**3GPP TSG-RAN4 Meeting #102-e *R4-2207520***

**Online, , February 22 - March 3, 2022**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **36.141** | **CR** | **XXXX** | **rev** | **-** | **Current version:** | **17.4.0** |  |
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| *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 |  |

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| ***Title:*** | CR to TS 36.141: Introduction of RMR bands n100 and n101 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_RAIL\_EU\_1900MHz\_TDD-Core | | | | |  | ***Date:*** | | | 2022-03-07 |
|  |  | | | |  | |  | | |  |
| ***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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Add support for band n101 | | | | | | | | |
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| ***Summary of change:*** | | Add coexistence and co-location requirements to support the new band | | | | | | | | |
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| ***Consequences if not approved:*** | | Co-location and Coexistence with NR Band n101 won’t be addressed properly. | | | | | | | | |
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| ***Clauses affected:*** | | 6.6.4.5.4, 6.6.4.5.5, 7.6.5.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS 36.104 | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
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| ***Other comments:*** | | According to ECC Decision(20)02, the BS operating in the new RMR bands are non-AAS type only.  Also, only WA BS has been considered.  The corresponding draft CR R4-2203127 was endorsed in RAN4#101-bis-e. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

*<Start of the change>*

##### 6.6.4.5.4 Co-existence with other systems in the same geographical area

6.6.4.5.4.1 Void

These requirements may be applied for the protection of system operating in frequency ranges other than the E-UTRA or NB-IoT BS operating band. The limits may apply as an optional protection of such systems that are deployed in the same geographical area as the E-UTRA BS, or they may be set by local or regional regulation as a mandatory requirement for an E-UTRA 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 4.3.

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 limits of Table 6.6.4.5.4-1 for a BS where requirements for co-existence with the system listed in the first column apply. For BS capable of multi-band operation the exclusions and conditions in the Note column of Table 6.6.4.5.4-1 apply for each supported operating band. For BS capable of multi-band operation where multiple bands are mapped on separate antenna connectors, the exclusions and conditions in the Note column of Table 6.6.4.5.4-1 apply for the operating band supported at that antenna connector.

Table 6.6.4.5.4-1: BS Spurious emissions limits for E-UTRA BS for co-existence with systems operating in other frequency bands

