

PARTIAL Test Report

23-1-0017601T027_TR1-R04

Number of pages: 54 Date of Report: 2024-Oct-30

Testing company: cetecom advanced GmbH
Untertuerkheimer Str. 6-10
66117 Saarbruecken
GERMANY

Applicant: VALEO Telematik und Akustik GmbH

Product: Emergency call control unit
Model: MBECALL-NAR-01

FCC ID: QWY-MBECALL-NAR01

IC: 6588A-MBECALLNAR1
PMN: MBECALL-NAR-01
HVIN: MBECALL-NAR-01
FVIN: E120 R551

Testing has been carried out in accordance with:

FCC Regulations
Title 47 CFR, Chapter I, Subchapter A
Part 15, Subpart C Intentional Radiators; § 15.209 Radiated emission limits; general requirements
Title 47 CFR, Chapter I, Subchapter B
Part 22, Subpart H Cellular Radiotelephone Service
Part 24, Subpart E Paging and Radiotelephone Service
Part 27, Subpart C Miscellaneous Wireless Communications Services
Title 47 CFR, Chapter I, Subchapter D
Part 90, Subpart I, General technical standards; Subpart S Private Land Mobile Radio Services

ISED-Regulations, Radio Standards Specification
RSS-Gen, Issue 5
General Requirements for Compliance of Radio Apparatus
RSS-130, Issue 2
Equipment Operating in the Frequency Bands 617-652 MHz, 663-698 MHz, 698-756 MHz and 777-787 MHz
RSS-132, Issue 4
Cellular Telephone Systems Operating in the Bands 824-849 MHz and 869-894 MHz
RSS-133, Issue 7
Personal Communications Service Equipment Operating in the Bands 1850-1915 MHz and 1930-1995 MHz
RSS-139, Issue 4
Advanced Wireless Services Equipment Operating in the Bands 1710-1780 MHz and 2110-2200 MHz
RSS-199, Issue 4
Broadband Radio Service (BRS) Equipment Operating in the Band 2500–2690 MHz

Tested Technology: LTE

Test Results: ☒ The EUT complies with the requirements in respect of selected parameters subject to the test.

The test results relate only to devices specified in this document

The current version of Test Report 23-1-0017601T027_TR1-R04 replaces the test report 23-1-0017601T027_TR1-R03 dated 2024-Oct-11. The replaced test report is herewith invalid.

Signatures:

B.Eng. Martin Nunier
Supervisor Radio Services
Authorization of test report

Timo Franke
Testing Manager
Responsible of test report

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1 General information

1.1 Disclaimer and Notes

The test results of this test report relate exclusively to the test item specified in this test report as specified in chapter 2.7. cetecom advanced does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item.

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Also we refer on special conditions which the applicant should fulfill according §2.927 to §2.948, special focus regarding modification of the equipment and availability of sample equipment for market surveillance tests.

1.2 Attestation

I declare that all measurements were performed by me or under my supervision and that all measurements have been performed and are correct to my best knowledge and belief to Industry Canada standards. All of the above requirements are met in accordance with enumerated standards.

1.3 Summary of Test Results

Test case in LTE2 band	Reference Clause FCC ☒	Reference Clause ISSED ☒	Page	Remark	Result
AC-Power Lines Conducted Emissions	§15.207(a)	RSS-Gen, Issue 5: §8.8	--	--	N/A
Conducted RF output power	§2.1046	RSS-133, Issue 7: §5.5 + SRSP-510, Issue 6: §6.3	19	--	PASSED
Radiated RF output power	§24.232(c), §2.1046	RSS-133, Issue 7: §5.5 + SRSP-510, Issue 6: §6.3	--	--	NP
26dB Emission bandwidth	§24.238(b), §2.1049	RSS-Gen, Issue 5: §6.7	--	--	NP
Occupied Channel Bandwidth 99%	§24.238(b), §2.1049	RSS-Gen, Issue 5: §6.7	--	--	NP
Radiated Band Edge	§24.238(a)(b), §2.1053(a), §2.1057(a)	RSS-133, Issue 7: §5.6	46	--	PASSED
Conducted RF Band Edge	§24.238(a)(b), §2.1051	RSS-133, Issue 7: §5.6	--	--	NP
Peak to Average ratio (PAPR)	§24.232(d), §2.1046	RSS-133, Issue 7: §5.5	--	--	NP
Radiated field strength emissions below 30 MHz	§15.205, §15.209	RSS-Gen: Issue 5: §8.9	38	--	PASSED
Spurious emissions at antenna terminals	§24.238(a)(b), §2.1051, §2.1057(a)	RSS-133, Issue 7: §5.6	--	--	NP
Radiated spurious emissions	§24.238(a)(b), §2.1053, §2.1057(a)	RSS-133, Issue 7: §5.6	42	--	PASSED
Frequency stability, temperature variation	§24.235, §2.1055(a)(1)	RSS-Gen, Issue 5: §6.11 RSS-133, Issue 7: §5.4	--	--	NP
Frequency stability, voltage variation	§24.235, §2.1055(d)(1)	RSS-Gen, Issue 5: §6.11 RSS-133, Issue 7: §5.4	--	--	NP

