**3GPP TSG- Meeting #**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  |  | **CR** |  | **rev** |  | **Current version:** |  |  |
|  | | | | | | | | |
| *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:*** |  | | | | | | | | | |
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| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** |  | | | | | | | | | |
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| ***Work item code:*** |  | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***Category:*** |  |  | | | | | ***Release:*** | | |  |
|  | *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:*** | | 1. R4-2315233 There are mistakes for the band notation of UL configurations in Table 5.5C-4. 2. R4-2317716 The SUL band combination with inter-band CA configurations in Table 5.5C-4 are incorrect. The channel bandwidths and NR bands are not aligned with SUL band combination with CA.      1. In RAN4#108bis meeting, a guideline on delta T/R special values has been approved in R4-2316689 for band combinations if uplink / downlink is not supported on a constituted band of the DC/CA band combination, “N/A” is used when deriving the delta T/R requirements for that constituted band of the band combination. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 1. R4-2315233 Correct SUL\_79A-n83A to SUL\_n79A-n83A in CA\_n41A\_n79C-n83A. Same for SUL\_79A-n95A and SUL\_79A-n98A 2. R4-2317716 3. Correct the SUL band combination with inter-band CA configurations in Table 5.5C-4. 4. Correct the table format for supported channel bandwidths per SUL band combination with inter-band CA in Table 5.5C-5. 5. The delta R with the following special constituted bands for SUL band combinations are corrected to “N/A”.   – Band combinations with SUL component bands. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The SUL band combination with inter-band CA configurations in Table 5.5C-4 and the table format in Table 5.5C-5 will remain incorrect. The delta R requirements for SUL band combinations are incomplete. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.5C, 7.3C.3.2.1, 7.3C.3.2.2, 7.3C.3.2.3 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | | **X** |  | Test specifications | | | | TS 38.521-1 | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

## **<<Start of Change>>**

## 5.5C Configurations for SUL

The configuration tables for SUL describe Bandwidth Combination Sets. Bandwidth Combination Set 4 and 5 contains all possible defined channel bandwidths for each band in the combination. The fact that BCS4 and BCS5 contains all channel bandwidths for each band does not alter if a bandwidth is mandatory or optional for a given band. Bandwidths that are identified as optional in Table 5.3.5-1 for a given release are still optional for UEs that support BCS4 or BCS5. , where the bandwidths the UE supports for each band, the maximum bandwidth and/or minimum bandwidth for the band in the band combination are indicated in the UE capabilities. Note that the minimum bandwidth is indicated only in BCS5 and BCS5 shall not be indicated together with BCS4 for a SUL configuration. For SUL band combinations including FR1 intra-band CA and with BCS4 or BCS5, the Bandwidth Combination Sets for the FR1 intra-band CA are BCS4 or BCS5.

