**3GPP TSG- Meeting # *20489***

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  | **38.141-1** | **CR** | **0292** | **rev** | **1** | **Current version:** | **17.7.0** |  |
|  |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **X** | Core Network |  |

|  |
| --- |
|  |
| ***Title:***  | CR to TS 37.141-1: Introduction of NR band n105 |
|  |  |
| ***Source to WG:*** | Ericsson |
| ***Source to TSG:*** | R4 |
|  |  |
| ***Work item code:*** | NR\_600MHz\_APT-Perf |  | ***Date:*** | 2022-11-15 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***Release:*** |  |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)…Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
|  |  |
| ***Reason for change:*** | The new NR band n105 (APT600) is being specified, coexistence and colocation requirements with this band shall be specified. |
|  |  |
| ***Summary of change:*** | Specify coexistence and colocation requirements with this NR band n105  |
|  |  |
| ***Consequences if not approved:*** | The new NR band n105 won’t be correctly supported. |
|  |  |
| ***Clauses affected:*** | 6.6.4.5.2, 6.6.5.5.1.3, 6.6.5.5.1.4 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ... |
| ***affected:*** | **X** |  |  Test specifications | TS 38.104, 38.141-2 |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

*<Start of the change>*

##### 6.6.4.5.2 Basic limits for Wide Area BS (Category A)

For BS operating in Bands n5, n8, n12, n13, n14, n18, n26, n28, n29, n71, n85, n105, *basic limits* are specified in table 6.6.4.5.2‑1.

*basic limits* are specified in table 6.6.4.5.2‑1.

Table 6.6.4.5.2-1: Wide Area BS operating band unwanted emission limits
(NR bands below 1 GHz) for Category A

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency offset of measurement filter ‑3dB point, Δf | Frequency offset of measurement filter centre frequency, f\_offset | *Basic limit* (Note 1, 2) | Measurement bandwidth |
| 0 MHz ≤ Δf < 5 MHz | 0.05 MHz ≤ f\_offset < 5.05 MHz |  |  |
| 5 MHz ≤ Δf <min(10 MHz, Δfmax) | 5.05 MHz ≤ f\_offset <min(10.05 MHz, f\_offsetmax) | -12.5 dBm | 100 kHz  |
| 10 MHz ≤ Δf ≤ Δfmax | 10.05 MHz ≤ f\_offset < f\_offsetmax  | -13 dBm (Note 3) |  |
| NOTE 1: For a BS supporting non-contiguous spectrum operation within any *operating band*, the emission limits within sub-block gaps is calculated as a cumulative sum of contributions from adjacent sub blocks on each side of the sub block gap. Exception is f ≥ 10MHz from both adjacent sub blocks on each side of the sub-block gap, where the emission limits within sub-block gaps shall be -13 dBm/100 kHz.NOTE 2: For a *multi-band connector* with Inter RF Bandwidth gap < 2\*ΔfOBUE the emission limits within the Inter RF Bandwidth gaps is calculated as a cumulative sum of contributions from adjacent sub-blocks or RF Bandwidth on each side of the Inter RF Bandwidth gap.NOTE 3: The requirement is not applicable when Δfmax < 10 MHz. |

*<End of the change>*

*<Start of the change>*

###### 6.6.4.5.3.1 Category B requirements (Option 1)

For BS operating in Bands n5, n8, n12, n20, n26, n28, n29, n67, n71, n85, n105, *basic limits* are specified in table 6.6.4.5.3.1-1:

Table 6.6.4.5.3.1-1: Wide Area BS operating band unwanted emission limits
(NR bands below 1 GHz) for Category B

