**3GPP TSG-RAN WG4 Meeting #103-e R4-2209546**

**Electronic Meeting, 09 May – 20 May 2022**

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| --- |
| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  | **38.101-1** | **CR** | **1103** | **rev** |  | **Current version:** | **17.5.0** |  |
|  |
| *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)*.* |
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|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network |  |

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| --- |
|  |
| ***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:*** | 2022-05-24 |
|  |  |  |  |  |
| ***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 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-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
|  |  |
| ***Reason for change:*** | Adding approved NR Intra-band FR1 configurations |
|  |  |
| ***Summary of change:*** | AddingCA\_n25(2A) BCS4CA\_n25(3A) BCS4CA\_n41(3A) BCS4CA\_n41(4A) BCS0CA\_n41(4A) BCS4CA\_n41(A-C) BCS4CA\_n41(2A-C) BCS0CA\_n41(2A-C) BCS4CA\_n66(2A) BCS4CA\_n71(2A) BCS4CA\_n71B BCS4CA\_n77(2A) BCS4 |
|  |  |
| ***Consequences if not approved:*** | Approved NR Intra-band FR1 configurations 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 5.5A.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 | n413,4CA\_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 |
|  |  | See n71 channel bandwidths in Table 5.3.5-1 for each carrier2 |  |  |  | 35 | 4 and 5 |
| 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 combinationNOTE 4: Power Class 1.5 is allowed for this uplink combination or single uplink carrier in this downlink/uplink combinationNOTE 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) | MaximumAggregated 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 |
|  |  | See n25 channel bandwidths in Table 5.3.5-1 for each carrier |  |  | 60 | 4 and 5 |
| 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 |
|  |  | See n25 channel bandwidths in Table 5.3.5-1 for each carrier |  |  | 55 | 4 and 5 |
| CA\_n41(2A) | n413,4 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 |
|  |  | See n41 channel bandwidths in Table 5.3.5-1 for each carrier |  | 190 | 4 and 5 |
| CA\_n41(4A) | - | 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 | 190 | 0 |
|  |  | See n41 channel bandwidths in Table 5.3.5-1 for each carrier | 190 | 4 and 5 |
| 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 |
|  |  | See n66 channel bandwidths in Table 5.3.5-1 for each carrier |  |  | 85 | 4 and 5 |
| 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 |
|  |  | See n71 channel bandwidths in Table 5.3.5-1 for each carrier up to 25 MHz per carrier |  |  | 30 | 4 and 5 |
| 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 |
|  |  | See n77 channel bandwidths in Table 5.3.5-1 for each carrier |  |  | 200 | 4 and 5 |
| 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.NOTE 3: Power Class 2 is allowed for this uplink combination or single uplink carrier in this downlink/uplink combinationNOTE 4: Power Class 1.5 is allowed for this uplink combination or single uplink carrier in this downlink/uplink combination |

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| NR CA configuration | Uplink CA configuration | NR Band | Channel bandwidth (MHz) | Bandwidth combination set |
|  |  |  | 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |  |
| CA\_n41(A-C) | - | n41 |  | 10 | 15 | 20 |  | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 0 |
|  |  | n41 | See CA\_n41C Bandwidth Combination Set 2 in Table 5.5A.1-1 |  |
|  |  | n41 | See n41 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
|  |  | n41 | See CA\_n41C Bandwidth Combination Set 4 and 5 in Table 5.5A.1-1 |  |
| CA\_n41(2A-C) | - | n41 | See CA\_n41(2A) Bandwidth Combination Set 3 in Table 5.5A.2-1 | 0 |
|  |  | n41 | See CA\_n41C Bandwidth Combination Set 1 in Table 5.5A.1-1 |  |
|  |  | n41 | See CA\_n41(2A) Bandwidth Combination Set 4 and 5 in Table 5.5A.2-1 | 4 and 5 |
|  |  | n41 | See CA\_n41C Bandwidth Combination Set 4 and 5 in Table 5.5A.1-1 |  |
| CA\_n48(A-B) | CA\_n48B | n48 | 5 | 10 | 15 | 20 |  |  | 40 | 501 | 601 |  | 801 | 901 | 1001 | 0 |
|  | n48 | See CA\_n48B Bandwidth Combination Set 0 in Table 5.5A.1-1 |  |
| CA\_n48B | n48 | 5 | 10 | 15 | 20 |  | 30 | 40 | 501 | 601 | 701 | 801 | 901 | 1001 | 1 |
|  | n48 | See CA\_n48B Bandwidth Combination Set 2 in Table 5.5A.1-1 |  |
| CA\_n48(A-C) | - | n48 | 5 | 10 | 15 | 20 |  |  | 40 | 501 | 601 |  | 801 | 901 | 1001 | 0 |
|  | n48 | See CA\_n48C Bandwidth Combination Set 0 in Table 5.5A.1-1 |  |
| - | n48 | 5 | 10 | 15 | 20 |  | 30 | 40 | 501 | 601 | 701 | 801 | 901 | 1001 | 1 |
|  | n48 | See CA\_n48C Bandwidth Combination Set 1 in Table 5.5A.1-1 |  |
| NOTE 1: This UE channel bandwidth is applicable only to downlink |

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