**3GPP TSG-RAN WG4 Meeting # 112bis R4-2415943**

**Hefei, China, 14th-18th Oct, 2024**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.176-2** | **CR** | **-** | **rev** | **-** | **Current version:** | **18.6.0** |  |
|  | | | | | | | | |
| *For* ***[HELP](http://www.3gpp.org/3G_Specs/CRs.htm" \l "_blank)*** *on using this form: comprehensive instructions can be found at  <http://www.3gpp.org/Change-Requests>.* | | | | | | | | |
|  | | | | | | | | |

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

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | (NR\_bands\_n87\_n88-Perf) Draft CR to TS38.176-2: Introduction of NR bands n87 and n88 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | ZTE Corporation, Sanechips | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_bands\_n87\_n88-Perf | | | | |  | ***Date:*** | | | 2024-08-30 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-19 |
|  | *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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Introduction of new NR bands n87 and n88. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Required changes to support NR bands n87 and n88. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | NR bands n87 and n88 are not supported. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.7.5.4.5.1, 6.7.5.5.5.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |

## << Start of change >>

##### 6.7.5.4.5 Test requirement

6.7.5.4.5.1 Test requirement for *IAB type 1-O*

The power of any spurious emission shall not exceed the test limits in table 6.7.5.4.5-1 for a IAB 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 Note column of table 6.7.5.4.5-1 apply for each supported *operating band*.

Table 6.7.5.4.5.1-1: IAB-DU and IAB-MT spurious emissions basic limits for co-existence with systems operating in other frequency bands