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency offset of measurement filter ‑3dB point, Δf | Frequency offset of measurement filter centre frequency, f\_offset | *Basic limit* (Note 1, 2) | Measurement bandwidth |
| 0 MHz ≤ Δf < 5 MHz | 0.05 MHz ≤ f\_offset < 5.05 MHz |  |  |
| 5 MHz ≤ Δf <min(10 MHz, Δfmax) | 5.05 MHz ≤ f\_offset <min(10.05 MHz, f\_offsetmax) | -12.5 dBm | 100 kHz |
| 10 MHz ≤ Δf ≤ Δfmax | 10.05 MHz ≤ f\_offset < f\_offsetmax  | -16 dBm (Note 3) |  |
| NOTE 1: For a BS supporting non-contiguous spectrum operation within any *operating band*, the emission limits within sub-block gaps is calculated as a cumulative sum of contributions from adjacent sub blocks on each side of the sub block gap. Exception is f ≥ 10MHz from both adjacent sub blocks on each side of the sub-block gap, where the emission limits within sub-block gaps shall be ‑16 dBm/100 kHz.NOTE 2: For a *multi-band connector* with Inter RF Bandwidth gap < 2\*ΔfOBUE the emission limits within the Inter RF Bandwidth gaps is calculated as a cumulative sum of contributions from adjacent sub-blocks or RF Bandwidth on each side of the Inter RF Bandwidth gap, where the contribution from the far-end sub-block or RF Bandwidth shall be scaled according to the measurement bandwidth of the near-end sub-block or RF Bandwidth.NOTE 3: The requirement is not applicable when Δfmax < 10 MHz. |

*<End of the change>*

*<Start of the change>*

###### 6.6.5.5.1.3 Additional spurious emissions requirements

These requirements may be applied for the protection of system operating in frequency ranges other than the BS downlink *operating band*. The limits may apply as an optional protection of such systems that are deployed in the same geographical area as the BS, or they may be set by local or regional regulation as a mandatory requirement for an NR *operating band*. It is in some cases not stated in the present document whether a requirement is mandatory or under what exact circumstances that a limit applies, since this is set by local or regional regulation. An overview of regional requirements in the present document is given in clause 4.4.

Some requirements may apply for the protection of specific equipment (UE, MS and/or BS) or equipment operating in specific systems (GSM, CDMA, UTRA, E-UTRA, NR, etc.) as listed below.

The power of any spurious emission shall not exceed the *basic limits* of table 6.6.5.5.1.3-1 for a BS where requirements for co-existence with the system listed in the first column apply. For a *multi-band connector*, the exclusions and conditions in the Note column of table 6.6.5.5.1.3-1 apply for each supported *operating band*.

Table 6.6.5.5.1.3-1: BS spurious emissions limits for BS for co-existence with systems operating in other frequency bands