Test case in LTE4 band	Reference Clause FCC	Reference Clause ISSED	Page	Remark	Result
AC-Power Lines Conducted Emissions	§15.207(a)	RSS-Gen Issue 5: §8.8	--	--	N/A
Conducted RF output power	§27.50(d)(4), §2.1046	RSS-139, Issue 4: §5.5	19	--	PASSED
Radiated RF output power	§27.50(d)(4), §2.1046	RSS-139, Issue 4: §5.5	--	--	NP
26dB Emission bandwidth	§27.53(h)(3), §2.1049	RSS-Gen, Issue 5: §6.7	--	--	NP
Occupied Channel Bandwidth 99%	§27.53(h)(3), §2.1049	RSS-Gen, Issue 5: §6.7	--	--	NP
Radiated Band Edge	§27.53(h), §2.1053, §2.1057(a)	RSS-139, Issue 4: 5.6	46	--	PASSED
Conducted RF Band Edge	§27.53(h), §2.1051, §2.1057(a)	RSS-139, Issue 4: 5.6	--	--	NP
Peak to Average ratio (PAPR)	§27.50(d)(4)(5), §2.1046	RSS-139, Issue 4: 5.5	--	--	NP
Radiated field strength emissions below 30 MHz	§15.205, §15.209	RSS-Gen: Issue 5: §8.9	38	--	PASSED
Spurious emissions at antenna terminals	§27.53(h), §2.1051	RSS-139, Issue 4: 5.6	--	--	NP
Radiated spurious emissions	§27.53(h), §2.1051, §2.1057(a)	RSS-139, Issue 4: 5.6	42	--	PASSED
Frequency stability, temperature variation	§27.54, §2.1055(a)(1)	RSS-Gen, Issue 5: §6.11 RSS-139, Issue 4: 5.4	--	--	NP
Frequency stability, voltage variation	§27.54, §2.1055(d)(1)	RSS-Gen, Issue 5: §6.11 RSS-139, Issue 4: 5.4	--	--	NP

Test case in LTE band	Reference Clause FCC	Reference Clause ISSED	Page	Remark	Result
AC-Power Lines Conducted Emissions	§15.207(a)	RSS-Gen, Issue 5: §8.8	--	--	N/A
Conducted RF output power	§22.913(a)(5), §2.1046	RSS-132, Issue 4: §5.4	19	--	PASSED
Radiated RF output power	§22.913, §2.1046	RSS-132, Issue 4: §5.4	--	--	NP
26dB Emission bandwidth	§22.917(b), §2.1049	RSS-Gen, Issue 5: §6.7	--	--	NP
Occupied Channel Bandwidth 99%	§22.917(b), §2.1049	RSS-Gen, Issue 5: §6.7	--	--	NP
Radiated Band Edge	§22.917(a)(b), §2.1053(a), §2.1057(a)	RSS-132, Issue 4: §5.5(i)(ii)	46	--	PASSED
Conducted RF Band Edge	§22.917(a)(b), §2.1051, §2.1057(a)	RSS-132, Issue 4: §5.5(i)(ii)	--	--	NP
Peak to Average ratio (PAPR)	§22.913(d), §2.1046	RSS-132, Issue 4: §5.4	--	--	NP
Radiated field strength emissions below 30 MHz	§15.205, §15.209	RSS-Gen, Issue 5: §8.9	38	--	PASSED
Spurious emissions at antenna terminals	§22.917(a)(b), §2.1051, §2.1057(a)	RSS-132, Issue 4: §5.5(i)(ii)	--	--	NP
Radiated spurious emissions	§22.917(a)(b), §2.1051, §2.1057(a)	RSS-132, Issue 4: §5.5(i)(ii)	42	--	PASSED
Frequency stability, temperature variation	§22.355, §2.1055(a)(1)	RSS-Gen, Issue 5: §6.11 RSS-132, Issue 4: §5.3	--	--	NP
Frequency stability, voltage variation	§22.355, §2.1055(d)(1)	RSS-Gen, Issue 5: §6.11 RSS-132, Issue 4: §5.3	--	--	NP