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| System type for E-UTRA to co-exist with | Frequency range for co-existence requirement | Maximum Level | Measurement Bandwidth | Note |
| GSM900 | 921 ‑ 960 MHz | -57 dBm | 100 kHz | This requirement does not apply to E-UTRA BS operating in band 8 |
| 876 - 915 MHz | -61 dBm | 100 kHz | For the frequency range 880-915 MHz, this requirement does not apply to E-UTRA BS operating in band 8, since it is already covered by the requirement in subclause 6.6.4.5.3. |
| DCS1800 | 1805 ‑ 1880 MHz | -47 dBm | 100 kHz | This requirement does not apply to E-UTRA BS operating in band 3. |
| 1710 - 1785 MHz | -61 dBm | 100 kHz | This requirement does not apply to E-UTRA BS operating in band 3, since it is already covered by the requirement in subclause 6.6.4.5.3. |
| PCS1900 | 1930 ‑ 1990 MHz | -47 dBm | 100 kHz | This requirement does not apply to E-UTRA BS operating in frequency band 2, band 25, band 36 or band 70. |
| 1850 ‑ 1910 MHz | -61 dBm | 100 kHz | This requirement does not apply to E-UTRA BS operating in frequency band 2 or 25, since it is already covered by the requirement in subclause 6.6.4.5.3. This requirement does not apply to E-UTRA BS operating in frequency band 35. |
| GSM850 or CDMA850 | 869 - 894 MHz | -57 dBm | 100 kHz | This requirement does not apply to E-UTRA BS operating in frequency 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 | -61 dBm | 100 kHz | This requirement does not apply to E-UTRA BS operating in frequency band 5 or 26, since it is already covered by the requirement in subclause 6.6.4.5.3. For E‑UTRA 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 | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 1 or 65. |
| 1920 - 1980 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 1 or 65, since it is already covered by the requirement in subclause 6.6.4.5.3. |
| UTRA FDD Band II or  E-UTRA Band 2 or NR band n2 | 1930 - 1990 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 2, 25 or band 70. |
| 1850 - 1910 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 2 or 25, since it is already covered by the requirement in subclause 6.6.4.5.3 |
| UTRA FDD Band III or  E-UTRA Band 3 or NR band n3 | 1805 - 1880 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 3. |
| 1710 - 1785 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 3 or 9, since it is already covered by the requirement in subclause 6.6.4.5.3.  For E-UTRA 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 clause 6.6.4.5.3. |
| UTRA FDD Band IV or  E-UTRA Band 4 | 2110 - 2155 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 4, 10 or 66 |
| 1710 - 1755 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 4, 10 or 66, since it is already covered by the requirement in subclause 6.6.4.5.3. |
| UTRA FDD Band V or  E-UTRA Band 5 or NR band n5 | 869 - 894 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA 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 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 5 or 26, since it is already covered by the requirement in subclause 6.6.4.5.3. For E‑UTRA 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 | 860 - 890 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 6, 18, 19. |
| 815 - 830 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 18, since it is already covered by the requirement in subclause 6.6.4.5.3. |
| 830 - 845 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 6, 19, since it is already covered by the requirement in subclause 6.6.4.5.3. |
| UTRA FDD Band VII or  E-UTRA Band 7 or NR band n7 | 2620 - 2690 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 7. |
| 2500 - 2570 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 7, since it is already covered by the requirement in subclause 6.6.4.5.3. |
| UTRA FDD Band VIII or  E-UTRA Band 8 or NR band n8 | 925 - 960 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 8 . |
| 880 - 915 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 8, since it is already covered by the requirement in subclause 6.6.4.5.3. |
| UTRA FDD Band IX or  E-UTRA Band 9 | 1844.9 - 1879.9 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 3 or 9. |
| 1749.9 - 1784.9 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 3 or 9, since it is already covered by the requirement in subclause 6.6.4.5.3. |
| UTRA FDD Band X or  E-UTRA Band 10 | 2110 - 2170 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 4, 10 or 66 |
| 1710 - 1770 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 10 or 66, since it is already covered by the requirement in subclause 6.6.4.5.3. For E-UTRA BS operating in Band 4, it applies for 1755 MHz to 1770 MHz, while the rest is covered in clause 6.6.4.5.3. |
| UTRA FDD Band XI or XXI  E-UTRA Band 11 or 21 | 1475.9 - 1510.9 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 11, 21, 32, 50, 74 or 75. |
| 1427.9 - 1447.9 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 11 or 74, since it is already covered by the requirement in subclause 6.6.4.5.3. This requirement does not apply to BS operating in band 32, 50, 51, 75 or 76. |
| 1447.9 - 1462.9 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 21 or 74, since it is already covered by the requirement in subclause 6.6.4.5.3. This requirement does not apply to BS operating in band 32, 50 or 75. |
| UTRA FDD Band XII or  E-UTRA Band 12 or NR band n12 | 729 - 746 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 12 or 85. |
| 699 - 716 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 12 or 85, since it is already covered by the requirement in subclause 6.6.4.5.3. For E‑UTRA BS operating in Band 29, it applies 1 MHz below the Band 29 downlink operating band (Note 6) |
| UTRA FDD Band XIII or  E-UTRA Band 13 or NR Band n13 | 746 - 756 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 13. |
| 777 - 787 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 13, since it is already covered by the requirement in subclause 6.6.4.5.3. |
| UTRA FDD Band XIV or  E-UTRA Band 14 or NR Band n14 | 758 - 768 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 14. |
| 788 - 798 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 14, since it is already covered by the requirement in subclause 6.6.4.5.3. |
| E-UTRA Band 17 | 734 - 746 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 17. |
| 704 - 716 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 17, since it is already covered by the requirement in subclause 6.6.4.5.3. For E‑UTRA BS operating in Band 29, it applies 1 MHz below the Band 29 downlink operating band (Note 6) |
