**3GPP TSG-RAN4 Meeting #96-e *R4-2009938***

**Online, , 17th Aug 2020 - 28th Aug 2020**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **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)*.* | | | | | | | | |
|  | | | | | | | | |

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

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Coexistence cleanup for 36101 Rel16 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI16 | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***Category:*** |  |  | | | | | ***Release:*** | | | 6 |
|  | *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-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Rel-16 features several band protections which are not technical possible due to sometimes TDD bands with overlapping regions are protected or similar issues. The CR focuses on correcting false protections so that a UE will not face technical impossible emission requirements. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Band protections are defined in the current release which are technical not possible to realize. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | If no corrections are made than UE will face technical impossible emission requierdments. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.6.3.2A | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **x** | Other core specifications | | | |  | | |
| ***affected:*** | | **X** |  | Test specifications | | | | TS36.521-1 | | |
| ***(show related CRs)*** | |  | **x** | O&M Specifications | | | |  | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

<< start of changes >>

#### 6.6.3.2A Spurious emission band UE co-existence for CA

This clause specifies the requirements for the specified carr`ier aggregation configurations for coexistence with protected bands.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

For inter-band carrier aggregation with the uplink assigned to two E-UTRA bands, the requirements in Table 6.6.3.2A-0 apply on each component carrier with all component carriers are active.

NOTE: For inter-band carrier aggregation with uplink assigned to two E-UTRA bands the requirements in Table 6.6.3.2A-0 could be verified by measuring spurious emissions at the specific frequencies where second and third order intermodulation products generated by the two transmitted carriers can occur; in that case, the requirements for remaining applicable frequencies in Table 6.6.3.2A-0 would be considered to be verified by the measurements verifying the one uplink inter-band CA UE to UE co-existence requirements.

Table 6.6.3.2A-0: Requirements for uplink inter-band carrier aggregation (two bands)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| E-UTRA CA Configuration | Spurious emission | | | | | | | |
| Protected band | Frequency range (MHz) | | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
| CA\_1-3 | E-UTRA Band 1, 5, 7, 8, 11, 18, 19, 20, 21, 26, 27, 28, 31, 32, 38, 40, 41, 43, 44, 50, 51, 65, 67, 72, 73, 74, 75, 76  NR Band n79 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA band 3, 34 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| E-UTRA band 22, 42, 52  NR Band n77, n78 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | 7 |
| Frequency range | 1880 | |  | 1895 | -40 | 1 | 3,12 |
| Frequency range | 1895 | |  | 1915 | -15.5 | 5 | 3, 12, 13 |
| Frequency range | 1915 | |  | 1920 | +1.6 | 5 | 3, 12, 13 |
| CA\_1-5 | E-UTRA Band 1, 5, 7, 8, 22, 28, 31, 38, 40, 42, 43, 50, 51, 65, 73, 74  NR Band n77, n78, n79 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA band 3,34 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| E-UTRA band 26 | 859 | | - | 869 | -27 | 1 |  |
| E-UTRA band 41, 52 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| CA\_1-7 | E-UTRA Band 1, 5, 7, 8, 20, 22, 26, 27, 28, 31,32, 40, 42, 43, 50, 51, 52, 65, 67, 72, 74, 75, 76  NR Band n77, n78 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA band 3, 34 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| NR Band n77 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 1880 | |  | 1895 | -40 | 1 | 3,12 |
| Frequency range | 1895 | |  | 1915 | -15.5 | 5 | 3, 12, 13 |
| Frequency range | 1915 | |  | 1920 | +1.6 | 5 | 3, 12, 13 |
| Frequency range | 2570 | | - | 2575 | +1.6 | 5 | 3, 13, 14 |
| Frequency range | 2575 | | - | 2595 | -15.5 | 5 | 3, 13, 14 |
| Frequency range | 2595 | | - | 2620 | -40 | 1 | 3, 14 |
| CA\_1-8 | E-UTRA Band 1, 20, 28, 31, 32, 38, 40, 50, 51, 65, 67, 72, 73, 74, 75, 76 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA band 3, 7, 22, 41, 42, 43, 52  NR Band n77, n78, n79 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| E-UTRA Band 8, 34 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| E-UTRA band 11, 21 | FDL\_low | | - | FDL\_high | -50 | 1 | 11 |
| Frequency range | 860 | | - | 890 | -40 | 1 | 3, 11 |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | 7, 11 |
| Frequency range | 1880 | |  | 1895 | -40 | 1 | 3,12 |
| Frequency range | 1895 | |  | 1915 | -15.5 | 5 | 3, 12, 13 |
| Frequency range | 1915 | |  | 1920 | +1.6 | 5 | 3, 12, 13 |
| CA\_1-11 | E-UTRA Band 1, 3, 11, 18, 19, 21, 28, 34, 42, 65  NR Band n77, n78, n79 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| Frequency range | 945 | | - | 960 | -50 | 1 |  |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | 7 |