Test case in LTE7 band	Reference Clause FCC	Reference Clause ISSED	Page	Remark	Result
AC-Power Lines Conducted Emissions	§15.207(a)	RSS-Gen Issue 5: §8.8	--	--	N/A
Conducted RF output power	§27.50(h)(2), §2.1046	RSS-199, Issue 4: §5.5	19	--	PASSED
Radiated RF output power	§27.50(h)(2), §2.1046	RSS-199, Issue 4: §5.5	--	--	NP
26dB Emission bandwidth	§27.53(h)(3), §2.202(a), §2.1049	RSS-Gen, Issue 5: §6.7	--	--	NP
Occupied Channel Bandwidth 99%	§27.53(h)(3), §2.202(a)	RSS-Gen, Issue 5: §6.7	--	--	NP
Radiated Band Edge	§27.53(m)(4), §2.1053, §2.1057(a)	RSS-199, Issue 4: §5.6	--	--	NP
Conducted RF Band Edge	§27.53(m)(4), §2.1051, §2.1057(a)	RSS-199, Issue 4: §5.6	48	--	PASSED
Peak to Average ratio (PAPR)	§27.50(h)(2), §2.1046	RSS-199, Issue 4: §5.5	--	--	NP
Radiated field strength emissions below 30 MHz	§15.205, §15.209	RSS-Gen: Issue 5: §8.9	38	--	PASSED
Spurious emissions at antenna terminals	§27.53(m)(4), §2.1051, §2.1057(a)	RSS-199, Issue 4: §5.6	--	--	NP
Radiated spurious emissions	§27.53(m)(4), §2.1053, §2.1057(a)	RSS-199, Issue 4: §5.6	42	--	PASSED
Frequency stability, temperature variation	§27.54, §2.1055(a)(1)	RSS-Gen, Issue 5: §6.11 RSS-199, Issue 4: §5.4	--	--	NP
Frequency stability, voltage variation	§27.54, §2.1055(d)(1)	RSS-Gen, Issue 5: §6.11 RSS-199, Issue 4: §5.4	--	--	NP

Test case in LTE12 band	Reference Clause FCC	Reference Clause ISSED	Page	Remark	Result
AC-Power Lines Conducted Emissions	§15.207(a)	RSS-Gen, Issue 5: §8.8	--	--	N/A
Conducted RF output power	§27.50(c)(10), §2.1046	RSS-130, Issue 2: §4.6.1/ §4.6.3	19	--	PASSED
Radiated RF output power	§27.50(c)(10), §2.1046	RSS-130, Issue 2: §4.6.1/ §4.6.3	--	--	NP
26dB Emission bandwidth	§2.1049	RSS-Gen, Issue 5: §6.7	--	--	NP
Occupied Channel Bandwidth 99%	§2.1049	RSS-130, Issue 2: §4.5	--	--	NP
Radiated Band Edge	§27.53(g), §2.1053, §2.1057(a)	RSS-130, Issue 2: §4.7.1	46	--	PASSED
Conducted RF Band Edge	§27.53(g), §2.1053(a), §2.1057(a)	RSS-130, Issue 2: §4.7.1	--	--	NP
Peak to Average ratio (PAPR)	§27.50(c)(10), §2.1046	RSS-130, Issue 2: §4.6.1	--	--	NP
Radiated field strength emissions below 30 MHz	§15.205, §15.209	RSS-Gen: Issue 5: §8.9	38	--	PASSED
Spurious emissions at antenna terminals	§27.53(g), §2.1051, §2.1057(a)	RSS-130, Issue 2: §4.7.1	--	--	NP
Radiated spurious emissions	§27.53(g), §2.1053(a) §2.1057(1)	RSS-130, Issue 2: §4.7.1	42	--	PASSED
Frequency stability, temperature variation	§27.54, §2.1055(a)(1)	RSS RSS-Gen, Issue 5: §6.11 RSS-130, Issue 2: §4.5	--	--	NP
Frequency stability, voltage variation	§27.54, §2.1055(d)(1)	RSS-Gen, Issue 5: §6.11 RSS-130, Issue 2: §4.5	--	--	NP