| System type for NR to co-exist with | Frequency range for co-existence requirement | *Basic limit* | Measurement bandwidth | Note |
| --- | --- | --- | --- | --- |
| GSM900 | 921 – 960 MHz | -57 dBm | 100 kHz | This requirement does not apply to BS operating in band n8 |
|  | 876 – 915 MHz | -61 dBm | 100 kHz | For the frequency range 880-915 MHz, this requirement does not apply to BS operating in band n8, since it is already covered by the requirement in clause 6.6.5.5.1.2. |
| DCS1800 | 1805 – 1880 MHz | -47 dBm | 100 kHz | This requirement does not apply to BS operating in band n3.  |
|  | 1710 – 1785 MHz | -61 dBm | 100 kHz | This requirement does not apply to BS operating in band n3, since it is already covered by the requirement in clause 6.6.5.5.1.2. |
| PCS1900 | 1930 – 1990 MHz | -47 dBm | 100 kHz | This requirement does not apply to BS operating in band n2, n25 or band n70. |
|  | 1850 – 1910 MHz | -61 dBm | 100 kHz | This requirement does not apply to BS operating in band n2 or n25 since it is already covered by the requirement in clause 6.6.5.5.1.2.  |
| GSM850 or CDMA850 | 869 – 894 MHz | -57 dBm | 100 kHz | This requirement does not apply to BS operating in band n5 or n26.  |
|  | 824 – 849 MHz | -61 dBm | 100 kHz | This requirement does not apply to BS operating in band n5 or n26, since it is already covered by the requirement in clause 6.6.5.5.1.2. |
| UTRA FDD Band I or | 2110 – 2170 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in band n1 or n65 |
| E-UTRA Band 1 or NR Band n1 | 1920 – 1980 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n1 or n65, since it is already covered by the requirement in clause 6.6.5.5.1.2. |
| UTRA FDD Band II or | 1930 – 1990 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in band n2 or n70. |
| E-UTRA Band 2 or NR Band n2 | 1850 – 1910 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n2, since it is already covered by the requirement in clause 6.6.5.5.1.2. |
| UTRA FDD Band III or | 1805 – 1880 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in band n3. |
| E-UTRA Band 3 or NR Band n3 | 1710 – 1785 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n3, since it is already covered by the requirement in clause 6.6.5.5.1.2.  |
| UTRA FDD Band IV or | 2110 – 2155 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in band n66 |
| E-UTRA Band 4 | 1710 – 1755 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n66, since it is already covered by the requirement in clause 6.6.5.5.1.2. |
| UTRA FDD Band V or | 869 – 894 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in band n5 or n26.  |
| E-UTRA Band 5 or NR Band n5 | 824 – 849 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n5 or n26, since it is already covered by the requirement in clause 6.6.5.5.1.2. |
| UTRA FDD Band VI, XIX or | 860 – 890 MHz  | -52 dBm | 1 MHz | This requirement does not apply to BS operating in band n18. |
| E-UTRA Band 6, 18, 19 or NR Band n18 | 815 – 830 MHz  | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n18, since it is already covered by the requirement in clause 6.6.5.2.2. |
|  | 830 – 845 MHz | -49 dBm | 1 MHz |  |
| UTRA FDD Band VII or | 2620 – 2690 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in band n7. |
| E-UTRA Band 7 or NR Band n7 | 2500 – 2570 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n7, since it is already covered by the requirement in clause 6.6.5.5.1.2. |
| UTRA FDD Band VIII or | 925 – 960 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in band n8 or n100. |
| E-UTRA Band 8 or NR Band n8 | 880 – 915 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n8, since it is already covered by the requirement in clause 6.6.5.5.1.2. |
| UTRA FDD Band IX or | 1844.9 – 1879.9 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in band n3. |
| E-UTRA Band 9 | 1749.9 – 1784.9 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n3, since it is already covered by the requirement in clause 6.6.5.5.1.2. |
| UTRA FDD Band X or | 2110 – 2170 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in band n66 |
| E-UTRA Band 10 | 1710 – 1770 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n66, since it is already covered by the requirement in clause 6.6.5.5.1.2. |
| UTRA FDD Band XI or XXI or | 1475.9 – 1510.9 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in Band n50, n74, n75, n92 or n94. |