| Frequency range | 2545 | | - | 2575 | -50 | 1 |  |
| Frequency range | 2595 | | - | 2645 | -50 | 1 |  |
| CA\_1-18 | E-UTRA Band 1, 3, 11, 21, 42, 65  NR Band n79 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 34 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| NR Band n77, n78 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 758 | | - | 799 | -50 | 1 |  |
| Frequency range | 799 | | - | 803 | -40 | 1 | 3 |
| Frequency range | 860 | | - | 890 | -40 | 1 |  |
| Frequency range | 945 | | - | 960 | -50 | 1 |  |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | 3, 7 |
| Frequency range | 2545 | | - | 2575 | -50 | 1 |  |
| Frequency range | 2595 | | - | 2645 | -50 | 1 |  |
| CA\_1-19 | E-UTRA Band 1, 3, 11, 21, 28, 42, 65  NR Band n79 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 34 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| NR Band n77, n78 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 860 | | - | 890 | -40 | 1 | 3, 8 |
| Frequency range | 945 | | - | 960 | -50 | 1 |  |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | 3, 7 |
| Frequency range | 2545 | | - | 2575 | -50 | 1 |  |
| Frequency range | 2595 | | - | 2645 | -50 | 1 |  |
| CA\_1-20 | E-UTRA Band 1, 3, 7, 8, 22, 31, 32, 34, 40, 42, 43, 50, 51, 65, 67, 68, 72, 75, 76 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 20 | FDL\_low | | - | FDL\_high | -50 | 1 | 15 |
| E-UTRA Band 38, 69  NR Band n77, n78 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 758 | | - | 788 | -50 | 1 |  |
| CA\_1-21 | E-UTRA Band 11 | FDL\_low | | - | FDL\_high | -35 | 1 | 3, 16 |
| E-UTRA Band 1, 3, 18, 19, 28, 34, 42, 65  NR Band n77, n78, n79 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 21 | FDL\_low | | - | FDL\_high | -50 | 1 | 16 |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | 7 |
| Frequency range | 945 | | - | 960 | -50 | 1 |  |
| Frequency range | 2545 | | - | 2575 | -50 | 1 |  |
| Frequency range | 2595 | | - | 2645 | -50 | 1 |  |
| CA\_1-26 | E-UTRA Band 1, 3, 5, 7, 11, 18, 19, 21, 22, 26, 31, 38, 40, 42, 43, 44, 50, 51, 65, 73, 74  NR Band n77, n78, n79 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| Frequency range | 1880 | | - | 1895 | -40 | 1 | 3, 12 |
| Frequency range | 1895 | | - | 1915 | -15.5 | 5 | 3, 12, 13 |
| Frequency range | 1915 | | - | 1920 | +1.6 | 5 | 3, 12, 13 |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | 7 |
| Frequency range | 945 | | - | 960 | -50 | 1 |  |
| E-UTRA Band 41 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| E-UTRA Band 3, 34 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| Frequency range | 703 | | - | 799 | -50 | 1 |  |
| 799 | | - | 803 | -40 | 1 | 3 |
| CA\_1-28 | E-UTRA Band 3, 5, 7, 8, 18, 19, 20, 26, 27, 31, 32, 38, 40, 41, 50, 51, 72, 73, 74 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 22, 42, 43, 52, 75, 76  NR Band n77, n78, n79 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| E-UTRA Band 34 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| E-UTRA Band 11, 21 | FDL\_low | | - | FDL\_high | -50 | 1 | 5, 21 |
| E-UTRA Band 1, 65 | FDL\_low | | - | FDL\_high | -50 | 1 | 5, 6 |
| Frequency range | 470 | | - | 694 | -42 | 8 | 3, 22 |
| Frequency range | 470 | | - | 710 | -26.2 | 6 | 23 |
| Frequency range | 758 | | - | 773 | -32 | 1 | 3 |
| Frequency range | 773 | | - | 803 | -50 | 1 |  |
| Frequency range | 662 | | - | 694 | -26.2 | 6 | 3 |
| Frequency range | 1880 | |  | 1895 | -40 | 1 | 3,12 |
| Frequency range | 1895 | |  | 1915 | -15.5 | 5 | 3, 12, 13 |
| Frequency range | 1915 | |  | 1920 | +1.6 | 5 | 3, 12, 13 |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | 5, 7 |
| CA\_1-41 | E-UTRA Band 1, 3, 5, 8, 26, 27, 28, 40, 42, 44, 45, 50, 51, 52, 65, 73, 74  NR Band n78 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 34 | FDL\_low | | - | FDL\_high | -50 | 1 | 15 |
| NR Band n77, n79 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 1880 | |  | 1895 | -40 | 1 | 3,12 |
| Frequency range | 1895 | |  | 1915 | -15.5 | 5 | 3, 12, 13 |
| Frequency range | 1915 | |  | 1920 | +1.6 | 5 | 3, 12, 13 |
| E-UTRA Band 11, 18, 19, 21 | FDL\_low | | - | FDL\_high | -50 | 1 | 30 |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | 4, 18 |
| CA\_1-42 | E-UTRA Band 1, 3, 5, 7, 8, 11, 18, 19, 20, 21, 26, 27, 28, 31, 32, 38, 40, 41, 44, 50, 51, 65, 67, 72, 73, 74, 75, 76  NR Band n79 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 3, 34 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| Frequency range | 1880 | |  | 1895 | -40 | 1 | 3,12 |
| Frequency range | 1895 | |  | 1915 | -15.5 | 5 | 3, 12, 13 |
| Frequency range | 1915 | |  | 1920 | +1.6 | 5 | 3, 12, 13 |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | 3, 7 |
| CA\_2-4 | E-UTRA Band 4, 5, 10, 12, 13, 14, 17, 22, 24, 26, 27, 28, 29, 30, 41, 50, 51, 53, 66, 70, 71, 74, 85 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 2, 25 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| E-UTRA Band 42, 43,  NR Band n77 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| CA\_2-5 | E-UTRA Band 4, 5, 10, 12, 13, 14, 17, 24, 28, 29, 30, 42, 50, 51, 53, 66, 70, 71, 74, 85 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 2, 25 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| E-UTRA Band 26 | 859 | | - | 869 | -27 | 1 |  |