Table 5.5C-1: Supported channel bandwidths per SUL band combination

| SUL configuration | NR Band | Channel bandwidth (MHz) (NOTE 1) | Bandwidth combination set |
| --- | --- | --- | --- |
| SUL\_n1A-n80A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
|  | n80 | 5, 10, 15, 20, 25, 30 |  |
| SUL\_n1A-n81A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
|  | n81 | 5, 10, 15, 20 |  |
| SUL\_n1A-n89A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
|  | n89 | 5, 10, 15, 20 |  |
| SUL\_n3A-n84A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
|  | n84 | 5, 10, 15, 20 |  |
| SUL\_n24A-n99A | n24 | 5, 10 | 0 |
|  | n99 | 5, 10 |  |
| SUL\_n41A-n80A | n41 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
|  | n80 | 5, 10, 15, 20, 25, 30 |  |
|  | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 1 |
|  | n80 | 5, 10, 15, 20, 25, 30, 40 |  |
| SUL\_n41A-n81A | n41 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
|  | n81 | 5, 10, 15, 20 |  |
| SUL\_n41A-n83A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
|  | n83 | 5, 10, 15, 20, 30 |  |
| SUL\_n41A-n95A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
|  | n95 | 5, 10, 15 |  |
| SUL\_n41A-n97A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
|  | n97 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 |  |
|  | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 1 |
|  | n97 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 |  |
| SUL\_n41A-n98A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
|  | n98 | 5, 10, 15, 20, 25, 30, 40 |  |
| SUL\_n41A-n99A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
|  | n99 | 5, 10 |  |
| SUL\_n48A-n99A | n48 | 5, 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
|  | n99 | 5, 10 |  |
| SUL\_n77A-n80A | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
|  | n80 | 5, 10, 15, 20, 25, 30 |  |
| SUL\_n77A-n84A | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
|  | n84 | 5, 10, 15, 20 |  |
| SUL\_n77A-n99A | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
|  | n99 | 5, 10 |  |
| SUL\_n78A-n80A | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
|  | n80 | 5, 10, 15, 20, 25, 30 |  |
|  | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | 1 |
|  | n80 | 5, 10, 15, 20, 25, 30, 40 |  |
| SUL\_n78A-n81A | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
|  | n81 | 5, 10, 15, 20 |  |
|  | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | 1 |
|  | n81 | 5, 10, 15, 20 |  |
| SUL\_n78A-n82A | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
|  | n82 | 5, 10, 15, 20 |  |
| SUL\_n78A-n83A | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
|  | n83 | 5, 10, 15, 20 |  |
|  | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | 1 |
|  | n83 | 5, 10, 15, 20, 30 |  |
| SUL\_n78A-n84A | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
|  | n84 | 5, 10, 15, 20 |  |
|  | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | 1 |
|  | n84 | 5, 10, 15, 20, 25, 30, 40, 50 |  |
| SUL\_n78A-n86A | n78 | 10, 15, 20, 40, 50, 60, 70, 80, 90, 100 | 0 |
|  | n86 | 5, 10, 15, 20 |  |
| SUL\_n78A-n89A | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
|  | n89 | 5, 10, 15, 20 |  |
| SUL\_n79A-n80A | n79 | 40, 50, 60, 80, 100 | 0 |
|  | n80 | 5, 10, 15, 20, 25, 30 |  |
|  | n79 | 40, 50, 60, 80, 100 | 1 |
|  | n80 | 5, 10, 15, 20, 25, 30, 40 |  |
| SUL\_n79A-n81A | n79 | 40, 50, 60, 80, 100 | 0 |
|  | n81 | 5, 10, 15, 20 |  |
| SUL\_n79A-n83A | n79 | 40, 50, 60, 80, 100 | 0 |
|  | n83 | 5, 10, 15, 20, 30 |  |
| SUL\_n79A-n84A | n79 | 40, 50, 60, 80, 100 | 0 |
|  | n84 | 5, 10, 15, 20 |  |
| SUL\_n79A-n95A | n79 | 40, 50, 60, 80, 100 | 0 |
|  | n95 | 5, 10, 15 |  |
| SUL\_n79A-n97A | n79 | 40, 50, 60, 80, 100 | 0 |
|  | n97 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 |  |
|  | n79 | 40, 50, 60, 80, 100 | 1 |
|  | n97 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 |  |
|  | n79 | See n79 channel bandwidths in Table 5.3.5-1 for each carrier | 4 and 5 |
|  | n97 | See n97 channel bandwidths in Table 5.3.5-1 for each carrier |  |
| SUL\_n79A-n98A | n79 | 40, 50, 60, 80, 100 | 0 |
|  | n98 | 5, 10, 15, 20, 25, 30, 40 |  |
| NOTE 1: The SCS of each channel bandwidth for NR band refers to Table 5.3.5-1. | | | |

