**3GPP TSG-RAN WG4 Meeting #96-e *R4-2011811***

**Electronic meeting, 17-28 Aug, 2020**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **37.145-2** | **CR** | **0233** | **rev** | **1** | **Current version:** | **16.4.0** |  |
|  | | | | | | | | |
| *For* [***HELP***](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 |  | Radio Access Network | **X** | Core Network |  |

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|  | | | | | | | | | | |
| ***Title:*** | Introduction of 1880-1920MHz SUL band into Rel-17 TS 37.145-2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | CMCC, Huawei, HiSilicon | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_SUL\_band\_1880\_1920MHz | | | | |  | ***Date:*** | | | 2020-08-21 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | B |  | | | | | ***Release:*** | | | Rel-17 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) Rel-12 (Release 12) Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Introduction of 1880-1920MHz SUL (supplemental uplink) band for NR | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Introduction of SUL band n98 (1880-1920MHz) | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | 1880-1920MHz SUL (supplemental uplink) band is missing. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.7.6.4.5, 6.7.6.5.5 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Rev of [R4-2009641](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_96_e/Docs/R4-2009634.zip) | | | | | | | | |

## **<Start of Changes>**

##### 6.7.6.4.5 Test Requirement

###### 6.7.6.4.5.1 MSR operation

For UTRA, the minimum requirement is specified in subclause 6.7.6.4.5.2

For E-UTRA, the minimum requirement is specified in subclause 6.7.6.4.5.3.

###### 6.7.6.4.5.1.1 E-UTRA and NR MSR operation

The TRP of any spurious emission shall not exceed the limits of table 6.7.6.4.5.1.1-1 for an AAS BS where requirements for co-existence with the system listed in the first column apply. For a *multi-band RIB*, the exclusions and conditions in the notes column of table 6.7.6.4.5.1.1-1 apply for each supported operating band.

Table 6.7.6.4.5.1.1-1: AAS BS OTA Spurious emissions limits for co-existence with systems operating in other frequency bands

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| System type to co-exist with | Frequency range for co-existence requirement | Maximum Level | | Measurement Bandwidth | Note |
| GSM900 | 921 ‑ 960 MHz | -45.4 dBm | | 100 kHz | This requirement does not apply to BS operating in band 8/n8 |
| 876 - 915 MHz | -49.4 dBm | | 100 kHz | For the frequency range 880-915 MHz, this requirement does not apply to BS operating in band 8/n8, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 |
| DCS1800  (Note 3) | 1805 ‑ 1880 MHz | -35.4 dBm | | 100 kHz | This requirement does not apply to BS operating in band 3/n3. |
| 1710 - 1785 MHz | -49.4 dBm | | 100 kHz | This requirement does not apply to BS operating in band 3/n3, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 |
| PCS1900 | 1930 ‑ 1990 MHz | -35.4 dBm | | 100 kHz | This requirement does not apply to BS operating in band 2/n2, 25/n25, band 36 or band 70/n70. |
| 1850 ‑ 1910 MHz | -49.4 dBm | | 100 kHz | This requirement does not apply to BS operating in band 2/n2 or 25/n25, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 This requirement does not apply to BS operating in band 35. |
| GSM850 or CDMA850 | 869 - 894 MHz | -45.4 dBm | | 100 kHz | This requirement does not apply to BS operating in band 5/n5 or 26/n26. This requirement applies to E-UTRA BS operating in Band 27 for the frequency range 879-894 MHz. |
| 824 ‑ 849 MHz | -49.4 dBm | | 100 kHz | This requirement does not apply to BS operating in band 5/n5 or 26/n26, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 For BS operating in Band 27, it applies 3 MHz below the Band 27 downlink operating band. |
| UTRA FDD Band I or  E-UTRA Band 1 or NR Band n1 | 2110 - 2170 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 1/n1 or 65/n65. |
| 1920 - 1980 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 1/n1 or 65/n65, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 |
| UTRA FDD Band II or  E-UTRA Band 2 or NR Band n2 | 1930 - 1990 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 2/n2, 25/n25 or 70/n70. |
| 1850 - 1910 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 2/n2 or 25/n25, since it is already covered by the requirement in sub-clause 6.6.6.5.2.4 |
| UTRA FDD Band III or  E-UTRA Band 3 or NR Band n3 (Note 3) | 1805 - 1880 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 3/n3 or 9. |
| 1710 - 1785 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 3/n3, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1  For BS operating in band 9, it applies for 1710 MHz to 1749.9 MHz and 1784.9 MHz to 1785 MHz, while the rest is covered in sub-clause 6.7.6.3.5.1 |
| UTRA FDD Band IV or  E-UTRA Band 4 | 2110 - 2155 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 4, 10 or 66. |
| 1710 - 1755 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 4, 10 or 66, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 |
| UTRA FDD Band V or  E-UTRA Band 5 or NR Band n5 | 869 - 894 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 5/n5 or 26/n26. This requirement applies to E-UTRA BS operating in Band 27 for the frequency range 879-894 MHz. |
| 824 - 849 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 5/n5 or 26/n26, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 For BS operating in Band 27, it applies 3 MHz below the Band 27 downlink operating band. |
| UTRA FDD Band VI, XIX or  E-UTRA Band 6, 18, 19 or NR Band n18 | 860 - 890 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 6, 18, 19 |
| 815 - 830 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 18 since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 |
| 830 - 845 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 6, 19, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 |
| UTRA FDD Band VII or  E-UTRA Band 7 or NR Band n7 | 2620 - 2690 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 7/n7. |
| 2500 - 2570 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 7/n7, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 |
| UTRA FDD Band VIII or  E-UTRA Band 8 or NR Band n8 | 925 - 960 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 8/n8. |
| 880 - 915 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 8/n8, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 |
| UTRA FDD Band IX or  E-UTRA Band 9 | 1844.9 - 1879.9 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 3/n3 or 9. |
| 1749.9 - 1784.9 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 3/n3 or 9, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 |
| UTRA FDD Band X or  E-UTRA Band 10 | 2110 - 2170 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 4, 10 or 66/n66. |
| 1710 - 1770 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 10 or 66/n66, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 For BS operating in band 4, it applies for 1755 MHz to 1770 MHz, while the rest is covered in sub-clause 6.7.6.3.5.1 |
| UTRA FDD Band XI or XXI or  E-UTRA Band 11 or 21 | 1475.9 - 1510.9 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 11, 21, 32, 50/n50, 74 or 75/n75. This requirement does not apply to BS operating in band n92 or n94. |
| 1427.9 - 1447.9 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 11 or 74, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 This requirement does not apply to BS operating in band 32, 50/n50, 51/n51, 75/n75 or 76/n76. This requirement does not apply to BS operating in band n91, n92, n93 or n94. |
| 1447.9 – 1462.9 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 21 or 74, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 This requirement does not apply to BS operating in band 32, 50/n50 or 75/n75. This requirement does not apply to BS operating in band n92 or n94. |
| UTRA FDD Band XII or  E-UTRA Band 12 or NR Band n12 | 729 - 746 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 12/n12 or 85. |
| 699 - 716 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 12/n12 or 85, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 For BS operating in Band 29, it applies 1 MHz below the Band 29 downlink operating band (Note 7). |
| UTRA FDD Band XIII or  E-UTRA Band 13 | 746 - 756 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 13. |
| 777 - 787 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 13, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 |
| UTRA FDD Band XIV or  E-UTRA Band 14 | 758 - 768 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 14. |
| 788 - 798 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 14, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 |
| E-UTRA Band 17 | 734 - 746 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 17. |
| 704 - 716 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 17, since it is already covered by the requirement in subclause 6.7.6.3.5.1 For BS operating in Band 29, it applies 1 MHz below the Band 29 downlink operating band (Note 7). |
| UTRA FDD Band XX or  E-UTRA Band 20 or NR Band n20 | 791 - 821 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 20/n20 or 28/n28. |
| 832 - 862 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 20/n20, since it is already covered by the requirement in subclause 6.7.6.3.5.1 |
| UTRA FDD Band XXII or  E-UTRA Band 22 | 3510 – 3590 MHz | -40.0 dBm | | 1 MHz | This requirement does not apply to BS operating in band 22, 42, 48/n48, n77 or n78. |
| 3410 – 3490 MHz | -37.0 dBm | | 1 MHz | This requirement does not apply to BS operating in band 22, since it is already covered by the requirement in subclause 6.7.6.3.5.1 This requirement does not apply to Band 42 |
| E-UTRA Band 24 | 1525 – 1559 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 24. |
| 1626.5 – 1660.5 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 24, since it is already covered by the requirement in subclause 6.7.6.3.5.1 |
| UTRA FDD Band XXV or E-UTRA Band 25 or NR Band n25 | 1930 - 1995 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 2/n2, 25/n25 or 70/n70. |
| 1850 - 1915 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 25/n25, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 For BS operating in band 2/n2, it applies for 1910 MHz to 1915 MHz, while the rest is covered in sub-clause 6.7.6.3.5.1 |
| UTRA FDD Band XXVI or E-UTRA Band 26 or NR Band n26 | 859 - 894 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 5/n5 or 26/n26. This requirement applies to E-UTRA BS operating in Band 27 for the frequency range 879-894 MHz. |
| 814 - 849 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 26/n26, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 For BS operating in band 5/n5, it applies for 814 MHz to 824 MHz, while the rest is covered in sub-clause 6.7.6.3.5.1 For BS operating in Band 27, it applies 3 MHz below the Band 27 downlink operating band. |
| E-UTRA Band 27 | 852 – 869 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 5/n5, 26 or 27. |
| 807 – 824 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 27, since it is already covered by the requirement in subclause 6.7.6.3.5.1 For BS operating in Band 26, it applies for 807 MHz to 814 MHz, while the rest is covered in sub-clause 6.7.6.3.5.1 This requirement also applies to BS operating in Band 28/n28, starting 4 MHz above the Band 28/n28 downlink operating band (Note 6). |
| E-UTRA Band 28 or NR Band n28 | 758 - 803 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 20/n20, 28/n28, 44 or 67. |
| 703 - 748 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 28/n28, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 This requirement does not apply to BS operating in Band 44. For BS operating in Band 67, it applies for 703-736MHz. For E-UTRA BS operating in Band 68, it applies for 728MHz to 733MHz. |
| E-UTRA Band 29 or NR Band n29 | 717 – 728 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in Band 29 or 85. |
| E-UTRA Band 30 | 2350 - 2360 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 30 or 40/n40. |
| 2305 - 2315 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 30, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 This requirement does not apply to BS operating in Band 40. |
| E-UTRA Band 31 | 462.5 – 467.5 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 31, 72 or 73. |
| 452.5 – 457.5 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 31, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 This requirement does not apply to BS operating in band 72 or 73. |
| UTRA FDD Band XXXII or E-UTRA Band 32 | 1452 - 1496 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 11, 21, 32, 50/n50, 74 or 75/n75. This requirement does not apply to BS operating in band n92 or n94. |
| UTRA TDD Band a) or E-UTRA Band 33 | 1900 - 1920 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in Band 33 |
| UTRA TDD Band a) or E-UTRA Band 34 or NR Band n34 | 2010 - 2025 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in Band 34/n34 |
| UTRA TDD Band b) or E-UTRA Band 35 | 1850 – 1910 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in Band 35 |
| UTRA TDD Band b) or E-UTRA Band 36 | 1930 - 1990 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in Band 2/n2, 25/n25 or 36 |
| UTRA TDD in Band c) or E-UTRA Band 37 | 1910 - 1930 MHz | -40.4 dBm | | 1 MHz | This is not applicable to BS operating in Band 37. This unpaired band is defined in ITU-R M.1036, but is pending any future deployment. |
| UTRA TDD Band d) or E-UTRA Band 38 or NR Band n38 | 2570 – 2620 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in Band 38/n38 or 69. |
| UTRA TDD Band f) or E-UTRA Band 39 or NR Band n39 | 1880 – 1920MHz | -40.4 dBm | | 1 MHz | This is not applicable to BS operating in Band 39/n39 |
| UTRA TDD Band e) or E-UTRA Band 40 or NR Band n40 | 2300 – 2400MHz | -40.4 dBm | | 1 MHz | This is not applicable to BS operating in Band 30 or 40/n40 |
| E-UTRA Band 41 or NR Band n41 | 2496 – 2690MHz | -40.4 dBm | | 1 MHz | This is not applicable to BS operating in Band 41/n41 or 53/n53 |
| E-UTRA Band 42 | 3400 – 3600 MHz | -40.0 dBm | | 1 MHz | This is not applicable to BS operating in Band 22, 42, 43, 48/n48, 52, n77 or n78. |
| E-UTRA Band 43 | 3600 – 3800 MHz | -40.0 dBm | | 1 MHz | This is not applicable to BS operating in Band 42, 43, 48/n48, n77 or n78. |
| E-UTRA Band 44 | 703 - 803 MHz | -40.4 dBm | | 1 MHz | This is not applicable to BS operating in Band 28/n28 or 44 |
| E-UTRA Band 45 | 1447 - 1467 MHz | -40.4 dBm | | 1 MHz | This is not applicable to BS operating in Band 45 |
| E-UTRA Band 46 | 5150 - 5925 MHz | -39.5 dBm | | 1 MHz | This is not applicable to BS operating in Band 46 |
| E-UTRA Band 47 | 5855 - 5925 MHz | -39.5 dBm | | 1 MHz |  |
| E-UTRA Band 48 or NR Band n48 | 3550 – 3700 MHz | -40.0 dBm | | 1 MHz | This is not applicable to BS operating in Band 22, 42, 43, 48/n48, n77 or n78 |
| E-UTRA Band 49 | 3550 – 3700 MHz | -40.0 dBm | | 1 MHz | This is not applicable to BS operating in Band 22, 42, 43, 48/n48, n77 or n78 |
| E-UTRA Band 50 or NR Band n50 | 1432 - 1517 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in Band 11, 21, 32, 45, 50/n50, 51/n51, 74, 75/n75 or 76/n76. This requirement does not apply to BS operating in band n91, n92, n93 or n94. |
| E-UTRA Band 51 or NR Band n51 | 1427 - 1432 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in Band 50/n50, 51/n51, 75/n75 or 76/n76. This requirement does not apply to BS operating in band n91, n92, n93 or n94. |
| E-UTRA Band 52 | 3300 – 3400 MHz | -40.4 dBm | | 1 MHz | This is not applicable to BS operating in Band 42 or 52. |
| E-UTRA Band 53 or NR Band n53 | 2483.5 – 2495MHz | -40.4 dBm | | 1 MHz | This is not applicable to BS operating in Band 41/n41 or 53/n53 |
| E-UTRA Band 65 or NR band n65 | 2110 - 2200 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 1/n1 or 65/n65. |
| 1920 - 2010 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 65/n65, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1  For BS operating in Band 1, it applies for 1980 MHz to 2010 MHz, while the rest is covered in sub-clause 6.7.6.3.5.1 |
| E-UTRA Band 66 or NR Band n66 | 2110 - 2200 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 4, 10, 23 or 66/n66. |
| 1710 - 1780 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 66/n66, since it is already covered by the requirement in clause 6.7.6.3.5.1 For BS operating in Band 4, it applies for 1755 MHz to 1780 MHz, while the rest is covered in clause 6.7.6.3.5.1 For BS operating in Band 10, it applies for 1770 MHz to 1780 MHz, while the rest is covered in clause 6.7.6.3.5.1 |
| E-UTRA Band 67 | 738 – 758 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 28/n28 or 67. |
| E-UTRA Band 68 | 753 -783 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 28/n28 or 68. |
| 698-728 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 68, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 For BS operating in Band 28/n28, it applies between 698 MHz and 703 MHz, while the rest is covered in sub-clause 6.7.6.3.5.1 |
| E-UTRA Band 69 | 2570 - 2620 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in Band 38 or 69. |
| E-UTRA Band 70 or NR Band n70 | 1995 - 2020 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 2/n2, 25/n25 or 70/n70 |
| 1695 – 1710 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 70/n70, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 |
| E-UTRA Band 71 or NR Band n71 | 617 - 652 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 71/n71. |
| 663 – 698 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 71/n71, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 |
| E-UTRA Band 72 | 461 - 466 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 31, 72 or 73. |
| 451 - 456 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 72, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 This requirement does not apply to BS operating in band 73. |
| E-UTRA Band 73 | 460 - 465 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 31, 72 or 73. |
| 450 - 455 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 73, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 |
| E-UTRA Band 74 or NR band n74 | 1475 – 1518 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 11, 21, 32, 50/n50, 74 or 75/n75. This requirement does not apply to BS operating in band n92 or n94. |
| 1427 – 1470 MHz | -37.4 dBm | | 1MHz | This requirement does not apply to BS operating in Band 74, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 This requirement does not apply to BS operating in band 32, 45, 50/n50, 51/n51, 75/n75 or 76/n76. This requirement does not apply to BS operating in band n91, n92, n93 or n94. |
| E-UTRA Band 75 or NR Band n75 | 1432 - 1517 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in Band 11, 21, 32, 45, 50/n50, 51/n51, 74, 75/n75 or 76/n76. This requirement does not apply to BS operating in band n91, n92, n93 or n94. |
| E-UTRA Band 76 or NR Band n76 | 1427 - 1432 MHz | -40.4 dBm | | 1 MHz | This requirement does not apply to BS operating in Band 50/n50, 51/n51, 75/n75 or 76/n76. This requirement does not apply to BS operating in band n91, n92, n93 or n94. |
| NR Band n77 | 3300 – 4200 MHz | -40.0 dBm | | 1 MHz | This is not applicable to BS operating in Band 22, 42, 43, 48/n48, 52, n77 or n78 |
| NR Band n78 | 3300 – 3800 MHz | -40.0 dBm | | 1 MHz | This is not applicable to BS operating in Band 22, 42, 43, 48/n48, 52, n77 or n78 |
| NR Band n79 | 4400 – 5000 MHz | -39.5 dBm | | 1 MHz | This requirement does not apply to BS operating in Band n79 |
| NR Band n80 | 1710 - 1785 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 3/n3, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1  For BS operating in band 9, it applies for 1710 MHz to 1749.9 MHz and 1784.9 MHz to 1785 MHz, while the rest is covered in sub-clause 6.7.6.3.5.1 |
| NR Band n81 | 880 - 915 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 8/n8, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 |
| NR Band n82 | 832 - 862 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 20/n20, since it is already covered by the requirement in subclause 6.7.6.3.5.1 |
| NR Band n83 | 703 - 748 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 28/n28, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 This requirement does not apply to BS operating in Band 44. For BS operating in Band 67, it applies for 703-736MHz. For BS operating in Band 68, it applies for 728MHz to 733MHz. |
| NR Band n84 | 1920 - 1980 MHz | -37.4 dBm | | 1 MHz | This requirement does not apply to BS operating in band 1/n1 or 65, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 |
| E-UTRA Band 85 | 728 - 746 MHz | -40.4 dBm | 1 MHz | | This requirement does not apply to BS operating in band 12/n12, 29 or 85. |
| 698 - 716 MHz | -37.4 dBm | 1 MHz | | This requirement does not apply to BS operating in band 12/n12 or 85, since it is already covered by the requirement in subclause 6.7.6.3.5.1 For BS operating in Band 29, it applies 1 MHz below the Band 29 downlink operating band (Note 7). |
| NR Band n86 | 1710 - 1780 MHz | -37.4 dBm | 1 MHz | | This requirement does not apply to BS operating in band 66/n66, since it is already covered by the requirement in subclause 6.7.6.3.5.1 For BS operating in Band 4, it applies for 1755 MHz to 1780 MHz, while the rest is covered in sub-clause 6.7.6.3.5.1 For BS operating in Band 10, it applies for 1770 MHz to 1780 MHz, while the rest is covered in sub-clause 6.7.6.3.5.1 |
| E-UTRA Band 87 | 420 - 425 MHz | -40.4 dBm | 1 MHz | | This requirement does not apply to BS operating in band 87 or 88. |
| 410 – 415 MHz | -37.4 dBm | 1 MHz | | This requirement does not apply to BS operating in band 87, since it is already covered by the requirement in subclause 6.7.6.3.5.1 |
| E-UTRA Band 88 | 422 - 427 MHz | -40.4 dBm | 1 MHz | | This requirement does not apply to BS operating in band 87 or 88. |
| 412 - 417 MHz | -37.4 dBm | 1 MHz | | This requirement does not apply to BS operating in band 88, since it is already covered by the requirement in subclause 6.7.6.3.5.1. This requirement does not apply to BS operating in band 87. |
| NR Band n89 | 824 - 849 MHz | -37.4 dBm | 1 MHz | | This requirement does not apply to BS operating in band 5/n5 or 26, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 For BS operating in Band 27, it applies 3 MHz below the Band 27 downlink operating band. |
| NR Band n91 | 1427 - 1432 MHz | -40.4 dBm | 1 MHz | | This requirement does not apply to BS operating in Band 50/n50, 51/n51, 75/n75 or 76/n76. This requirement does not apply to BS operating in band n91, n92, n93 or n94. |
| 832 - 862 MHz | -37.4 dBm | 1 MHz | | This requirement does not apply to BS operating in band 20/n20, since it is already covered by the requirement in subclause 6.7.6.3.5.1 |
| NR Band n92 | 1432 - 1517 MHz | -40.4 dBm | 1 MHz | | This requirement does not apply to BS operating in Band 11, 21, 32, 45, 50/n50, 51/n51, 74, 75/n75 or 76/n76. This requirement does not apply to BS operating in band n91, n92, n93 or n94. |
| 832 - 862 MHz | -37.4 dBm | 1 MHz | | This requirement does not apply to BS operating in band 20/n20, since it is already covered by the requirement in subclause 6.7.6.3.5.1 |
| NR Band n93 | 1427 - 1432 MHz | -40.4 dBm | 1 MHz | | This requirement does not apply to BS operating in Band 50/n50, 51/n51, 75/n75 or 76/n76. This requirement does not apply to BS operating in band n91, n92, n93 or n94. |
| 880 - 915 MHz | -37.4 dBm | 1 MHz | | This requirement does not apply to BS operating in band 8/n8, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 |
| NR Band n94 | 1432 - 1517 MHz | -40.4 dBm | 1 MHz | | This requirement does not apply to BS operating in Band 11, 21, 32, 45, 50/n50, 51/n51, 74, 75/n75 or 76/n76. This requirement does not apply to BS operating in band n91, n92, n93 or n94. |
| 880 - 915 MHz | -37.4 dBm | 1 MHz | | This requirement does not apply to BS operating in band 8/n8, since it is already covered by the requirement in sub-clause 6.7.6.3.5.1 |
| NR Band n95 | 2010 - 2025 MHz | -40.4 dBm | 1 MHz | |  |
| NR Band n98 | 1880 – 1920MHz | -40.4 dBm | 1 MHz | |  |

