**3GPP TSG-RAN WG4 Meeting #94-e R4-2002848**

**e-Meeting, 24th Feb~ 6th Mar, 2020**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **36.101** | **CR** | **5595** | **rev** | **1** | **Current version:** | **16.4.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME | **x** | Radio Access Network |  | Core Network |  |

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|  | | | | | | | | | | |
| ***Title:*** | Introducing new channel bandwidth for band n28 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | CATT, CBN, ZTE, Huawei… | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_n28\_BW-Core | | | | |  | ***Date:*** | | | 2020-01-15 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | B |  | | | | | ***Release:*** | | | Rel-16 |
|  | *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:*** | | To introduce 30MHz and 40MHz channen bandwidth for band n28. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 30MHz and 40MHz channel bandwidth are added to band n 28. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The new channel bandwidths will not be supported. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.6.3.2; 6.6.3.2A | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **x** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | | **x** |  | Test specifications | | | | TS 36.521-1 | | |
| ***(show related CRs)*** | |  | **x** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

#### 6.6.3.2 Spurious emission band UE co-existence

This clause specifies the requirements for the specified E-UTRA band, 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.

Table 6.6.3.2-1: Requirements

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| E-UTRA Band | Spurious emission | | | | | | |
| Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
| 1 | E-UTRA Band 1, 3, 5, 7, 8, 11, 18, 19, 20, 21, 22, 26, 27, 28, 31, 32, 38, 40, 41, 42, 43, 44, 45, 50, 51, 52, 65, 67, 68, 69, 72, 73, 74, 75, 76, 87, 88  NR Band n78, n79 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 34 | FDL\_low | - | FDL\_high | -50 | 1 | 15 |
| NR Band n77 | FDL\_low | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 1880 |  | 1895 | -40 | 1 | 15, 27 |
| Frequency range | 1895 |  | 1915 | -15.5 | 5 | 15, 26, 27 |
| Frequency range | 1915 |  | 1920 | +1.6 | 5 | 15, 26, 27, 44 |
| 2 | E-UTRA Band 4, 5, 10, 12, 13, 14, 17, 24, 26, 27, 28, 29, 30, 41, 42, 48, 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 | 15 |
| E-UTRA Band 43 | FDL\_low | - | FDL\_high | -50 | 1 | 2 |
| 3 | E-UTRA Band 1, 5, 7, 8, 11, 18, 19, 20, 21, 26, 27, 28, 31, 32, 33, 34, 38, 39, 40, 41, 43, 44, 45, 50, 51, 65, 67, 68, 69, 72, 73,74, 75, 76, 87, 88  NR Band n79 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 3 | FDL\_low | - | FDL\_high | -50 | 1 | 15 |
| 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 |  |
| 4 | E-UTRA Band 2, 4, 5, 7, 10, 12, 13, 14, 17, 24, 25, 26, 27, 28, 29, 30, 41, 43, 48, 50, 51, 53, 66, 70, 71, 74, 85 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 42 | FDL\_low | - | FDL\_high | -50 | 1 | 2 |
| 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, 50, 51, 53, 65, 66, 70, 71, 73, 74, 85 | 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 |
| E-UTRA Band 18, 19 | FDL\_low | - | FDL\_high | -40 | 1 | 39 |
| E-UTRA Band 11, 21 | FDL\_low | - | FDL\_high | -50 | 1 | 39 |
| Frequency range | 1884.5 | - | 1915.7 | -41 | 0.3 | 8, 39 |
| 6 | E-UTRA Band 1, 9, 11, 34 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| Frequency range | 860 | - | 875 | -37 | 1 |  |