| 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 E-UTRA BS operating in band 20 or 28. |
| 832 - 862 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 20, since it is already covered by the requirement in subclause 6.6.4.5.3. |
| UTRA FDD Band XXII or  E-UTRA Band 22 | 3510 – 3590 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 22, 42, 48 or 49. |
| 3410 – 3490 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 22, since it is already covered by the requirement in subclause 6.6.4.5.3. This requirement does not apply to E-UTRA BS operating in Band 42 |
| E-UTRA Band 24 or NR Band n24 | 1525 – 1559 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 24. |
| 1626.5 – 1660.5 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 24, since it is already covered by the requirement in subclause 6.6.4.5.3. |
| UTRA FDD Band XXV or  E-UTRA Band 25 or NR band n25 | 1930 - 1995 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 2, 25 or 70 |
| 1850 - 1915 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 25, since it is already covered by the requirement in subclause 6.6.4.5.3. For E-UTRA BS operating in Band 2, it applies for 1910 MHz to 1915 MHz, while the rest is covered in clause 6.6.4.5.3. |
| UTRA FDD Band XXVI or  E-UTRA Band 26 or NR Band n26 | 859 – 894 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA 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 | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 26, since it is already covered by the requirement in subclause 6.6.4.5.3. For E-UTRA BS operating in Band 5, it applies for 814 MHz to 824 MHz, while the rest is covered in clause 6.6.4. 5.3. For E‑UTRA BS operating in Band 27, it applies 3 MHz below the Band 27 downlink operating band. |
| E-UTRA Band 27 | 852 – 869 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in Band 5, 26 or 27. |
| 807 – 824 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in Band 27, since it is already covered by the requirement in subclause 6.6.4.5.3. For E-UTRA BS operating in Band 26, it applies for 807 MHz to 814 MHz, while the rest is covered in clause 6.6.4.5.3. This requirement also applies to E-UTRA BS operating in Band 28, starting 4 MHz above the Band 28 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 E-UTRA BS operating in band 20, 28, 44, 67 or 68. |
| 703 - 748 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 28, since it is already covered by the requirement in subclause 6.6.4.5.3. This requirement does not apply to E-UTRA BS operating in Band 44.  For E-UTRA BS operating in Band 67, it applies for 703 MHz to 736 MHz. 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 | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in Band 29 or 85. |
| E-UTRA Band 30 or NR Band n30 | 2350 – 2360 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 30 or 40. |
| 2305 – 2315 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 30, since it is already covered by the requirement in subclause 6.6.4.5.3. This requirement does not apply to E-UTRA BS operating in Band 40. |
| E-UTRA Band 31 | 462.5 -467.5 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 31, 72 or 73. |
| 452.5 -457.5 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 31, since it is already covered by the requirement in subclause 6.6.4.5.3. 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 | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 11, 21, 32, 50, 74 or 75. |
| UTRA TDD Band a) or E-UTRA Band 33 | 1900 – 1920 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in Band 33. |
| 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 E-UTRA BS operating in Band 34. |
| UTRA TDD Band b) or E-UTRA Band 35 | 1850 – 1910 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in Band 35. |
| UTRA TDD Band b) or E-UTRA Band 36 | 1930 – 1990 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in Band 2 and 36. |
| UTRA TDD Band c) or E-UTRA Band 37 | 1910 – 1930 MHz | -52 dBm | 1 MHz | This is not applicable to E-UTRA 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 | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in Band 38 or 69. |
| UTRA TDD Band f) or E-UTRA Band 39 or NR band n39 | 1880 – 1920MHz | -52 dBm | 1 MHz | This is not applicable to E-UTRA BS operating in Band 39. |
| UTRA TDD Band e) or E-UTRA Band 40 or NR band n40 | 2300 – 2400MHz | -52 dBm | 1 MHz | This is not applicable to E-UTRA BS operating in Band 30 or 40. |
| E-UTRA Band 41 or NR band n41 | 2496 – 2690 MHz | -52 dBm | 1 MHz | This is not applicable to E-UTRA BS operating in Band 41 or 53. |
| E-UTRA Band 42 | 3400 – 3600 MHz | -52 dBm | 1 MHz | This is not applicable to E-UTRA BS operating in Band 22, 42, 43, 48, 49 or 52. |
| E-UTRA Band 43 | 3600 – 3800 MHz | -52 dBm | 1 MHz | This is not applicable to E-UTRA BS operating in Band 42, 43, 48 or 49. |
| E-UTRA Band 44 | 703 - 803 MHz | -52 dBm | 1 MHz | This is not applicable to E-UTRA BS operating in Band 28 or 44 |
| E-UTRA Band 45 | 1447 – 1467 MHz | -52 dBm | 1 MHz | This is not applicable to E-UTRA BS operating in Band 45 |
| E-UTRA Band 46 or NR Band n46 | 5150 - 5925 MHz | -52 dBm | 1 MHz | This is not applicable to E-UTRA BS operating in Band 46. |
| 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 E-UTRA BS operating in Band 22, 42, 43, 48 or 49. |
| E-UTRA Band 49 | 3550 - 3700 MHz | -52 dBm | 1 MHz | This is not applicable to E-UTRA BS operating in Band 22, 42, 43, 48 or 49. |
| E-UTRA Band 50 or NR band n50 | 1432 - 1517 MHz | -52 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 | -52 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 - 2495 MHz | -52 dBm | 1 MHz | This is not applicable to E-UTRA BS operating in Band 41 or 53. |
| E-UTRA Band 65 or NR band n65 | 2110 - 2200 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 1 or 65, |
| 1920 - 2010 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 65, since it is already covered by the requirement in clause 6.6.4.5.3.  For E-UTRA BS operating in Band 1, it applies for 1980 MHz to 2010 MHz, while the rest is covered in clause 6.6.4.5.3. |
| E-UTRA Band 66 or NR band n66 | 2110 - 2200 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 4, 10, 23 or 66. |
| 1710 - 1780 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 66, since it is already covered by the requirement in clause 6.6.4.5.3. For E-UTRA BS operating in Band 4, it applies for 1755 MHz to 1780 MHz, while the rest is covered in clause 6.6.4.5.3. For E-UTRA BS operating in Band 10, it applies for 1770 MHz to 1780 MHz, while the rest is covered in clause 6.6.4.5.3. |