| **System type to co-exist with** | **Frequency range for co-existence requirement** | ***IAB-DU type 1-O* Test limits** | ***IAB-MT type 1-O* Test limits** | **Measurement bandwidth** | **Note** |
| --- | --- | --- | --- | --- | --- |
| GSM900 | 921 – 960 MHz | -45.4 dBm | -45.4 +Y dBm | 100 kHz |  |
|  | 876 – 915 MHz | -49.4 dBm | -49.4 +Y dBm | 100 kHz |  |
| DCS1800 | 1805 – 1880 MHz | -35.4 dBm | -35.4 +Y dBm | 100 kHz |  |
|  | 1710 – 1785 MHz | -49.4 dBm | -49.4 +Y dBm | 100 kHz |  |
| PCS1900 | 1930 – 1990 MHz | -35.4 dBm | -35.4 +Y dBm | 100 kHz |  |
|  | 1850 – 1910 MHz | -49.4 dBm | -49.4 +Y dBm | 100 kHz |  |
| GSM850 or | 869 – 894 MHz | -45.4 dBm | -45.4 +Y dBm | 100 kHz |  |
| CDMA850 | 824 – 849 MHz | -49.4 dBm | -49.4 +Y dBm | 100 kHz |  |
| UTRA FDD | 2110 – 2170 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
| Band I or  E-UTRA Band 1 or NR Band n1 | 1920 – 1980 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| UTRA FDD | 1930 – 1990 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
| Band II or  E-UTRA Band 2 or NR Band n2 | 1850 – 1910 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| UTRA FDD | 1805 – 1880 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
| Band III or  E-UTRA Band 3 or NR Band n3 | 1710 – 1785 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| UTRA FDD Band IV or  E-UTRA Band 4 | 2110 – 2155 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 1710 – 1755 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| UTRA FDD Band V or  E-UTRA Band 5 or NR Band n5 | 869 – 894 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 824 – 849 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| UTRA FDD | 860 – 890 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
| Band VI, XIX or | 815 – 830 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| E-UTRA Band 6, 18, 19 or NR Band n18 | 830 – 845 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| UTRA FDD Band VII or  E-UTRA Band 7 or NR Band n7 | 2620 – 2690 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 2500 – 2570 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| UTRA FDD Band VIII or  E-UTRA Band 8 or NR Band n8 | 925 – 960 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 880 – 915 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| UTRA FDD Band IX or  E-UTRA Band 9 | 1844.9 – 1879.9 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 1749.9 – 1784.9 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| UTRA FDD Band X or  E-UTRA Band 10 | 2110 – 2170 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 1710 – 1770 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| UTRA FDD Band XI or XXI or  E-UTRA Band 11 or 21 | 1475.9 – 1510.9 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 1427.9 – 1447.9 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
|  | 1447.9 – 1462.9 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| UTRA FDD Band XII or  E-UTRA Band 12 or NR Band n12 | 729 – 746 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 699 – 716 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| UTRA FDD Band XIII or  E-UTRA Band 13 | 746 – 756 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 777 – 787 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| UTRA FDD Band XIV or  E-UTRA Band 14 or NR band n14 | 758 – 768 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 788 – 798 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| E-UTRA Band 17 | 734 – 746 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 704 – 716 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| UTRA FDD Band XX or E-UTRA Band 20 or NR Band n20 | 791 – 821 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 832 – 862 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| UTRA FDD Band XXII or E-UTRA Band 22 | 3510 – 3590 MHz | -40 dBm | -40 +Y dBm | 1 MHz | This requirement does not apply to IAB-DU and IAB-MT operating in band n77 or n78. |
|  | 3410 – 3490 MHz | -37 dBm | -37 +Y dBm | 1 MHz | This requirement does not apply to IAB-DU and IAB-MT operating in band n77 or n78. |