| Frequency range | 875 | - | 895 | -50 | 1 |  |
| Frequency range | 1884.5 | - | 1919.6 | -41 | 0.3 | 7 |
| 1884.5 | - | 1915.7 | 8 |
| 7 | E-UTRA Band 1, 2, 3, 4, 5, 7, 8, 10, 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, 87, 88  NR Band n77,n78 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| Frequency range | 2570 | - | 2575 | +1.6 | 5 | 15, 21, 26 |
| Frequency range | 2575 | - | 2595 | -15.5 | 5 | 15, 21, 26 |
| Frequency range | 2595 | - | 2620 | -40 | 1 | 15, 21 |
| 8 | E-UTRA Band 1, 20, 28, 31, 32, 33, 34, 38, 39, 40, 45, 50, 51, 65, 67, 68, 69, 72, 73, 74, 75, 76, 87, 88 | 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 | FDL\_low | - | FDL\_high | -50 | 1 | 15 |
| E-UTRA Band 11, 21 | FDL\_low | - | FDL\_high | -50 | 1 | 23 |
| Frequency range | 860 | - | 890 | -40 | 1 | 15, 23 |
| Frequency range | 1884.5 | - | 1915.7 | -41 | 0.3 | 8, 23 |
| 9 | E-UTRA Band 1, 3, 11, 18, 19, 21, 26, 28, 34 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| 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 | 8 |
| Frequency range | 2545 | - | 2575 | -50 | 1 |  |
| Frequency range | 2595 | - | 2645 | -50 | 1 |  |
| 10 | E-UTRA Band 2, 4, 5, 10, 12, 13, 14, 17, 24, 25, 26, 27, 28, 29, 30, 41, 43, 66, 70, 85 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 22, 42 | FDL\_low | - | FDL\_high | -50 | 1 | 2 |
| 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 | 8 |
| Frequency range | 2545 | - | 2575 | -50 | 1 |  |
| Frequency range | 2595 | - | 2645 | -50 | 1 |  |
| 12 | E-UTRA Band 2, 5, 13, 14, 17, 24, 25, 26, 27, 30, 41, 48, 53, 71, 74 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 4, 10, 50, 51, 66, 70 | FDL\_low | - | FDL\_high | -50 | 1 | 2 |
| E-UTRA Band 12, 85 | FDL\_low | - | FDL\_high | -50 | 1 | 15 |
| 13 | E-UTRA Band 2, 4, 5, 10, 12, 13, 17, 25, 26, 27, 29, 41, 48, 50, 51, 53, 66, 70, 71, 74, 85 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 14 | FDL\_low | - | FDL\_high | -50 | 1 | 15 |
| E-UTRA Band 24, 30 | FDL\_low | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 769 | - | 775 | -35 | 0.00625 | 15 |
| Frequency range | 799 | - | 805 | -35 | 0.00625 | 11, 15 |
| 14 | E-UTRA Band 2, 4, 5, 10, 12, 13, 14, 17, 23, 24, 25, 26, 27, 29, 30, 41, 48, 53, 66, 70, 71, 85 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| Frequency range | 769 | - | 775 | -35 | 0.00625 | 12, 15 |
| Frequency range | 799 | - | 805 | -35 | 0.00625 | 11, 12, 15 |
| 17 | E-UTRA Band 2, 5, 13, 14, 17, 24, 25, 26, 27, 30, 41, 48, 71, 74 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 4, 10, 50, 51, 53, 66, 70 | FDL\_low | - | FDL\_high | -50 | 1 | 2 |
| E-UTRA Band 12, 85 | FDL\_low | - | FDL\_high | -50 | 1 | 15 |
| 18 | E-UTRA Band 1, 3, 11, 21, 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 | 758 | - | 799 | -50 | 1 |  |
| Frequency range | 799 | - | 803 | -40 | 1 | 15 |
| Frequency range | 860 | - | 890 | -40 | 1 |  |
| Frequency range | 945 | - | 960 | -50 | 1 |  |
| Frequency range | 1884.5 | - | 1915.7 | -41 | 0.3 | 8 |
| Frequency range | 2545 | - | 2575 | -50 | 1 |  |
| Frequency range | 2595 | - | 2645 | -50 | 1 |  |
| 19 | E-UTRA Band 1, 3, 11, 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 | 945 | - | 960 | -50 | 1 |  |
| Frequency range | 1884.5 | - | 1915.7 | -41 | 0.3 | 8 |
| Frequency range | 2545 | - | 2575 | -50 | 1 |  |
| Frequency range | 2595 | - | 2645 | -50 | 1 |  |