NOTE 1: As defined in the scope for spurious emissions in this subclause, except for the cases where the noted requirements apply to a BS operating in Band 25/n25, Band 27, Band 28/n28 or Band 29, the co-existence requirements in table 6.7.6.4.5.1.1-1 do not apply for the ΔfOBUE frequency range immediately outside the *downlink operating band* (see subclause 6.7.1). Emission limits for this excluded frequency range may be covered by local or regional requirements.

NOTE 2: Table 6.7.6.4.5.1.1-1 assumes that two operating bands, where the frequency ranges in subclause 4.7 would be overlapping, are not deployed in the same geographical area. For such a case of operation with overlapping frequency arrangements in the same geographical area, special co-existence requirements may apply that are not covered by the 3GPP specifications.

NOTE 3: For the protection of DCS1800, UTRA Band III or E-UTRA Band 3 or NR band n3 in China, the frequency ranges of the downlink and uplink protection requirements are 1805 – 1850 MHz and 1710 – 1755 MHz respectively.

NOTE 4: TDD base stations deployed in the same geographical area, that are synchronized and use the same or adjacent operating bands can transmit without additional co-existence requirements. For unsynchronized base stations (except in Band 46), special co-existence requirements may apply that are not covered by the 3GPP specifications.

NOTE 6: For Band 28/n28 BS, specific solutions may be required to fulfil the spurious emissions limits for BS for co-existence with Band 27 UL operating band.

NOTE 7: For Band 29 BS, specific solutions may be required to fulfil the spurious emissions limits for BS for co-existence with UTRA Band XII, E-UTRA Band 12 or NR Band n12 UL operating band, E-UTRA Band 17 UL operating band or E-UTRA Band 85 UL operating band.

The following requirement may be applied for the protection of PHS. This requirement is also applicable at specified frequencies falling between ΔfOBUE below the lowest BS transmitter frequency of the *downlink operating band* and ΔfOBUE above the highest BS transmitter frequency of the *downlink operating band*.

The TRP of any spurious emission shall not exceed:

Table 6.7.6.4.5.1.1-2: AAS BS OTA Spurious emissions limits for BS for co-existence with PHS

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency range | Maximum Level | Measurement Bandwidth | Notes |
| 1884.5 ‑ 1915.7 MHz | -32 dBm | 300 kHz | Applicable for co-existence with PHS system operating in 1884.5-1915.7MHz |
| NOTE: The requirement is not applicable in China. | | | |

The following requirement shall be applied to AAS BS operating in Bands 13 and 14 to ensure that appropriate interference protection is provided to 700 MHz public safety operations. This requirement is also applicable at the frequency range from ΔfOBUE below the lowest frequency of the BS *downlink operating band* up to ΔfOBUE above the highest frequency of the BS *downlink operating band*.