| E-UTRA Band 11 or 21 | 1427.9 – 1447.9 MHz  | -49 dBm | 1 MHz | This requirement does not apply to BS operating in Band n50, n51, n74, n75, n76, n91, n92, n93 or n94. |
|  | 1447.9 – 1462.9 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in Band n50, n74, n75, n92 or n94. |
| UTRA FDD Band XII or | 729 – 746 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in band n12 or n85. |
| E-UTRA Band 12 or NR Band n12 | 699 – 716 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n12 or n85, since it is already covered by the requirement in clause 6.6.5.5.1.2.For NR BS operating in n29, it applies 1 MHz below the Band n29 downlink operating band (Note 5). |
| UTRA FDD Band XIII or | 746 – 756 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in band n13. |
| E-UTRA Band 13 or NR Band n13 | 777 – 787 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n13, since it is already covered by the requirement in clause 6.6.5.5.1.2 |
| UTRA FDD Band XIV or | 758 – 768 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in band n14. |
| E-UTRA Band 14 or NR Band n14 | 788 – 798 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n14, since it is already covered by the requirement in clause 6.6.5.5.1.2 |
|  E-UTRA Band 17 | 734 – 746 MHz | -52 dBm | 1 MHz |  |
|  | 704 – 716 MHz | -49 dBm | 1 MHz | For NR BS operating in n29, it applies 1 MHz below the Band n29 downlink operating band (Note 5). |
| UTRA FDD Band XX or E-UTRA Band 20 or NR Band n20 | 791 – 821 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in band n20 or n28. |
|  | 832 – 862 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n20, since it is already covered by the requirement in clause 6.6.5.5.1.2. |
| UTRA FDD Band XXII or E-UTRA Band 22 | 3510 – 3590 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in band n48, n77 or n78. |
|  | 3410 – 3490 MHz | -49 dBm | 1 MHz | This is not applicable to BS operating in Band n77 or n78. |
| E-UTRA Band 24 or NR Band n24 | 1525 – 1559 MHz | -52 dBm | 1 MHz |  |
|  | 1626.5 – 1660.5 MHz | -49 dBm | 1 MHz |  |
| UTRA FDD Band XXV or | 1930 – 1995 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in band n2, n25 or n70. |
| E-UTRA Band 25 or NR band n25 | 1850 – 1915 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n25 since it is already covered by the requirement in clause 6.6.5.5.1.2. For BS operating in Band n2, it applies for 1910 MHz to 1915 MHz, while the rest is covered in clause 6.6.5.5.1.2. |
| UTRA FDD Band XXVI or | 859 – 894 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in band n5 or n26.  |
| E-UTRA Band 26 or NR Band n26 | 814 – 849 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n26 since it is already covered by the requirement in clause 6.6.5.5.1.2. For BS operating in Band n5, it applies for 814 MHz to 824 MHz, while the rest is covered in clause 6.6.5.5.1.2. |
| E-UTRA Band 27 | 852 – 869 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in Band n5. |
|  | 807 – 824 MHz | -49 dBm | 1 MHz | This requirement also applies to BS operating in Band n28, starting 4 MHz above the Band n28 downlink *operating band* (Note 5). |
| E-UTRA Band 28 or NR Band n28 | 758 – 803 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in band n20, n67 or n28. |
|  | 703 – 748 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n28, since it is already covered by the requirement in clause 6.6.5.5.1.2. For BS operating in band n67, it applies for 703 MHz to 736 MHz. |
| E-UTRA Band 29 or NR Band n29 | 717 – 728 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in Band n29 or n85. |
| E-UTRA Band 30 or NR Band n30 | 2350 – 2360 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in band n30. |
|  | 2305 – 2315 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n30, since it is already covered by the requirement in clause 6.6.5.5.1.2.  |
| E-UTRA Band 31 | 462.5 -467.5 MHz | -52 dBm | 1 MHz |  |
|  | 452.5 -457.5 MHz | -49 dBm | 1 MHz |  |
| UTRA FDD band XXXII or E-UTRA band 32 | 1452 – 1496 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in Band n50, n74, n75, n92 or n94. |
| UTRA TDD Band a) or E-UTRA Band 33 | 1900 – 1920 MHz | -52 dBm | 1 MHz |  |
| UTRA TDD Band a) or E-UTRA Band 34 or NR band n34 | 2010 – 2025 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in Band n34. |