| 20 | E-UTRA Band 1, 3, 7, 8, 22, 31, 32, 33, 34, 40, 43, 50, 51, 65, 67, 68, 72, 74, 75, 76, 87, 88 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 20 | FDL\_low | - | FDL\_high | -50 | 1 | 15 |
| E-UTRA Band 38, 42, 52, 69  NR Band n77, n78 | FDL\_low | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 758 | - | 788 | -50 | 1 |  |
| 21 | E-UTRA Band 1, 3, 18, 19, 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 | 8 |
| Frequency range | 2545 | - | 2575 | -50 | 1 |  |
| Frequency range | 2595 | - | 2645 | -50 | 1 |  |
| 22 | E-UTRA Band 1, 3, 7, 8, 20, 26, 27, 28, 31, 32, 33, 34, 38, 39, 40, 43, 65, 67, 68, 69, 72, 75, 76, 87, 88 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| Frequency range | 3510 | - | 3525 | -40 | 1 | 15 |
| Frequency range | 3525 | - | 3590 | -50 | 1 |  |
| 23 | E-UTRA Band 4, 5, 10, 12, 13, 14, 17, 23, 24, 26, 27, 29, 30, 41, 66 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| 24 | E-UTRA Band 2, 4, 5, 10, 12, 13, 14, 17, 24, 25, 26, 29, 30, 41, 48, 66, 70, 71, 85 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| 25 | E-UTRA Band 4, 5, 10,12, 13, 14, 17, 24, 26, 27, 28, 29, 30, 41, 42, 48, 53, 66, 70, 71, 85 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 2 | FDL\_low | - | FDL\_high | -50 | 1 | 15 |
| E-UTRA Band 25 | FDL\_low | - | FDL\_high | -50 | 1 | 15 |
| E-UTRA Band 43 | FDL\_low | - | FDL\_high | -50 | 1 | 2 |
| 26 | 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, 50, 51, 53, 65, 66, 70, 71, 73,74, 85 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 41  NR Band n77, n78, n79 | FDL\_low | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 703 | - | 799 | -50 | 1 |  |
| Frequency range | 799 | - | 803 | -40 | 1 | 15 |
| Frequency range | 945 | - | 960 | -50 | 1 |  |
| Frequency range | 1884.5 | - | 1915.7 | -41 | 0.3 | 8 |
| 27 | E-UTRA Band 1, 2, 3, 4, 5, 7, 10, 12, 13, 14, 17, 25, 26, 27, 29, 30, 31, 38, 40, 41, 42, 43, 65, 66, 73, 85 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 28 | FDL\_low | - | 790 | -50 | 1 |  |
| Frequency range | 799 | - | 805 | -35 | 0.00625 |  |
| 28 | E-UTRA Band 1, 4, 10, 22, 32, 39, 42, 43, 50, 51, 52, 65, 66, 73, 74, 75, 76  NR Band n77, n78 | FDL\_low | - | FDL\_high | -50 | 1 | 2 |
| E-UTRA Band 1 | FDL\_low | - | FDL\_high | -50 | 1 | 19, 25 |
| E-UTRA Band 2, 3, 5, 7, 8, 18, 19, 20, 25, 26, 27, 31, 34, 38, 40, 41, 72, 87, 88  NR Band n79 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 11, 21 | FDL\_low | - | FDL\_high | -50 | 1 | 19, 24 |
| Frequency range | 470 | - | 694 | -42 | 8 | 15, 35 |
| Frequency range | 470 | - | 710 | -26.2 | 6 | 34 |
| Frequency range | 662 | - | 694 | -26.2 | 6 | 15 |
| Frequency range | 758 | - | 773 | -32 | 1 | 15 |
| Frequency range | 773 | - | 803 | -50 | 1 |  |
| Frequency range | 1884.5 | - | 1915.7 | -41 | 0.3 | 8, 19 |
| 30 | E-UTRA Band 2, 4, 5, 7, 10, 12, 13, 14, 17, 24, 25, 26, 27, 29, 30, 38, 41, 48, 53, 66, 70, 71, 85 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| 31 | E-UTRA Band 1, 5, 7, 8, 20, 22, 26, 27, 28, 31, 32, 33, 34, 38, 40, 42, 43, 50, 51, 52, 65, 67, 68, 69, 74, 75, 76, 87, 88 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 3 | FDL\_low | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 470 | - | 694 | -42 | 8 |  |
| … |  |  |  |  |  |  |  |
| 33 | E-UTRA Band 1, 7, 8, 20, 22, 28, 31, 32, 34, 38, 40, 42, 43, 52, 65, 67, 69, 72, 73, 75, 76, 87, 88 | FDL\_low | - | FDL\_high | -50 | 1 | 5 |
| E-UTRA Band 3 | FDL\_low | - | FDL\_high | -50 | 1 | 15 |