The TRP of any spurious emission shall not exceed:

Table 6.7.6.4.5.1.1-3: AAS BS OTA Spurious emissions limits for protection of 700 MHz public safety operations

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Operating Band | Frequency range | Maximum Level | Measurement Bandwidth | Notes |
| 13 | 763 - 775 MHz | -37 dBm | 6.25 kHz |  |
| 13 | 793 - 805 MHz | -37 dBm | 6.25 kHz |  |
| 14 | 769 - 775 MHz | -37 dBm | 6.25 kHz |  |
| 14 | 799 - 805 MHz | -37 dBm | 6.25 kHz |  |

The following requirement shall be applied to AAS BS operating in Band 26 to ensure that appropriate interference protection is provided to 800 MHz public safety operations. This requirement is also applicable at the frequency range from ΔfOBUE below the lowest frequency of the BS *downlink operating band* up to ΔfOBUE above the highest frequency of the BS *downlink operating band*.

The TRP of any spurious emission shall not exceed:

Table 6.7.6.4.5.1.1-4: AAS BS OTA Spurious emissions limits for protection of 800 MHz public safety operations

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Operating Band | Frequency range | Maximum Level | Measurement Bandwidth | Notes |
| 26 | 851 - 859 MHz | -4 dBm | 100 kHz | Applicable for offsets > 37.5kHz from the channel edge |

The following requirement may apply to E-UTRA AAS BS operating in Band 41 in certain regions. This requirement is also applicable at the frequency range from ΔfOBUE below the lowest frequency of the BS *downlink operating band* up to ΔfOBUE above the highest frequency of the BS *downlink operating band*.

The TRP of any spurious emission shall not exceed:

Table 6.7.6.4.5.1.1-5: Additional AAS BS OTA Spurious emissions limits for Band 41

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency range | Maximum Level | Measurement Bandwidth | Notes |
| 2505MHz – 2535MHz | -30.4 dBm | 1 MHz |  |
| 2535MHz – 2655MHz | -10.4 dBm | 1 MHz | Applicable at offsets ≥ 250% of *channel bandwidth* from carrier frequency |
|  |  |  |  |
| NOTE: This requirement applies for 10 or 20 MHz E-UTRA carriers allocated within 2545-2575MHz or 2595-2645MHz. | | | |

The following requirement may apply to AAS BS operating in Band 30 in certain regions. This requirement is also applicable at the frequency range from ΔfOBUE below the lowest frequency of the BS *downlink operating band* up to ΔfOBUE above the highest frequency of the BS *downlink operating band*.

The TRP of any spurious emission shall not exceed:

Table 6.7.6.4.5.1.1-6: Additional AAS BS OTA Spurious emissions limits for Band 30

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency range | Maximum Level | Measurement Bandwidth | Notes |
| 2200MHz – 2345MHz | -33.4 dBm | 1 MHz |  |
| 2362.5MHz – 2365MHz | -13.4 dBm | 1 MHz |  |
| 2365MHz – 2367.5MHz | -28.4 dBm | 1 MHz |  |
| 2367.5MHz – 2370MHz | -30.4 dBm | 1 MHz |  |
| 2370MHz – 2**395**MHz | -33.4 dBm | 1 MHz |  |

The following requirement may apply to AAS BS operating in Band 48 in certain regions. The TRP of any spurious emission shall not exceed:

Table 6.7.6.4.5.1.1-7: Additional AAS BS OTA Spurious emissions limits for Band 48

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency range | Maximum Level | Measurement Bandwidth | Notes |
| 3530MHz – 3720MHz | -13 dBm | 1 MHz | Applicable 10MHz from the assigned channel edge |
| 3100MHz – 3530MHz  3720MHz – 4200MHz | -28.0 dBm | 1 MHz |  |

In addition to the requirements in subclauses in the present subclause, the AAS BS may have to comply with the applicable emission limits established by FCC Title 47 [18], when deployed in regions where those limits are applied, and under the conditions declared by the manufacturer.

The following requirement shall be applied to AAS BS operating in Bands 13 and 14 to ensure that appropriate interference protection is provided to 700 MHz public safety operations. This requirement is also applicable at the frequency range from 10 MHz below the lowest frequency of the BS *downlink operating band* up to 10 MHz above the highest frequency of the BS *downlink operating band*.

Table 6.7.6.4.5.1.1-8: AAS BS OTA Spurious emissions limits for protection of 700 MHz public safety operations

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Operating Band | Frequency range | Maximum Level | Measurement Bandwidth | Notes |
| 13 | 763 - 775 MHz | -37 dBm | 6.25 kHz |  |
| 13 | 793 - 805 MHz | -37 dBm | 6.25 kHz |  |
| 14 | 769 - 775 MHz | -37 dBm | 6.25 kHz |  |
| 14 | 799 - 805 MHz | -37 dBm | 6.25 kHz |  |

The following requirement shall be applied to AAS BS operating in Band 26 to ensure that appropriate interference protection is provided to 800 MHz public safety operations. This requirement is also applicable at the frequency range from ΔfOBUE below the lowest frequency of the BS *downlink operating band* up to ΔfOBUE above the highest frequency of the BS *downlink operating band*.

The TRP of any spurious emission shall not exceed:

Table 6.7.6.4.5.1.1-9: AAS BS OTA Spurious emissions limits for protection of 800 MHz public safety operations

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Operating Band | Frequency range | Maximum Level | Measurement Bandwidth | Notes |
| 26 | 851 - 859 MHz | -13 dBm | 100 kHz | Applicable for offsets > 37.5kHz from the channel edge |

###### 6.7.6.4.5.2 Single RAT UTRA operation

The TRP of any spurious emission shall not exceed the limits of table 6.7.6.4.5.2-1 for a AAS BS where requirements for co-existence with the system listed in the first column apply. For a *multi-band RIB*, the exclusions and conditions in the notes column of table 6.7.6.4.5.2-1 apply for each supported operating band.

Table 6.7.6.4.5.2-1 *OTA AAS BS* Spurious emissions limits for UTRA FDD BS in geographic coverage area of systems operating in other frequency bands