| UTRA TDD Band b) or E-UTRA Band 35 | 1850 – 1910 MHz | -52 dBm | 1 MHz |  |
| UTRA TDD Band b) or E-UTRA Band 36 | 1930 – 1990 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in Band n2 or n25. |
| UTRA TDD Band c) or E-UTRA Band 37 | 1910 – 1930 MHz | -52 dBm | 1 MHz |  |
| UTRA TDD Band d) or E-UTRA Band 38 or NR Band n38 | 2570 – 2620 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in Band n38.  |
| UTRA TDD Band f) or E-UTRA Band 39 or NR band n39 | 1880 – 1920MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in Band n39. |
| UTRA TDD Band e) or E-UTRA Band 40 or NR Band n40 | 2300 – 2400MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in Bands n30 or n40. |
| E-UTRA Band 41 or NR Band n41 | 2496 – 2690 MHz | -52 dBm | 1 MHz | This is not applicable to BS operating in Band n41 or n53. |
| E-UTRA Band 42 | 3400 – 3600 MHz | -52 dBm | 1 MHz | This is not applicable to BS operating in Band n48, n77 or n78. |
| E-UTRA Band 43 | 3600 – 3800 MHz | -52 dBm | 1 MHz | This is not applicable to BS operating in Band n48, n77 or n78. |
| E-UTRA Band 44 | 703 – 803 MHz | -52 dBm | 1 MHz | This is not applicable to BS operating in Band n28. |
| E-UTRA Band 45 | 1447 – 1467 MHz | -52 dBm | 1 MHz |  |
| E-UTRA Band 46 or NR Band n46 | 5150 – 5925 MHz | -52 dBm | 1 MHz | This is not applicable to BS operating in Band n46, n96 or n102. |
| 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 requirement does not apply to BS operating in Band n48, n77 and n78. |
| E-UTRA Band 50 or NR band n50 | 1432 – 1517 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in Band n50, n51, n74, n75, n76, n91, n92, n93 or n94. |
| E-UTRA Band 51 or NR Band n51 | 1427 – 1432 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in Band n50, n51, n75, n76, n91, n92, n93 or n94. |
| E-UTRA Band 53 or NR Band n53 | 2483.5 - 2495 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in Band n41, n53 or n90. |
| E-UTRA Band 65 or NR Band n65 | 2110 – 2200 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in Band n1 or n65  |
|  | 1920 – 2010 MHz | -49 dBm | 1 MHz | For BS operating in Band n1, it applies for 1980 MHz to 2010 MHz, while the rest is covered in clause 6.6.5.5.1.2.This requirement does not apply to BS operating in band n65, since it is already covered by the requirement in clause 6.6.5.5.1.2. |
| E-UTRA Band 66 or NR Band n66 | 2110 – 2200 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in band n66. |
|  | 1710 – 1780 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n66, since it is already covered by the requirement in clause 6.6.5.5.1.2. |
| E-UTRA Band 67 or NR Band n67 | 738 – 758 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in Band n28 or n67. |
| E-UTRA Band 68 | 753 -783 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in band n28. |
|  | 698-728 MHz | -49 dBm | 1 MHz | For BS operating in Band n28, this requirement applies between 698 MHz and 703 MHz, while the rest is covered in clause 6.6.5.5.1.2. |
| E-UTRA Band 69 | 2570 – 2620 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in Band n38. |
| E-UTRA Band 70 or NR Band n70 | 1995 – 2020 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in band n2, n25 or n70 |
|  | 1695 – 1710 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n70, since it is already covered by the requirement in clause 66.6.5.5.1.2. |
| E-UTRA Band 71 or NR Band n71 | 617 – 652 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in band n71 or n105. |
|  | 663 – 698 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n71 or n105, since it is already covered by the requirement in clause 6.6.5.5.1.2. |
| E-UTRA Band 72 | 461 – 466 MHz | -52 dBm | 1 MHz |  |
|  | 451 – 456 MHz | -49 dBm | 1 MHz |  |
| E-UTRA Band 74 or NR Band n74 | 1475 – 1518 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in Band n50, n75, n75, n92 or n94. |
|  | 1427 – 1470 MHz | -49 dBm | 1MHz | This requirement does not apply to BS operating in Band n50, n51, n74, n75, n76, n91, n92, n93 or n94. |
| E-UTRA Band 75 or NR Band n75 | 1432 – 1517 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in Band n50, n51, n74, n75, n76, n91, n92, n93 or n94. |
| E-UTRA Band 76 or NR Band n76 | 1427 – 1432 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in Band n50, n51, n75, n76, n91, n92, n93 or n94. |