| 34 | E-UTRA Band 1, 3, 7, 8, 11, 18, 19, 20, 21, 22, 26, 28, 31, 32, 33, 38,39, 40, 41, 42, 43, 44, 45, 50, 51, 52, 65, 67, 69, 72, 73, 74, 75, 76, 87, 88  NR Band n78, n79 | FDL\_low | - | FDL\_high | -50 | 1 | 5 |
| NR Band n77 | FDL\_low | - | FDL\_high | -50 | 1 | 2, 5 |
| Frequency range | 1884.5 | - | 1915.7 | -41 | 0.3 | 8 |
| 35 |  |  |  |  |  |  |  |
| 36 |  |  |  |  |  |  |  |
| 37 |  |  | - |  |  |  |  |
| 38 | E-UTRA Band 1, 2, 3, 4, 5, 8, 10, 12, 13, 14, 17, 20, 22, 27, 28, 29, 30, 31, 32, 33, 34, 40, 42, 43, 50, 51, 52, 65, 66, 67, 68, 72, 74, 75, 76, 85, 87, 88 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| Frequency range | 2620 | - | 2645 | -15.5 | 5 | 15, 22, 26 |
| Frequency range | 2645 | - | 2690 | -40 | 1 | 15, 22 |
| 39 | E-UTRA Band 1, 8, 22, 26, 28, 34, 40, 41, 42, 44, 45, 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 |
| Frequency range | 1805 |  | 1855 | -40 | 1 | 33 |
| Frequency range | 1855 |  | 1880 | -15.5 | 5 | 15,26,33 |
| 40 | E-UTRA Band 1, 3, 5, 7, 8, 20, 22, 26, 27, 28, 31, 32, 33, 34, 38, 39, 41, 42, 43, 44, 45, 50, 51, 52, 65, 67, 68, 69, 72, 73, 74, 75, 76, 87, 88  NR Band n77, n78 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| NR Band n79 | FDL\_low | - | FDL\_high | -50 | 1 | 2 |
| 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, 45, 48, 50, 51, 52, 65, 66, 70, 71, 73, 74, 85  NR Band n77, n78 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 9, 11, 18, 19, 21 | FDL\_low | - | FDL\_high | -50 | 1 | 30 |
| NR Band n79 | FDL\_low | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 1884.5 |  | 1915.7 | -41 | 0.3 | 8, 30 |
| 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, 45, 50, 51, 65, 66, 67, 68, 69, 72, 73, 74, 75, 76, 87, 88  NR Band n79 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| Frequency range | 1884.5 | - | 1915.7 | -41 | 0.3 | 8 |
| 43 | E-UTRA Band 1, 2, 3, 4, 5, 7, 8, 10, 20, 25, 26, 27, 28, 31,32, 33, 34, 38, 40, 50, 51, 65, 66, 67, 68, 69, 72, 73, 74, 75, 76, 85, 87, 88 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| 44 | E-UTRA Band 1, 40, 42, 45 | FDL\_low | - | FDL\_high | -50 | 1 | 2 |
| E-UTRA Band 3, 5, 8, 34, 39, 41, 73 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| 45 | E-UTRA Band 1, 3, 5, 8, 34, 39, 40, 41, 42, 44, 52, 73 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| … |  |  |  |  |  |  |  |
| 47 | E-UTRA Band 1, 3, 5, 7, 8, 22, 26, 28, 34, 39, 40, 41, 42, 44, 45, 65, 68, 72, 73  NR band n77, n78 , n79 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| Frequency range | 5925 | - | 5950 | -30 EIRP | 1 | 38, 40, 43 |
| Frequency range | 5815 | - | 5855 | -30 EIRP | 1 | 38, 43, 45 |
| 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 |  |
| 50 | E-UTRA Band 1, 2, 3, 4, 5, 7, 8, 12, 13, 17, 20, 26, 28, 29, 31, 34, 38, 39, 40, 41, 42, 43, 48, 52, 65, 66, 67, 68, 85 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| 51 | E-UTRA Band 1, 2, 3, 4, 5, 7, 8, 12, 13, 17, 20, 26, 28, 29, 31, 34, 38, 39, 40, 41, 42, 43, 48, 52, 65, 66, 67, 68, 85 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| 52 | E-UTRA Band 1, 3, 5, 7, 8, 20, 28, 31, 33, 34, 38, 39, 40, 41, 45, 47, 50, 51, 68, 72, 73, 74, 87, 88 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| 53 | E-UTRA Band 2, 4, 5, 12, 13, 14, 17, 24, 25, 26, 29, 30, 48, 66, 70, 71, 85 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| 65 | E-UTRA Band 1, 3, 7, 8, 20, 22, 28, 31, 32, 38, 40, 42, 43, 50, 51, 65, 68, 69, 72, 74, 75, 76, 87, 88  NR Band n77, n78, n79 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 5, 11, 18, 19, 21, 26, 27, 41 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 34 | FDL\_low | - | FDL\_high | -50 | 1 | 36 |