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| System type operating in the same geographical area | Band for co-existence requirement | Maximum Level | Measurement Bandwidth | Notes |
| GSM900 | 921 ‑ 960 MHz | -48.4 dBm | 100 kHz | This requirement does not apply to UTRA FDD operating in band VIII |
| 876 - 915 MHz | -52.4 dBm | 100 kHz | For the frequency range 880-915 MHz, this requirement does not apply to UTRA FDD operating in band VIII, since it is already covered by the requirement in subclause 6.7.6.5.1.4. |
| DCS1800 | 1805 ‑ 1880 MHz | -38.4 dBm | 100 kHz | This requirement does not apply to UTRA FDD operating in band III |
| 1710 - 1785 MHz | -52.4 dBm | 100 kHz | This requirement does not apply to UTRA FDD operating in band III, since it is already covered by the requirement in subclause 6.7.6.5.1.4. |
| PCS1900 | 1930 ‑ 1990 MHz | -38.4 dBm | 100 kHz | This requirement does not apply to UTRA FDD BS operating in frequency band II or band XXV |
| 1850 ‑ 1910 MHz | -52.4 dBm | 100 kHz | This requirement does not apply to UTRA FDD BS operating in frequency band II or band XXV, since it is already covered by the requirement in subclause 6.7.6.5.1.4. |
| GSM850 or CDMA850 | 869 - 894 MHz | -48.4 dBm | 100 kHz | This requirement does not apply to UTRA FDD BS operating in frequency band V or XXVI |
| 824 ‑ 849 MHz | -52.4 dBm | 100 kHz | This requirement does not apply to UTRA FDD BS operating in frequency band V or XXVI, since it is already covered by the requirement in subclause 6.7.6.5.1.4. |
| UTRA FDD Band I or  E-UTRA Band 1 or NR band n1 | 2110 - 2170 MHz | -43.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band I, |
| 1920 - 1980 MHz | -40.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band I, since it is already covered by the requirement in subclause 6.7.6.5.1.4. |
| UTRA FDD Band II or  E-UTRA Band 2  or NR band n2 | 1930 - 1990 MHz | -43.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band II or band XXV |
| 1850 - 1910 MHz | -40.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band II or band XXV, since it is already covered by the requirement in subclause 6.7.6.5.1.4. |
| UTRA FDD Band III or  E-UTRA Band 3  or NR band n3 | 1805 - 1880 MHz | -43.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band III or band IX |
| 1710 - 1785 MHz | -40.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band III, since it is already covered by the requirement in subclause 6.7.6.5.1.4.  For UTRA BS operating in band IX, it applies for 1710 MHz to 1749.9 MHz and 1784.9 MHz to 1785 MHz, while the rest is covered in subclause 6.7.6.5.1.4. |
| UTRA FDD Band IV or  E-UTRA Band 4 | 2110 - 2155 MHz | -43.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band IV or band X |
| 1710 - 1755 MHz | -40.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band IV or band X, since it is already covered by the requirement in subclause 6.7.6.5.1.4. |
| UTRA FDD Band V or  E-UTRA Band 5  or NR band n5 | 869 - 894 MHz | -43.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band V or XXVI |
| 824 - 849 MHz | -40.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band V or XXVI, since it is already covered by the requirement in subclause 6.7.6.5.1.4. |
| UTRA FDD Band VI or XIX, E-UTRA Band 6, 18 or 19 or NR Band n18 | 860 - 890 MHz | -43.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band VI or XIX |
| 815 - 845 MHz | -40.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band VI or XIX, since it is already covered by the requirement in subclause 6.7.6.5.1.4. |
| UTRA FDD Band VII or  E-UTRA Band 7  or NR band n7 | 2620 - 2690 MHz | -43.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band VII, |
| 2500 - 2570 MHz | -40.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band VII, since it is already covered by the requirement in subclause 6.7.6.5.1.4. |
| UTRA FDD Band VIII or  E-UTRA Band 8  or NR band n8 | 925 - 960 MHz | -43.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band VIII. |
| 880 - 915 MHz | -40.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band VIII, since it is already covered by the requirement in subclause 6.7.6.5.1.4. |
| UTRA FDD Band IX or  E-UTRA Band 9 | 1844.9 - 1879.9 MHz | -43.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band III or band IX |
| 1749.9 - 1784.9 MHz | -40.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band III or band IX, since it is already covered by the requirement in subclause 6.7.6.5.1.4. |
| UTRA FDD Band X or  E-UTRA Band 10 | 2110 - 2170 MHz | -43.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band IV or band X. |
| 1710 - 1770 MHz | -40.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band X, since it is already covered by the requirement in subclause 6.7.6.5.1.4. For UTRA FDD BS operating in Band IV, it applies for 1755 MHz to 1770 MHz, while the rest is covered in subclause 6.7.6.5.1.4. |
| UTRA FDD Band XI or XXI or  E-UTRA Band 11 or 21 | 1475.9 - 1510.9 MHz | -43.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band XI , XXI or XXXII. |
| 1427.9 - 1447.9 MHz | -40.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band XI, since it is already covered by the requirement in subclause 6.7.6.5.1.4. For UTRA BS operating in band XXXII, this requirement applies for carriers allocated within 1475.9MHz and 1495.9MHz. |
| 1447.9 - 1462.9 MHz | -40.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band XXI, since it is already covered by the requirement in subclause 6.7.6.5.1.4. For UTRA BS operating in band XXXII, this requirement applies for carriers allocated within 1475.9MHz and 1495.9MHz. |
| UTRA FDD Band XII or  E-UTRA Band 12  or NR band n12 | 729 - 746 MHz | -43.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band XII |
| 699 - 716 MHz | -40.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band XII, since it is already covered by the requirement in subclause 6.7.6.5.1.4. |
| UTRA FDD Band XIII or  E-UTRA Band 13 | 746 - 756 MHz | -43.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band XIII |
| 777 - 787 MHz | -40.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band XIII, since it is already covered by the requirement in sub-clause 6.7.6.5.1.4. |
| UTRA FDD Band XIV or  E-UTRA Band 14 | 758 - 768 MHz | -43.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band XIV |
| 788 - 798 MHz | -40.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band XIV, since it is already covered by the requirement in subclause 6.7.6.5.1.4. |
| E-UTRA Band 17 | 734 - 746 MHz | -43.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band XII |
| 704 - 716 MHz | -40.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band XII, since it is already covered by the requirement in subclause 6.7.6.5.1.4. |
| UTRA FDD Band XX or  E-UTRA Band 20  or NR band n20 | 791 - 821 MHz | -43.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band XX |
| 832 - 862 MHz | -40.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band XX, since it is already covered by the requirement in subclause 6.7.6.5.1.4. |
| UTRA FDD Band XXII or  E-UTRA Band 22 | 3510 -3590 MHz | -43.0 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band XXII. |
| 3410 -3490 MHz | -40.0 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band XXII, since it is already covered by the requirement in subclause 6.7.6.5.1.4. |
| 2010 – 2020 MHZ | -40.4 dBm | 1 MHz |  |
| E-UTRA Band 24 | 1525 – 1559 MHz | -43.4 dBm | 1 MHz |  |
| 1626.5 – 1660.5 MHz | -40.4 dBm | 1 MHz |  |
| UTRA FDD Band XXV or  E-UTRA Band 25  or NR band n25 | 1930 - 1995 MHz | -43.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band II or band XXV |
| 1850 - 1915 MHz | -40.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band XXV, since it is already covered by the requirement in subclause 6.7.6.5.1.4. For UTRA FDD BS operating in Band II, it applies for 1910 MHz to 1915 MHz, while the rest is covered in sub-clause 6.7.6.5.1.4. |
| UTRA FDD Band XXVI or E-UTRA Band 26 or NR Band n26 | 859-894 MHz | -43.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band V or band XXVI |
| 814-849 MHz | -40.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band XXVI, since it is already covered by the requirements in subclause 6.7.6.5.1.4 For UTRA FDD BS operating in band V, it applies for 814MHz to 824MHz, while the rest is covered in subclause 6.7.6.5.1.4 |
| E-UTRA Band 27 | 852 – 869 MHz | -43.4 dBm | 1 MHz | This requirement does not apply to UTRA BS operating in Band V or XXVI. |
| 807 – 824 MHz | -40.4 dBm | 1 MHz | For UTRA BS operating in Band XXVI, it applies for 807 MHz to 814 MHz, while the rest is covered in subclause 6.7.6.5.1.4. |
| E-UTRA Band 28  or NR band n28 | 758 – 803 MHz | -43.4 dBm | 1 MHz |  |
| 703 – 748 MHz | -40.4 dBm | 1 MHz |  |
| E-UTRA Band 29 or NR Band n29 | 717 – 728 MHz | -43.4 dBm | 1 MHz |  |
| E-UTRA Band 30 | 2350 - 2360 MHz | -43.4 dBm | 1 MHz |  |
| 2305 - 2315 MHz | -40.4 dBm | 1 MHz |  |
| E-UTRA Band 31 | 462.5 -467.5 MHz | -43.4 dBm | 1 MHz |  |
| 452.5 -457.5 MHz | -40.4 dBm | 1 MHz |  |
| UTRA FDD Band XXXII or E-UTRA Band 32 | 1452 – 1496 MHz | -43.4 dBm | 1 MHz | This requirement does not apply to UTRA BS operating in Band XI, XXI, or XXXII |
| UTRA TDD Band a) or E-UTRA Band 33 | 1900 – 1920 MHz | -43.4 dBm | 1 MHz |  |
| UTRA TDD Band a) or E-UTRA Band 34  or NR band n34 | 2010 – 2025 MHz | -43.4 dBm | 1 MHz |  |
| UTRA TDD Band b) or E-UTRA Band 35 | 1850 – 1910 MHz | -43.4 dBm | 1 MHz |  |
| UTRA TDD Band b) or E-UTRA Band 36 | 1930 – 1990 MHz | -43.4 dBm | 1 MHz |  |
| UTRA TDD Band c) or E-UTRA Band 37 | 1910 – 1930 MHz | -43.4 dBm | 1 MHz |  |
| UTRA TDD Band d) or E-UTRA Band 38  or NR band n38 | 2570 – 2620 MHz | -43.4 dBm | 1 MHz |  |
| UTRA TDD Band f) or E-UTRA Band 39  or NR band n39 | 1880 – 1920 MHz | -43.4 dBm | 1 MHz | Applicable in China |
| UTRA TDD in Band e) or E-UTRA Band 40  or NR band n40 | 2300 – 2400 MHz | -43.4 dBm | 1 MHz |  |
| E-UTRA Band 41  or NR band n41 | 2496 - 2690 MHz | -43.4 dBm | 1 MHz |  |
| E-UTRA Band 42 | 3400 – 3600 MHz | -43.0 dBm | 1 MHz |  |
| E-UTRA Band 43 | 3600 – 3800 MHz | -43.0 dBm | 1 MHz |  |
| E-UTRA Band 44 | 703 - 803 MHz | -43.4 dBm | 1 MHz |  |
| E-UTRA Band 45 | 1447 - 1467 MHz | -43.4 dBm | 1 MHz |  |
| E-UTRA Band 46 | 5150 - 5925 MHz | -42.5 dBm | 1 MHz |  |
| E-UTRA Band 47 | 5855 - 5925 MHz | -42.5 dBm | 1 MHz |  |
| E-UTRA Band 48 or NR Band n48 | 3550 – 3700 MHz | -43.0 dBm | 1 MHz |  |
| E-UTRA Band 49 | 3550 – 3700 MHz | -43.0 dBm | 1 MHz |  |
| E-UTRA Band 50 or NR Band n50 | 1432 - 1517 MHz | -43.4 dBm | 1 MHz | This requirement does not apply to UTRA BS operating in Band XI |
| E-UTRA Band 51 or NR Band n51 | 1427 - 1432 MHz | -43.4 dBm | 1 MHz |  |
| E-UTRA Band 52 | 3300 – 3400 MHz | -43.0 dBm | 1 MHz |  |
| E-UTRA Band 53 or NR Band n53 | 2483.5 – 2495 MHz | -43.0 dBm | 1 MHz |  |
| E-UTRA Band 65 or NR band n65 | 2110 - 2200 MHz | -43.4 dBm | 1 MHz | This requirement does not apply to UTRA BS operating in band I. |
| 1920 - 2010 MHz | -40.4 dBm | 1 MHz | For UTRA BS operating in Band I, it applies for 1980 MHz to 2010 MHz, while the rest is covered in subclause 6.7.6.5.1.4 |
| E-UTRA Band 66 or NR band n66 | 2110 - 2200 MHz | -43.4 dBm | 1 MHz | This requirement does not apply to UTRA BS operating in band IV or X. |
| 1710 - 1780 MHz | -40.4 dBm | 1 MHz | For UTRA BS operating in Band IV, this requirement applies for 1755 MHz to 1780 MHz, while the rest is covered in subclause 6.7.6.5.1.4. For UTRA BS operating in Band X, this requirement applies for 1770 MHz to 1780 MHz, while the rest is covered in subclause 6.7.6.5.1.4. |
| E-UTRA Band 67 | 738 - 758 MHz | -43.4 dBm | 1 MHz |  |
| E-UTRA Band 68 | 753 -783 MHz | -43.4 dBm | 1 MHz |  |
| 698-728 MHz | -40.4 dBm | 1 MHz |  |
| E-UTRA Band 69 | 2570 - 2620 MHz | -43.4 dBm | 1 MHz |  |
| E-UTRA Band 70 or NR band n70 | 1995 – 2020 MHz | -43.4 dBm | 1 MHz | This requirement does not apply to UTRA BS operating in band II or XXV. |
| 1695 – 1710 MHz | -40.4 dBm | 1 MHz |  |
| E-UTRA Band 71 or NR Band n71 | 617 - 652 MHz | -40.4 dBm | 1 MHz |  |
| 663 – 698 MHz | -37.4 dBm | 1 MHz |  |
| E-UTRA Band 72 | 461 - 466 MHz | -40.4 dBm | 1 MHz |  |
| 451 - 456 MHz | -37.4 dBm | 1 MHz |  |
| E-UTRA Band 73 | 460 - 465 MHz | -40.4 dBm | 1 MHz |  |
| 450 - 455 MHz | -37.4 dBm | 1 MHz |  |
| E-UTRA Band 74 or NR band n74 | 1475 – 1518 MHz | -43.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band XI. |
| 1427 – 1470 MHz | -40.4 dBm | 1MHz |  |
| E-UTRA Band 75 or NR Band n75 | 1432 - 1517 MHz | -43.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band XI. |
| E-UTRA Band 76 or NR Band n76 | 1427 - 1432 MHz | -43.4 dBm | 1 MHz |  |
| NR Band n77 | 3300 – 4200 MHz | -43.0 dBm | 1 MHz |  |
| NR Band n78 | 3300 – 3800 MHz | -43.0 dBm | 1 MHz |  |
| NR Band n79 | 4400 – 5000 MHz | -42.5 dBm | 1 MHz |  |
| NR Band n80 | 1710 - 1785 MHz | -40.4 dBm | 1 MHz | For BS operating in band IX. |
| NR Band n81 | 880 - 915 MHz | -40.4 dBm | 1 MHz | This requirement does not apply to BS operating in band VIII |
| NR Band n82 | 832 - 862 MHz | -40.4 dBm | 1 MHz |  |
| NR Band n83 | 703 - 748 MHz | -40.4 dBm | 1 MHz |  |
| NR Band n84 | 1920 - 1980 MHz | -40.4 dBm | 1 MHz | This requirement does not apply to BS operating in band I |
| E-UTRA Band 85 | 728 - 746 MHz | -43.4 dBm | 1 MHz | This requirement does not apply to BS operating in band XII |
| 698 - 716 MHz | -40.4 dBm | 1 MHz |  |
| NR Band n86 | 1710 - 1780 MHz | -40.4 dBm | 1 MHz | For BS operating in Band IV, it applies for 1755 MHz to 1780 MHz, while the rest is covered in sub-clause 6.7.6.5.1.4 For BS operating in Band X, it applies for 1770 MHz to 1780 MHz, while the rest is covered in sub-clause 6.7.6.5.1.4 |
| E-UTRA Band 87 | 420 - 425 MHz | -40.4 dBm | 1 MHz | This requirement does not apply to BS operating in band 87 or 88. |
| 410 – 415 MHz | -37.4 dBm | 1 MHz | This requirement does not apply to BS operating in band 87, since it is already covered by the requirement in subclause 6.7.6.5.1.4 |
| E-UTRA Band 88 | 422 - 427 MHz | -40.4 dBm | 1 MHz | This requirement does not apply to BS operating in band 87 or 88. |
| 412 - 417 MHz | -37.4 dBm | 1 MHz | This requirement does not apply to BS operating in band 88, since it is already covered by the requirement in subclause 6.7.6.5.1.4. This requirement does not apply to BS operating in band 87. |
| NR Band n89 | 824 - 849 MHz | -40.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band V or XXVI, since it is already covered by the requirement in subclause 6.7.6.5.1.4. |
| NR Band n91 | 1427 - 1432 MHz | -43.4 dBm | 1 MHz |  |
| 832 - 862 MHz | -40.4 dBm | 1 MHz |  |
| NR Band n92 | 1432 - 1517 MHz | -43.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band XI. |
| 832 - 862 MHz | -40.4 dBm | 1 MHz |  |
| NR Band n93 | 1427 - 1432 MHz | -43.4 dBm | 1 MHz |  |
| 880 - 915 MHz | -40.4 dBm | 1 MHz | This requirement does not apply to BS operating in band VIII |
| NR Band n94 | 1432 - 1517 MHz | -43.4 dBm | 1 MHz | This requirement does not apply to UTRA FDD BS operating in band XI. |
| 880 - 915 MHz | -40.4 dBm | 1 MHz | This requirement does not apply to BS operating in band VIII |
| NR Band n95 | 2010 – 2025 MHz | -43.4 dBm | 1 MHz |  |
| NR Band n98 | 1880 – 1920 MHz | -43.4 dBm | 1 MHz |  |
| NOTE 1: The co-existence requirements do not apply for the 10 MHz frequency range immediately outside the *downlink operating band* (see subclause 6.7.1). Emission limits for this excluded frequency range may be covered by local or regional requirements.  NOTE 2: The table above assumes that two operating bands, where the frequency ranges would be overlapping, are not deployed in the same geographical area. For such a case of operation with overlapping frequency arrangements in the same geographical area, special co-existence requirements may apply that are not covered by the 3GPP specifications. | | | | |

The following requirement may be applied for the protection of PHS in geographic areas in which both PHS and UTRA FDD are deployed. This requirement is also applicable at specified frequencies falling between 12.5MHz below the first carrier frequency used and 12.5MHz above the last carrier frequency used.

The TRP of any spurious emission shall not exceed:

Table 6.7.6.4.5.2-2: AAS BS OTA Spurious emissions limits for BS in geographic coverage area of PHS

|  |  |  |  |
| --- | --- | --- | --- |
| Band | Maximum Level | Measurement Bandwidth | Notes |
| 1884.5 ‑ 1915.7 MHz | -35 dBm | 300 kHz |  |

The following requirement may be applied for the protection in bands adjacent to bands I or VII as defined in subclause 4.4, in geographic areas in which both an adjacent band service and UTRA FDD are deployed.

The TRP of any spurious emission shall not exceed:

Table 6.7.6.4.5.2-3: AAS BS OTA Spurious emissions limits for protection of adjacent band services

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Operating Band | Band | Maximum Level | Measurement Bandwidth | Notes |
| I | 2100-2105 MHz | -24 + 6.0 ⋅ (f - 2100 MHz) dBm | 1 MHz |  |
| 2175-2180 MHz | -24 + 6.0 ⋅ (2180 MHz - f) dBm | 1 MHz |  |
| VII | 2610-2615 MHz | -24 + 6.0 ⋅ (f ‑ 2610 MHz) dBm | 1 MHz |  |
|  | 2695-2700 MHz | -24 + 6.0 ⋅ (2700 MHz - f) dBm | 1 MHz |  |

NOTE: This requirement for the frequency range 2610-2615 MHz may be applied to geographic areas in which both UTRA-TDD and UTRA-FDD are deployed.

The following requirement shall be applied to AAS BS operating in Bands XIII and XIV to ensure that appropriate interference protection is provided to 700 MHz public safety operations. This requirement is also applicable at specified frequencies falling between 12.5 MHz below the first carrier frequency used and 12.5 MHz above the last carrier frequency used.