| E-UTRA Band 41, 43,  NR Band n77 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| CA\_2-7 | E-UTRA Band 2, 4, 5, 7, 10, 12, 13, 14, 17, 26, 27, 29, 30, 42, 50, 51, 65, 66, 70, 74, 85 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 43 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| CA\_2-12 | E-UTRA Band 5, 13, 14, 17, 24, 26, 27, 30, 41, 50, 53, 71, 74 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 2, 12, 25, 85 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| E-UTRA Band 4, 10, 51, 66, 70,  NR Band n77 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| CA\_2-13 | E-UTRA Band 4, 5,10,12,13,17, 22, 26, 27, 29, 41, 42, 50, 51, 53, 66, 70, 71, 74, 85 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 2,14, 25 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| E-UTRA Band 24, 30, 43,  NR Band n77 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 769 | | - | 775 | -35 | 0.00625 | 3 |
| Frequency range | 799 | | - | 805 | -35 | 0.00625 | 3 |
| CA\_2-14 | E-UTRA Band 4, 5, 10, 12, 13, 14, 17, 24, 26, 27, 29, 30, 41, 48, 53, 66, 70, 71, 85 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 2, 25 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| NR Band n77 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 769 | | - | 775 | -35 | 0.00625 | 3 |
| Frequency range | 799 | | - | 805 | -35 | 0.00625 | 3, 9 |
| CA\_2-48 | E-UTRA Band 4, 5, 12, 13, 14, 17, 24, 25, 26, 29, 30, 41, 50, 51, 53, 66, 70, 71, 74, 85 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| CA\_2-49 | E-UTRA Band 4, 5, 12, 13, 14, 17, 24, 25, 26, 29, 30, 41, 50, 51, 53, 66, 70, 71, 74, 85 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| CA\_3-5 | E-UTRA Band 1, 5, 7, 8, 22, 28, 31, 38, 40, 42, 43, 50, 51, 65, 73, 74 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA band 3,34 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| E-UTRA Band 52 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| E-UTRA band 26 | 859 | | - | 869 | -27 | 1 |  |
| CA\_3-7 | E-UTRA Band 1, 5, 7, 8, 20, 26, 27, 28, 31, 32, 33, 34, 40, 43, 44, 50, 51, 65, 67, 72, 74, 75, 76 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA band 3 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| E-UTRA band 22, 42, 52  NR Band n77, n78, n79 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 2570 | | - | 2575 | +1.6 | 5 | 3, 13, 14 |
| Frequency range | 2575 | | - | 2595 | -15.5 | 5 | 3, 13, 14 |
| Frequency range | 2595 | | - | 2620 | -40 | 1 | 3, 14 |
| CA\_3-8 | E-UTRA Band 1, 20, 28, 31, 32, 33, 34, 38, 39, 40, 44, 50, 51, 65, 67, 72, 73, 74, 75, 76 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA band 3, 8 | FDL\_low | | - | FDL\_high | -50 | 1 | 2, 3 |
| E-UTRA band 11, 21 | FDL\_low | | - | FDL\_high | -50 | 1 | 10,11 |
| E-UTRA band 7, 22, 41, 42, 43, 52  NR Band n77, n78, n79 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | 4, 10, 11 |
| Frequency range | 860 | | - | 890 | -40 | 1 | 3,11,17 |
| CA\_3A-11A | E-UTRA Band 1, 18, 19, 28, 34, 65 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA band 3 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| E-UTRA Band 42 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 945 | | - | 960 | -50 | 1 |  |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | 4 |
| Frequency range | 2545 | | - | 2575 | -50 | 1 |  |
| Frequency range | 2595 | | - | 2645 | -50 | 1 |  |
| CA\_3-18 | E-UTRA Band 1, 3, 11, 21, 28, 34, 65  NR Band n77, n78, n79 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| Frequency range | 945 | | - | 960 | -50 | 1 |  |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | PHS |
| Frequency range | 2545 | | - | 2575 | -50 | 1 |  |
| Frequency range | 2595 | | - | 2645 | -50 | 1 |  |
| CA\_3-19 | E-UTRA Band 1, 11, 21, 28, 65 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 3, 34 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| E-UTRA Band 42  NR Band n77, n78, n79 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 860 | | - | 890 | -40 | 1 | 3, 8 |
| Frequency range | 945 | | - | 960 | -50 | 1 |  |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | 3, 4 |
| Frequency range | 2545 | | - | 2575 | -50 | 1 |  |
| Frequency range | 2595 | | - | 2645 | -50 | 1 |  |
| CA\_3-20 | E-UTRA Band 1, 7, 8, 31, 32, 33, 34, 40, 43, 50, 51, 65, 67, 72, 74, 75, 76 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 3, 20 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| E-UTRA Band 22, 38, 42, 52 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 758 | | - | 788 | -50 | 1 |  |
| CA\_3-21 | E-UTRA Band 1, 18, 19, 28, 34, 65  NR Band n77, n78, n79 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA band 3 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| E-UTRA Band 42 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 945 | | - | 960 | -50 | 1 |  |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | 4 |
| Frequency range | 2545 | | - | 2575 | -50 | 1 |  |
| Frequency range | 2595 | | - | 2645 | -50 | 1 |  |
| CA\_3-26 | E-UTRA Band 1, 5, 7, 11, 18, 19, 21, 26, 34, 39, 40, 43, 50, 51, 65, 73, 74 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA band 3 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| E-UTRA band 22, 41, 42  NR Band n77, n78, n79, n79 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | 4 |