| NR Band n77 | 3.3 – 4.2 GHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in Band n48, n77 or n78 |
| NR Band n78 | 3.3 – 3.8 GHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in Band n48, n77 or n78 |
| NR Band n79 | 4.4 – 5.0 GHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in Band n79 |
| NR Band n80 | 1710 – 1785 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n3, since it is already covered by the requirement in clause 6.6.5.5.1.2. |
| NR Band n81 | 880 – 915 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n8, since it is already covered by the requirement in clause 6.6.5.5.1.2. |
| NR Band n82 | 832 – 862 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n20, since it is already covered by the requirement in clause 6.6.5.5.1.2. |
| NR Band n83 | 703 – 748 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n28, since it is already covered by the requirement in clause 6.6.5.5.1.2. For BS operating in Band n67, it applies for 703 MHz to 736 MHz. |
| NR Band n84 | 1920 – 1980 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n1, since it is already covered by the requirement in clause 6.6.5.5.1.2. |
| E-UTRA Band 85 or NR Band n85 | 728 - 746 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in band n12 or n85. |
|  | 698 - 716 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n12 or n85, since it is already covered by the requirement in clause 6.6.5.5.1.2.For NR BS operating in n29, it applies 1 MHz below the Band n29 downlink operating band (Note 5). |
| NR Band n86 | 1710 – 1780 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n66, since it is already covered by the requirement in clause 6.6.5.5.1.2. |
| NR Band n89 | 824 – 849 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n5, since it is already covered by the requirement in clause 6.6.5.5.1.2. |
| NR Band n91 | 1427 – 1432 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in Band n50, n51, n75 or n76. |
|  | 832 – 862 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n20, since it is already covered by the requirement in clause 6.6.5.5.1.2. |
| NR Band n92 | 1432 – 1517 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in Band n50, n51, n74, n75 or n76. |
|  | 832 – 862 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n20, since it is already covered by the requirement in clause 6.6.5.5.1.2. |
| NR Band n93 | 1427 – 1432 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in Band n50, n51, n75 or n76. |
|  | 880 – 915 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n8, since it is already covered by the requirement in clause 6.6.5.5.1.2. |
| NR Band n94 | 1432 – 1517 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in Band n50, n51, n74, n75 or n76. |
|  | 880 – 915 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n8, since it is already covered by the requirement in clause 6.6.5.5.1.2. |
| NR Band n95 | 2010 – 2025 MHz | -52 dBm | 1 MHz |  |
| NR Band n96 | 5925 – 7125 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in Band n46, n96, n102 or n104. |
| NR Band n97 | 2300 – 2400MHz | -52 dBm | 1 MHz |  |
| NR Band n98 | 1880 – 1920MHz | -52 dBm | 1 MHz |  |
| NR Band n99 | 1626.5 – 1660.5 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n24, since it is already covered by the requirement in clause 6.6.5.5.1.2. |
| NR Band n100 | 919.4 – 925 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in Band n8 or n100. |
|  | 874.4 – 880 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n100, since it is already covered by the requirement in clause 6.6.5.5.1.2. |
| NR Band n101 | 1900 – 1910 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in Band n101. |
| NR Band n102 | 5925 – 6425 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in Band n46, n96, n102 or n104. |
| E-UTRA Band 103 | 757 – 758 MHz | -52 dBm | 1 MHz |  |
| 787 – 788 MHz | -49 dBm | 1 MHz |  |
| NR Band n104 | 6425 – 7125 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in Band n96, n102 or n104  |
| NR Band n105 | 612 – 652 MHz | -52 dBm | 1 MHz | This requirement does not apply to BS operating in band n71 or n105. |
|  | 663 – 703 MHz | -49 dBm | 1 MHz | This requirement does not apply to BS operating in band n105, since it is already covered by the requirement in clause 6.6.5.5.1.2 |