Table 5.5C-2: Supported channel bandwidths per SUL band combination with intra-band non-contiguous CA

| SUL band combination with intra-band non-contiguous CA | SUL configuration | NR Band | Channel bandwidth (MHz) (NOTE 1) | Bandwidth combination set |
| --- | --- | --- | --- | --- |
| CA\_n41(2A)-n99A | SUL\_n41A-n99A | n41 | CA\_n41(2A)\_BCS0 | 0 |
|  |  | n99 | 5, 10 |  |
| CA\_n48(2A)-n99A | SUL\_n48A-n99A | n48 | CA\_n48(2A)\_BCS0 | 0 |
|  |  | n99 | 5, 10 |  |
| CA\_n77(2A)-n99A | SUL\_n77A-n99A | n77 | CA\_n77(2A)\_BCS0 | 0 |
|  |  | n99 | 5, 10 |  |
| CA\_n78(2A)-n86A | SUL\_n78A-n86A | n78 | CA\_n78(2A)\_BCS0 | 0 |
|  |  | n86 | 5, 10, 15, 20 |  |
| NOTE 1: The SCS of each channel bandwidth for NR band refers to Table 5.3.5-1. | | | | |

Table 5.5C-3: Supported channel bandwidths per SUL band combination with intra-band contiguous CA

| SUL band combination with CA | SUL configuration | NR Band | Channel bandwidth (MHz) (NOTE 1) | Bandwidth combination set |
| --- | --- | --- | --- | --- |
| CA\_n41C-n80A | SUL\_n41A-n80A | n41 | CA\_n41C\_BCS1 | 0 |
|  | CA\_n41C-n80A | n80 | 5, 10, 15, 20, 25, 30, 40 |  |
| CA\_n41C-n83A | SUL\_n41A-n83A | n41 | CA\_n41C\_BCS1 | 0 |
|  | CA\_n41C-n83A | n83 | 5, 10, 15, 20, 30 |  |
| CA\_n41C-n95A | SUL\_n41A-n95A | n41 | CA\_n41C\_BCS1 | 0 |
|  | CA\_n41C-n95A | n95 | 5, 10, 15 |  |
| CA\_n41C-n98A | SUL\_n41A-n98A | n41 | CA\_n41C\_BCS1 | 0 |
|  | CA\_n41C-n98A | n98 | 5, 10, 15, 20, 25, 30, 40 |  |
| CA\_n78C-n80A | SUL\_n78A-n80A | n78 | CA\_n78C\_BCS1 | 0 |
|  | CA\_n78C-n80A | n80 | 5, 10, 15, 20, 25, 30, 40 |  |
| CA\_n78C-n81A | SUL\_n78A-n81A | n78 | CA\_n78C\_BCS1 | 0 |
|  | CA\_n78C-n81A | n81 | 5, 10, 15, 20 |  |
| CA\_n78C-n84A | SUL\_n78A-n84A | n78 | CA\_n78C\_BCS1 | 0 |
|  | CA\_n78C-n84A | n84 | 5, 10, 15, 20, 25, 30, 40, 50 |  |
| CA\_n78C-n89A | SUL\_n78A-n89A | n78 | CA\_n78C\_BCS1 | 0 |
|  | CA\_n78C-n89A | n89 | 5, 10, 15, 20 |  |
| CA\_n79C-n80A | SUL\_n79A-n80A | n79 | CA\_n79C\_BCS0 | 0 |
|  | CA\_n79C-n80A | n80 | 5, 10, 15, 20, 25, 30, 40 |  |
| CA\_n79C-n83A | SUL\_n79A-n83A | n79 | CA\_n79C\_BCS0 | 0 |
|  | CA\_n79C-n83A | n83 | 5, 10, 15, 20, 30 |  |
| CA\_n79C-n95A | SUL\_n79A-n95A | n79 | CA\_n79C\_BCS0 | 0 |
|  | CA\_n79C-n95A | n95 | 5, 10, 15 |  |
| CA\_n79C-n98A | SUL\_n79A-n98A | n79 | CA\_n79C\_BCS0 | 0 |
|  | CA\_n79C-n98A | n98 | 5, 10, 15, 20, 25, 30, 40 |  |
| NOTE 1: The SCS of each channel bandwidth for NR band refers to Table 5.3.5-1. | | | | |