| Frequency range | 703 | | - | 799 | -50 | 1 |  |
| 799 | | - | 803 | -40 | 1 | 3 |
| Frequency range | 851 | | - | 859 | -53 | 0.00625 | 15 |
| Frequency range | 945 | | - | 960 | -50 | 1 |  |
| CA\_3-28 | E-UTRA Band 1, 11, 18, 19, 21, 22, 32, 42, 43, 50, 51, 52, 65, 74, 75, 76  NR Band n77, n78, n79 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| E-UTRA Band 1 | FDL\_low | | - | FDL\_high | -50 | 1 | 5, 6 |
| E-UTRA band 3 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| E-UTRA Band 5, 7, 8, 20, 26, 27, 31, 34, 38, 40, 41, 72, 73 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 |  |
| Frequency range | 470 | | - | 710 | -26.2 | 6 | 23 |
| Frequency range | 758 | | - | 773 | -32 | 1 | 3 |
| Frequency range | 773 | | - | 803 | -50 | 1 |  |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | 4, 5 |
| CA\_3-40 | E-UTRA Band 1, 5, 7, 8, 20, 26, 27, 28, 31, 32, 33, 34, 38, 39, 41, 43, 44. 45, 50, 51, 65, 67, 68, 69, 72, 73, 75, 76 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 3 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| E-UTRA Band 22, 42, 52  NR Band n77, n78, n79 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 |  |
| CA\_3-41 | E-UTRA Band 1, 5, 8, 26, 28, 33, 34, 39, 40, 44, 45, 50, 51, 65, 73, 74  NR Band n77, n78, n79 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 3 | FDL\_low | | - | FDL\_high | -50 | 1 | 15 |
| E-UTRA Band 11, 18, 19, 21 | FDL\_low | | - | FDL\_high | -50 | 1 | 18 |
| Frequency range | 1839.9 | |  | 1879.9 | -50 | 1 | 18 |
| Frequency range | 1884.5 | |  | 1915.7 | -41 | 0.3 | 4, 18 |
| CA\_3-42 | E-UTRA Band 1, 5, 7, 8, 20, 26, 27, 28, 31, 32, 33, 34, 38, 40, 41, 44, 45, 50, 51, 65, 67, 72, 73, 74, 75, 76  NR Band n79 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 3 | FDL\_low | | - | FDL\_high | -50 | 1 | 15 |
| E-UTRA Band 11, 18, 19, 21 | FDL\_low | | - | FDL\_high | -50 | 1 | 13 |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | 8, 13 |
| CA\_4-5 | E-UTRA Band 2, 4, 5, 7, 10, 12, 13, 14, 17, 24, 25, 28, 29, 30, 43, 50, 51, 53, 66, 70, 71, 74, 85 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 26 | 859 | | - | 869 | -27 | 1 |  |
| E-UTRA band 41, 42,  NR Band n77 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| CA\_4-7 | E-UTRA Band 2, 4, 5, 7, 10, 12, 13, 14, 17, 26, 27, 28, 29, 30, 43, 50, 51, 66, 74, 85 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA band 42 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 2570 | | - | 2575 | +1.6 | 5 | 3, 13, 14 |
| Frequency range | 2575 | | - | 2595 | -15.5 | 5 | 3, 13, 14 |
| Frequency range | 2595 | | - | 2620 | -40 | 1 | 3, 14 |
| CA\_4-12 | E-UTRA Band 2, 5, 7,13, 14, 17, 22, 24, 25, 26, 27, 30, 41, 43, 50, 53, 71, 74 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 4, 10. 42, 51, 66, 70,  NR Band n77 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| E-UTRA Band 12, 85 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| CA\_4-13 | E-UTRA Band 2,4, 5, 7, 10,12,13,17, 22, 25, 26, 27, 29, 41, 43, 50, 51, 53, 66, 70, 71, 74, 85 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 14 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| E-UTRA Band 24, 30, 42,  NR Band n77 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 769 | | - | 775 | -35 | 0.00625 | 3 |
| Frequency range | 799 | | - | 805 | -35 | 0.00625 | 3 |
| CA\_4-17 | E-UTRA Band 2, 5, 7,13, 14, 17, 22, 24, 25, 26, 27, 30, 41, 43, 50, 53, 71, 74 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 4, 10. 42, 51, 66, 70,  NR Band n77 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| E-UTRA Band 12, 85 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| CA\_4-28 | E-UTRA Band 2, 5, 7, 14, 24, 25, 26, 27, 30, 41, 48, 53, 70, 71 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 4, 10, 42, 43, 50, 51, 66, 74 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 470 | | - | 710 | -26.2 | 6 | 23 |
| Frequency range | 758 | |  | 773 | -32 | 1 | 3 |
| Frequency range | 773 | |  | 803 | -50 | 1 |  |
| CA\_5-7 | E-UTRA Band 1, 2, 3, 4, 5, 7, 8, 10, 12, 13, 14, 17, 22, 28, 29, 30, 31, 40, 42, 43, 50, 51, 65, 66, 74, 85 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 52  NR Band n77, n78 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| E-UTRA band 26 | 859 | | - | 869 | -27 | 1 |  |
| Frequency range | 2570 | | - | 2575 | +1.6 | 5 | 3, 13, 14 |
| Frequency range | 2575 | | - | 2595 | -15.5 | 5 | 3, 13, 14 |
| Frequency range | 2595 | | - | 2620 | -40 | 1 | 3, 14 |
| CA\_5-12 | E-UTRA Band 2, 5, 13, 14, 17, 22, 24, 25, 30, 31, 42, 43, 50, 53, 71, 74 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA band 4, 10, 41, 51, 66, 70,  NR Band n77 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| E-UTRA band 26 | 859 | | - | 869 | -27 | 1 |  |
| E-UTRA band 12, 85 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| CA\_5-17 | E-UTRA Band 2, 5, 13, 14, 17, 22, 24, 25, 30, 31, 42, 43, 50, 53, 71, 74 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA band 4, 10, 41, 51, 66, 70,  NR Band n77 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| E-UTRA band 26 | 859 | | - | 869 | -27 | 1 |  |
| E-UTRA band 12, 85 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| CA\_5-40 | E-UTRA Band 1, 3, 5, 7, 8, 28, 31, 34, 38, 42, 43, 45, 65, 73 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA band 26 | 859 | | - | 869 | -27 | 1 |  |