The TRP of any spurious emission shall not exceed:

Table 6.7.6.4.5.2-4: AAS BS OTA Spurious emissions limits

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Operating Band | Band | Maximum Level | Measurement Bandwidth | Notes |
| XIII | 763 - 775 MHz | -37.4 dBm | 6.25 kHz |  |
| XIII | 793 - 805 MHz | -37.4 dBm | 6.25 kHz |  |
| XIV | 769 - 775 MHz | -37.4 dBm | 6.25 kHz |  |
| XIV | 799 - 805 MHz | -37.4 dBm | 6.25 kHz |  |

The following requirement shall be applied to AAS BS operating in Bands XXVI to ensure that appropriate interference protection is provided to 800 MHz public safety operations. This requirement is also applicable at specified frequencies falling between 12.5 MHz below the first carrier frequency used and 12.5 MHz above the last carrier frequency used.

The TRP of any spurious emission shall not exceed:

Table 6.7.6.4.5.2-5: AAS BS OTA Spurious emissions limits

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Operating Band | Band | Maximum Level | Measurement Bandwidth | Notes |
| XXVI | 851 - 859 MHz | -4.4 dBm | 100 kHz | Applicable for offsets > 37.5kHz from the channel edge |

###### 6.7.6.4.5.3 Single RAT E-UTRA operation

The TRP of any spurious emission shall not exceed the limits of table 6.7.6.4.5.3-1 for an AAS BS where requirements for co-existence with the system listed in the first column apply. For a *multi-band RIB*, the exclusions and conditions in the notes column of table 6.7.6.4.5.3-1 apply for each supported operating band.

Table 6.7.6.4.5.3-1: AAS BS OTA Spurious emissions limits for co-existence with systems operating in other frequency bands

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| System type to co-exist with | Frequency range for co-existence requirement | | Maximum Level | | Measurement Bandwidth | | Note | |
| GSM900 | 921 ‑ 960 MHz | | -45.4 dBm | | 100 kHz | | This requirement does not apply to BS operating in band 8 | |
| 876 - 915 MHz | | -49.4 dBm | | 100 kHz | | For the frequency range 880-915 MHz, this requirement does not apply to BS operating in band 8, since it is already covered by the requirement in subclause 6.7.6.5.3.3 | |
| DCS1800  (NOTE 3) | 1805 ‑ 1880 MHz | | -35.4 dBm | | 100 kHz | | This requirement does not apply to BS operating in band 3. | |
| 1710 - 1785 MHz | | -49.4 dBm | | 100 kHz | | This requirement does not apply to BS operating in band 3, since it is already covered by the requirement in subclause 6.7.6.5.3.3. | |
| PCS1900 | 1930 ‑ 1990 MHz | | -35.4 dBm | | 100 kHz | | This requirement does not apply to BS operating in band 2, 25, band 36 or band 70. | |
| 1850 ‑ 1910 MHz | | -49.4 dBm | | 100 kHz | | This requirement does not apply to BS operating in band 2 or 25, since it is already covered by the requirement in subclause 6.7.6.5.3.3. This requirement does not apply to BS operating in band 35. | |
| GSM850 or CDMA850 | 869 - 894 MHz | | -45.4 dBm | | 100 kHz | | This requirement does not apply to BS operating in band 5 or 26. This requirement applies to E-UTRA BS operating in Band 27 for the frequency range 879-894 MHz. | |
| 824 ‑ 849 MHz | | -49.4 dBm | | 100 kHz | | This requirement does not apply to BS operating in band 5 or 26, since it is already covered by the requirement in subclause 6.7.6.5.3.3. For BS operating in Band 27, it applies 3 MHz below the Band 27 *downlink operating band*. | |
| UTRA FDD Band I or  E-UTRA Band 1 or NR band n1 | 2110 - 2170 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 1 or 65, | |
| 1920 - 1980 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 1 or 65, since it is already covered by the requirement in subclause 6.7.6.5.3.3. | |
| UTRA FDD Band II or  E-UTRA Band 2 or NR band n2 | 1930 - 1990 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 2, 25 or 70. | |
| 1850 - 1910 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 2 or 25, since it is already covered by the requirement in subclause 6.7.6.5.3.3 | |
| UTRA FDD Band III or  E-UTRA Band 3 or NR band n3  (NOTE 3) | 1805 - 1880 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 3 or 9. | |
| 1710 - 1785 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 3, since it is already covered by the requirement in subclause 6.7.6.5.3.3.  For BS operating in band 9, it applies for 1710 MHz to 1749.9 MHz and 1784.9 MHz to 1785 MHz, while the rest is covered in subclause 6.7.6.5.3.3. | |
| UTRA FDD Band IV or  E-UTRA Band 4 | 2110 - 2155 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 4, 10 or 66 | |
| 1710 - 1755 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 4, 10 or 66, since it is already covered by the requirement in subclause 6.7.6.5.3.3. | |
| UTRA FDD Band V or  E-UTRA Band 5 or NR band n5 | 869 - 894 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 5 or 26. This requirement applies to E-UTRA BS operating in Band 27 for the frequency range 879-894 MHz. | |
| 824 - 849 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 5 or 26, since it is already covered by the requirement in subclause 6.7.6.5.3.3. For BS operating in Band 27, it applies 3 MHz below the Band 27 *downlink operating band*. | |
| UTRA FDD Band VI, XIX or  E-UTRA Band 6, 18, 19 or NR Band n18 | 860 - 890 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 6, 18, 19 | |
| 815 - 830 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 18 since it is already covered by the requirement in subclause 6.7.6.5.3.3. | |
| 830 - 845 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 6, 19, since it is already covered by the requirement in subclause 6.7.6.5.3.3. | |
| UTRA FDD Band VII or  E-UTRA Band 7 or NR band n7 | 2620 - 2690 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 7. | |
| 2500 - 2570 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 7, since it is already covered by the requirement in subclause 6.7.6.5.3.3. | |
| UTRA FDD Band VIII or  E-UTRA Band 8 or NR band n8 | 925 - 960 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 8. | |
| 880 - 915 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 8, since it is already covered by the requirement in subclause 6.7.6.5.3.3. | |
| UTRA FDD Band IX or  E-UTRA Band 9 | 1844.9 - 1879.9 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 3 or 9. | |
| 1749.9 - 1784.9 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 3 or 9, since it is already covered by the requirement in subclause 6.7.6.5.3.3. | |
| UTRA FDD Band X or  E-UTRA Band 10 | 2110 - 2170 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 4, 10 or 66 | |
| 1710 - 1770 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 10 or 66, since it is already covered by the requirement in subclause 6.7.6.5.3.3. For BS operating in Band 4, it applies for 1755 MHz to 1770 MHz, while the rest is covered in subclause 6.7.6.5.3.3. | |
| UTRA FDD Band XI or XXI or  E-UTRA Band 11 or 21 | 1475.9 - 1510.9 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 11, 21 or 32 | |
| 1427.9 - 1447.9 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 11, since it is already covered by the requirement in subclause 6.7.6.5.3.3. For BS operating in Band 32, this requirement applies for carriers allocated within 1475.9MHz and 1495.9MHz. | |
| 1447.9 – 1462.9 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 21, since it is already covered by the requirement in subclause 6.7.6.5.3.3. For BS operating in Band 32, this requirement applies for carriers allocated within 1475.9MHz and 1495.9MHz. | |
| UTRA FDD Band XII or  E-UTRA Band 12 or NR band n12 | 729 - 746 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 12 or 85. | |
| 699 - 716 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 12 or 85, since it is already covered by the requirement in subclause 6.7.6.5.3.3. For BS operating in Band 29, it applies 1 MHz below the Band 29 *downlink operating band* (NOTE 7) | |
| UTRA FDD Band XIII or  E-UTRA Band 13 | 746 - 756 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 13. | |
| 777 - 787 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 13, since it is already covered by the requirement in subclause 6.7.6.5.3.3. | |
| UTRA FDD Band XIV or  E-UTRA Band 14 | 758 - 768 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 14. | |
| 788 - 798 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 14, since it is already covered by the requirement in subclause 6.7.6.5.3.3. | |
| E-UTRA Band 17 | 734 - 746 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 17. | |
| 704 - 716 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 17, since it is already covered by the requirement in subclause 6.7.6.5.3.3. For BS operating in Band 29, it applies 1 MHz below the Band 29 *downlink operating band* (NOTE 7) | |
| UTRA FDD Band XX or  E-UTRA Band 20 or NR band n20 | 791 - 821 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 20 or 28. | |
| 832 - 862 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 20, since it is already covered by the requirement in subclause 6.7.6.5.3.3. | |
| UTRA FDD Band XXII or E-UTRA Band 22 | 3510 – 3590 MHz | | -40.0 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 22 or 42, 48. | |
| 3410 – 3490 MHz | | -37.0 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 22, since it is already covered by the requirement in subclause 9.7.3.3. This requirement does not apply to Band 42. | |
| E-UTRA Band 24 | 1525 – 1559 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 24. | |
| 1626.5 – 1660.5 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 24, since it is already covered by the requirement in subclause 6.7.6.5.3.3. | |
| UTRA FDD Band XXV or E-UTRA Band 25 or NR band n25 | 1930 - 1995 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 2, 25 or 70. | |
| 1850 - 1915 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 25, since it is already covered by the requirement in subclause 6.7.6.5.3.3. For BS operating in Band 2, it applies for 1910 MHz to 1915 MHz, while the rest is covered in subclause 6.7.6.5.3.3. | |
| UTRA FDD Band XXVI or E-UTRA Band 26 or NR Band n26 | 859 - 894 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 5 or 26. This requirement applies to E-UTRA BS operating in Band 27 for the frequency range 879-894 MHz. | |
| 814 - 849 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 26, since it is already covered by the requirement in subclause 6.7.6.5.3.3. For BS operating in Band 5, it applies for 814 MHz to 824 MHz, while the rest is covered in subclause 6.7.6.5.3.3. For BS operating in Band 27, it applies 3 MHz below the Band 27 *downlink operating band*. | |
| E-UTRA Band 27 | 852 – 869 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in bands 5, 26 or 27. | |
| 807 – 824 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 27, since it is already covered by the requirement in subclause 6.7.6.5.3.3. For BS operating in Band 26, it applies for 807 MHz to 814 MHz, while the rest is covered in subclause 6.7.6.5.3.3. This requirement also applies to BS operating in Band 28, starting 4 MHz above the Band 28 *downlink operating band* (NOTE 6). | |
| E-UTRA Band 28 or NR band n28 | 758 - 803 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 20, 28, 44, 67 or 68. | |
| 703 - 748 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 28, since it is already covered by the requirement in subclause 6.7.6.5.3.3. This requirement does not apply to BS operating in Band 44. For BS operating in Band 67, it applies for 703-736MHz. For E-UTRA BS operating in Band 68, it applies for 728MHz to 733MHz. | |
| E-UTRA Band 29 or NR Band n29 | 717 – 728 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in Band 29 or 85 | |
| E-UTRA Band 30 | 2350 - 2360 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 30 or 40. | |
| 2305 - 2315 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 30, since it is already covered by the requirement in subclause 6.7.6.5.3.3. This requirement does not apply to BS operating in Band 40. | |
| E-UTRA Band 31 | 462.5 – 467.5 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 31, 72, 73. | |
| 452.5 – 457.5 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 31, since it is already covered by the requirement in subclause 6.7.6.5.3.3. This requirement does not apply to E-UTRA BS operating in band 72 or 73. | |
| UTRA FDD Band XXXII or E-UTRA Band 32 | 1452 - 1496 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 11, 21 or 32. | |
| UTRA TDD Band a) or E-UTRA Band 33 | 1900 - 1920 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in Band 33 | |
| UTRA TDD Band a) or E-UTRA Band 34 or NR band n34 | 2010 - 2025 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in Band 34 | |
| UTRA TDD Band b) or E-UTRA Band 35 | 1850 – 1910 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in Band 35 | |
| UTRA TDD Band b) or E-UTRA Band 36 | 1930 - 1990 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in Band 2, 25 or 36 | |
| UTRA TDD Band c) or E-UTRA Band 37 | 1910 - 1930 MHz | | -40.4 dBm | | 1 MHz | | This is not applicable to BS operating in Band 37. This unpaired band is defined in ITU-R M.1036, but is pending any future deployment. | |
| UTRA TDD Band d) or E-UTRA Band 38 or NR band n38 | 2570 – 2620 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in Band 38 or 69. | |
| UTRA TDD Band f) or E-UTRA Band 39 or NR band n39 | 1880 – 1920MHz | | -40.4 dBm | | 1 MHz | | This is not applicable to BS operating in Band 39 | |
| UTRA TDD Band e) or E-UTRA Band 40 or NR band n40 | 2300 – 2400MHz | | -40.4 dBm | | 1 MHz | | This is not applicable to BS operating in Band 30 or 40 | |
| E-UTRA Band 41 or NR band n41 | 2496 – 2690MHz | | -40.4 dBm | | 1 MHz | | This is not applicable to BS operating in Band 41 or 53 | |
| E-UTRA Band 42 | 3400 – 3600 MHz | | -40.0 dBm | | 1 MHz | | This is not applicable to BS operating in Band 22, 42, 43, 48, 52. | |
| E-UTRA Band 43 | 3600 – 3800 MHz | | -40.0 dBm | | 1 MHz | | This is not applicable to BS operating in Band 42, 43, 48 | |
| E-UTRA Band 44 | 703 - 803 MHz | | -40.4 dBm | | 1 MHz | | This is not applicable to BS operating in Band 28 or 44 | |
| E-UTRA Band 45 | 1447 - 1467 MHz | | -40.4 dBm | | 1 MHz | | This is not applicable to BS operating in Band 45 | |
| E-UTRA Band 46 | 5150 - 5925 MHz | | -39.5 dBm | | 1 MHz | |  | |
| E-UTRA Band 47 | 5855 - 5925 MHz | | -52 dBm | | 1 MHz | |  | |
| E-UTRA Band 48 or NR Band n48 | 3550 – 3700 MHz | | -52 dBm | | 1 MHz | | This is not applicable to BS operating in Band 22, 42, 43, 48 | |
| E-UTRA Band 49 | 3550 – 3700 MHz | | -52 dBm | | 1 MHz | | This is not applicable to BS operating in Band 22, 42, 43, 48 | |
| E-UTRA Band 50 or NR Band n50 | 1432 - 1517 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to E-UTRA BS operating in Band 11, 21, 32, 45, 50, 51, 74, 75 or 76 | |
| E-UTRA Band 51 or NR Band n51 | 1427 - 1432 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to E-UTRA BS operating in Band 50, 51, 75 or 76. | |
| E-UTRA Band 52 | 3300 – 3400 MHz | | -52 dBm | | 1 MHz | | This is not applicable to E-UTRA BS operating in Band 42 or 52. | |
| E-UTRA Band 53 or NR band n53 | 2483.5 – 2495MHz | | -40.4 dBm | | 1 MHz | | This is not applicable to BS operating in Band 41 or 53 | |
| E-UTRA Band 65 or NR band n65 | 2110 - 2200 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 1 or 65, | |
| 1920 - 2010 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 65, since it is already covered by the requirement in subclause 6.7.6.5.3.3.  For BS operating in Band 1, it applies for 1980 MHz to 2010 MHz, while the rest is covered in subclause 6.7.6.5.3.3. | |
| E-UTRA Band 66 or NR Band n66 | 2110 - 2200 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 4, 10, 23 or 66. | |
| 1710 - 1780 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 66, since it is already covered by the requirement in subclause 6.7.6.5.3.3. For BS operating in Band 4, it applies for 1755 MHz to 1780 MHz, while the rest is covered in subclause 6.7.6.5.3.3. For BS operating in Band 10, it applies for 1770 MHz to 1780 MHz, while the rest is covered in subclause 6.7.6.5.3.3. | |
| E-UTRA Band 67 | 738 – 758 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 28 or 67. | |
| E-UTRA Band 68 | | 753 - 783 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to E-UTRA BS operating in band 28, or 68. | |
| 698 - 728 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to E-UTRA BS operating in band 68, since it is already covered by the requirement in subclause 9.7.3.3. For E-UTRA BS operating in Band 28, it applies between 698 MHz and 703 MHz, while the rest is covered in subclause 9.7.3.3. | |
| E-UTRA Band 69 | | 2570 - 2620 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to E-UTRA BS operating in Band 38 or 69. | |
| E-UTRA Band 70 or NR Band n70 | | 1995 - 2020 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to E-UTRA BS operating in band 2, 25 or 70 | |
| 1695 – 1710 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to E-UTRA BS operating in band 70, since it is already covered by the requirement in subclause 6.7.6.5.3.3 | |
| E-UTRA Band 71 or NR Band n71 | | 617 - 652 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 71. | |
| 663 – 698 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 71/n71, since it is already covered by the requirement in sub-clause 6.7.6.3.5.3.3 | |
| E-UTRA Band 72 | | 461 - 466 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 31, 72 or 73. | |
| 451 - 456 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 72, since it is already covered by the requirement in sub-clause 6.7.6.3.5.3.3 This requirement does not apply to BS operating in band 73. | |
| E-UTRA Band 73 | | 460 - 465 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 31, 72 or 73. | |
| 450 - 455 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 73, since it is already covered by the requirement in sub-clause 6.7.6.3.5.3.3 | |
| E-UTRA Band 74 or NR band n74 | | 1475 – 1518 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 11, 21, 32, 50 74 or 75. | |
| 1427 – 1470 MHz | | -37.4 dBm | | 1MHz | | This requirement does not apply to BS operating in Band 74, since it is already covered by the requirement in sub-clause 6.7.6.3.5.3.3 This requirement does not apply to BS operating in band 32, 45, 50, 51, 75 or 76. | |
| E-UTRA Band 75 or NR Band n75 | | 1432 - 1517 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in Band 11, 21, 32, 45, 50, 51, 74, 75 or 76. | |
| E-UTRA Band 76 or NR Band n76 | | 1427 - 1432 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in Band 50, 51, 75 or 76. | |
| NR Band n77 | | 3300 – 4200 MHz | | -40.0 dBm | | 1 MHz | | This is not applicable to BS operating in Band 42, 43, 48 | |
| NR Band n78 | | 3300 – 3800 MHz | | -40.0 dBm | | 1 MHz | | This is not applicable to BS operating in Band 42, 43, 48 | |
| NR Band n79 | | 4400 – 5000 MHz | | -39.5 dBm | | 1 MHz | | This requirement does not apply to BS operating in Band n79 | |
| NR Band n80 | | 1710 - 1785 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 3, since it is already covered by the requirement in sub-clause 6.7.6.3.5.3.3  For BS operating in band 9, it applies for 1710 MHz to 1749.9 MHz and 1784.9 MHz to 1785 MHz, while the rest is covered in sub-clause 6.7.6.3.5.3.3 | |
| NR Band n81 | | 880 - 915 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 8, since it is already covered by the requirement in sub-clause 6.7.6.3.5.3.3 | |
| NR Band n82 | | 832 - 862 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 20, since it is already covered by the requirement in subclause 6.7.6.3.5.3.3 | |
| NR Band n83 | | 703 - 748 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 28, since it is already covered by the requirement in sub-clause 6.7.6.3.5.3.3 This requirement does not apply to BS operating in Band 44. For BS operating in Band 67, it applies for 703-736MHz. For BS operating in Band 68, it applies for 728MHz to 733MHz. | |
| NR Band n84 | | 1920 - 1980 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 1 or 65, since it is already covered by the requirement in sub-clause 6.7.6.3.5.3.3 | |
| E-UTRA Band 85 | | 728 - 746 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 12, 29 or 85. | |
| 698 - 716 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 85, since it is already covered by the requirement in sub-clause 6.7.6.3.5.3.3 For BS operating in Band 29, it applies 1 MHz below the Band 29 downlink operating band (Note 7). | |
| NR Band n86 | | 1710 - 1780 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 66/n66, since it is already covered by the requirement in sub-clause 6.7.6.3.5.13.3. For BS operating in Band 4, it applies for 1755 MHz to 1780 MHz, while the rest is covered in sub-clause 6.7.6.3.5.13.3. For BS operating in Band 10, it applies for 1770 MHz to 1780 MHz, while the rest is covered in sub-clause 6.7.6.3.5.3.3 | |
| E-UTRA Band 87 | | 420 - 425 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 87 or 88. | |
| 410 – 415 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 87, since it is already covered by the requirement in subclause 6.7.6.3.5.3.3 | |
| E-UTRA Band 88 | | 422 - 427 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 87 or 88. | |
| 412 - 417 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 88, since it is already covered by the requirement in subclause 6.7.6.3.5.3.3. This requirement does not apply to BS operating in band 87. | |
| NR Band n89 | | 869 - 894 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 5 or 26. This requirement applies to E-UTRA BS operating in Band 27 for the frequency range 879-894 MHz. | |
| NR Band n91 | | 1427 - 1432 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in Band 50, 51, 75 or 76. | |
| 832 - 862 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 20, since it is already covered by the requirement in subclause 6.7.6.3.5.3.3 | |
| NR Band n92 | | 1432 - 1517 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in Band 11, 21, 32, 45, 50, 51, 74, 75 or 76. | |
| 832 - 862 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 20, since it is already covered by the requirement in subclause 6.7.6.3.5.3.3 | |
| NR Band n93 | | 1427 - 1432 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in Band 50, 51, 75 or 76. | |
| 880 - 915 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 8, since it is already covered by the requirement in sub-clause 6.7.6.3.5.3.3 | |
| NR Band n94 | | 1432 - 1517 MHz | | -40.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in Band 11, 21, 32, 45, 50, 51, 74, 75 or 76. | |
| 880 - 915 MHz | | -37.4 dBm | | 1 MHz | | This requirement does not apply to BS operating in band 8, since it is already covered by the requirement in sub-clause 6.7.6.3.5.3.3 | |
| NR Band n95 | | 2010 - 2025 MHz | | -40.4 dBm | | 1 MHz | |  | |
| NR Band n98 | | 1880 – 1920MHz | | -40.4 dBm | | 1 MHz | |  | |