Table 5.5C-4: Supported channel bandwidths per SUL band combination with inter-band CA

| SUL band combination with CA | UL configuration | NR Band | Channel bandwidth (MHz) (NOTE 1) | Bandwidth combination set |
| --- | --- | --- | --- | --- |
| CA\_n1A\_n78A-n80A | SUL\_n78A-n80A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
|  |  | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 |  |
|  |  | n80 | 5, 10, 15, 20, 25, 30, 40 |  |
| CA\_n1A\_n78A-n81A | SUL\_n78A-n81A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
|  |  | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 |  |
|  |  | n81 | 5, 10, 15, 20 |  |
| CA\_n1A\_n78A-n84A | SUL\_n78A-n84A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
|  |  | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 |  |
|  |  | n84 | 5, 10, 15, 20, 25, 30, 40, 50 |  |
| CA\_n1A\_n78C-n84A | SUL\_n78A-n84A  CA\_n78C-n84A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
|  |  | n78 | CA\_n78C\_BCS1 |  |
|  |  | n84 | 5, 10, 15, 20, 25, 30, 40, 50 |  |
| CA\_n3A\_n41A-n80A | SUL\_n41A-n80A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
|  |  | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 |  |
|  |  | n80 | 5, 10, 15, 20, 25, 30, 40 |  |
| CA\_n3A\_n41C-n80A | SUL\_n41A-n80A  CA\_n41C-n80A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
|  |  | n41 | CA\_n41C\_BCS1 |  |
|  |  | n80 | 5, 10, 15, 20, 25, 30, 40 |  |
| CA\_n3A\_n78A-n80A | SUL\_n78A-n80A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
|  |  | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 |  |
|  |  | n80 | 5, 10, 15, 20, 25, 30, 40 |  |
| CA\_n3A\_n78C-n80A | SUL\_n78A-n80A  CA\_n78C-n80A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
|  |  | n78 | CA\_n78C\_BCS1 |  |
|  |  | n80 | 5, 10, 15, 20, 25, 30, 40 |  |
| CA\_n3A\_n79A-n80A | SUL\_n79A-n80A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
|  |  | n79 | 40, 50, 60, 80, 100 |  |
|  |  | n80 | 5, 10, 15, 20, 25, 30, 40 |  |
| CA\_n3A\_n79C-n80A | SUL\_n79A-n80A  CA\_n79C-n80A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
|  |  | n79 | CA\_n79C\_BCS0 |  |
|  |  | n80 | 5, 10, 15, 20, 25, 30, 40 |  |
| CA\_n8A\_n78A-n81A | SUL\_n78A-n81A | n8 | 5, 10, 15, 20 | 0 |
|  |  | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 |  |
|  |  | n81 | 5, 10, 15, 20 |  |
| CA\_n28A\_n41A-n83A | SUL\_n41A-n83A | n28 | 5, 10, 15, 20, 30 | 0 |
|  |  | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 |  |
|  |  | n83 | 5, 10, 15, 20, 30 |  |
| CA\_n28A\_n41C-n83A | SUL\_n41A-n83A  CA\_n41C-n83A | n28 | 5, 10, 15, 20, 30 | 0 |
|  |  | n41 | CA\_n41C\_BCS1 |  |
|  |  | n83 | 5, 10, 15, 20, 30 |  |
| CA\_n28A\_n79A-n83A | SUL\_n79A-n83A | n28 | 5, 10, 15, 20, 30 | 0 |
|  |  | n79 | 40, 50, 60, 80, 100 |  |
|  |  | n83 | 5, 10, 15, 20, 30 |  |
| CA\_n28A\_n79C-n83A | SUL\_n79A-n83A  CA\_n79C-n83A | n28 | 5, 10, 15, 20, 30 | 0 |
|  |  | n79 | CA\_n79C\_BCS0 |  |
|  |  | n83 | 5, 10, 15, 20, 30 |  |
| CA\_n41A\_n79A-n80A | SUL\_n79A-n80A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
|  |  | n79 | 40, 50, 60, 80, 100 |  |
|  |  | n80 | 5, 10, 15, 20, 25, 30, 40 |  |
| CA\_n41A\_n79A-n83A | SUL\_n79A-n83A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