| E-UTRA band 41, 52  NR Band n77, n78, n79 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | 4 |
| CA\_7-8 | E-UTRA Band 1, 10, 20, 27, 28, 31, 32, 34, 40, 50, 51, 65, 67, 68, 72, 74, 75, 76 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA band 3, 7, 22, 42, 43, 52  NR Band n77, n78 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| E-UTRA Band 8 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| Frequency range | 2570 | | - | 2575 | +1.6 | 5 | 3, 13, 14 |
| Frequency range | 2575 | | - | 2595 | -15.5 | 5 | 3, 13, 14 |
| Frequency range | 2595 | | - | 2620 | -40 | 1 | 3, 14 |
| CA\_7-20 | E-UTRA Band 1,3, 7, 8, 22, 28, 31, 32, 33, 34, 40, 43, 50, 51, 65, 67, 72, 74, 75, 76 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 20 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| E-UTRA Band 42, 52  NR Band n77, n78 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 2570 | | - | 2575 | +1.6 | 5 | 3, 13, 14 |
| Frequency range | 2575 | | - | 2595 | -15.5 | 5 | 3, 13, 14 |
| Frequency range | 2595 | | - | 2620 | -40 | 1 | 3, 14 |
| CA\_7-26 | E-UTRA Band 1, 2, 3, 4, 5, 7, 8, 10, 12, 13, 14, 17, 22, 28, 29, 30, 31, 40, 42, 43, 65, 66, 85 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| NR Band n77, n78, n79 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 2570 | | - | 2575 | +1.6 | 5 | 3, 13, 14 |
| Frequency range | 2575 | | - | 2595 | -15.5 | 5 | 3, 13, 14 |
| Frequency range | 2595 | | - | 2620 | -40 | 1 | 3, 14 |
| Frequency range | 703 | | - | 799 | -50 | 1 |  |
| Frequency range | 799 | | - | 803 | -40 | 1 | 3 |
| Frequency range | 945 | | - | 960 | -50 | 1 |  |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | 7 |
| CA\_7-28 | E-UTRA Band 2, 3, 5, 7, 8, 20, 26, 27, 31, 34, 40, 72  NR Band n79 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 1, 4, 10, 22, 32, 42, 43, 50, 51, 52, 65, 66, 74, 75, 76  NR Band n77, n78 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| E-UTRA Band 1 | FDL\_low | | - | FDL\_high | -50 | 1 | 5, 6 |
| Frequency range | 758 | | - | 773 | -32 | 1 | 3 |
| Frequency range | 773 | | - | 803 | -50 | 1 |  |
| Frequency range | 2570 | | - | 2575 | +1.6 | 5 | 3, 13, 14 |
| Frequency range | 2575 | | - | 2595 | -15.5 | 5 | 3, 13, 14 |
| Frequency range | 2595 | | - | 2620 | -40 | 1 | 3, 14 |
| CA\_8-39 | E-UTRA Band 1, 28, 40, 45, 50, 51, 73, 74 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA band 22, 41, 42, 52  NR band n78, n79 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| E-UTRA Band 8 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| CA\_8-41 | E-UTRA Band 1, 28, 34, 39, 40, 45, 50, 51, 65, 73, 74 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA band 3, 42, 52  NR Band n77, n78, n79 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| E-UTRA band 11, 21 | FDL\_low | | - | FDL\_high | -50 | 1 | 23 |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | 8, 23 |
| CA\_11-18 | E-UTRA Band 1, 3, 11, 18, 19, 21, 28, 34, 42, 65  NR Band n79 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| NR Band n77, n78 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 860 | | - | 890 | -40 | 1 | 3 |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | 4 |
| Frequency range | 2545 | | - | 2575 | -50 | 1 |  |
| Frequency range | 2595 | | - | 2645 | -50 | 1 |  |
| Frequency range | 945 | | - | 960 | -50 | 1 |  |
| CA\_11-26 | E-UTRA Band 1, 3, 11, 18, 19, 21, 28, 34, 42, 65  NR Band n77, n78, n79 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| Frequency range | 860 | | - | 890 | -40 | 1 | 3 |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | 4 |
| Frequency range | 2545 | | - | 2575 | -50 | 1 |  |
| Frequency range | 2595 | | - | 2645 | -50 | 1 |  |
| Frequency range | 945 | | - | 960 | -50 | 1 |  |
| CA\_13-66 | E-UTRA Band 2, 4, 5, 10, 12, 13, 17, 25, 26, 27, 29, 41, 50, 51, 53, 66, 70, 71, 74, 85 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 14 | FDL\_low | | - | FDL\_high | -50 | 1 | 3 |
| E-UTRA Band 24, 30, 48,  NR Band n77 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 769 | | - | 775 | -35 | 0.00625 | 3 |
| Frequency range | 799 | | - | 805 | -35 | 0.00625 | 3, 9 |
| CA\_14-30 | E-UTRA Band 2, 4, 5, 10, 12, 13, 14, 17, 24, 25, 26, 27, 29, 30, 41, 48, 53, 66, 70, 71, 85 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| NR Band n77 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 769 | | - | 775 | -35 | 0.00625 | 3 |
| Frequency range | 799 | | - | 805 | -35 | 0.00625 | 3, 9 |
| CA\_14-66 | E-UTRA Band 2, 4, 5, 10, 12, 13, 14, 17, 24, 25, 26, 27, 29, 30, 41, 53, 66, 70, 71, 85 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 48,  NR Band n77 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 769 | | - | 775 | -35 | 0.00625 | 3 |
| Frequency range | 799 | | - | 805 | -35 | 0.00625 | 3, 9 |
| CA\_18-28 | E-UTRA Band 11, 21 | FDL\_low | | - | FDL\_high | -50 | 1 | 5, 21 |
| E-UTRA Band 1, 65 | FDL\_low | | - | FDL\_high | -50 | 1 | 5, 6 |
| E-UTRA Band 42, 43  NR Band n77, n78, n79 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| E-UTRA Band 3, 34 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| Frequency range | 470 | | - | 710 | -26.2 | 6 | 23 |
| Frequency range | 758 | | - | 773 | -32 | 1 | 3 |
| Frequency range | 773 | | - | 799 | -50 | 1 |  |
