**3GPP TSG-RAN WG4 Meeting #116-bis R4-2514035**

**Prague, CZ, 13th – 17th October 2025**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.176-1** | **CR** | **-** | **rev** | **-** | **Current version:** | **19.1.0** |  |
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| *For* ***[HE](http://www.3gpp.org/3G_Specs/CRs.htm" \l "_blank)******[LP](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>.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **X** | Core Network |  |

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| ***Title:*** | (TEI19-BDaT\_simp\_improvement) CR to TS 38.176-1: spec structure simplification for co-locationco-existence requirements | | | | | | | | | |
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| ***Source to WG:*** | ZTE Corporation | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI19 | | | | |  | ***Date:*** | | | 2025-10-03 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***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)* | |
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| ***Reason for change:*** | | According to the RAN task, the spec structure simplification for transmitter spurious emission in subclause 6.6.5.5.2 and subclause 6.6.5.5.3 | | | | | | | | |
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| ***Summary of change:*** | | The table is simplified to include the general requirement level | | | | | | | | |
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| ***Consequences if not approved:*** | | If not approved, the specification cannot be improved as requested by RAN task. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 2, 6.6.5.5.2 and 6.6.5.5.3 | | | | | | | | |
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|  | | **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 the change>*

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 38.174: "NR Integrated access and backhaul radio transmission and reception".

[3] 3GPP TS 38.176-2: " NR; Integrated Access and Backhaul (IAB) conformance testing; Part 2: Radiated conformance testing".

[4] Recommendation ITU-R M.1545: "Measurement uncertainty as it applies to test limits for the terrestrial component of International Mobile Telecommunications-2000".

[5] Recommendation ITU-R SM.329: "Unwanted emissions in the spurious domain".

[6] Recommendation ITU-R SM.328: "Spectra and bandwidth of emissions".

[7] "Title 47 of the Code of Federal Regulations (CFR)", Federal Communications Commission.

[8] 3GPP TR 25.942: "RF system scenarios"

[9] 3GPP TS 38.211: "NR; Physical channels and modulation"

[10] 3GPP TS 38.212: "NR; Multiplexing and channel coding"

[11] 3GPP TS 38.104: "NR Base Station (BS) radio transmission and reception"

[12] 3GPP TS 38.213: "NR; Physical layer procedures for control".

[13] 3GPP TS 38.141-1: "NR; Base Station (BS) conformance testing; Part 1: Conducted conformance testing".

[14] 3GPP TS 38.331: "NR; Radio Resource Control (RRC); Protocol specification".

[15] Recommendation ITU-T O.150, "Equipment for the measurement of digital and analogue/digital parameters"

[16] 3GPP TS 38.521-1: "NR; User Equipment (UE) conformance specification; Radio transmission and reception; Part 1: Range 1 Standalone".

[17] IEC 60 721-3-3: "Classification of environmental conditions - Part 3-3: Classification of groups of environmental parameters and their severities - Stationary use at weather protected locations"

[18] IEC 60 721-3-4: "Classification of environmental conditions - Part 3: Classification of groups of environmental parameters and their severities - Clause 4: Stationary use at non-weather protected locations"

[19] IEC 60 721: "Classification of environmental conditions"

[20] IEC 60 068-2-1 (2007): "Environmental testing - Part 2: Tests. Tests A: Cold"

[21] IEC 60 068-2-2: (2007): "Environmental testing - Part 2: Tests. Tests B: Dry heat"

[22] IEC 60 068-2-6: (2007): "Environmental testing - Part 2: Tests - Test Fc: Vibration (sinusoidal)"

[23] 3GPP TS 38.101-1: "NR; User Equipment (UE) radio transmission and reception; Part 1: Range 1 Standalone"

[24] 3GPP TS 38.214: "NR; Physical layer procedures for data"

[25] 3GPP TR 38.901: "Study on channel model for frequencies from 0.5 to 100 GHz"

[26] 3GPP TS 38.300: “NR; NR and NG-RAN Overall description; Stage-2”.