| E-UTRA Band 24 | 1525 – 1559 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 1626.5 – 1660.5 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| UTRA FDD Band XXV or  E-UTRA Band 25 or NR band n25 | 1930 – 1995 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 1850 – 1915 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| UTRA FDD Band XXVI or  E-UTRA Band 26 or NR Band n26 | 859 – 894 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 814 – 849 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| E-UTRA Band 27 | 852 – 869 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 807 – 824 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| E-UTRA Band 28 or NR Band n28 | 758 – 803 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 703 – 748 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| E-UTRA Band 29 or NR Band n29 | 717 – 728 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
| E-UTRA Band 30 or NR Band n30 | 2350 – 2360 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 2305 – 2315 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| E-UTRA Band 31 or NR Band n31 | 462.5 – 467.5 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 452.5 – 457.5 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| UTRA FDD band XXXII or E-UTRA band 32 | 1452 – 1496 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
| UTRA TDD Band a) or E-UTRA Band 33 | 1900 – 1920 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
| UTRA TDD Band a) or E-UTRA Band 34 or NR band n34 | 2010 – 2025 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
| UTRA TDD Band b) or E-UTRA Band 35 | 1850 – 1910 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
| UTRA TDD Band b) or E-UTRA Band 36 | 1930 – 1990 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
| UTRA TDD Band c) or E-UTRA Band 37 | 1910 – 1930 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
| UTRA TDD Band d) or E-UTRA Band 38 or NR Band n38 | 2570 – 2620 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
| UTRA TDD Band f) or E-UTRA Band 39 or NR band n39 | 1880 – 1920MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
| UTRA TDD Band e) or E-UTRA Band 40 or NR Band n40 | 2300 – 2400MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
| E-UTRA Band 41 or NR Band n41, n90 | 2496 – 2690 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz | This is not applicable IAB-DU and IAB-MT operating in Band n41. |
| E-UTRA Band 42 | 3400 – 3600 MHz | -40 dBm | -40 +Y dBm | 1 MHz | This is not applicable to IAB-DU and IAB-MT operating in Band n77 or n78. |
| E-UTRA Band 43 | 3600 – 3800 MHz | -40 dBm | -40 +Y dBm | 1 MHz | This is not applicable to IAB-DU and IAB-MT operating in Band n77 or n78. |
| E-UTRA Band 44 | 703 – 803 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
| E-UTRA Band 45 | 1447 – 1467 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
| E-UTRA Band 46 or NR Band n46 | 5150 – 5925 MHz | -39.5 dBm | -39.5 +Y dBm | 1 MHz |  |
| E-UTRA Band 47 | 5855 – 5925 MHz | -39.5 dBm | -39.5 +Y dBm | 1 MHz |  |
| E-UTRA Band 48 or NR Band n48 | 3550 – 3700 MHz | -40 dBm | -40 +Y dBm | 1 MHz | This is not applicable to IAB-DU and IAB-MT operating in Band n77 or n78. |
| E-UTRA Band 50 or NR band n50 | 1432 – 1517 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
| E-UTRA Band 51 or NR Band n51 | 1427 – 1432 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
| E-UTRA Band 53 or NR Band n53 | 2483.5 - 2495 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz | This is not applicable to IAB-DU and IAB-MT operating in Band n41. |
| E-UTRA Band 54 or NR Band n54 | 1670 - 1675 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
| E-UTRA Band 65 or NR Band n65 | 2110 – 2200 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 1920 – 2010 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| E-UTRA Band 66 or NR Band n66 | 2110 – 2200 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 1710 – 1780 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| E-UTRA Band 67 or NR Band n67 | 738 – 758 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
| E-UTRA Band 68 | 753 -783 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 698-728 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| E-UTRA Band 69 | 2570 – 2620 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