NOTE 1: As defined in the scope for spurious emissions in this subclause, except for the cases where the noted requirements apply to a BS operating in Band 25, Band 27, Band 28 or Band 29, the co-existence requirements in table 6.7.6.4.5.3-1 do not apply for the ΔfOBUE frequency range immediately outside the *downlink operating band* (see subclause 6.7.1). Emission limits for this excluded frequency range may be covered by local or regional requirements.

NOTE 2: Table 6.7.6.4.5.3-1 assumes that two operating bands, where the frequency ranges in subclause 4.7 would be overlapping, are not deployed in the same geographical area. For such a case of operation with overlapping frequency arrangements in the same geographical area, special co-existence requirements may apply that are not covered by the 3GPP specifications.

NOTE 3: For the protection of DCS1800, UTRA Band III or E-UTRA Band 3 in China, the frequency ranges of the downlink and uplink protection requirements are 1805 – 1850 MHz and 1710 – 1755 MHz respectively.

NOTE 4: TDD base stations deployed in the same geographical area, that are synchronized and use the same or adjacent operating bands can transmit without additional co-existence requirements. For unsynchronized base stations (except in Band 46), special co-existence requirements may apply that are not covered by the 3GPP specifications.

NOTE 6: For Band 28 BS, specific solutions may be required to fulfil the spurious emissions limits for BS for co-existence with Band 27 UL operating band.

NOTE 7: For Band 29 BS, specific solutions may be required to fulfil the spurious emissions limits for BS for co-existence with UTRA Band XII or E-UTRA Band 12 UL operating band, E-UTRA Band 17 UL operating band or E-UTRA Band 85 UL operating band.

## **<Next Section>**

##### 6.7.6.5.5 Test Requirement

6.7.6.5.5.1 MSR operation

These requirements may be applied for the protection of other BS receivers when GSM900, DCS1800, PCS1900, GSM850, CDMA850, UTRA FDD, UTRA TDD, E-UTRA and/or NR BS are co-located with a BS.

The requirements assume with base stations of the same class.

NOTE: For co-location with UTRA, the requirements are based on co-location with UTRA FDD or TDD base stations.

The requirements are co-location emission requirements are specified as the power sum of the supported polarization(s) at the CLTA conducted output(s).

The output of the CLTA of any spurious emission shall not exceed the limits of table 6.7.6.5.5.1-1 for a AAS BS where requirements for co-location with a BS type listed in the first column apply, depending on the declared Base Station class. For a *multi-band RIB*, the exclusions and conditions in the notes column of table 6.7.6.5.5.1-1 apply for each supported operating band.