|  |  | n79 | 40, 50, 60, 80, 100 |  |
|  |  | n83 | 5, 10, 15, 20, 30 |  |
| CA\_n41A\_n79C-n83A | SUL\_n79A-n83A  CA\_n79C-n83A  CA\_n41A-n79A  CA\_n79C | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
|  |  | n79 | CA\_n79C\_BCS0 |  |
|  |  | n83 | 5, 10, 15, 20, 30 |  |
| CA\_n41C\_n79A-n83A | SUL\_n79A-n83A  CA\_n41C  CA\_n41A-n79A | n41 | CA\_n41C\_BCS1 | 0 |
|  |  | n79 | 40, 50, 60, 80, 100 |  |
|  |  | n83 | 5, 10, 15, 20, 30 |  |
| CA\_n41C\_n79C-n83A | CA\_n41C  CA\_n79C  SUL\_n79A-n83A  CA\_n79C-n83A  CA\_n41A-n79A | n41 | CA\_n41C\_BCS1 | 0 |
|  |  | n79 | CA\_n79C\_BCS0 |  |
|  |  | n83 | 5, 10, 15, 20, 30 |  |
| CA\_n41A\_n79A-n95A | SUL\_n79A-n95A | n41 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
|  |  | n79 | 10, 20, 30, 40, 50, 60, 70, 80, 90, 100 |  |
|  |  | n95 | 5, 10, 15 |  |
| CA\_n41A\_n79C-n95A | SUL\_n79A-n95A  CA\_n79C-n95A  CA\_n41A-n79A  CA\_n79C | n41 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
|  |  | n79 | CA\_n79C\_BCS0 |  |
|  |  | n95 | 5, 10, 15 |  |
| CA\_n41C\_n79A-n95A | SUL\_n79A-n95A  CA\_n41C  CA\_n41A-n79A | n41 | CA\_n41C\_BCS1 | 0 |
|  |  | n79 | 10, 20, 30, 40, 50, 60, 70, 80, 90, 100 |  |
|  |  | n95 | 5, 10, 15 |  |
| CA\_n41C\_n79C-n95A | CA\_n41C  CA\_n79C  SUL\_n79A-n95A  CA\_n79C-n95A  CA\_n41A-n79A | n41 | CA\_n41C\_BCS1 | 0 |
|  |  | n79 | CA\_n79C\_BCS0 |  |
|  |  | n98 | 5, 10, 15 |  |
| CA\_n41A\_n79A-n97A | SUL\_n79A-n97A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
|  |  | n79 | 40, 50, 60, 80, 100 |  |
|  |  | n97 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 |  |
| CA\_n41A\_n79A-n98A | SUL\_n79A-n98A | n41 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
|  |  | n79 | 10, 20, 30, 40, 50, 60, 70, 80, 90, 100 |  |
|  |  | n98 | 5, 10, 15, 20, 25, 30, 40 |  |
| CA\_n41A\_n79C-n98A | SUL\_n79A-n98A  CA\_n79C-n98A  CA\_n41A-n79A  CA\_n79C | n41 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
|  |  | n79 | CA\_n79C\_BCS0 |  |
|  |  | n98 | 5, 10, 15, 20, 25, 30, 40 |  |
| CA\_n41C\_n79A-n98A | SUL\_n79A-n98A  CA\_n41C  CA\_n41A-n79A | n41 | CA\_n41C\_BCS1 | 0 |
|  |  | n79 | 10, 20, 30, 40, 50, 60, 70, 80, 90, 100 |  |
|  |  | n98 | 5, 10, 15, 20, 25, 30, 40 |  |
| CA\_n41C\_n79C-n98A | CA\_n41C  CA\_n79C  SUL\_n79A-n98A  CA\_n79C-n98A  CA\_n41A-n79A | n41 | CA\_n41C\_BCS1 | 0 |
|  |  | n79 | CA\_n79C\_BCS0 |  |
|  |  | n98 | 5, 10, 15, 20, 25, 30, 40 |  |
| CA\_n78A\_n1A-n80A | SUL\_n1A-n80A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
|  |  | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 |  |
|  |  | n80 | 5, 10, 15, 20, 25, 30 |  |
| CA\_n78A\_n1A-n81A | SUL\_n1A-n81A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
|  |  | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 |  |
|  |  | n81 | 5, 10, 15, 20 |  |
| CA\_n78A\_n1A-n89A | SUL\_n1A-n89A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
|  |  | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 |  |
|  |  | n89 | 5, 10, 15, 20 |  |
| CA\_n78A\_n3A-n84A | SUL\_n3A-n84A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
|  |  | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 |  |
|  |  | n84 | 5, 10, 15, 20 |  |