Test case in LTE13 band	Reference Clause FCC	Reference Clause ISSED	Page	Remark	Result
AC-Power Lines Conducted Emissions	§15.207(a)	RSS-Gen, Issue 5: §8.8	--	--	N/A
Conducted RF output power	§27.50(b)(10)(11), §2.1046(a)	RSS-130, Issue 2: §4.6.1/ §4.6.3	19	--	PASSED
Radiated RF output power	§27.50(b)(10)(11) §2.1046(a)	RSS-130, Issue 2: §4.6.1/ §4.6.3	--	--	NP
26dB Emission bandwidth	§2.1049	RSS-Gen, Issue 5: §6.7	--	--	NP
Occupied Channel Bandwidth 99%	§2.1049	RSS-130, Issue 2: §4.5	--	--	NP
Radiated Band Edge	§27.53(c)(3)(4), §2.1053, §2.1057(a)	RSS-130, Issue 2: §4.7.1	--	--	NP
Conducted RF Band Edge	§27.53(c)(3)(4), §2.1051, §2.1057(a)	RSS-130, Issue 2: §4.7.1	48	--	PASSED
Peak to Average ratio (PAPR)	§2.1046	RSS-130, Issue 2: §4.6.1	--	--	NP
Radiated field strength emissions below 30 MHz	§15.205, §15.209	RSS-Gen: Issue 5: §8.9	38	--	PASSED
Spurious emissions at antenna terminals	§27.53(c)(2)(3)(4), §2.1051, §2.1057(a)	RSS-130, Issue 2: §4.7.1	--	--	NP
Radiated spurious emissions	§27.53(c)(2)(3)(4) §27.53(f) §27.1053(a)(b) §2.1053, §2.1057(a)	RSS-130, Issue 2: §4.7.1	42	--	PASSED
Frequency stability, temperature variation	§27.54, §2.1055(a)(1)	RSS RSS-Gen, Issue 5: §6.11 RSS-130, Issue 2: §4.5	--	--	NP
Frequency stability, voltage variation	§27.54, §2.1055(d)(1)	RSS-Gen, Issue 5: §6.11 RSS-130, Issue 2: §4.5	--	--	NP

Test case in LTE17 band	Reference Clause FCC	Reference Clause ISCED	Page	Remark	Result
AC-Power Lines Conducted Emissions	§15.207(a)	RSS-Gen, Issue 5: §8.8	--	--	N/A
Conducted RF output power	§27.50(c)(10), §2.1046	RSS-130, Issue 2: §4.6.1/ §4.6.3	19	--	PASSED
Radiated RF output power	§27.50(d)(4), §2.1046(a)	RSS-130, Issue 2: §4.6.1/ §4.6.3	--	--	NP
26dB Emission bandwidth	§27.53(h)(3), §2.202(a)	RSS-Gen, Issue 5: §6.7	--	--	NP
Occupied Channel Bandwidth 99%	§27.53(h)(3), §2.202(a)	RSS-130, Issue 2: §4.5	--	--	NP
Radiated Band Edge	§27.53(g), §2.1053(a) §2.1057(a)	RSS-130, Issue 2: §4.7.1	--	--	NP
Conducted RF Band Edge	§27.53(g), §2.1053(a) §2.1057(a)	RSS-130, Issue 2: §4.7.1	48	--	PASSED
Peak to Average ratio (PAPR)	§27.50(c)(10), §2.1046	RSS-130, Issue 2: §4.6.1	--	--	NP
Radiated field strength emissions below 30 MHz	§15.205, §15.209	RSS-Gen: Issue 5: §8.9	38	--	PASSED
Spurious emissions at antenna terminals	§27.53(g), §2.1053(a) §2.1057(a)	RSS-130, Issue 2: §4.7.1	--	--	NP
Radiated spurious emissions	§27.53(g), §2.1053(a) §2.1057(a)	RSS-130, Issue 2: §4.7.1	42	--	PASSED
Frequency stability, temperature variation	§27.54, §2.1055(a)(1)	RSS RSS-Gen, Issue 5: §6.11 RSS-130, Issue 2: §4.5	--	--	NP
Frequency stability, voltage variation	§27.54, §2.1055(a)(1)	RSS-Gen, Issue 5: §6.11 RSS-130, Issue 2: §4.5	--	--	NP

PASSED

The EUT complies with the essential requirements in the standard.

FAILED

The EUT does not comply with the essential requirements in the standard.

N/A

Test case does not apply to the test object.