| E-UTRA Band 70 or NR Band n70 | 1995 – 2020 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 1695 – 1710 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| E-UTRA Band 71 or NR Band n71 | 617 – 652 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 663 – 698 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| E-UTRA Band 72 or NR Band n72 | 461 – 466 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 451 – 456 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| E-UTRA Band 74 or NR Band n74 | 1475 – 1518 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 1427 – 1470 MHz | -37.4 dBm | -37.4 +Y dBm | 1MHz |  |
| E-UTRA Band 75 or NR Band n75 | 1432 – 1517 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
| E-UTRA Band 76 or NR Band n76 | 1427 – 1432 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
| NR Band n77 | 3.3 – 4.2 GHz | -40 dBm | -40 +Y dBm | 1 MHz | This requirement does not apply to IAB-DU and IAB-MT operating in Band n77 or n78 |
| NR Band n78 | 3.3 – 3.8 GHz | -40 dBm | -40 +Y dBm | 1 MHz | This requirement does not apply to IAB-DU and IAB-MT operating in Band n77 or n78 |
| NR Band n79 | 4.4 – 5.0 GHz | -39.5 dBm | -39.5 +Y dBm | 1 MHz | This requirement does not apply to IAB-DU and IAB-MT operating in Band n79 |
| NR Band n80 | 1710 – 1785 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| NR Band n81 | 880 – 915 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
| NR Band n82 | 832 – 862 MHz | -45.4 dBm | -45.4 +Y dBm | 1 MHz |  |
| NR Band n83 | 703 – 748 MHz | -49.4 dBm | -49.4 +Y dBm | 1 MHz |  |
| NR Band n84 | 1920 – 1980 MHz | -35.4 dBm | -35.4 +Y dBm | 1 MHz |  |
| E-UTRA Band 85 or NR Band n85 | 728 – 746 MHz | -49.4 dBm | -49.4 +Y dBm | 1 MHz |  |
|  | 698 – 716 MHz | -35.4 dBm | -35.4 +Y dBm | 1 MHz |  |
| NR Band n86 | 1710 – 1780 MHz | -49.4 dBm | -49.4 +Y dBm | 1 MHz |  |
| NR Band n87 | 420 - 425 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
| 410 - 415 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| NR Band n88 | 422 - 427 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
| 412 - 417 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| NR Band n89 | 824 – 849 MHz | -45.4 dBm | -45.4 +Y dBm | 1 MHz |  |
| NR Band n91 | 1427 – 1432 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 832 – 862 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| NR Band n92 | 1432 – 1517 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 832 – 862 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| NR Band n93 | 1427 – 1432 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
|  | 880 – 915 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
| NR Band n94 | 1432 – 1517 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 880 – 915 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| NR Band n95 | 2010 – 2025 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
| NR Band n96 | 5925 – 7125 MHz | -39.5 dBm | -39.5 +Y dBm | 1 MHz |  |
| NR Band n97 | 2300 – 2400MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
| NR Band n98 | 1880 – 1920MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
| NR Band n99 | 1626.5 – 1660.5 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| NR Band n100 | 919.4 – 925 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 874.4 – 880 MHz | -37.4 dBm | -37.4 +Y dBm | 1MHz |  |
| NR Band n101 | 1900 - 1910 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
| NR Band n102 | 6425 – 7125 MHz | -39.5 dBm | -39.5 +Y dBm | 1 MHz |  |
| E-UTRA Band 103 | 757 – 758 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 787 – 788 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| NR Band n104 | 6425 – 7125 MHz | -39.5 dBm | -39.5 +Y dBm | 1 MHz |  |
| NR Band n105 | 612 – 652 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 663 – 703 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| E-UTRA Band 106 or NR Band n106 | 935 - 940 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 896 – 901 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |
| NR Band n109 | 1432 – 1517 MHz | -40.4 dBm | -40.4 +Y dBm | 1 MHz |  |
|  | 703 – 733 MHz | -37.4 dBm | -37.4 +Y dBm | 1 MHz |  |