| Frequency range | 799 | | - | 803 | -40 | 1 | 3 |
| Frequency range | 860 | | - | 890 | -40 | 1 |  |
| Frequency range | 945 | | - | 960 | -50 | 1 | 3 |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | 4 |
| Frequency range | 2545 | | - | 2575 | -50 | 1 |  |
| Frequency range | 2595 | | - | 2645 | -50 | 1 |  |
| CA\_19-21 | E-UTRA Band 1, 3, 18, 19, 28, 34, 42, 65  NR Band n79 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 11 | FDL\_low | | - | FDL\_high | -50 | 1 | 3, 16 |
| E-UTRA Band 21 | FDL\_low | | - | FDL\_high | -50 | 1 | 16 |
| NR Band n77, n78, | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 860 | | - | 890 | -40 | 1 | 3, 8 |
| Frequency range | 945 | | - | 960 | -50 | 1 |  |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | 4 |
| Frequency range | 2545 | | - | 2575 | -50 | 1 |  |
| Frequency range | 2595 | | - | 2645 | -50 | 1 |  |
| CA\_19-42 | E-UTRA Band 1, 3, 11, 21, 28, 34, 65  NR Band n79 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| Frequency range | 945 | | - | 960 | -50 | 1 |  |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | 4 |
| Frequency range | 2545 | | - | 2575 | -50 | 1 |  |
| Frequency range | 2595 | | - | 2645 | -50 | 1 |  |
| CA\_21-28 | E-UTRA Band 1, 42, 65  NR Band n77, n78 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| E-UTRA Band 1 | FDL\_low | | - | FDL\_high | -50 | 1 | 5, 6 |
| E-UTRA Band 3, 18, 19, 34  NR Band n79 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| Frequency range | 470 | | - | 710 | -26.2 | 6 | 23 |
| Frequency range | 773 | | - | 803 | -50 | 1 |  |
| Frequency range | 945 | | - | 960 | -50 | 1 |  |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | 4, 5 |
| Frequency range | 2545 | | - | 2575 | -50 | 1 |  |
| Frequency range | 2595 | | - | 2645 | -50 | 1 |  |
| CA\_21-42 | E-UTRA Band 1, 3, 18, 19, 28, 34, 65  NR Band n79 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| Frequency range | 945 | | - | 960 | -50 | 1 |  |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | 4 |
| Frequency range | 2545 | | - | 2575 | -50 | 1 |  |
| Frequency range | 2595 | | - | 2645 | -50 | 1 |  |
| CA\_25-26 | E-UTRA Band 4, 5, 10,12, 13, 14, 17, 24, 26, 29, 30, 42, 48, 53, 66, 70, 71, 85 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| NR Band n77 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| CA\_25-41 | E-UTRA Band 4, 5, 10, 12, 13, 14, 17, 24, 26, 27, 28, 29, 30, 42, 45, 48, 66, 70, 71 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 2, 25,  NR Band n77 |  | | - |  | -50 | 1 | 2 |
| CA\_26-46 | E-UTRA Band 1, 2, 3, 4, 5, 10, 11, 12, 13, 14, 17, 18,19, 21, 24, 25, 26, 29, 30, 31, 34, 39, 40, 42, 43, 48, 53, 65, 66, 70, 71, 85 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 41,  NR Band n77 | FDL\_low | | - | FDL\_high | -50 | 1 | 1 |
| Frequency range | 703 | | - | 799 | -50 | 1 |  |
| Frequency range | 799 | | - | 803 | -40 | 1 | 2 |
| Frequency range | 945 | | - | 960 | -50 | 1 |  |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | 3 |
| CA\_26-48 | E-UTRA Band 1, 2, 3, 4, 5, 10, 11, 12, 13, 14, 17, 18,19, 21, 24, 25, 26, 29, 30, 31, 34, 39, 40, 50, 51, 65, 66, 70, 71, 73, 74 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 41 | FDL\_low | | - | FDL\_high | -50 | 1 | 1 |
| Frequency range | 703 | | - | 799 | -50 | 1 |  |
| Frequency range | 799 | | - | 803 | -40 | 1 | 2 |
| Frequency range | 945 | | - | 960 | -50 | 1 |  |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | 3 |
| CA\_28-41 | E-UTRA Band E-UTRA Band 1, 4, 10, 22, 42, 43, 52, 65, 66  NR Band n77, n78, n79 | FDL\_low | - | | FDL\_high | -50 | 1 | 2 |
| E-UTRA Band 1 | FDL\_low | - | | FDL\_high | -50 | 1 | 5, 6 |
| E-UTRA band 2, 3, 5, 8, 20, 25, 26, 27, 31, 32, 33, 34, 40, 45, 48 | FDL\_low | - | | FDL\_high | -50 | 1 |  |
| E-UTRA band 11, 21 | FDL\_low | - | | FDL\_high | -50 | 1 | 5, 18, 21 |
| E-UTRA band 9, 18, 19 | FDL\_low | - | | FDL\_high | -50 | 1 | 5, 18 |
| Frequency range | 470 | - | | 694 | -42 | 8 | 3, 22 |
| Frequency range | 470 | - | | 710 | -26.2 | 6 | 23 |
| Frequency range | 662 | - | | 694 | -26.2 | 6 | 3 |
| Frequency range | 758 | - | | 773 | -32 | 1 | 3 |
| Frequency range | 773 | - | | 803 | -50 | 1 |  |
| Frequency range | 1884.5 | - | | 1915.7 | -41 | 0.3 | 4, 5, 18 |
| CA\_28-42 | E-UTRA Band 1, 4, 10, 32, 50, 51, 66, 65, 74, 75, 76 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| E-UTRA Band 1 | FDL\_low | | - | FDL\_high | -50 | 1 | 5, 6 |
| E-UTRA Band 2, 3, 5, 7, 8, 18, 19, 20, 25, 26, 27, 31, 34, 38, 40, 41, 72, 73  NR Band n79 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 11, 21 | FDL\_low | | - | FDL\_high | -50 | 1 | 5, 21 |
| Frequency range | 470 | | - | 710 | -26.2 | 6 | 23 |
| Frequency range | 758 | | - | 773 | -32 | 1 | 3 |
| Frequency range | 773 | | - | 803 | -50 | 1 |  |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | 4, 5 |
| CA\_39-41 | E-UTRA Band 1, 8, 26, 28, 34, 40, 42, 44, 50, 51, 52, 73, 74 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| NR Band n77, n78, n79 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 1805 | | - | 1855 | -40 | 1 | 20 |
| Frequency range | 1855 | | - | 1880 | -15.5 | 5 | 3, 13, 20 |
| CA\_40-42 | E-UTRA Band 1, 2, 3, 4, 5, 7, 8, 10, 11, 12, 13, 14, 17, 18, 19, 20, 21, 24, 25, 26, 27, 28, 29, 31, 32, 33, 34, 38, 39, 41, 44, 45, 50, 51, 65, 66, 67, 68, 69, 70, 72, 73, 74, 75, 76 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| Frequency range | 1884.5 | | - | 1915.7 | -41 | 0.3 | 8 |