| Frequency range | 1884.5 | - | 1915.7 | -41 | 0.3 | 37 |
| Frequency range | 1900 | - | 1915 | -15.5 | 5 | 15, 26, 27 |
| Frequency range | 1915 | - | 1920 | +1.6 | 5 | 15, 26, 27 |
| 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, 53, 66, 70, 71, 74, 85 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 42, 48 | FDL\_low | - | FDL\_high | -50 | 1 | 2 |
| 68 | E-UTRA Band 3, 7, 8, 20, 22, 28, 31, 38, 40, 42, 43, 47, 50, 51, 65, 72, 74, 87, 88 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 1, 52 | FDL\_low | - | FDL\_high | -50 | 1 | 2 |
| … |  |  |  |  |  |  |  |
| 70 | E-UTRA Band 2, 4, 5, 10, 12, 13, 14, 17, 24, 25, 26, 29, 30, 41, 48, 53, 66, 70, 71, 85 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| 71 | E-UTRA Band 4, 5, 12, 13, 14, 17, 24, 26, 30, 48, 53, 66, 85 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 2, 25, 41, 70 | FDL\_low | - | FDL\_high | -50 | 1 | 2 |
| E-UTRA Band 29 | FDL\_low | - | FDL\_high | -38 | 1 | 15 |
| E-UTRA Band 71 | FDL\_low | - | FDL\_high | -50 | 1 | 15 |
| 72 | E-UTRA Band 1, 7, 20, 22, 28, 31, 32, 33, 34, 38, 42, 43, 47, 52, 65, 68, [72], 87, 88 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 3, 8, 40 | FDL\_low | - | FDL\_high | -50 | 1 | 2 |
| Frequency range | 470 | - | 694 | -42 | 8 |  |
| 73 | E-UTRA Band 1, 26, 28, 33, 34, 39, 41, 42, 43, 44, 45, 47, 52 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 3, 5, 8, 27, 40 | FDL\_low | - | FDL\_high | -50 | 1 | 2 |
| 74 | E-UTRA Band 1, 2, 3, 4, 5, 7, 8, 12, 13, 17, 18, 19, 20, 26, 28, 29, 31, 34, 38, 39, 40, 41, 42, 43, 48, 52, 65, 66, 67, 68, 85 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| Frequency range | 1884.5 | - | 1915.7 | -41 | 0.3 | 8 |
| Frequency range | 1400 | - | 1427 | -32 | 27 | 15, 41 |
| Frequency range | 1475 | - | 1488 | -50 | 1 | 42 |
| Frequency range | 1488 | - | 1518 | -50 | 1 | 15 |
| 85 | E-UTRA Band 2, 5, 13, 14, 17, 24, 25, 26, 27, 30, 41, 48, 51, 53, 71, 74 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 4, 10, 66, 70 | FDL\_low | - | FDL\_high | -50 | 1 | 2 |
| E-UTRA Band 12, 85 | FDL\_low | - | FDL\_high | -50 | 1 | 15 |
| 87 | E-UTRA Band 1, 3, 7, 8, 20, 22, 28, 31, 32, 33, 34, 38, 40, 42, 43, 47, 52, 65, 68, 72 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band, 20 | FDL\_low | - | FDL\_high | -50 | 1 | 2 |
| E-UTRA Band 87, 88 | FDL\_low | - | FDL\_high | -50 | 1 | 15 |
| Frequency range | 470 | - | 694 | -42 | 8 |  |
| 88 | E-UTRA Band 1, 3, 7, 8, 20, 22, 28, 31, 32, 33, 34, 38, 40, 42, 43, 47, 52, 65, 68, 72 | FDL\_low | - | FDL\_high | -50 | 1 |  |
| E-UTRA Band 87 | FDL\_low | - | FDL\_high | -20 | 1 | 15 |
| E-UTRA Band 88 | FDL\_low | - | FDL\_high | -50 | 1 | 15 |
| Frequency range | 470 | - | 694 | -42 | 8 |  |
| 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. 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: N/A  NOTE 4: N/A  NOTE 5: For non synchronised TDD operation to meet these requirements some restriction will be needed for either the operating band or protected band  NOTE 6: N/A  NOTE 7:Applicable when co-existence with PHS system operating in 1884.5 -1919.6MHz.  NOTE 8:Applicable when co-existence with PHS system operating in 1884.5 -1915.7MHz.  NOTE 9:N/A  NOTE 10:N/A  NOTE 11:Whether the applicable frequency range should be 793-805MHz instead of 799-805MHz is TBD  NOTE 12:The emissions measurement shall be sufficiently power averaged to ensure a standard deviation < 0.5 dB  NOTE 13:N/A  NOTE 14: N/A  NOTE 15: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 channel bandwidth.  