NP

The test was not performed by the cetecom advanced Laboratory.

Decision Rule: cetecom advanced GmbH follows [ILAC G8:2019 chapter 4.2.1 \(Simple Acceptance Rule\)](#).

Remarks:

- Please check the module report "RFBCKS-WTW-P23070373 and ICBCKS-WTW-P23070373 issued by Bureau Veritas Consumer Products Services (H.K.) Ltd. on 2023-09-28" for not performed Measurements by the cetecom advanced laboratory.

1.4 Summary of Test Methods

Test case	Test method
AC-Power Lines Conducted Emissions	ANSI C63.4-2014, §7, ANSI C63.10-2013 §6.2
Conducted RF output power	ANSI C63.26:2015, §5.2, KDB 971168 D01 v03r01
Radiated RF output power	ANSI C63.26:2015, §5.2.7, KDB 971168 D01 v03r01
Occupied Channel Bandwidth 99%	ANSI C63.26:2015, §5.4.4, KDB 971168 D01 v03r01
26dB Emission bandwidth	ANSI C63.26:2015, §5.4.3, KDB 971168 D01 v03r01
Modulation characteristics	ANSI C63.26:2015, §5.3
Radiated Band Edge	ANSI C63.26:2015, §5.5, KDB 971168 D01 v03r01
Conducted RF Band Edge	ANSI C63.26:2015, §5.7, KDB 971168 D01 v03r01
Peak to Average ratio (PAPR)	ANSI C63.26:2015, §5.2.6 Result calculated with measured conducted RF-power value and stated/measured antenna gain for band of interest
Radiated field strength emissions below 30 MHz	ANSI C63.4-2014 §5.3, §8.2.1, §8.3.1.1+§8.3.2.1
Spurious emissions at antenna terminals	ANSI C63.26:2015, §5.7, KDB 971168 D01 v03r01
Radiated spurious emissions	ANSI C63.26:2015, §5.5, KDB 971168 D01 v03r01
Frequency stability, temperature variation	ANSI C63.26:2015, §5.6, KDB 971168 D01 v03r01
Frequency stability, voltage variation	ANSI C63.26:2015, §5.6, KDB 971168 D01 v03r01

2 Administrative Data

2.1 Identification of the Testing Laboratory

Company name:	cetecom advanced GmbH
Address:	Untertuerkheimer Str. 6-10 66117 Saarbruecken Germany
Responsible for testing laboratory:	Dipl.-Ing. (FH) Andreas Luckenbill M.Sc.
Accreditation scope:	DAkkS Webpage: FCC ISED
IC Lab company No. / CAB ID:	3462D / DE0001
Test location 1:	Im Teelbruch 116; 45219 Essen
Test location 2:	--

2.2 General limits for environmental conditions

Temperature:	22±2 °C
Relative. humidity:	45±15% rH

2.3 Test Laboratories sub-contracted

Company name:	--
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2.4 Organizational Items

Responsible testing manager:	Timo Franke
Receipt of EUT:	2023-Sep-28
Date(s) of test:	2024-Mar-10 to 2024-Mai-06
Version of template:	24.0301

2.5 Applicant's details

Applicant's name:	VALEO Telematik und Akustik GmbH
Address:	Max-Planck-Str. 28-32 61381 Friedrichsdorf Hesse Germany
Contact Person:	Martin Fleckenstein
Contact Person's Email:	martin.fleckenstein@valeo.com

2.6 Manufacturer's details

Manufacturer's name:	VALEO Telematik und Akustik GmbH
Address:	Max-Planck-Str. 28-32 61381 Friedrichsdorf Deutschland

2.7 Equipment under Test (EUT)

EUT No.*)	Sample No.	Product	Model	Type	SN	HW	SW
EUT 1	23-1-00176S31_C01	Emergency call control unit	MBECALL-NAR-01	-	EB10NAFH24000000009	D2	E120 R551
EUT 2	23-1-00176S32_C01	Emergency call control unit	MBECALL-NAR-01	-	EB10NAFH24000000020	D2	E120 R551

*) EUT short description is used to simplify the identification of the EUT in this test report.

2.8 Untested Variant (VAR)

VAR No.*)	Sample No.	Product	Model	Type	SN	HW	SW
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*) The listed additional untested model variant(s) (VAR) is/are not object of evaluation of compliance. For further information please see Annex 5: Declaration of applicant of model differences.

If the table above does not show any other line than the headline, no untested variants are available.