*<End of the change>*

*<Start of the change>*

###### 6.6.5.5.1.4 Co-location with other base stations

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 a 30 dB coupling loss between transmitter and receiver and are based on co-location with base stations of the same class.

The *basic limits* are in table 6.6.5.5.1.4-1 for a BS where requirements for co-location with a BS type listed in the first column apply, depending on the declared BS class (D.2). For a *multi-band connector*, the exclusions and conditions in the Note column of table 6.6.5.5.1.4-1 shall apply for each supported *operating band*.

Table 6.6.5.5.1.4-1: BS spurious emissions *basic limits* for BS co-located with another BS

| Type of co-located BS | Frequency range for | Basic limit | Measurement | Note |
| --- | --- | --- | --- | --- |
|  | co-location requirement | WA BS | MR BS | LA BS | bandwidth |  |
| GSM900 | 876-915 MHz | -98 dBm | -91 dBm | -70 dBm | 100 kHz |  |
| DCS1800 | 1710 – 1785 MHz | -98 dBm | -91 dBm | -80 dBm | 100 kHz |  |
| PCS1900 | 1850 – 1910 MHz | -98 dBm | -91 dBm | -80 dBm | 100 kHz |  |
| GSM850 or CDMA850 | 824 – 849 MHz | -98 dBm | -91 dBm | -70 dBm | 100 kHz |  |
| UTRA FDD Band I or E-UTRA Band 1 or NR Band n1 | 1920 – 1980 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| UTRA FDD Band II or E-UTRA Band 2 or NR Band n2 | 1850 – 1910 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| UTRA FDD Band III or E-UTRA Band 3 or NR Band n3 | 1710 – 1785 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| UTRA FDD Band IV or E-UTRA Band 4 | 1710 – 1755 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| UTRA FDD Band V or E-UTRA Band 5 or NR Band n5 | 824 – 849 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| UTRA FDD Band VI, XIX or E-UTRA Band 6, 19 | 830 – 845 MHz  | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| UTRA FDD Band VII or E-UTRA Band 7 or NR Band n7 | 2500 – 2570 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| UTRA FDD Band VIII or E-UTRA Band 8 or NR Band n8 | 880 – 915 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| UTRA FDD Band IX or E-UTRA Band 9 | 1749.9 – 1784.9 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| UTRA FDD Band X or E-UTRA Band 10 | 1710 – 1770 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| UTRA FDD Band XI or E-UTRA Band 11 | 1427.9 –1447.9 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz | This is not applicable to BS operating in Band n50, n75, n91, n92, n93 or n94 |
| UTRA FDD Band XII orE-UTRA Band 12 or NR Band n12 | 699 – 716 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| UTRA FDD Band XIII orE-UTRA Band 13 or NR Band n13 | 777 – 787 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| UTRA FDD Band XIV orE-UTRA Band 14 or NR Band n14 | 788 – 798 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| E-UTRA Band 17 | 704 – 716 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| E-UTRA Band 18 or NR Band n18 | 815 – 830 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| UTRA FDD Band XX or E-UTRA Band 20 or NR Band n20 | 832 – 862 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| UTRA FDD Band XXI or E-UTRA Band 21 | 1447.9 – 1462.9 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz | This is not applicable to BS operating in Band n50, n75, n92 or n94 |
| UTRA FDD Band XXII or E-UTRA Band 22 | 3410 – 3490 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz | This is not applicable to BS operating in Band n48, n77 or n78 |
| E-UTRA Band 24 or NR Band n24 | 1626.5 – 1660.5 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| UTRA FDD Band XXV orE-UTRA Band 25 or NR Band n25 | 1850 – 1915 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| UTRA FDD Band XXVI orE-UTRA Band 26 or NR Band n26 | 814 – 849 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| E-UTRA Band 27 | 807 – 824 MHz  | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| E-UTRA Band 28 or NR Band n28 | 703 – 748 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| E-UTRA Band 30 or NR Band n30 | 2305 – 2315 MHz  | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| E-UTRA Band 31 | 452.5 -457.5 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| UTRA TDD Band a) or E-UTRA Band 33 | 1900 – 1920 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| UTRA TDD Band a) or E-UTRA Band 34 or NR band n34 | 2010 – 2025 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz | This is not applicable to BS operating in Band n34 |
| UTRA TDD Band b) or E-UTRA Band 35 | 1850 – 1910 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| UTRA TDD Band b) or E-UTRA Band 36 | 1930 – 1990 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz | This is not applicable to BS operating in Band n2 or band n25 |
| UTRA TDD Band c) or E-UTRA Band 37 | 1910 – 1930 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| UTRA TDD Band d) or E-UTRA Band 38 or NR Band n38 | 2570 – 2620 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz | This is not applicable to BS operating in Band n38. |
