**3GPP TSG-RAN4 Meeting #101-e *DRAFT R4-2120791***

**Electronic Meeting, 1-12 Nov, 2021**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **37.105** | **CR** | **XXXX** | **rev** | **-** | **Current version:** | **14.7.0** |  |
|  | | | | | | | | |
| *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 |  |

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| ***Title:*** | Big CR for TS 37.105 Maintenance (Rel-14, CAT F) | | | | | | | | | |
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| ***Source to WG:*** | MCC, Huawei | | | | | | | | | |
| ***Source to TSG:*** | RAN4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI | | | | |  | ***Date:*** | | | 2021-11-15 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-14 |
|  | *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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | This big CR merges endorsed draft CR to TS 37.105 in RAN4#101-e. The reason for change in endorsed draft CR is copied below:  **R4-2117218: Correction on tables for Band 23 co-location requirements** Entries for Band 23 were kept in table for co-location requirements. This would create ambiguity on Band 23 co-location requirements. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | The summary of change in endorsed draft CR is copied below.  **R4-2117218: Correction on tables for Band 23 co-location requirements** Delete the entries for Band 23 from table for co-location requirements. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The consequences if not approved for endorsed draft CR are coppied below.  **R4-2117218: Correction on tables for Band 23 co-location requirements** Ambiguity remains and would lead to different interpretations. | | | | | | | | |
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| ***Clauses affected:*** | | 7.5.2.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | | **X** |  | Test specifications | | | | TS 37.145-1, 37.145-2 CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

***<Start of change>***

7.5.2.2 Co-location minimum requirement

This additional blocking requirement may be applied for the protection of *AAS BS receivers* when E-UTRA BS, UTRA BS, CDMA BS or GSM/EDGE BS operating in a different frequency band are co-located with an AAS BS.

The requirements in this subclause assume a 30 dB coupling loss between the interfering transmitter and the *AAS BS receiver* and are based on co-location with base stations of the same class.

For a wanted and an interfering signal coupled to the *TAB connector* using the parameters in table 7.5.2.2-1, the following requirements shall be met:

- For any E-UTRA carrier, the throughput shall be ≥ 95 % of the *maximum throughput* of the reference measurement channel defined in 3GPP TS 36.104 [8], subclause 7.2.1.

- For any UTRA FDD carrier, the BER shall not exceed 0,001 for the reference measurement channel defined in 3GPP TS 25.104 [6], subclause 7.2.1.

- For any UTRA TDD carrier, the BER shall not exceed 0,001 for the reference measurement channel defined in 3GPP TS 25.105 [7], subclause 7.2.1.2.