| E-UTRA Band 67 or NR band n67 | 738 - 758 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in Band 28 or 67. |
| E-UTRA Band 68 | 753 -783 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 28, or 68. |
|  | 698-728 MHz | -49 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 clause 6.6.4.5.3. For E-UTRA BS operating in Band 28, it applies between 698 MHz and 703 MHz, while the rest is covered in clause 6.6.4.5.3. |
| E-UTRA Band 69 | 2570 - 2620 MHz | -52 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 | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 2, 25 or 70 |
| 1695 – 1710 MHz | -49 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 clause 6.6.4.5.3. |
| E-UTRA Band 71 or NR band n71 | 617 - 652 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 71 |
| 663 – 698 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 71, since it is already covered by the requirement in clause 6.6.4.5.3 |
| E-UTRA Band 72 | 461 - 466 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 31, 72 or 73. |
| 451 - 456 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 72, since it is already covered by the requirement in clause 6.6.4.5.3. This requirement does not apply to E-UTRA BS operating in band 73. |
| E-UTRA Band 73 | 460 - 465 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 31, 72 or 73. |
| 450 - 455 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 73, since it is already covered by the requirement in clause 6.6.4.5.3. |
| E-UTRA Band 74 or NR band n74 | 1475 – 1518 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 11, 21, 32, 50, 74 or 75. |
| 1427 – 1470 MHz | -49 dBm | 1MHz | This requirement does not apply to E-UTRA BS operating in Band 74, since it is already covered by the requirement in clause 6.6.4.5.3 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 | -52 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 76 or NR band n76 | 1427 – 1432 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 50, 51, 75 or 76. |
| NR band n77 | 3300 – 4200 MHz | -52 dBm | 1 MHz | This is not applicable to E-UTRA BS operating in Band 22, 42, 43, 48, 49 or 52. |
| NRband n78 | 3300 – 3800 MHz | -52 dBm | 1 MHz | This is not applicable to E-UTRA BS operating in Band 22, 42, 43, 48, 49 or 52. |
| NR Band n79 | 4.4 – 5.0 GHz | -52 dBm | 1 MHz |  |
| NR Band n80 | 1710 – 1785 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 3, since it is already covered by the requirement in clause 6.6.4.2.  For E-UTRA 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 clause 6.6.4.2. |
| NR Band n81 | 880 – 915 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 8, since it is already covered by the requirement in clause 6.6.4.2. |
| NR Band n82 | 832 – 862 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 20, since it is already covered by the requirement in subclause 6.6.4.2. |
| NR Band n83 | 703 – 748 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 28, since it is already covered by the requirement in subclause 6.6.4.2. This requirement does not apply to E-UTRA BS operating in Band 44.  For E-UTRA BS operating in Band 67, it applies for 703 MHz to 736 MHz. For E-UTRA BS operating in Band 68, it applies for 728MHz to 733MHz. |
| NR Band n84 | 1920 – 1980 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 1 or 65, since it is already covered by the requirement in clause 6.6.4.2. |
| E-UTRA Band 85 or NR band n85 | 728 - 746 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 12, 29 or 85. |
| 698 - 716 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 85, since it is already covered by the requirement in clause 6.6.4.5.3. For E‑UTRA BS operating in Band 29, it applies 1 MHz below the Band 29 downlink operating band (Note 6). |
| NR Band n86 | 1710 - 1780 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 66, since it is already covered by the requirement in clause 6.6.4.2. For E-UTRA BS operating in Band 4, it applies for 1755 MHz to 1780 MHz, while the rest is covered in clause 6.6.4.2. For E-UTRA BS operating in Band 10, it applies for 1770 MHz to 1780 MHz, while the rest is covered in clause 6.6.4.2. |
| E-UTRA Band 87 | 420 - 425 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 87 or 88. |
| 410 – 415 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 87, since it is already covered by the requirement in clause 6.6.4.5.3 |
| E-UTRA Band 88 | 422 - 427 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 87 or 88. |
| 412 - 417 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 88, since it is already covered by the requirement in clause 6.6.4.5.3. This requirement does not apply to E-UTRA BS operating in band 87. |
| NR Band n89 | 824 - 849 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 5 or 26, since it is already covered by the requirement in subclause 6.6.4.5.3. For E‑UTRA BS operating in Band 27, it applies 3 MHz below the Band 27 downlink operating band. |
| NR Band n91 | 1427 – 1432 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in Band 50, 51, 75 or 76. |
| 832 – 862 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 20, since it is already covered by the requirement in subclause 6.6.4.5.3. |
| NR Band n92 | 1432 – 1517 MHz | -52 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. |
| 832 – 862 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 20, since it is already covered by the requirement in subclause 6.6.4.5.3. |
| NR Band n93 | 1427 – 1432 MHz | -52 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in Band 50, 51, 75 or 76. |
| 880 – 915 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 8, since it is already covered by the requirement in subclause 6.6.4.5.3. |
| NR Band n94 | 1432 – 1517 MHz | -52 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. |
| 880 – 915 MHz | -49 dBm | 1 MHz | This requirement does not apply to E-UTRA BS operating in band 8, since it is already covered by the requirement in subclause 6.6.4.5.3. |
| NR Band n95 | 2010 – 2025 MHz | -52 dBm | 1 MHz |  |
| NR Band n96 | 5925 – 7125 MHz | -52 dBm | 1 MHz | This is not applicable to E-UTRA BS operating in Band 46 |
| 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 E-UTRA BS operating in band 24, since it is already covered by the requirement in subclause 6.6.4.5.3. |
| NR Band n101 | 1900 – 1910 MHz | -52 dBm | 1 MHz |  |

