3GPP TSG-RAN WG4 Meeting # 100-e DRAFT R4-2115663

Electronic Meeting, August 16-27, 2021

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **38.124** | **CR** |  | **rev** | **1** | **Current version:** | **15.6.0** |  |
|  |
| *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:***  | Draft CR to TS38.124: MU value for the effective radiated RF power between 12.75GHz and 26 GHz, Rel-15 |
|  |  |
| ***Source to WG:*** | Huawei  |
| ***Source to TSG:*** | R4 |
|  |  |
| ***Work item code:*** | NR\_newRAT-Core |  | ***Date:*** | 2021-07-22 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-15 |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)…Rel-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
|  |  |
| ***Reason for change:*** | Rel-15 version of the TS 38.124 still contains a “TBD” for the maximum MU of the Effective radiated RF power measurement between 12.75 GHz and 26 GHz. In this CR, removal of the TBD for the maximum measurement uncertainty value for measurements of the effective radiated RF power in 12.75 – 26 GHz frequency range is proposed, based on related discussion paper. |
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| ***Summary of change:*** |  8.2.5: TBD replaced by the appropiate value for the maximum MU of the Effective radiated RF power measurement between 12.75 GHz and 26 GHz. |
|  |  |
| ***Consequences if not approved:*** | “TBD” would still exist in the frozen specification.  |
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| ***Clauses affected:*** | 8.2.5 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **x** |  Other core specifications  |  |
| ***affected:*** |  | **X** |  Test specifications |  |
| ***(show related CRs)*** |  | **x** |  O&M Specifications |  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

*------------------------------ Modified section ------------------------------*

# 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 38.113: "NR; Base Station (BS) ElectroMagnetic Compatibility (EMC)".

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

[4] 3GPP TS 38.101-2: " NR; User Equipment (UE) radio transmission and reception; Part 2: Range 2 Standalone".

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

[6] Void

[7] Void.

[8] IEC 61000-3-2: "Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)".

[9] IEC 61000-3-3: "Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection".

[10] IEC 61000-4-3: "Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency electromagnetic field immunity test".

[11] IEC 61000-4-2: "Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test".

[12] IEC 61000-4-4: "Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test - Basic EMC publication".

[13] IEC 61000-4-6: "Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances induced by radio frequency fields".

[14] Void

[15] ISO 7637‑2: "Road vehicles -- Electrical disturbances from conduction and coupling -- Part 2: Electrical transient conduction along supply lines only".

[16] IEC 61000-4-11: "Electromagnetic compatibility (EMC) - Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions, and voltage variations immunity test".

[17] IEC 61000-4-5: "Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test".

[18] ITU-R Recommendation SM.1539 (2001): "Variation of the boundary between the out-of-band and spurious domains required for the application of Recommendations ITU-R SM.1541 and ITU-R SM.329".

[19] IEC 60050-161: "International Electrotechnical Vocabulary - Chapter 161: Electromagnetic compatibility".

[20] IEC CISPR 32: "Electromagnetic compatibility of multimedia equipment - Emission requirements".

[21] 3GPP TS 38.508-1: "User Equipment (UE) conformance specification; Part 1: Common test environment".

[22] 3GPP 38.509: "Special conformance testing functions for User Equipment (UE)".

[23] CISPR 16-4-2: " Specification for radio disturbance and immunity measuring apparatus and methods - Part 4-2: Uncertainties, statistics and limit modelling - Measurement instrumentation uncertainty, Amendment 2"

[24] ETSI TR 100 028-1: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics, part 1"

*----------------------------- Next modified section ------------------------------*

### 8.2.5 Interpretation of the measurement results

The interpretation of the results recorded in a test report for the radiated emission measurements described in the present document shall be as follows:

- the measured value related to the corresponding limit will be used to decide whether an equipment meets the requirements of the present document;

- the value of the measurement uncertainty for the measurement of each parameter shall be included in the test report;

- the recorded value of the measurement uncertainty shall be, for each measurement, equal to or lower than the figure in table 8.2.5-1.

Table 8.2.5-1 specifies the Maximum measurement uncertainty of the Test System. The Test System shall enable the equipment under test to be measured with an uncertainty not exceeding the specified values. All tolerances and uncertainties are absolute values, and are valid for a confidence level of 95 %, unless otherwise stated.

A confidence level of 95% is the measurement uncertainty tolerance interval for a specific measurement that contains 95% of the performance of a population of test equipment.

Table 8.2.5-1: Maximum measurement uncertainty

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| --- | --- |
| **Parameter** | **Maximum MU (NOTE)** |
| Effective radiated RF power between 30 MHz and 180 MHz | ±6 dB |
| Effective radiated RF power between 180 MHz and 12.75 GHz | ±3 dB |
| Effective radiated RF power between 12.75 GHz and 26 GHz | ±6 dB |
| NOTE: These MU values estimates and are not based on the MU budget calculations. For more background on MU derivation analyses refer to CISPR 16-4-2 [23] and ETSI TR 100 028-1 [24].  |

NOTE: If the Test System for a test is known to have a measurement uncertainty greater than that specified in table 8.2.5-1, this equipment can still be used, provided that an adjustment is made follows:
Any additional uncertainty in the Test System over and above that specified in table 8.2.5-1 is used to tighten the Test Requirements - making the test harder to pass. This procedure will ensure that a Test System not compliant with table 8.2.5-1 does not increase the probability of passing an EUT that would otherwise have failed a test if a Test System compliant with table 8.2.5-1 had been used.

*----------------------------- End of modified section ------------------------------*