NOTE 16: N/A  NOTE 17: N/A  NOTE 18: N/A  NOTE 19: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 20:N/A  NOTE21: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.  NOTE22:This requirement is applicable for power class 3 UE for any channel bandwidths within the range 2570 - 2615 MHz with the following restriction: for carriers of 15 MHz bandwidth when carrier centre frequency is within the range 2605.5 - 2607.5 MHz and for carriers of 20 MHz bandwidth when carrier centre frequency is within the range 2597 - 2605 MHz the requirement is applicable only for an uplink transmission bandwidth less than or equal to 54 RB. For power class 2 UE for any channel bandwidths within the range 2570 - 2615 MHz, NS\_44 shall apply. For power class 2 or 3 UE for carriers with channel bandwidth overlapping the frequency range 2615 - 2620 MHz the requirement applies with the maximum output power configured to +19 dBm in the IE *P-Max*.  NOTE 23: 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 24: 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 25: 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 26: For these adjacent bands, the emission limit could imply risk of harmful interference to UE(s) operating in the protected operating band.  NOTE 27: 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.  NOTE 28: N/A  NOTE 29: N/A  NOTE 30: 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 31: N/A  NOTE 32: Void  NOTE 33: 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 34: 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 35: 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 36: This requirement is applicable for E-UTRA channel bandwidth allocated within 1920-1980 MHz.  NOTE 37: Applicable when the upper edge of the channel bandwidth frequency is greater than 1980MHz.  NOTE 38: Applicable when NS\_33 or NS\_34 is configured by the pre-configured radio parameters.  NOTE 39: Applicable only when the assigned E-UTRA carrier is confined within 824 MHz and 849 MHz for UE category M1, M2 and UE category NB1 and NB2.  NOTE 40: In the frequency range x-5950MHz, SE requirement of -30dBm/MHz should be applied; where x = max (5925, fc + 15), where fc is the channel centre frequency.  NOTE 41: Applicable for all bandwidths, and when the lower edge of the assigned E-UTRA UL channel bandwidth frequency is greater than or equal to 1427 MHz + the channel BW assigned for 1.4, 3, 5 and 10 MHz bandwidth, and when the lower edge of the assigned E-UTRA UL channel bandwidth frequency is greater than or equal to 1440 MHz for 15 and 20 MHz bandwidth. This requirement shall be verified with UE transmission power of 15 dBm.  NOTE 42: Applicable for 1.4 , 3 and 5 MHz bandwidth, and when the upper edge of the assigned E-UTRA UL channel bandwidth frequency is less than or equal to 1467 MHz assigned for10 MHz bandwidth, and when the upper edge of the assigned E-UTRA UL channel bandwidth frequency is less than or equal to 1463.8 MHz for 15 MHz bandwidth, and when the upper edge of the assigned E-UTRA UL channel bandwidth frequency is less than or equal to 1460.8 MHz for 20 MHz bandwidth.  NOTE 43: The EIRP requirement is converted to conducted requirement depend on the supported post antenna connector gain Gpost connector declared by the UE following the principle described in annex I.  NOTE 44: For category NB1 and NB2 UE when carrier centre frequency is 1920.1 MHz, in case of single-tone uplink transmission the requirement is applicable only for sub-carrier index > 2.  NOTE 45: Resolution BW is 10% of the measurement BW and the result should be integrated to achieve the measurement bandwidth. The sweep time shall be set at least as (sweep points)\*(symbol length) to improve the measurement accuracy. | | | | | | | |