NOTE 1: As defined in the scope for spurious emissions in this clause the co-existence requirements in table 6.7.5.4.5.1-1do not apply for the ΔfOBUE frequency range immediately outside the downlink *operating band* (see table 5.2-1). Emission limits for this excluded frequency range may be covered by local or regional requirements.

NOTE 2: Table 6.7.5.4.5.1-1 assumes that two *operating bands*, where the frequency ranges in table 5.2-1 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: Y = - 9 + 10log10(NTXU,OTApercell) dB

## << Next change >>

##### 6.7.5.5.5 Test requirements

6.7.5.5.5.1 Test requirement for *IAB type 1-O*

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

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.

This requirement is a co-location requirement as defined in clause 4.9, in TS 38.174 [2], the power levels are specified at the CLTAoutput.

The output of the CLTA of any spurious emission shall not exceed the test limit in table 6.7.5.5.5.1-1.

For a *multi-band RIB*, the exclusions and conditions in the notes column of table 6.7.5.5.5.1-1 apply for each supported operating band.

Table 6.7.5.5.5.1-1: *IAB-DU and IAB-MT spurious emissions basic limits for co-location with BS or IAB-Node*

| **Co-located system** | **Frequency range for** | **Test limits** | | | | | **Measurement** | **Note** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **co-location requirement** | **WA IAB-DU** | **WA IAB-MT** | **MR IAB-DU** | **LA IAB-DU** | **LA IAB-MT** | **bandwidth** |  |
| GSM900 | 876 – 915 MHz | -115.9 dBm | -115.9 +Y dBm | -108.9 dBm | -87.9 dBm | -87.9 +Y dBm | 100 kHz |  |
| DCS1800 | 1710 – 1785 MHz | -115.9 dBm | -115.9 +Y dBm | -108.9 dBm | -97.9 dBm | -97.9 +Y dBm | 100 kHz |  |
| PCS1900 | 1850 – 1910 MHz | -115.9 dBm | -115.9 +Y dBm | -108.9 dBm | -97.9 dBm | -97.9 +Y dBm | 100 kHz |  |
| GSM850 or CDMA850 | 824 – 849 MHz | -115.9 dBm | -115.9 +Y dBm | -108.9 dBm | -87.9 dBm | -87.9 +Y dBm | 100 kHz |  |
| UTRA FDD Band I or E-UTRA Band 1 or NR Band n1 | 1920 – 1980 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| UTRA FDD Band II or E-UTRA Band 2 or NR Band n2 | 1850 – 1910 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| UTRA FDD Band III or E-UTRA Band 3 or NR Band n3 | 1710 – 1785 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| UTRA FDD Band IV or E-UTRA Band 4 | 1710 – 1755 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| UTRA FDD Band V or E-UTRA Band 5 or NR Band n5 | 824 – 849 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| UTRA FDD Band VI, XIX or E-UTRA Band 6, 19 | 830 – 845 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| UTRA FDD Band VII or E-UTRA Band 7 or NR Band n7 | 2500 – 2570 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| UTRA FDD Band VIII or E-UTRA Band 8 or NR Band n8 | 880 – 915 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| UTRA FDD Band IX or E-UTRA Band 9 | 1749.9 – 1784.9 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| UTRA FDD Band X or E-UTRA Band 10 | 1710 – 1770 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| UTRA FDD Band XI or E-UTRA Band 11 | 1427.9 –1447.9 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| UTRA FDD Band XII or  E-UTRA Band 12 or NR Band n12 | 699 – 716 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| UTRA FDD Band XIII or  E-UTRA Band 13 | 777 – 787 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| UTRA FDD Band XIV or  E-UTRA Band 14 or NR Band n14 | 788 – 798 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| E-UTRA Band 17 | 704 – 716 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| E-UTRA Band 18 or NR Band n18 | 815 – 830 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| UTRA FDD Band XX or E-UTRA Band 20 or NR Band n20 | 832 – 862 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| UTRA FDD Band XXI or E-UTRA Band 21 | 1447.9 – 1462.9 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| UTRA FDD Band XXII or E-UTRA Band 22 | 3410 – 3490 MHz | -113.7 dBm | -113.7 +Y dBm | -108.7 dBm | -105.7 dBm | -105.7 +Y dBm | 100 kHz | This is not applicable to IAB-DU and IAB-MT operating in Band n77 or n78 |
| E-UTRA Band 23 | 2000 – 2020 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| E-UTRA Band 24 | 1626.5 – 1660.5 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| UTRA FDD Band XXV or  E-UTRA Band 25 or NR Band n25 | 1850 – 1915 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| UTRA FDD Band XXVI or  E-UTRA Band 26 or NR Band n26 | 814 – 849 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| E-UTRA Band 27 | 807 – 824 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| E-UTRA Band 28 or NR Band n28 | 703 – 748 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| E-UTRA Band 30 or NR Band n30 | 2305 – 2315 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| E-UTRA Band 31 or NR Band n31 | 452.5 – 457.5 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| UTRA TDD Band a) or E-UTRA Band 33 | 1900 – 1920 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| UTRA TDD Band a) or E-UTRA Band 34 or NR band n34 | 2010 – 2025 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| UTRA TDD Band b) or E-UTRA Band 35 | 1850 – 1910 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| UTRA TDD Band b) or E-UTRA Band 36 | 1930 – 1990 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| UTRA TDD Band c) or E-UTRA Band 37 | 1910 – 1930 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| UTRA TDD Band d) or E-UTRA Band 38 or NR Band n38 | 2570 – 2620 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| UTRA TDD Band f) or E-UTRA Band 39 or NR band n39 | 1880 – 1920MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| UTRA TDD Band e) or E-UTRA Band 40 or NR Band n40 | 2300 – 2400MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| E-UTRA Band 41 or NR Band n41, n90 | 2496 – 2690 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz | This is not applicable to IAB-DU and IAB-MT operating in Band n41 |