*<End of the change>*

*<Start of the change>*

##### 6.6.4.5.5 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 an E-UTRA or NB-IoT 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 power of any spurious emission shall not exceed the limits of Table 6.6.4.5.5-1 for a Wide Area BS where requirements for co-location with a BS type listed in the first column apply. For BS capable of multi-band operation, the exclusions and conditions in the Note column of Table 6.6.4.5.5-1 apply for each supported operating band. For BS capable of multi-band operation where multiple bands are mapped on separate antenna connectors, the exclusions and conditions in the Note column of Table 6.6.4.5.5-1 apply for the operating band supported at that antenna connector.

Table 6.6.4.5.5-1: BS Spurious emissions limits for Wide Area BS co-located with another BS

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Type of co-located BS | Frequency range for co-location requirement | Maximum Level | Measurement Bandwidth | Note |
| Macro GSM900 | 876-915 MHz | -98 dBm | 100 kHz |  |
| Macro DCS1800 | 1710 - 1785 MHz | -98 dBm | 100 kHz |  |
| Macro PCS1900 | 1850 - 1910 MHz | -98 dBm | 100 kHz |  |
| Macro GSM850 or CDMA850 | 824 - 849 MHz | -98 dBm | 100 kHz |  |
| WA UTRA FDD Band I or E-UTRA Band 1 or NR band n1 | 1920 - 1980 MHz | -96 dBm | 100 kHz |  |
| WA UTRA FDD Band II or E-UTRA Band 2 or NR band n2 | 1850 - 1910 MHz | -96 dBm | 100 kHz |  |
| WA UTRA FDD Band III or E-UTRA Band 3 or NR band n3 | 1710 - 1785 MHz | -96 dBm | 100 kHz |  |
| WA UTRA FDD Band IV or E-UTRA Band 4 | 1710 - 1755 MHz | -96 dBm | 100 kHz |  |
| WA UTRA FDD Band V or E-UTRA Band 5 or NR band n5 | 824 - 849 MHz | -96 dBm | 100 kHz |  |
| WA UTRA FDD Band VI, XIX or  E-UTRA Band 6, 19 | 830 - 845 MHz | -96 dBm | 100 kHz |  |
| WA UTRA FDD Band VII or E-UTRA Band 7 or Nrband n7 | 2500 - 2570 MHz | -96 dBm | 100 kHz |  |
| WA UTRA FDD Band VIII or E-UTRA Band 8 or NR band n8 | 880 - 915 MHz | -96 dBm | 100 kHz |  |
| WA UTRA FDD Band IX or E-UTRA Band 9 | 1749.9 - 1784.9 MHz | -96 dBm | 100 kHz |  |
| WA UTRA FDD Band X or E-UTRA Band 10 | 1710 - 1770 MHz | -96 dBm | 100 kHz |  |
| WA UTRA FDD Band XI or E-UTRA Band 11 | 1427.9 –1447.9 MHz | -96 dBm | 100 kHz | This is not applicable to E-UTRA BS operating in Band 50 or 75 |
| WA UTRA FDD Band XII or  E-UTRA Band 12 or NR band n12 | 699 - 716 MHz | -96 dBm | 100 kHz |  |
| WA UTRA FDD Band XIII or  E-UTRA Band 13 or NR Band n13 | 777 - 787 MHz | -96 dBm | 100 kHz |  |
| WA UTRA FDD Band XIV or  E-UTRA Band 14 or NR Band n14 | 788 - 798 MHz | -96 dBm | 100 kHz |  |
| WA E-UTRA Band 17 | 704 - 716 MHz | -96 dBm | 100 kHz |  |
| WA E-UTRA Band 18 | 815 - 830 MHz | -96 dBm | 100 kHz |  |
| WA UTRA FDD Band XX E-UTRA Band 20 or NR band n20 | 832 - 862 MHz | -96 dBm | 100 kHz |  |
| WA UTRA FDD Band XXI or  E-UTRA Band 21 | 1447.9 – 1462.9 MHz | -96 dBm | 100 kHz | This is not applicable to E-UTRA BS operating in Band 32, 50 or 75 |
| WA UTRA FDD Band XXII or E-UTRA Band 22 | 3410 – 3490 MHz | -96 dBm | 100 kHz | This is not applicable to E-UTRA BS operating in Band 42 |
| WA E-UTRA Band 24 or NR Band n24 | 1626.5 – 1660.5 MHz | -96 dBm | 100 kHz |  |
| WA UTRA FDD Band XXV or  E-UTRA Band 25 or NR Band n25 | 1850 – 1915 MHz | -96 dBm | 100 kHz |  |
| WA UTRA FDD Band XXVI or  E-UTRA Band 26 or NR Band n26 | 814 – 849 MHz | -96 dBm | 100 kHz |  |
| WA E-UTRA Band 27 | 807 - 824 MHz | -96 dBm | 100 kHz |  |
| WA E-UTRA Band 28 or NR band n28 | 703 – 748 MHz | -96 dBm | 100 kHz | This is not applicable to E-UTRA BS operating in Band 44 |
| WA E-UTRA Band 30 or NR Band n30 | 2305 – 2315 MHz | -96 dBm | 100 kHz | This is not applicable to E-UTRA BS operating in Band 40 |
| WA E-UTRA Band 31 | 452.5 – 457.5 MHz | -96 dBm | 100 kHz |  |
| WA UTRA TDD Band a) or E-UTRA Band 33 | 1900 - 1920 MHz | -96 dBm | 100 kHz | This is not applicable to E-UTRA BS operating in Band 33 |
| WA UTRA TDD Band a) or E-UTRA Band 34 or NR band n34 | 2010 - 2025 MHz | -96 dBm | 100 kHz | This is not applicable to E-UTRA BS operating in Band 34 |