[27] 3GPP TS 25.104: "Base Station (BS) radio transmission and reception (FDD) "

[28] 3GPP TS 36.104: "Evolved Universal Terrestrial Radio Access (E-UTRA); Base Station (BS) radio transmission and reception"

*<Next of the change>*

##### 6.6.5.5.2 Additional spurious emissions requirements

These requirements may be applied for the protection of system operating in other frequency ranges. The limits may apply as an optional protection of such systems that are deployed in the same geographical area as the IAB-node, 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 4.5.

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 spurious emission *basic limits* are provided in table 6.6.5.5.2-1 where requirements for co-existence with the system listed in the first column apply for IAB-MT and IAB-DU. For a *multi-band connector*, the exclusions and conditions in the table 6.6.5.5.2-1 apply for each supported *operating band*.

Table 6.6.5.5.2-1: IAB-DU and IAB-MT spurious emissions *basic* *limits* for co-existence with systems operating in other frequency bands

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| System type to co-exist with  (Note 3) | Frequency range for co-existence requirement (MHz)  (Note 4) | *Basic limits* (dBm) | Measurement bandwidth | Notes |
| --- | --- | --- | --- | --- |
| GSM850 or CDMA850 | 869 - 894 | -57 | 100 kHz | Note 1 |
| 824 ‑ 849 | -61 |
| GSM900 | 921 ‑ 960 | -57 |
| 876 - 915 | -61 |
| DCS1800 | 1805 ‑ 1880 | -47 |
| 1710 - 1785 | -61 |
| PCS1900 | 1930 ‑ 1990 | -47 |
| 1850 ‑ 1910 | -61 |
| UTRA, E-UTRA or NR | Frequency range of downlink *operating band* of the BS to co-exist with | -52 | 1 MHz | Note 1 |
| Frequency range of uplink *operating band* of the BS to co-exist with | -49 |

NOTE 1: As defined in the scope for spurious emissions in this clause the co-existence requirements in table 6.6.5.2.2-1 do 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 6.6.5.2.2-1 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: Does not apply for co-existence with standalone downlink bands (SDO) defined in TS 36.104 [28], table 5.5-1.

NOTE 4: Frequency range of UTRA, E-UTRA and NR bands, as described in TS 25.104 [27] clause 5.2, TS 36.104 [28] clause 5.5 and TS 38.104 [11] clause 5.2, respectively.

*<Next of the change>*

##### 6.6.5.5.3 Co-location with base stations and IAB-nodes

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

The requirements assume a 30 dB coupling loss between transmitter and receiver and are based on co-location with same class.

The *basic limits* are in table 6.6.5.2.3-1 for an IAB-DU and IAB-MT. Requirements for co-location with a system listed in the second column apply, depending on the declared IAB-DU and IAB-MT class. For a *multi-band connector*, the exclusions and conditions in the table 6.6.5.2.3-1 shall apply for each supported *operating band*.

Table 6.6.5.5.3-1: IAB-DU and IAB-MT spurious emissions *basic* limits for co-location with BS or IAB-node

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| Frequency range of uplink operating band of the | System type to co-locate with  (Note 3) | *Basic limits* (dBm/100kHz)  (Note 1) | | |
| co-located BS (MHz)  (Note 4) | WA BS | MR BS | LA BS |
| 824 - 849 MHz | GSM850 or CDMA850 | -98 | -91 | -70 |
| 876 - 915 MHz | GSM900 | -98 | -91 | -70 |
| 1710 - 1785 MHz | DCS1800 | -98 | -91 | -80 |
| 1850 - 1910 MHz | PCS1900 | -98 | -91 | -80 |
| 49,51/ n51, n91, n93 | E-UTRA or NR | N/A | N/A | -88 |
| 46/n46, 53/n53 | E-UTRA or NR | N/A | -91 | -88 |
| n100, n101 | NR | -96 | N/A | N/A |
| n96, n102 | NR | N/A | -90 | -87 |
| n104 | NR | -95 | -90 | -87 |
| Other *operating band* | UTRA, E-UTRA or NR | -96 | -91 | -88 |

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 [8].

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: Does not apply for co-location with V2X operation defined in TS 36.104, table 5.5-1.

NOTE 4: Frequency range of UTRA, E-UTRA and NR bands, as described in TS 25.104 [27] clause 5.2, TS 36.104 [28] clause 5.5 and TS 38.104 [11] clause 5.2, respectively.

*<End of the change>*