| E-UTRA Band 42 | 3400 – 3600 MHz | -113.7 dBm | -113.7 +Y dBm | -108.7 dBm | -105.7 dBm | -105.7 +Y dBm | 100 kHz | This is not applicable to IAB-DU and IAB-MT operating in Band n77 or n78 |
| E-UTRA Band 43 | 3600 – 3800 MHz | -113.7 dBm | -113.7 +Y dBm | -108.7 dBm | -105.7 dBm | -105.7 +Y dBm | 100 kHz | This is not applicable to IAB-DU and IAB-MT operating in Band n77 or n78 |
| E-UTRA Band 44 | 703 – 803 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| E-UTRA Band 45 | 1447 – 1467 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| E-UTRA Band 46 or NR Band n46 | 5150 – 5925 MHz | N/A | N/A | -108.6 dBm | -105.6 dBm | -105.6 +Y dBm | 100 kHz |  |
| E-UTRA Band 48 or NR Band n48 | 3550 – 3700 MHz | -113.7 dBm | -113.7 +Y dBm | -108.7 dBm | -105.7 dBm | -105.7 +Y dBm | 100 kHz | This is not applicable to IAB-DU and IAB-MT operating in Band n77 or n78 |
| E-UTRA Band 50 or NR Band n50 | 1432 – 1517 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| E-UTRA Band 51 or NR Band n51 | 1427 – 1432 MHz | N/A | N/A | N/A | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| E-UTRA Band 53 or NR Band n53 | 2483.5 – 2495 MHz | N/A | N/A | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz | This is not applicable to IAB-DU and IAB-MT operating in Band n41 |
| E-UTRA Band 54 or NR Band n54 | 1670 – 1675 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| E-UTRA Band 65 or NR Band n65 | 1920 – 2010 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| E-UTRA Band 66 or NR Band n66 | 1710 – 1780 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| E-UTRA Band 68 | 698 – 728 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| E-UTRA Band 70 or NR Band n70 | 1695 – 1710 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| E-UTRA Band 71 or NR Band n71 | 663 – 698 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| E-UTRA Band 72 or NR Band n72 | 451 – 456 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| E-UTRA Band 74 or NR Band n74 | 1427 – 1470 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| NR Band n77 | 3.3 – 4.2 GHz | -113.7 dBm | -113.7 +Y dBm | -108.7 dBm | -105.7 dBm | -105.7 +Y dBm | 100 kHz | This is not applicable to IAB-DU and IAB-MT operating in Band n77 or n78 |
| NR Band n78 | 3.3 – 3.8 GHz | -113.7 dBm | -113.7 +Y dBm | -108.7 dBm | -105.7 dBm | -105.7 +Y dBm | 100 kHz | This is not applicable to IAB-DU and IAB-MT operating in Band n77 or n78 |
| NR Band n79 | 4.4 – 5.0 GHz | -113.6 dBm | -113.6 +Y dBm | -108.6 dBm | -105.6 dBm | -105.6 +Y dBm | 100 kHz | This is not applicable to IAB-DU and IAB-MT operating in Band n79 |
| NR Band n80 | 1710 – 1785 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| NR Band n81 | 880 – 915 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| NR Band n82 | 832 – 862 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| NR Band n83 | 703 – 748 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| NR Band n84 | 1920 – 1980 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| E-UTRA Band 85 or NR Band n85 | 698 – 716 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| NR Band n86 | 1710 – 1780 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| NR Band n87 | 410 – 415 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| NR Band n88 | 412 – 417 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| NR Band n89 | 824 – 849 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| NR Band n91 | 832 – 862 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| NR Band n92 | 832 – 862 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| NR Band n93 | 880 – 915 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| NR Band n94 | 880 – 915 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| NR Band n95 | 2010 – 2025 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| NR Band n96 | 5925 – 7125 MHz | N/A | N/A | -107.6 dBm | -104.6 dBm | -104.6 +Y dBm | 100 kHz |  |
| NR Band n97 | 2300 – 2400MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| NR Band n98 | 1880 – 1920 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| NR Band n99 | 1626.5 – 1660.5 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| NR Band n102 | 6425 – 7125 MHz | N/A | N/A | -107.6 dBm | -104.6 dBm | -104.6 +Y dBm | 100 kHz |  |
| E-UTRA Band 103 | 787 – 788 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| NR Band n104 | 6425 – 7125 MHz | -112.6 dBm | -112.6 +Y dBm | -107.6 dBm | -104.6 dBm | -104.6 +Y dBm | 100 kHz |  |
| NR Band n105 | 663 – 703 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| E-UTRA Band 106 or NR Band n106 | 896 – 901 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |
| NR Band n109 | 703 – 733 MHz | -113.9 dBm | -113.9 +Y dBm | -108.9 dBm | -105.9 dBm | -105.9 +Y dBm | 100 kHz |  |

NOTE 1: As defined in the scope for spurious emissions in this clause, the co-location requirements in table 6.6.5.2.3-1 do not apply for the frequency range extending ΔfOBUE immediately outside the transmit frequency range of a IAB-MT and IAB-DU. The current state-of-the-art technology does not allow a single generic solution for co-location with other system on adjacent frequencies for 30dB antenna to antenna minimum coupling loss. However, there are certain site-engineering solutions that can be used. These techniques are addressed in TR 25.942 [15].

NOTE 2: Table 6.6.5.2.3-1 assumes that two operating bands, where the corresponding transmit and receive frequency ranges in table 5.2-1 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: Y = - 9 + 10log10(NTXU,OTApercell) dB.

## << End of change >>