| CA\_41-42 | E-UTRA Band 1, 3, 5, 8, 26, 28, 33, 34, 39, 40, 44, 45, 50, 51, 65, 73, 74 | FDL\_low | | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 9, 11, 18, 19, 21 | FDL\_low | | - | FDL\_high | -50 | 1 | 18 |
| NR Band n79 | FDL\_low | | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 1884.5 | |  | 1915.7 | -41 | 0.3 | 4, 18 |
| NOTE 1: FDL\_low and FDL\_high refer to each E-UTRA frequency band specified in Table 5.5-1  NOTE 2:As exceptions, measurements with a level up to the applicable requirements defined in Table 6.6.3.1-2 are permitted for each assigned E-UTRA carrier used in the measurement due to 2nd, 3rd, 4th [or 5th] harmonic spurious emissions. In case the exceptions are allowed 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 (2MHz + N x LCRB x 180kHz), where N is 2, 3 or 4 for the 2nd, 3rd or 4th harmonic respectively. The exception is allowed if the measurement bandwidth (MBW) totally or partially overlaps the overall exception interval.  NOTE 3: These requirements also apply for the frequency ranges that are less than FOOB (MHz) in Table 6.6.3.1-1 and Table 6.6.3.1A-1 from the edge of the aggregated channel bandwidth.  NOTE 4:Applicable when co-existence with PHS system operating in 1884.5 -1915.7MHz.  NOTE 5:Applicable when the assigned E-UTRA carrier is confined within 718 MHz and 748 MHz and when the channel bandwidth used is 5 or 10 MHz.  NOTE 6: As exceptions, measurements with a level up to the applicable requirement of -36 dBm/MHz is permitted for each assigned E-UTRA carrier used in the measurement due to 3rd harmonic spurious emissions. An exception is allowed if there is at least one individual RB within the transmission bandwidth (see Figure 5.6-1) for which the 3rd harmonic totally or partially overlaps the measurement bandwidth (MBW).  NOTE 7: Applicable when NS\_05 in section 6.6.3.3.1 is signalled by the network.  NOTE 8: Applicable when NS\_08 in subclause 6.6.3.3.3 is signalled by the network  NOTE 9: Void  NOTE10: Void  NOTE 11: This requirement is applicable only for the following cases: - for carriers of 5 MHz channel bandwidth when carrier centre frequency (Fc) is within the range 902.5 MHz ≤ Fc < 907.5 MHz with an uplink transmission bandwidth less than or equal to 20 RB - for carriers of 5 MHz channel bandwidth when carrier centre frequency (Fc) is within the range 907.5 MHz ≤ Fc ≤ 912.5 MHz without any restriction on uplink transmission bandwidth. - for carriers of 10 MHz channel bandwidth when carrier centre frequency (Fc) is Fc = 910 MHz with an uplink transmission bandwidth less than or equal to 32 RB with RBstart > 3.  NOTE 12: This requirement is applicable for any channel bandwidths within the range 1920 - 1980 MHz with the following restriction: for carriers of 15 MHz bandwidth when carrier centre frequency is within the range 1927.5 - 1929.5 MHz and for carriers of 20 MHz bandwidth when carrier centre frequency is within the range 1930 - 1938 MHz the requirement is applicable only for an uplink transmission bandwidth less than or equal to 54 RB.  NOTE13: For these adjacent bands, the emission limit could imply risk of harmful interference to UE(s) operating in the protected operating band.  NOTE14:This requirement is applicable for any channel bandwidths within the range 2500 - 2570 MHz with the following restriction: for carriers of 15 MHz bandwidth when carrier centre frequency is within the range 2560.5 - 2562.5 MHz and for carriers of 20 MHz bandwidth when carrier centre frequency is within the range 2552 - 2560 MHz the requirement is applicable only for an uplink transmission bandwidth less than or equal to 54 RB.  NOTE 15:Applicable when NS\_15 in subclause 6.6.3.3.8 is signalled by the network.  NOTE 16:Applicable when NS\_09 in subclause 6.6.3.3.4 is signalled by the network  NOTE 17: This requirement is applicable only when Band 3 transmission frequency is less than or equal to 1765 MHz.  NOTE 18: This requirement applies when the E-UTRA carrier is confined within 2545-2575MHz or 2595-2645MHz and the channel bandwidth is 10 or 20 MHz  NOTE 19: Void  NOTE 20: This requirement is only applicable for carriers with bandwidth confined within 1885-1920 MHz (requirement for carriers with at least 1RB confined within 1880 - 1885 MHz is not specified). This requirement applies for an uplink transmission bandwidth less than or equal to 54 RB for carriers of 15 MHz bandwidth when carrier center frequency is within the range 1892.5 - 1894.5 MHz and for carriers of 20 MHz bandwidth when carrier center frequency is within the range 1895 - 1903 MHz.  NOTE 21: As exceptions, measurements with a level up to the applicable requirement of -38 dBm/MHz is permitted for each assigned E-UTRA carrier used in the measurement due to 2nd harmonic spurious emissions. An exception is allowed if there is at least one individual RB within the transmission bandwidth (see Figure 5.6-1) for which the 2nd harmonic totally or partially overlaps the measurement bandwidth (MBW).  NOTE 22: This requirement is applicable in the case of a 10 MHz E-UTRA carrier confined within 703 MHz and 733 MHz, otherwise the requirement of -25 dBm with a measurement bandwidth of 8 MHz applies.  NOTE 23: This requirement is applicable for 5 and 10 MHz E-UTRA channel bandwidth allocated within 718-728MHz. For carriers of 10 MHz bandwidth, this requirement applies for an uplink transmission bandwidth less than or equal to 30 RB with RBstart > 1 and RBstart<48.NOTE 24: Void  NOTE 25: Void | | | | | | | | |