| CA\_n79A\_n41A-n80A | SUL\_n41A-n80A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
|  |  | n79 | 40, 50, 60, 80, 100 |  |
|  |  | n80 | 5, 10, 15, 20, 25, 30, 40 |  |
| CA\_n79A\_n41A-n83A | SUL\_n41A-n83A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
|  |  | n79 | 40, 50, 60, 80, 100 |  |
|  |  | n83 | 5, 10, 15, 20, 30 |  |
| CA\_n79A\_n41C-n83A | SUL\_n41A-n83A  CA\_n41C-n83A  CA\_n41A-n79A  CA\_n41C | n41 | CA\_n41C\_BCS1 | 0 |
|  |  | n79 | 40, 50, 60, 80, 100 |  |
|  |  | n83 | 5, 10, 15, 20, 30 |  |
| CA\_n79C\_n41A-n83A | SUL\_n41A-n83A  CA\_n41A-n79A  CA\_n79C | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
|  |  | n79 | CA\_n79C\_BCS0 |  |
|  |  | n83 | 5, 10, 15, 20, 30 |  |
| CA\_n79C\_n41C-n83A | CA\_n41C  CA\_n79C  SUL\_n41A-n83A  CA\_n41C-n83A  CA\_n41A-n79A | n41 | CA\_n41C\_BCS1 | 0 |
|  |  | n79 | CA\_n79C\_BCS0 |  |
|  |  | n83 | 5, 10, 15, 20, 30 |  |
| CA\_n79A\_n41A-n95A | SUL\_n41A-n95A | n41 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
|  |  | n79 | 10, 20, 30, 40, 50, 60, 70, 80, 90, 100 |  |
|  |  | n95 | 5, 10, 15 |  |
| CA\_n79C\_n41A-n95A | SUL\_n41A-n95A  CA\_n41A-n79A  CA\_n79C | n41 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
|  |  | n79 | CA\_n79C\_BCS0 |  |
|  |  | n95 | 5, 10, 15 |  |
| CA\_n79A\_n41C-n95A | SUL\_n41A-n95A  CA\_n41C-n95A  CA\_n41A-n79A  CA\_n41C | n41 | CA\_n41C\_BCS1 | 0 |
|  |  | n79 | 10, 20, 30, 40, 50, 60, 70, 80, 90, 100 |  |
|  |  | n95 | 5, 10, 15 |  |
| CA\_n79C\_n41C-n95A | CA\_n41C  CA\_n79C  SUL\_n41A-n95A  CA\_n41C-n95A  CA\_n41A-n79A | n41 | CA\_n41C\_BCS1 | 0 |
|  |  | n79 | CA\_n79C\_BCS0 |  |
|  |  | n95 | 5, 10, 15 |  |
| CA\_n79A\_n41A-n97A | SUL\_n41A-n97A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
|  |  | n79 | 40, 50, 60, 80, 100 |  |
|  |  | n97 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 |  |
| CA\_n79A\_n41A-n98A | SUL\_n41A-n98A | n41 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
|  |  | n79 | 10, 20, 30, 40, 50, 60, 70, 80, 90, 100 |  |
|  |  | n98 | 5, 10, 15, 20, 25, 30, 40 |  |
| CA\_n79C\_n41A-n98A | SUL\_n41A-n98A  CA\_n41A-n79A  CA\_n79C | n41 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
|  |  | n79 | CA\_n79C\_BCS0 |  |
|  |  | n98 | 5, 10, 15, 20, 25, 30, 40 |  |
| CA\_n79A\_n41C-n98A | SUL\_n41A-n98A  CA\_n41C-n98A  CA\_n41A-n79A  CA\_n41C | n41 | CA\_n41C\_BCS1 | 0 |
|  |  | n79 | 10, 20, 30, 40, 50, 60, 70, 80, 90, 100 |  |
|  |  | n98 | 5, 10, 15, 20, 25, 30, 40 |  |
| CA\_n79C\_n41C-n98A | CA\_n41C  CA\_n79C  SUL\_n41A-n98A  CA\_n41C-n98A  CA\_n41A-n79A | n41 | CA\_n41C\_BCS1 | 0 |
|  |  | n79 | CA\_n79C\_BCS0 |  |
|  |  | n98 | 5, 10, 15, 20, 25, 30, 40 |  |
| CA\_n28A-n79A\_n41A-n83A | SUL\_n41A-n83A | n28 | 5, 10, 15, 20, 30 | 0 |
|  |  | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 |  |
|  |  | n79 | 40, 50, 60, 80, 100 |  |
|  |  | n83 | 5, 10, 15, 20, 30 |  |
| CA\_n28A-n41A\_n79A-n83A | SUL\_n79A-n83A | n28 | 5, 10, 15, 20, 30 | 0 |
|  |  | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 |  |
|  |  | n79 | 40, 50, 60, 80, 100 |  |
|  |  | n83 | 5, 10, 15, 20, 30 |  |
| NOTE 1: The SCS of each channel bandwidth for NR band refers to Table 5.3.5-1. | | | | |