| WA UTRA TDD Band b) or E-UTRA Band 35 | 1850 – 1910 MHz | -96 dBm | 100 kHz | This is not applicable to E-UTRA BS operating in Band 35 |
| WA UTRA TDD Band b) or E-UTRA Band 36 | 1930 - 1990 MHz | -96 dBm | 100 kHz | This is not applicable to E-UTRA BS operating in Band 2 and 36 |
| WA UTRA TDD Band c) or E-UTRA Band 37 | 1910 - 1930 MHz | -96 dBm | 100 kHz | This is not applicable to E-UTRA BS operating in Band 37. This unpaired band is defined in ITU-R M.1036, but is pending any future deployment. |
| WA UTRA TDD Band d) or E-UTRA Band 38 or NR band n38 | 2570 – 2620 MHz | -96 dBm | 100 kHz | This is not applicable to E-UTRA BS operating in Band 38. |
| WA UTRA TDD Band f) or E-UTRA Band 39 or NR band n39 | 1880 – 1920MHz | -96 dBm | 100 kHz | This is not applicable to E-UTRA BS operating in Band 33 and 39 |
| WA UTRA TDD Band e) or E-UTRA Band 40 or NR band n40 | 2300 – 2400MHz | -96 dBm | 100 kHz | This is not applicable to E-UTRA BS operating in Band 30 or 40 |
| WA E-UTRA Band 41 or NR band n41 | 2496 – 2690 MHz | -96 dBm | 100 kHz | This is not applicable to E-UTRA BS operating in Band 41 |
| WA E-UTRA Band 42 | 3400 – 3600 MHz | -96 dBm | 100 kHz | This is not applicable to E-UTRA BS operating in Band 22, 42, 43, 48 or 52 |
| WA E-UTRA Band 43 | 3600 – 3800 MHz | -96 dBm | 100 kHz | This is not applicable to E-UTRA BS operating in Band 42, 43 or 48 |
| WA E-UTRA Band 44 | 703 – 803 MHz | -96 dBm | 100 kHz | This is not applicable to E-UTRA BS operating in Band 28 or 44 |
| WA E-UTRA Band 45 | 1447 – 1467 MHz | -96 dBm | 100 kHz | This is not applicable to E-UTRA BS operating in Band 45 |
| WA E-UTRA Band 48 or NR band n48 | 3550 – 3700 MHz | -96 dBm | 100 kHz | This is not applicable to E-UTRA BS operating in Band 42, 43 or 48 |
| WA E-UTRA Band 50 or NR band n50 | 1432 – 1517 MHz | -96 dBm | 100 kHz | This is not applicable to E-UTRA BS operating in Band 11, 21, 32, 74 or 75 |
| WA E-UTRA Band 52 | 3300 – 3400 MHz | -96 dBm | 100 kHz | This is not applicable to E-UTRA BS operating in Band 42 or 52 |
| WA E-UTRA Band 65 or NR band n65 | 1920 - 2010 MHz | -96 dBm | 100 kHz |  |
| WA E-UTRA Band 66 or NR band n66 | 1710 - 1780 MHz | -96 dBm | 100 kHz |  |
| WA E-UTRA Band 68 | 698 - 728 MHz | -96 dBm | 100 kHz |  |
| WA E-UTRA Band 70 or NR band n70 | 1695 - 1710 MHz | -96 dBm | 100 kHz |  |
| WA E-UTRA Band 71 or NR band n71 | 663 - 698 MHz | -96 dBm | 100 kHz |  |
| WA E-UTRA Band 72 | 451 - 456 MHz | -96 dBm | 100 kHz |  |
| WA E-UTRA Band 73 | 450 - 455 MHz | -96 dBm | 100 kHz |  |
| WA E-UTRA Band 74 or NR band n74 | 1427 – 1470 MHz | -96 dBm | 100 kHz | This is not applicabe to E-UTRA BS operating in Band 50 |
| WA NR band n77 | 3300 – 4200 MHz | -96 dBm | 100 kHz | This is not applicable to E-UTRA BS operating in Band 22, 42, 43, 48 or 52 |
| WA NR band n78 | 3300 – 3800 Mz | -96 dBm | 100 kHz | This is not applicable to E-UTRA BS operating in Band 22, 42, 43, 48 or 52 |
| WA NR Band n79 | 4.4 – 5.0 GHz | -96 dBm | 100 kHz |  |
| WA NR Band n80 | 1710 – 1785 MHz | -96 dBm | 100 kHz |  |
| WA NR Band n81 | 880 – 915 MHz | -96 dBm | 100 kHz |  |
| WA NR Band n82 | 832 – 862 MHz | -96 dBm | 100 kHz |  |
| WA NR Band n83 | 703 – 748 MHz | -96 dBm | 100 kHz |  |
| WA NR Band n84 | 1920 – 1980 MHz | -96 dBm | 100 kHz |  |
| WA E-UTRA Band 85 or NR band n85 | 698 - 716 MHz | -96 dBm | 100 kHz |  |
| WA NR Band n86 | 1710 – 1780 MHz | -96 dBm | 100 kHz |  |
| WA E-UTRA Band 87 | 410 - 415 MHz | -96 dBm | 100 kHz |  |
| WA E-UTRA Band 88 | 412 - 417 MHz | -96 dBm | 100 kHz |  |
| WA NR Band n89 | 824 – 849 MHz | -96 dBm | 100 kHz |  |
| WA NR Band n92 | 832 – 862 MHz | -96 dBm | 100 kHz |  |
| WA NR Band n94 | 880 – 915 MHz | -96 dBm | 100 kHz |  |
| WA NR Band n95 | 2010 - 2025 MHz | -96 dBm | 100 kHz |  |
| WA NR Band n97 | 2300 – 2400MHz | -96 dBm | 100 kHz |  |
| WA NR Band n98 | 1880 – 1920MHz | -96 dBm | 100 kHz |  |
| WA NR Band n99 | 1626.5 – 1660.5 MHz | -96 dBm | 100 kHz |  |
| WA NR band n101 | 1900 – 1910 MHz | -96 dBm | 100 kHz |  |