Table 6.6.3.2A-1: Requirements for intraband carrier aggregation

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| E-UTRA CA Configuration | Spurious emission | | | | | | |
| Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
| CA\_1 | E-UTRA Band 1, 7, 8, 11, 18, 19, 20, 21, 22, 26, 27, 28, 31, 32, 38, 40, 41, 42, 43, 44, 50, 51, 52, 65, 67, 72, 73, 74, 75, 76  NR Band n77, n78, n79 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 3 | FDL\_low | - | FDL\_high | -50 | 1 | 10 |
| NR Band n77 | FDL\_low | - | FDL\_high | -50 | 1 | 2 |
| CA\_3 | E-UTRA Band 1, 7, 8, 20, 26, 27, 28, 31, 32, 33, 34, 38, 41, 43, 44, 50, 51, 65, 67, 72, 73, 74, 75, 76  NR Band n79 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 3 | FDL\_low | - | FDL\_high | -50 | 1 | 10 |
| E-UTRA Band 22, 42, 52  NR Band n77, n78 | FDL\_low | - | FDL\_high | -50 | 1 | 2 |
| CA\_5 | E-UTRA Band 1, 2, 3, 4, 5, 7, 8, 10, 12, 13, 14, 17, 24, 25, 28, 29, 30, 31, 34, 38, 40, 42, 43, 45, 48, 53, 65, 66, 70, 71, 85 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| E-UTRA band 52  NR Band n77, n78,n79 | FDL\_low | - | FDL\_high | -50 | 1 | 2 |
| CA\_7 | E-UTRA Band 1, 3, 7, 8, 20, 22, 27, 28, 29, 30. 31, 32, 33, 34, 40, 42, 43, 50, 51, 52, 65, 67, 72, 74, 75, 76  NR Band n77, n78 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| CA\_8 | E-UTRA Band 1, 20, 28, 31, 32, 33, 34, 38, 39, 40, 50, 51, 72, 73, 74, 75, 76 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| E-UTRA band 3 | FDL\_low | - | FDL\_high | -50 | 1 | 2 |
| E-UTRA band 7 | FDL\_low | - | FDL\_high | -50 | 1 | 2 |
| E-UTRA Band 8 | FDL\_low | - | FDL\_high | -50 | 1 | 10 |
| E-UTRA Band 22, 41, 42, 43, 52  NR Band n77, n78,n79 | FDL\_low |  | FDL\_high | -50 | 1 | 2 |
| CA\_38 | E-UTRA Band 1,3, 8, 20, 22, 27, 28, 29, 30, 31, 32, 33, 34, 40, 42, 43, 50, 51, 52, 65, 67, 72, 74, 75, 76 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| CA\_39 | E-UTRA Band 22, 34, 40, 41, 42, 44, 50, 51, 52, 73, 74  NR Band n79 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| NR Band n77, n78 | FDL\_low | - | FDL\_high | -50 | 1 | 2 |
| CA\_40 | E-UTRA Band 1, 3, 7, 8, 20, 22, 26, 27, 31, 32, 33, 34, 38, 39, 41, 42, 43, 44, 50, 51, 52, 65, 67, 72, 73, 74, 75, 76  NR Band n77, n78 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| NR Band n79 | FDL\_low | - | FDL\_high | -50 | 1 | 2 |
| CA\_41 | E-UTRA Band 1, 2, 3, 4, 5, 8, 10, 12, 13, 14, 17, 24, 25, 26, 27, 28, 29, 30, 34, 39, 40, 42, 44, 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 |
| CA\_42 | E-UTRA Band 1, 2, 3, 4, 5, 7, 8, 10, 11, 18, 19, 20, 21, 25, 26, 27, 28, 31, 32, 33, 34, 38, 40, 41, 44, 50, 51, 65, 66, 67, 72, 73, 74, 75, 76  NR Band n79 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| Frequency range | 1884.5 | - | 1915.7 | -41 | 0.3 |  |
| CA\_48 | 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\_66 | E-UTRA Band 2, 4, 5, 7, 10, 12, 13, 14, 17, 24, 25, 26, 27, 28, 29, 30, 38, 41, 43, 50, 51, 66, 70, 71, 74, 85 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 42, 48, 49, 52,  NR Band n77 | FDL\_low | - | FDL\_high | -50 | 1 | 2 |
| NOTE1:FDL\_low and FDL\_high refer to each E-UTRA frequency band specified in Table 5.5-1  NOTE 2:As exceptions, measurements with a level up to the applicable requirements defined in Table 6.6.3.1-2 are permitted for each assigned E-UTRA 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 (2MHz + N x LCRB x 180kHz), 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 3:To meet these requirements some restriction will be needed for either the operating band or protected band  NOTE 4:N/A  NOTE 5:N/A  NOTE 6:N/A  NOTE 7:N/A  NOTE 8:N/A  NOTE 9: N/A  NOTE 10: The requirement also applies for the frequency ranges that are less than FOOB (MHz) in Table 6.6.3.1-1 and Table 6.6.3.1A-1 from the edge of the aggregated channel bandwidth.  NOTE 11: N/A  NOTE 12: N/A  NOTE 13: N/A  NOTE 14: N/A | | | | | | | |

Table 6.6.3.2A-2: Requirements for intraband non-contiguous CA

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| E-UTRA CA Configuration | Spurious emission | | | | | | |
| Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
| CA\_4-4 | E-UTRA Band 2, 4, 5, 7, 10, 12, 13, 14, 17, 22, 24, 25, 26, 27, 28, 29, 30, 41, 43, 50, 51, 53, 66, 70, 71, 74, 85 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 42,  NR Band n7 | FDL\_low | - | FDL\_high | -50 | 1 | 2 |
| NOTE1:FDL\_low and FDL\_high refer to each E-UTRA frequency band specified in Table 5.5-1  NOTE 2:As exceptions, measurements with a level up to the applicable requirements defined in Table 6.6.3.1-2 are permitted for each assigned E-UTRA carrier used in the measurement due to 2nd or 3rd 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 (2MHz + N x LCRB x 180kHz), where N is 2 or 3 for the 2nd or 3rd harmonic respectively. The exception is allowed if the measurement bandwidth (MBW) totally or partially overlaps the overall exception interval. | | | | | | | |

<< end of changes >>