**Table 7.5.2.2-1: Blocking requirement for co-location with BS in other frequency bands**

| **Type of co-located BS** | **Centre Frequency of Interfering Signal (MHz)** | **Interfering Signal mean power for WA BS (dBm)** | **Interfering Signal mean power for MR BS (dBm)** | **Interfering Signal mean power for LA BS (dBm)** | **Wanted Signal mean power (dBm)** | **Type of Interfering Signal** |
| --- | --- | --- | --- | --- | --- | --- |
| GSM850 or CDMA850 | 869 - 894 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| GSM900 | 921 - 960 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| DCS1800 | 1 805 - 1 880  (note 4) | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| PCS1900 | 1 930 - 1 990 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| UTRA FDD Band I or E-UTRA Band 1 | 2 110 - 2 170 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| UTRA FDD Band II or E-UTRA Band 2 | 1 930 - 1 990 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| UTRA FDD Band III or E-UTRA Band 3 | 1 805 - 1 880  (note 4) | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| UTRA FDD Band IV or E-UTRA Band 4 | 2 110 - 2 155 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| UTRA FDD Band V or E-UTRA Band 5 | 869 - 894 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| UTRA FDD Band VI or E-UTRA Band 6 | 875 - 885 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| UTRA FDD Band VII or E-UTRA Band 7 | 2 620 - 2 690 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| UTRA FDD Band VIII or E-UTRA Band 8 | 925 - 960 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| UTRA FDD Band IX or E-UTRA Band 9 | 1 844.9 - 1 879.9 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| UTRA FDD Band X or E-UTRA Band 10 | 2 110 - 2 170 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| UTRA FDD Band XI or E-UTRA Band 11 | 1 475.9 - 1 495.9 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| UTRA FDD Band XII or E-UTRA Band 12 | 729 - 746 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| UTRA FDD Band XIIII or E-UTRA Band 13 | 746 - 756 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| UTRA FDD Band XIV or E-UTRA Band 14 | 758 - 768 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| E-UTRA Band 17 | 734 - 746 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| E-UTRA Band 18 | 860 - 875 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| UTRA FDD Band XIX or E-UTRA Band 19 | 875 - 890 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| UTRA FDD Band XX or E-UTRA Band 20 | 791 - 821 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| UTRA FDD Band XXI or E-UTRA Band 21 | 1 495.9 - 1 510.9 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| UTRA FDD Band XXII or E-UTRA Band 22 | 3 510 - 3 590 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| E-UTRA Band 24 | 1 525 - 1 559 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| UTRA FDD Band XXV or E-UTRA Band 25 | 1 930 - 1 995 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| UTRA FDD Band XXVI or E-UTRA Band 26 | 859 - 894 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| E-UTRA Band 27 | 852 - 869 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| E-UTRA Band 28 | 758 - 803 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| E-UTRA Band 29 | 717 - 728 | +16 | +8 | -6 | PREFSENS + 6dB (note 1) | CW carrier |
| E-UTRA Band 30 | 2 350 - 2 360 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| E-UTRA Band 31 | 462.5 - 467.5 | +16 | +8 | -6 | PREFSENS + 6dB (note 1) | CW carrier |
| UTRA FDD Band XXXII or E-UTRA Band 32 | 1 452 - 1 496  (note-5) | +16 | +8 | -6 | PREFSENS + 6dB (note 1) | CW carrier |
| UTRA TDD Band a) or E-UTRA TDD Band 33 | 1 900 - 1 920 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| UTRA TDD Band a) or E-UTRA TDD Band 34 | 2 010 - 2 025 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| UTRA TDD Band b) or E-UTRA TDD Band 35 | 1 850 - 1 910 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| UTRA TDD Band b) or E-UTRA TDD Band 36 | 1 930 - 1 990 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| UTRA TDD Band c) or E-UTRA TDD Band 37 | 1 910 - 1 930 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| UTRA TDD Band d) or E-UTRA Band 38 | 2 570 - 2 620 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| UTRA TDD Band f) or E-UTRA Band 39 | 1 880 - 1 920 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| UTRA TDD Band e) or E-UTRA Band 40 | 2 300 - 2 400 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| E-UTRA Band 41 | 2 496 - 2 690 | +16 | +8 | -6 | PREFSENS + x dB (note1) | CW carrier |
| E-UTRA Band 42 | 3 400 - 3 600 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| E-UTRA Band 43 | 3 600 - 3 800 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| E-UTRA Band 44 | 703 - 803 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| E-UTRA Band 45 | 1447 - 1467 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| E-UTRA Band 46 | 5150 - 5925 | N/A | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| E-UTRA Band 48 | 3550 – 3700 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| E-UTRA Band 65 | 2110 – 2200 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| E-UTRA Band 66 | 2110 – 2200 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| E-UTRA Band 67 | 738 - 758 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| E-UTRA Band 68 | 753 - 783 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| E-UTRA Band 69 | 2570 - 2620 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| E-UTRA Band 70 | 1995 – 2020 | +16 | +8 | -6 | PREFSENS + x dB (note 1) | CW carrier |
| NOTE 1: PREFSENS depends on the RAT, the BS class and the *channel bandwidth*, see subclause 7.2.2.  "x" is equal to 6 dB in case of UTRA or E-UTRA wanted signals.  NOTE 2: 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 3: 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 3GPP TR 25.942 [12].  NOTE 4: In China, the blocking requirement for co-location with DCS1800 and Band III BS is only applicable in the frequency range 1 805 - 1 850 MHz.  NOTE 5: For an AAS BS operating in band 11 or 21, this requirement applies for interfering signal within the frequency range 1 475.9 - 1 495.9 MHz.  NOTE 6: 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 change>***