| UTRA TDD Band f) or E-UTRA Band 39 or NR band n39 | 1880 – 1920MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz | This is not applicable to BS operating in Band n39 |
| UTRA TDD Band e) or E-UTRA Band 40 or NR Band n40 | 2300 – 2400MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz | This is not applicable to BS operating in Bands n30 or n40. |
| E-UTRA Band 41 or NR Band n41 | 2496 – 2690 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz | This is not applicable to BS operating in Band n41 or n53 |
| E-UTRA Band 42 | 3400 – 3600 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz | This is not applicable to BS operating in Band n48, n77 or n78 |
| E-UTRA Band 43 | 3600 – 3800 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz | This is not applicable to BS operating in Band n48, n77 or n78 |
| E-UTRA Band 44 | 703 – 803 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz | This is not applicable to BS operating in Band n28 |
| E-UTRA Band 45 | 1447 – 1467 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| E-UTRA Band 46 or NR Band n46 | 5150 – 5925 MHz | N/A | -91 dBm | -88 dBm | 100 kHz | This is not applicable to BS operating in Band n46, n96 or n102 |
| E-UTRA Band 48 or NR Band n48 | 3550 – 3700 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz | This is not applicable to BS operating in Band n48, n77 or n78 |
| E-UTRA Band 50 or NR band n50 | 1432 – 1517 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz | This is not applicable to BS operating in Band n51, n74, n75, n91, n92, n93 or n94 |
| E-UTRA Band 51 or NR Band n51 | 1427 – 1432 MHz | N/A | N/A | -88 dBm | 100 kHz | This is not applicable to BS operating in Band n50, n74, n75, n76, n91, n92, n93 or n94 |
| E-UTRA Band 53 or NR Band n53 | 2483.5 – 2495 MHz | N/A | -91 dBm | -88 dBm | 100 kHz | This is not applicable to BS operating in Band n41, n53 or n90 |
| E-UTRA Band 65 or NR Band n65 | 1920 – 2010 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| E-UTRA Band 66 or NR Band n66 | 1710 – 1780 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| E-UTRA Band 68 | 698 – 728 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| E-UTRA Band 70 or NR Band n70 | 1695 – 1710 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| E-UTRA Band 71 or NR Band n71 | 663 – 698 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| E-UTRA Band 72 | 451 – 456 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| E-UTRA Band 74 or NR Band n74 | 1427 – 1470 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz | This is not applicable to BS operating in Band n50, n51, n91, n92, n93 or n94 |
| NR Band n77 | 3.3 – 4.2 GHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz | This is not applicable to BS operating in Band n48, n77 or n78 |
| NR Band n78 | 3.3 – 3.8 GHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz | This is not applicable to BS operating in Band n48, n77 or n78 |
| NR Band n79 | 4.4 – 5.0 GHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| NR Band n80 | 1710 – 1785 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| NR Band n81 | 880 – 915 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| NR Band n82 | 832 – 862 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| NR Band n83 | 703 – 748 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| NR Band n84 | 1920 – 1980 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| E-UTRA Band 85 or NR Band n85 | 698 - 716 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| NR Band n86 | 1710 – 1780 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| NR Band n89 | 824 – 849 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| NR Band n91 | 832 – 862 MHz | N/A | N/A | -88 dBm | 100 kHz |  |
| NR Band n92 | 832 – 862 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| NR Band n93 | 880 – 915 MHz | N/A | N/A | -88 dBm | 100 kHz |  |
| NR Band n94 | 880 – 915 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| NR Band n95 | 2010 – 2025 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| NR Band n96 | 5925 – 7125 MHz | N/A | -90 dBm | -87 dBm | 100 kHz | This is not applicable to BS operating in Band n46, n96, n102 or n104 |
| NR Band n97 | 2300 – 2400MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| NR Band n98 | 1880 – 1920MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| NR Band n99 | 1626.5 – 1660.5 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| NR Band n100 | 874.4 – 880 MHz | -96 dBm | N/A | N/A | 100 kHz |  |
| NR Band n101 | 1900 – 1910 MHz | -96 dBm | N/A | N/A | 100 kHz |  |
| NR Band n102 | 5925 – 6425 MHz | N/A | -90 dBm | -87 dBm | 100 kHz | This is not applicable to BS operating in Band n46, n96, n102 or n104 |
| E-UTRA Band 103 | 787 – 788 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |
| NR Band n104 | 6425 – 7125 MHz | -95 dBm | -90 dBm | -87 dBm | 100 kHz | This requirement does not apply to BS operating in Band n96, n102 or n104. |
| NR Band n105 | 663 – 703 MHz | -96 dBm | -91 dBm | -88 dBm | 100 kHz |  |

*<End of the change>*