## **<<Next of Change>>**

#### 7.3C.3.2 SUL band combination

For the UE which supports SUL band combiantion, the minimum requirement for reference sensitivity in clause 7.3C.2 shall be increased by the amount given in ΔRIB,c defined in clause 7.3C.3.2 for the applicable operating bands. Unless otherwise stated, ΔRIB,c is set to zero.

In case the UE supports more than one of band combinations for CA, SUL or DC, and an operating band belongs to more than one band combinations then

- When the operating band frequency range is ≤ 1 GHz, the applicable additional ΔRIB,c shall be the average value for all band combinations defined in clause 7.3A, 7.3B, 7.3C in this specification and 7.3A, 7.3B in TS 38.101-3 [3], truncated to one decimal place that apply for that operating band among the supported band combinations. In case there is a harmonic relation between low band UL and high band DL, then the maximum ΔRIB,c among the different supported band combinations involving such band shall be applied

- When the operating band frequency range is > 1 GHz, the applicable additional ΔRIB,c shall be the maximum value for all band combinations defined in clause 7.3A, 7.3B, 7.3C in this specification and 7.3A, 7.3B in TS 38.101-3 [3] for the applicable operating bands.

##### 7.3C.3.2.1 ΔRIB,c for two bands

Table 7.3C.3.2.1-1: ΔRIB,c due to SUL (two bands)

| Band combination for SUL | **ΔRIB,c for NR band (dB)2** | |
| --- | --- | --- |
| **Component band in order of bands in configuration3** | |
| SUL\_n41-n80 | 0.51 | N/A |
| SUL\_n41-n95 | 0.2 | N/A |
| SUL\_n41-n98 | 0.2 | N/A |
| SUL\_n48-n99 | 0.5 | N/A |
| SUL\_n77-n80 | 0.5 | N/A |
| SUL\_n77-n84 | 0.5 | N/A |
| SUL\_n77-n99 | 0.5 | N/A |
| SUL\_n78-n80 | 0.5 | N/A |
| SUL\_n78-n81 | 0.5 | N/A |
| SUL\_n78-n82 | 0.5 | N/A |
| SUL\_n78-n83 | 0.5 | N/A |
| SUL\_n78-n84 | 0.5 | N/A |
| SUL\_n78-n86 | 0.5 | N/A |
| SUL\_n79-n83 | 0.5 | N/A |
| SUL\_n79-n97 | 0.5 | N/A |
| SUL\_n79-n98 | 0.5 | N/A |
| NOTE 1: The requirement is applied for UE transmitting on the frequency range of 2496 – 2515 MHz.  NOTE 2: “-” denotes ΔRIB,c = 0 and ΔRIB,c is not applicable to SUL band(s).  NOTE 3: The component band order in the configuration should be listed by the order of NR band, such as for SUL\_n41-n80 the order of band is n41 and n80. | | |