Table 6.7.6.5.5.1-1: AAS BS OTA Spurious emissions E-UTRA limits for AAS BS co-located with another BS

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Type of co-located BS | Frequency range for co-location requirement | Maximum Level  (WA-BS) | Maximum Level  (MR-BS) | Maximum Level  (LA-BS) | Measurement Bandwidth | Note |
| GSM900 | 876-915 MHz | -115.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| DCS1800 | 1710 - 1785 MHz | -115.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| PCS1900 | 1850 - 1910 MHz | -115.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| GSM850 or CDMA850 | 824 - 849 MHz | -115.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band I or E-UTRA Band 1 or NR Band n1 | 1920 - 1980 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band II or E-UTRA Band 2 or NR Band n2 | 1850 - 1910 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band III or E-UTRA Band 3 or NR Band n3 | 1710 - 1785 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band IV or E-UTRA Band 4 | 1710 - 1755 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band V or E-UTRA Band 5 or NR Band n5 | 824 - 849 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band VI, XIX or E-UTRA Band 6, 19 | 830 - 845 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band VII or E-UTRA Band 7 or NR Band n7 | 2500 - 2570 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band VIII or E-UTRA Band 8 or NR Band n8 | 880 - 915 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band IX or E-UTRA Band 9 | 1749.9 - 1784.9 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band X or E-UTRA Band 10 | 1710 - 1770 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band XI or E-UTRA Band 11 | 1427.9 - 1447.9 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 50/n50, 51/n51, 75/n75, 76/n76, n91, n92, n93, n94 |
| UTRA FDD Band XII or  E-UTRA Band 12 or NR Band n12 | 699 - 716 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band XIII or  E-UTRA Band 13 | 777 - 787 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band XIV or  E-UTRA Band 14 | 788 - 798 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 17 | 704 - 716 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 18 or NR Band n18 | 815 - 830 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band XX or  E-UTRA Band 20 or NR Band n20 | 832 - 862 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band XXI or E-UTRA Band 21 | 1447.9 – 1462.9 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 32, 50/n50, 75/n75, n92, n94 |
| UTRA FDD Band XXII or E-UTRA Band 22 | 3410 – 3490 MHz | -113.7 dBm | -108.7dBm | -105.7 dBm | 100 kHz | This is not applicable to BS operating in Band 42, n77 or n78 |
| E-UTRA Band 23 | 2000 - 2020 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 24 | 1626.5 – 1660.5 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band XXV or E-UTRA Band 25 or NR Band n25 | 1850 - 1915 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band XXVI or E-UTRA Band 26 or NR Band n26 | 814 - 849 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 27 | 807 - 824 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 28 or NR Band n28 | 703 – 748 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 44 |
| E-UTRA Band 30 | 2305 - 2315 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 40/n40 |
| E-UTRA Band 31 | 452.5 – 457.5 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA TDD Band a) or E-UTRA Band 33 | 1900 - 1920 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 33 |
| UTRA TDD Band a) or E-UTRA Band 34 or NR Band n34 | 2010 - 2025 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 34/n34 |
| UTRA TDD Band b) or E-UTRA Band 35 | 1850 – 1910 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 35 |
| UTRA TDD Band b) or E-UTRA Band 36 | 1930 - 1990 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 2, n2 and 36 |
| UTRA TDD Band c) or E-UTRA Band 37 | 1910 - 1930 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 37. This unpaired band is defined in ITU-R M.1036, but is pending any future deployment. |
| UTRA TDD Band d) or E-UTRA Band 38 or NR Band n38 | 2570 – 2620 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 38/n38. |
| UTRA TDD Band f) or E-UTRA Band 39 or NR Band n39 | 1880 – 1920MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 33 and 39/n39 |
| UTRA TDD Band e) or E-UTRA Band 40 or NR Band n40 | 2300 – 2400MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 30 or 40/n40 |
| E-UTRA Band 41 or NR Band n41 | 2496 – 2690MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 41/n41 |
| E-UTRA Band 42 | 3400 – 3600 MHz | -113.7 dBm | -108.7 dBm | -105.7 dBm | 100 kHz | This is not applicable to BS operating in Band 22, 42, 43, 48/n48, 52, n77 or n78 |
| E-UTRA Band 43 | 3600 – 3800 MHz | -113.7 dBm | -108.7 dBm | -105.7 dBm | 100 kHz | This is not applicable to BS operating in Band 42, 43, 48/n48, n77 or n78 |
| E-UTRA Band 44 | 703 – 803 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 28/n28 or 44 |
| E-UTRA Band 45 | 1447 – 1467 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 45 |
| E-UTRA Band 48 or NR Band n48 | 3550 – 3700 MHz | -113.7 dBm | -108.7 dBm | -105.7 dBm | 100 kHz | This is not applicable to BS operating in Band 42, 43, 48/n48, n77 or n78 |
| E-UTRA Band 49 | 3550 – 3700 MHz | N/A | N/A | -105.7 dBm | 100 kHz | This is not applicable to BS operating in Band 42, 43, 48/n48, n77 or n78 |
| E-UTRA Band 50 or NR band n50 | 1432 – 1517 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 11, 21, 32, 51, n51, 74, 75/n75, 76/n76, n91, n92, n93, n94 |
| E-UTRA Band 51 or NR Band n51 | 1427 – 1432 MHz | N/A | N/A | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 50/n50, 75/n75, 76/n76, n91, n92, n93, n94 |
| E-UTRA Band 52 | 3300 – 3400 MHz | -113.7 dBm | -108.7 dBm | -105.7 dBm | 100 kHz | This is not applicable to BS operating in Band 42 or 52 |
| E-UTRA Band 53 or NR Band n53 | 2483.5 – 2495MHz | N/A | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 41/n41 or 53/n53 |
| E-UTRA Band 65 or NR band n65 | 1920 - 2010 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 66 or NR Band n66 | 1710 – 1780 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 68 | 698 – 728 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 70 or NR Band n70 or NR band n70 | 1695 – 1710 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 71 or NR Band n71 | 663 – 698 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 72 | 451 – 456 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 73 | 450 – 455 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 74 or NR band n74 | 1427 – 1470 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 50/n50, 51/n51, n91, n92, n93, n94 |
| NR Band n77 | 3300 MHz – 4200 MHz | -113.7 dBm | -108.7 dBm | -105.7 dBm | 100 kHz | This is not applicable to BS operating in Band 22, 42, 43, 48/n48, 52, n77 or n78 |
| NR Band n78 | 3300 MHz – 3800 MHz | -113.7 dBm | -108.7 dBm | -105.7 dBm | 100 kHz | This is not applicable to BS operating in Band 22, 42, 43, 48/n48, 52, n77 or n78 |
| NR band n79 | 4400 MHz – 5000 MHz | -113.6 dBm | -108.6 dBm | -105.6 dBm | 100 kHz |  |
| NR band n80 | 1710 MHz – 1785 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| NR band n81 | 880 MHz – 915 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| NR band n82 | 832 MHz – 862 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| NR band n83 | 703 MHz – 748 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| NR band n84 | 1920 MHz – 1980 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 85 | 698 - 716 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| NR band n86 | 1710 MHz – 1780 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 87 | 420 – 425 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 88 | 422 – 427 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| NR band n89 | 824 - 849 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| NR band n91 | 832 MHz – 862 MHz | N/A | N/A | -105.9 dBm | 100 kHz |  |
| NR band n92 | 832 MHz – 862 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| NR band n93 | 880 MHz – 915 MHz | N/A | N/A | -105.9 dBm | 100 kHz |  |
| NR band n94 | 880 MHz – 915 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| NR band n95 | 2010 - 2025 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| NR band n98 | 1880 – 1920MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |

NOTE 1: As defined in the scope for spurious emissions in this subclause, the co-location requirements in table 6.7.6.5.3.5-1 do not apply for the ΔfOBUE frequency range immediately outside the BS transmit frequency range of a *downlink operating band* (see subclause 6.7.1). The current state-of-the-art technology does not allow a single generic solution for co-location with other system on adjacent frequencies for 30 dB BS-BS minimum coupling loss. However, there are certain site-engineering solutions that can be used. These techniques are addressed in TR 25.942 [31].

NOTE 2: Table 6.7.6.5.3.5-1 assumes that two operating bands, where the corresponding BS transmit and receive frequency ranges in subclause 4.6 would be overlapping, are not deployed in the same geographical area. For such a case of operation with overlapping frequency arrangements in the same geographical area, special co-location requirements may apply that are not covered by the 3GPP specifications.

NOTE 3: Co-located TDD base stations that are synchronized and using the same or adjacent operating band can transmit without special co-locations requirements. For unsynchronized base stations, special co-location requirements may apply that are not covered by the 3GPP specifications.

6.7.6.5.5.2 Single RAT UTRA operation

These requirements may be applied for the protection of other BS receivers when GSM900, DCS1800, PCS1900, GSM850, CDMA850, UTRA FDD, UTRA TDD and/or E-UTRA BS are co-located with a BS.

The requirements assume with base stations of the same class.

NOTE: For co-location with UTRA, the requirements are based on co-location with UTRA FDD or TDD base stations.

The requirements are co-location emission requirements and specified as the power sum of the supported polarization(s) at the CLTA conducted output(s).

The power sum of any spurious emission is specified over all supported polarizations at the conducted output(s) of the CLTA and shall not exceed the limits of table 6.7.6.5.5.2-1 for a AAS BS where requirements for co-location with a BS type listed in the first column apply, depending on the declared Base Station class. For a *multi-band RIB*, the exclusions and conditions in the Notes column of table 6.7.6.5.5.2-1 apply for each supported operating band.

Table 6.7.6.5.5.2-1: UTRA AAS BS OTA Spurious emissions limits for AAS BS co-located with another BS

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Type of co-located BS** | **Frequency range for co-location requirement** | **Maximum Level**  **(WA-BS)** | **Maximum Level**  **(MR-BS)** | **Maximum Level**  **(LA-BS)** | **Measurement Bandwidth** | **Notes** |
| GSM900 | 876-915 MHz | -118.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| DCS1800 | 1710 - 1785 MHz | -118.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| PCS1900 | 1850 - 1910 MHz | -118.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| GSM850 or CDMA850 | 824 - 849 MHz | -118.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| UTRA FDD Band I or E-UTRA Band 1 or NR band n1 | 1920 - 1980 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| UTRA FDD Band II or E-UTRA Band 2 or NR band n2 | 1850 - 1910 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| UTRA FDD Band III or E-UTRA Band 3 or NR band n3 | 1710 - 1785 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| UTRA FDD Band IV or E-UTRA Band 4 | 1710 - 1755 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| UTRA FDD Band V or E-UTRA Band 5 or NR band n5 | 824 - 849 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| UTRA FDD Band VI, XIX or E-UTRA Band 6, 19 | 830 - 845 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| UTRA FDD Band VII or E-UTRA Band 7 or NR band n7 | 2500 - 2570 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| UTRA FDD Band VIII or E-UTRA Band 8 or NR band n8 | 880 - 915 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| UTRA FDD Band IX or E-UTRA Band 9 | 1749.9 - 1784.9 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| UTRA FDD Band X or E-UTRA Band 10 | 1710 - 1770 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| UTRA FDD Band XI or E-UTRA Band 11 | 1427.9 - 1447.9 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| UTRA FDD Band XII or  E-UTRA Band 12 or NR band n12 | 699 - 716 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| UTRA FDD Band XIII or  E-UTRA Band 13 | 777 - 787 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| UTRA FDD Band XIV or  E-UTRA Band 14 | 788 - 798 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| E-UTRA Band 17 | 704 - 716 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| E-UTRA Band 18 or NR Band n18 | 815 - 830 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| UTRA FDD Band XX or  E-UTRA Band 20 or NR band n20 | 832 - 862 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| UTRA FDD Band XXI or E-UTRA Band 21 | 1447.9 – 1462.9 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| UTRA FDD Band XXII or E-UTRA Band 22 | 3410 – 3490 MHz | -116.7 dBm | -111.7 dBm | -108.7 dBm | 100 kHz | This is not applicable to BS operating in Band 42 |
| E-UTRA Band 23 | 2000 - 2020 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| E-UTRA Band 24 | 1626.5 – 1660.5 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| UTRA FDD Band XXV or E-UTRA Band 25 or NR band n25 | 1850 - 1915 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| UTRA FDD Band XXVI or E-UTRA Band 26 or NR Band n26 | 814 - 849 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| E-UTRA Band 27 | 807 - 824 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| E-UTRA Band 28 or NR band n28 | 703 – 748 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz | This is not applicable to BS operating in Band 44 |
| E-UTRA Band 30 | 2305 - 2315 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz | This is not applicable to BS operating in Band 40 |
| E-UTRA Band 31 | 452.5 – 457.5 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| UTRA TDD Band a) or E-UTRA Band 33 | 1900 - 1920 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz | This is not applicable to BS operating in Band 33 |
| UTRA TDD Band a) or E-UTRA Band 34 or NR band n34 | 2010 - 2025 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz | This is not applicable to BS operating in Band 34 |
| UTRA TDD Band b) or E-UTRA Band 35 | 1850 – 1910 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz | This is not applicable to BS operating in Band 35 |
| UTRA TDD Band b) or E-UTRA Band 36 | 1930 - 1990 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz | This is not applicable to BS operating in Band 2 and 36 |
| UTRA TDD Band c) or E-UTRA Band 37 | 1910 - 1930 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz | This is not applicable to BS operating in Band 37. This unpaired band is defined in ITU-R M.1036, but is pending any future deployment. |
| UTRA TDD Band d) or E-UTRA Band 38 or NR band n38 | 2570 – 2620 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz | This is not applicable to BS operating in Band 38. |
| UTRA TDD Band f) or E-UTRA Band 39 or NR band n39 | 1880 – 1920MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz | This is not applicable to BS operating in Band 33 and 39 |
| UTRA TDD Band e) or E-UTRA Band 40 or NR band n40 | 2300 – 2400MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz | This is not applicable to BS operating in Band 30 or 40 |
| E-UTRA Band 41 or NR band n41 | 2496 – 2690MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz | This is not applicable to BS operating in Band 41 or 53 |
| E-UTRA Band 42 | 3400 – 3600 MHz | -116.7 dBm | -111.7 dBm | -108.7 dBm | 100 kHz | This is not applicable to BS operating in Band 22, 42 or 43 |
| E-UTRA Band 43 | 3600 – 3800 MHz | -116.7 dBm | -111.7 dBm | -108.7 dBm | 100 kHz | This is not applicable to BS operating in Band 42 or 43 |
| E-UTRA Band 44 | 703 – 803 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz | This is not applicable to BS operating in Band 28 or 44 |
| E-UTRA Band 45 | 1447 – 1467 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz | This is not applicable to BS operating in Band 45 |
| E-UTRA Band 48 or NR Band n48 | 3550 – 3700 MHz | -113.7 dBm | -108.7 dBm | -105.7 dBm | 100 kHz |  |
| E-UTRA Band 49 | 3550 – 3700 MHz | N/A | N/A | -105.7 dBm | 100 kHz |  |
| E-UTRA Band 50 or NR band n50 | 1432 – 1517 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band XI |
| E-UTRA Band 51 or NR Band n51 | 1427 – 1432 MHz | N/A | N/A | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 52 | 3300 – 3400 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 53 or NR band n53 | 2483.5 – 2495MHz | N/A | -111.9 dBm | -108.9 dBm | 100 kHz | This is not applicable to BS operating in Band 41 or 53 |
| E-UTRA Band 65 or NR band n65 | 1920 - 2010 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| E-UTRA Band 66 or NR band n66 | 1710 – 1780 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| E-UTRA Band 68 | 698 – 728 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| E-UTRA Band 70 or NR band n70 | 1695 – 1710 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| E-UTRA Band 71 or NR Band n71 | 663 – 698 MHz | -116.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 72 | 451 – 456 MHz | -116.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 73 | 450 – 455 MHz | -116.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 74 or NR band n74 | 1427 – 1470 MHz | -116.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| NR Band n77 | 3300 MHz – 4200 MHz | -116.7 dBm | -108.7 dBm | -105.7 dBm | 100 kHz |  |
| NR Band n78 | 3300 MHz – 3800 MHz | -116.7 dBm | -108.7 dBm | -105.7 dBm | 100 kHz |  |
| NR band n79 | 4400 MHz – 5000 MHz | -116.6 dBm | -108.6 dBm | -105.6 dBm | 100 kHz |  |
| NR band n80 | 1710 – 1785 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| NR band n81 | 880 – 915 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| NR band n82 | 832 – 862 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| NR band n83 | 703 – 748 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| NR band n84 | 1920 – 1980 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| E-UTRA Band 85 | 698 - 716 MHz | -116.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| NR band n86 | 1710 -1780 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| E-UTRA Band 87 | 410 – 415 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| E-UTRA Band 88 | 412 – 417 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| NR band n89 | 824 - 849 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| NR band n91 | 832 – 862 MHz | N/A | N/A | -108.9 dBm | 100 kHz |  |
| NR band n92 | 832 – 862 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| NR band n93 | 880 – 915 MHz | N/A | N/A | -108.9 dBm | 100 kHz |  |
| NR band n94 | 880 – 915 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| NR band n95 | 2010 - 2025 MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |
| NR band n98 | 1880 – 1920MHz | -116.9 dBm | -111.9 dBm | -108.9 dBm | 100 kHz |  |