*<End of the change>*

*<Start of the change>*

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

This additional blocking requirement may be applied for the protection of E-UTRA BS or NB-IoT receivers when GSM, CMDA, UTRA, NR or E-UTRA BS operating in a different frequency band are co-located with an E-UTRA or NB-IoT BS. The requirement is applicable to all channel bandwidths supported by the E-UTRA BS.

The requirements in this clause assume a 30 dB coupling loss between interfering transmitter and E-UTRA or NB-IoT BS receiver and are based on co-location with base stations of the same class.

For each measured E-UTRA carrier, the throughput shall be ≥ 95% of the maximum throughput of the reference measurement channel, with a wanted and an interfering signal coupled to BS antenna input using the parameters in Table 7.6-3 for Wide Area BS, in Table 7.6-4 for Local Area BS and in Table 7.6-5 for Medium Range BS. The reference measurement channel for the wanted signal is specified in Tables 7.2-1, 7.2-2 and 7.2-4 for each channel bandwidth and further specified in Annex A.

For each measured NB-IoT carrier, the throughput shall be ≥ 95% of the maximum throughput of the reference measurement channel, with a wanted and an interfering signal coupled to BS antenna input using the parameters in Table 7.6-3 for Wide Area BS. The reference measurement channel for the wanted signal is specified in Tables 7.2-5 for each channel sub-carrier spacing option and further specified in Annex A.