NOTE: The restriction on the maximum uplink transmission to 54 RB in Notes 21, 22, and 27 of Table 6.6.3.2-1 and the restriction on the single-tone uplink transmission to sub-carrier index > 2 in Note 44 of Table 6.6.3.2-1 are intended for conformance testing and may be applied to network operation to facilitate coexistence when the aggressor and victim bands are deployed in the same geographical area. The applicable spurious emission requirement of -15.5 dBm/5MHz is a least restrictive technical condition for FDD/TDD coexistence and may have to be revised in the future.

When "NS\_33" or “NS 34” is configured from pre-configured radio parameters or the cell and the indication from upper layers has indicated that the UE is within the protection zone of CEN DSRC devices or HDR DSRC devices, the power of any V2X UE emission shall fulfil either one of the two set of conditions.

|  |  |  |
| --- | --- | --- |
|  | Maximum Transmission Power (dBm EIRP) | Emission Limit in Frequency Range 5795-5815 (dBm/MHz EIRP) |
| Condition 1 | 10 | -65 |
| Condition 2 | 10 | -45 |

#### 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, 33, 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, 20, 21, 22, 26, 27, 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, 41, 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 | 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 | 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 | 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 | 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\_2-14 | 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 |
| 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 | 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 | 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 | 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\_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 | 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, 12, 13, 14, 17, 24, 25, 26, 27, 28, 29, 30, 41, 48, 53, 70, 71, 85 | 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 | 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 | 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 | 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 |  |
| 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 | 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, 42, 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, 42, 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 |  |
| 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 |  | | - |  | -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 | 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, 42, 43, 48, 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, 7, 8, 20, 25, 26, 27, 31, 32, 33, 34, 38, 40, 41, 44, 45, 48, 67, 69 | 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, 22, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 38, 39, 40, 41, 42, 43, 44, 45, 48, 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: Whether the applicable frequency range should be 793-805MHz instead of 799-805MHz is TBD.  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 | | | | | | | | |