NOTE 1: As defined in the scope for spurious emissions in this subclause, the co-location requirements in table 6.7.6.5.2.5-1 do not apply for the 10 MHz frequency range immediately outside the BS transmit frequency range of a *downlink operating band* (see subclause 6.7.1). The current state-of-the-art technology does not allow a single generic solution for co-location with other system on adjacent frequencies for 30 dB BS-BS minimum coupling loss. However, there are certain site-engineering solutions that can be used. These techniques are addressed in TR 25.942 [31].

NOTE 2: Table 6.7.6.5.2.5-1 assumes that two operating bands, where the corresponding BS transmit and receive frequency ranges in subclause 4.6 would be overlapping, are not deployed in the same geographical area. For such a case of operation with overlapping frequency arrangements in the same geographical area, special co-location requirements may apply that are not covered by the 3GPP specifications.

NOTE 3: Co-located TDD base stations that are synchronized and using the same or adjacent operating band can transmit without special co-locations requirements. For unsynchronized base stations, special co-location requirements may apply that are not covered by the 3GPP specifications.

6.7.6.5.5.3 Single RAT E-UTRA operation

These requirements may be applied for the protection of other BS receivers when GSM900, DCS1800, PCS1900, GSM850, CDMA850, UTRA FDD, UTRA TDD and/or E-UTRA BS are co-located with a BS.

The requirements assume co-location with base stations of the same class.

NOTE: For co-location with UTRA, the requirements are based on co-location with UTRA FDD or TDD base stations.

The requirements are co-location emission requirements and specified as the power sum of the supported polarization(s) at the CLTA conducted output(s).

The power sum of any spurious emission is specified over all supported polarizations at the conducted output(s) of the CLTA and shall not exceed the limits of table 6.7.6.5.5.3-1 for a AAS BS where requirements for co-location with a BS type listed in the first column apply, depending on the declared Base Station class. For a *multi-band RIB*, the exclusions and conditions in the notes column of table 6.7.6.5.5.3-1 apply for each supported operating band.

Table 6.7.6.5.5.3-1: AAS BS OTA Spurious emissions E-UTRA limits for AAS BS co-located with another BS

| **Type of co-located BS** | **Frequency range for co-location requirement** | **Maximum Level**  **(WA-BS)** | **Maximum Level**  **(MR-BS)** | **Maximum Level**  **(LA-BS)** | **Measurement Bandwidth** | **Notes** |
| --- | --- | --- | --- | --- | --- | --- |
| GSM900 | 876-915 MHz | -115.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| DCS1800 | 1710 - 1785 MHz | -115.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| PCS1900 | 1850 - 1910 MHz | -115.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| GSM850 or CDMA850 | 824 - 849 MHz | -115.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band I or E-UTRA Band 1 or NR band n1 | 1920 - 1980 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band II or E-UTRA Band 2 or NR band n2 | 1850 - 1910 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band III or E-UTRA Band 3 or NR band n3 | 1710 - 1785 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band IV or E-UTRA Band 4 | 1710 - 1755 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band V or E-UTRA Band 5 or NR band n5 | 824 - 849 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band VI, XIX or E-UTRA Band 6, 19 | 830 - 845 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band VII or E-UTRA Band 7 or NR band n7 | 2500 - 2570 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band VIII or E-UTRA Band 8 or NR band n8 | 880 - 915 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band IX or E-UTRA Band 9 | 1749.9 - 1784.9 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band X or E-UTRA Band 10 | 1710 - 1770 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band XI or E-UTRA Band 11 | 1427.9 - 1447.9 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band XII or  E-UTRA Band 12 or NR band n12 | 699 - 716 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band XIII or  E-UTRA Band 13 | 777 - 787 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band XIV or  E-UTRA Band 14 | 788 - 798 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 17 | 704 - 716 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 18 or NR Band n18 | 815 - 830 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band XX or  E-UTRA Band 20 or NR band n20 | 832 - 862 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band XXI or E-UTRA Band 21 | 1447.9 – 1462.9 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band XXII or E-UTRA Band 22 | 3410 – 3490 MHz | -113.7 dBm | -108.7dBm | -105.7 dBm | 100 kHz | This is not applicable to BS operating in Band 42 |
| E-UTRA Band 23 | 2000 - 2020 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 24 | 1626.5 – 1660.5 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band XXV or E-UTRA Band 25 or NR band n25 | 1850 - 1915 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA FDD Band XXVI or E-UTRA Band 26 or NR Band n26 | 814 - 849 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 27 | 807 - 824 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 28 or NR band n28 | 703 – 748 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 44 |
| E-UTRA Band 30 | 2305 - 2315 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 40 |
| E-UTRA Band 31 | 452.5 – 457.5 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| UTRA TDD Band a) or E-UTRA Band 33 | 1900 - 1920 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 33 |
| UTRA TDD Band a) or E-UTRA Band 34 or NR band n34 | 2010 - 2025 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 34 |
| UTRA TDD Band b) or E-UTRA Band 35 | 1850 – 1910 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 35 |
| UTRA TDD Band b) or E-UTRA Band 36 | 1930 - 1990 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 2 and 36 |
| UTRA TDD Band c) or E-UTRA Band 37 | 1910 - 1930 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 37. This unpaired band is defined in ITU-R M.1036, but is pending any future deployment. |
| UTRA TDD Band d) or E-UTRA Band 38 or NR band n38 | 2570 – 2620 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 38. |
| UTRA TDD Band f) or E-UTRA Band 39 or NR band n39 | 1880 – 1920MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 33 and 39 |
| UTRA TDD Band e) or E-UTRA Band 40 or NR band n40 | 2300 – 2400MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 30 or 40 |
| E-UTRA Band 41 or NR band n41 | 2496 – 2690MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 41 or 53 |
| E-UTRA Band 42 | 3400 – 3600 MHz | -113.7 dBm | -108.7 dBm | -105.7 dBm | 100 kHz | This is not applicable to BS operating in Band 22, 42, 43, 48, 52 |
| E-UTRA Band 43 | 3600 – 3800 MHz | -113.7 dBm | -108.7 dBm | -105.7 dBm | 100 kHz | This is not applicable to BS operating in Band 42 or 43 |
| E-UTRA Band 44 | 703 – 803 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 28 or 44 |
| E-UTRA Band 45 | 1447 – 1467 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 45 |
| E-UTRA Band 48 or NR Band n48 | 3550 – 3700 MHz | -113.7 dBm | -108.7 dBm | -105.7 dBm | 100 kHz | This is not applicable to BS operating in Band 42, 43, 48 |
| E-UTRA Band 49 | 3550 – 3700 MHz | N/A | N/A | -105.7 dBm | 100 kHz | This is not applicable to BS operating in Band 42, 43, 48 |
| E-UTRA Band 50 or NR band n50 | 1432 – 1517 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 11, 21, 32, 51, n51, 74 |
| E-UTRA Band 51 or NR Band n51 | 1427 – 1432 MHz | N/A | N/A | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 50 |
| E-UTRA Band 52 | 3300 – 3400 MHz | -113.7 dBm | -108.7 dBm | -105.7 dBm | 100 kHz | This is not applicable to BS operating in Band 42 or 52 |
| E-UTRA Band 53 or NR band n53 | 2483.5 – 2495MHz | N/A | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 41 or 53 |
| E-UTRA Band 65 or NR band n65 | 1920 - 2010 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 66 | 1710 – 1780 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 68 | 698 – 728 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 70 | 1695 – 1710 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 71 or NR Band n71 | 663 – 698 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 72 | 451 – 456 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 73 | 450 – 455 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 74 or NR band n74 | 1427 – 1470 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz | This is not applicable to BS operating in Band 50, 51 |
| NR Band n77 | 3300 MHz – 4200 MHz | -113.7 dBm | -108.7 dBm | -105.7 dBm | 100 kHz | This is not applicable to BS operating in Band 22, 42, 43, 48, 52 |
| NR Band n78 | 3300 MHz – 3800 MHz | -113.7 dBm | -108.7 dBm | -105.7 dBm | 100 kHz | This is not applicable to BS operating in Band 22, 42, 43, 48, 52 |
| NR band n79 | 4400 – 5000 MHz | -113.6 dBm | -108.6 dBm | -105.6 dBm | 100 kHz |  |
| NR band n80 | 1710 – 1785 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| NR band n81 | 880 – 915 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| NR band n82 | 832 – 862 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| NR band n83 | 703 – 748 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| NR band n84 | 1920 – 1980 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 85 | 698 - 716 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| NR band n86 | 1710 -1780 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 87 | 410 – 415 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| E-UTRA Band 88 | 412 – 417 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| NR band n89 | 824 - 849 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| NR band n91 | 832 – 862 MHz | N/A | N/A | -105.9 dBm | 100 kHz |  |
| NR band n92 | 832 – 862 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| NR band n93 | 880 – 915 MHz | N/A | N/A | -105.9 dBm | 100 kHz |  |
| NR band n94 | 880 – 915 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| NR band n95 | 2010 - 2025 MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |
| NR band n98 | 1880 – 1920MHz | -113.9 dBm | -108.9 dBm | -105.9 dBm | 100 kHz |  |

NOTE 1: As defined in the scope for spurious emissions in this subclause, the co-location requirements in table 6.7.6.5.3.5-1 do not apply for the ΔfOBUE frequency range immediately outside the BS transmit frequency range of a *downlink operating band* (see subclause 6.7.1). The current state-of-the-art technology does not allow a single generic solution for co-location with other system on adjacent frequencies for 30 dB BS-BS minimum coupling loss. However, there are certain site-engineering solutions that can be used. These techniques are addressed in TR 25.942 [31].

NOTE 2: Table 6.7.6.5.3.5-1 assumes that two operating bands, where the corresponding BS transmit and receive frequency ranges in subclause 4.6 would be overlapping, are not deployed in the same geographical area. For such a case of operation with overlapping frequency arrangements in the same geographical area, special co-location requirements may apply that are not covered by the 3GPP specifications.

NOTE 3: Co-located TDD base stations that are synchronized and using the same or adjacent operating band can transmit without special co-locations requirements. For unsynchronized base stations, special co-location requirements may apply that are not covered by the 3GPP specifications.

## **<End of Changes>**