##### 7.3C.3.2.2 ΔRIB,c for three bands

Table 7.3C.3.2.2-1: ΔRIB,c due to SUL (three bands)

|  |  |  |  |
| --- | --- | --- | --- |
| **Band combination for SUL** | **ΔRIB,c for NR bands (dB)2** | | |
| **Component band in order of bands in configuration3** | | |
| CA\_n1\_n78-n80 | 0.2 | 0.5 | N/A |
| CA\_n1\_n78-n81 | - | 0.5 | N/A |
| CA\_n1\_n78-n84 | 0.2 | 0.5 | N/A |
| CA\_n3\_n41-n80 | - | 0.51 | N/A |
| CA\_n3\_n78-n80 | 0.2 | 0.5 | N/A |
| CA\_n3\_n79-n80 | - | 0.5 | N/A |
| CA\_n28\_n41-n83 | 0.2 | - | N/A |
| CA\_n8\_n78-n81 | 0.2 | 0.5 | N/A |
| CA\_n28\_n79-n83 | 0.2 | 0.5 | N/A |
| CA\_n41\_n79-n80 | 0.5 | 0.5 | N/A |
| CA\_n41\_n79-n83 | 0.5 | 0.5 | N/A |
| CA\_n41\_n79-n95 | - | 0.5 | N/A |
| CA\_n41\_n79-n97 | - | 0.8 | N/A |
| CA\_n41\_n79-n98 | - | 0.5 | N/A |
| CA\_n78\_n1-n80 | 0.5 | 0.2 | N/A |
| CA\_n78\_n1-n81 | 0.5 | - | N/A |
| CA\_n78\_n1-n89 | 0.5 | 0.2 | N/A |
| CA\_n78\_n3-n84 | 0.5 | 0.2 | N/A |
| CA\_n79\_n41-n80 | 0.5 | 0.5 | N/A |
| CA\_n78\_n80-n84 | 0.5 | - | N/A |
| CA\_n78\_n81-n84 | 0.5 | - | N/A |
| CA\_n79\_n41-n83 | 0.5 | 0.5 | N/A |
| CA\_n79\_n41-n95 | - | 0.5 | N/A |
| CA\_n79\_n41-n97 | - | 0.8 | N/A |
| CA\_n79\_n41-n98 | - | 0.5 | N/A |
| NOTE 1: The requirement is applied for UE transmitting on the frequency range of 2496 – 2515 MHz.  NOTE 2: “-” denotes ΔRIB,c = 0 and ΔRIB,c is not applicable to SUL band(s).  NOTE 3: The component band order in the configuration should be listed by the order of NR bands, such as for CA\_n1\_n78-n80 the order of band is n1, n78 and n80. | | | |

##### 7.3C.3.2.3 ΔRIB,c for four bands

Table 7.3C.3.2.3-1: ΔRIB,c due to SUL (four bands)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Band combination for SUL | ΔRIB,c for NR bands (dB)1 | | | |
| Component band in order of bands in configuration2 | | | |
| CA\_n28-n79\_n41-n83 | 0.2 | - | 0.8 | N/A |
| CA\_n28-n41\_n79-n83 | 0.2 | - | 0.8 | N/A |
| CA\_n41A-n95A\_n79A-n98A | 0.5 | 0.5 | - | - |
| CA\_n41A-n98A\_n79A-n95A | 0.5 | 0.5 | - | - |
| CA\_n41A-n83A\_n79A-n98A | 0.5 | 0.5 | - | - |
| CA\_n41A-n83A\_n79A-n95A | 0.5 | 0.5 | - | - |
| NOTE 1: “-” denotes ΔRIB,c = 0 and ΔRIB,c is not applicable to SUL band(s).  NOTE 2: The component band order in the configuration should be listed by the order of NR bands, such as for CA\_n28-n79\_n41-n83 the order of band is n28, n41, n79 and n83. | | | | |

## **<<End of Change>>**