frequency of the interferer and shall be further adjusted to MHz to be offset from the sub-carrier raster. | | | | |

### ---End of changes---