Table 7.6-3: Blocking performance requirement for E-UTRA and NB-IoT Wide Area BS when co-located with BS in other frequency bands.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Co-located BS type | Centre Frequency of Interfering Signal (MHz) | Interfering Signal mean power (dBm) | Wanted Signal mean power (dBm) | Type of Interfering Signal |
| Macro GSM850 or CDMA850 | 869 – 894 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| Macro GSM900 | 921 – 960 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| Macro DCS1800 | 1805 – 1880 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| Macro PCS1900 | 1930 – 1990 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA UTRA FDD Band I or E-UTRA Band 1 or NR band n1 | 2110 – 2170 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA UTRA FDD Band II or E-UTRA Band 2 or NR band n2 | 1930 – 1990 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA UTRA FDD Band III or E-UTRA Band 3 or NR band n3 | 1805 – 1880 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA UTRA FDD Band IV or E-UTRA Band 4 | 2110 – 2155 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA UTRA FDD Band V or E-UTRA Band 5 or NR band n5 | 869 – 894 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA UTRA FDD Band VI or E-UTRA Band 6 | 875 – 885 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA UTRA FDD Band VII or E-UTRA Band 7 or NR band n7 | 2620 – 2690 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA UTRA FDD Band VIII or E-UTRA Band 8 or NR band n8 | 925 – 960 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA UTRA FDD Band IX or E-UTRA Band 9 | 1844.9 – 1879.9 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA UTRA FDD Band X or E-UTRA Band 10 | 2110 – 2170 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA UTRA FDD Band XI or E-UTRA Band 11 | 1475.9 –1495.9 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA UTRA FDD Band XII or E-UTRA Band 12 or NR band n12 | 729 - 746 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA UTRA FDD Band XIIII or E-UTRA Band 13 or NR Band n13 | 746 - 756 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA UTRA FDD Band XIV or E-UTRA Band 14 or NR Band n14 | 758 - 768 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA E-UTRA Band 17 | 734 - 746 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA E-UTRA Band 18 | 860 - 875 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA UTRA FDD Band XIX or E-UTRA Band 19 | 875 - 890 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA UTRA FDD Band XX or E-UTRA Band 20 or NR band n20 | 791 - 821 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA UTRA FDD Band XXI or E-UTRA Band 21 | 1495.9 – 1510.9 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA UTRA FDD Band XXII or E-UTRA Band 22 | 3510 – 3590 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA E-UTRA Band 24 or NR Band n24 | 1525 – 1559 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA UTRA FDD Band XXV or E-UTRA Band 25 or NR band n25 | 1930 – 1995 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA UTRA FDD Band XXVI or E-UTRA Band 26 or NR Band n26 | 859 – 894 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA E-UTRA Band 27 | 852 - 869 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA E-UTRA Band 28 or NR band n28 | 758 – 803 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA E-UTRA Band 29 or NR Band n29 | 717 – 728 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA E-UTRA Band 30 or NR Band n30 | 2350 – 2360 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA E-UTRA Band 31 | 462.5 – 467.5 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA UTRA FDD Band XXXII or E-UTRA Band 32 | 1452-1496  (NOTE 3) | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA UTRA TDD Band a) or E-UTRA in Band 33 | 1900-1920 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA UTRA TDD Band a) or E-UTRA in Band 34 or NR band n34 | 2010-2025 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA UTRA TDD Band b) or E-UTRA in Band 35 | 1850-1910 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA UTRA TDD Band b) or E-UTRA in Band 36 | 1930-1990 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA UTRA TDD Band c) or E-UTRA Band 37 | 1910-1930 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA UTRA TDD Band d) or E-UTRA Band 38 or NR band n38 | 2570-2620 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA UTRA TDD Band f) or E-UTRA Band 39 or NR band n39 | 1880-1920 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA UTRA TDD Band e) or E-UTRA Band 40 or NR band n40 | 2300-2400 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA E-UTRA Band 41 or NR band n41 | 2496-2690 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA E-UTRA Band 42 | 3400 - 3600 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA E-UTRA Band 43 | 3600 - 3800 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA E-UTRA Band 44 | 703-803 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA E-UTRA Band 45 | 1447-1467 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA E-UTRA Band 48 or NR band n48 | 3550-3700 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA E-UTRA Band 50 or NR band n50 | 1432 – 1517 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA E-UTRA Band 52 | 3300 - 3400 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA E-UTRA Band 65 or NR band n65 | 2110 – 2200 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA E-UTRA Band 66 or NR band n66 | 2110 – 2200 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA E-UTRA Band 67 or NR band n67 | 738-758 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA E-UTRA Band 68 | 753-783 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA E-UTRA Band 69 | 2570-2620 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA E-UTRA Band 70 or NR band n70 | 1995-2020 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA E-UTRA Band 71 or NR band n71 | 617 – 652 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA E-UTRA Band 72 | 461 – 466 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA E-UTRA Band 73 | 460 – 465 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA E-UTRA Band 74 or NR band n74 | 1475 - 1518 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA E-UTRA Band 75 or NR band n75 | 1432 – 1517 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA NR Band n77 | 3300 – 4200 MHz | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA NR Band n78 | 3300 – 3800 MHz | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA NR band n79 | 4400-5000 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA E-UTRA Band 85 or NR band n85 | 728 - 746 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA E-UTRA Band 87 | 420 – 425 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA E-UTRA Band 88 | 422 – 427 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA NR band n92 | 1432 – 1517 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA NR band n94 | 1432 – 1517 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| WA NR band n101 | 1900 – 1910 | +16\*\* | PREFSENS + 6dB\* | CW carrier |
| Note\*: PREFSENS is related to the channel bandwidth and specified in TS 36.104 [2] subclause 7.2.1.  Note\*\*: For NB-IoT, up to 24 exceptions are allowed for spurious response frequencies in each wanted signal frequency when measured using a 1MHz step size. For these exceptions the above throughput requirement shall be met when the blocking signal is set to a level of -40 dBm for 15 kHz subcarrier spacing and -46 dBm for 3.75 kHz subcarrier spacing. In addition, each group of exceptions shall not exceed three contiguous measurements using a 1MHz step size. | | | | |
| NOTE 1: Except for a BS operating in Band 13, these requirements do not apply when the interfering signal falls within any of the supported uplink operating band or in the 10 MHz immediately outside any of the supported uplink operating band. For a BS operating in band 13 the requirements do not apply when the interfering signal falls within the frequency range 768-797 MHz.  NOTE 2: Some combinations of bands may not be possible to co-site based on the requirements above. The current state-of-the-art technology does not allow a single generic solution for co-location of UTRA TDD or E-UTRA TDD with E-UTRA FDD on adjacent frequencies for 30dB BS-BS minimum coupling loss. However, there are certain site-engineering solutions that can be used. These techniques are addressed in TR 25.942 [11].  NOTE 3: For a BS operating in band 11, 21 or 74, the requirement for co-location with Band 32 applies for interfering signal within the frequency range 1475.9-1495.9 MHz.  NOTE 4: Co-located TDD base stations that are synchronized and using the same or adjacent operating band can receive without special co-location requirements. For unsynchronized base stations, special co-location requirements may apply that are not covered by the 3GPP specifications. | | | | |

*<End of the change>*