2.9 Auxiliary Equipment (AE)

AE No.*)	Sample No.	Auxiliary Equipment	Model	SN	HW	SW
AE 1	23-1-00176S18_C01	external GNSS antenna	ZB ANTENNE GNSS	343	A 174 905 00 02	n/a
AE 2	23-1-00176S38_C01	external cellular antenna	ZB ANTENNE TEL (Hutablagenantenne)	N/A	A 213 905 28 03	n/a

*) AE short description is used to simplify the identification of the auxiliary equipment in this test report. If the table above does not show any other line than the headline, no AE was used during testing nor was taken into account for evaluation

2.10 Connected cables (CAB)

CAB No.*)	Sample No.	Cable Type	Connectors / Details	Length
CAB 1	23-1-00176S76_C01	Fakra cable	-	100 cm
CAB 2	23-1-00176S80_C01	Power cable	-	100 cm

*) CAB short description is used to simplify the identification of the connected cables in this test report. If the table above does not show any other line than the headline, no cable was used during testing nor was taken into account for evaluation

2.11 Software (SW)

SW No.*)	Sample No.	SW Name	Description	SW Status
----------	------------	---------	-------------	-----------

*) SW short description is used to simplify the identification of the used software in this test report. If the table above does not show any other line than the headline, no SW was used during testing nor was taken into account for evaluation.

2.12 EUT set-ups

set-up no. *)	Combination of EUT and AE	Description
Set 1	EUT 1 (EUT 2) + AE 1 + CAB 1 + CAB 2	Used for radiated measurements with internal antenna EUT 1, EUT 2 are identical and were just switched to increase testing time
Set 2	EUT 1 (EUT 2) + AE 1 + AE 2 + CAB 1 + CAB 2	Used for radiated measurements with external antenna EUT 1, EUT 2 are identical and were just switched to increase testing time
Set 3	EUT 2 + CAB 2	Used for conducted measurements

*) EUT set-up no. is used to simplify the identification of the EUT set-up in this test report.

2.13 EUT operation modes

EUT operating mode no. *)	Operating modes	Additional information
Op 1	LTE FDD Band 2 Traffic	Frequency / channel range: UL: 1850.0 to 1910 MHz, DL: 1930.0 to 1990 MHz / Channel: UL: 18600 to 19199, DL: 600 to 1199. A Communication link has been established between Wideband Radio Communication Tester CMW500 and EUT
Op 2	LTE FDD Band 4 Traffic	Frequency / channel range: UL: 1710 to 1755 MHz, DL: 2110 to 2155 MHz / Channel: UL: 19950 to 20399, DL: 1950 to 2399. A Communication link has been established between Wideband Radio Communication Tester CMW500 and EUT
Op 3	LTE FDD Band 5 Traffic	Frequency / channel range: UL: 824 to 849 MHz, DL: 869 to 894 MHz / Channel: UL: 20400 to 20649, DL: 2400 to 2649. A Communication link has been established between Wideband Radio Communication Tester CMW500 and EUT
Op 4	LTE FDD Band 7 Traffic	Frequency / channel range: UL: 2500 to 2570 MHz, DL: 2620 to 2690 MHz / Channel: UL: 20750 to 21449, DL: 2750 to 3449. A Communication link has been established between Wideband Radio Communication Tester CMW500 and EUT
Op 5	LTE FDD Band 12 Traffic	Frequency / channel range: UL: 699 to 716 MHz, DL: 729 to 746 MHz / Channel: UL: 23010 to 23179, DL: 5010 to 5179. A Communication link has been established between Wideband Radio Communication Tester CMW500 and EUT
Op 6	LTE FDD Band 13 Traffic	Frequency / channel range: UL: 777 to 787 MHz, DL: 746 to 756 MHz / Channel: UL: 23180 to 23279, DL: 5180 to 5279. A Communication link has been established between Wideband Radio Communication Tester CMW500 and EUT
Op 7	LTE FDD Band 17 Traffic	Frequency / channel range: UL: 704 to 716 MHz, DL: 734 to 746 MHz / Channel: UL: 23755 to 23800, DL: 5755 to 5800. A Communication link has been established between Wideband Radio Communication Tester CMW500 and EUT

*) EUT operating mode no. is used to simplify the test report.

3 Equipment under test (EUT)

3.1 General Data of Main EUT as Declared by Applicant

Firmware	☐ for normal use	☒ Special version for test execution	
Power supply	☐ AC Mains	-	
	☒ DC Mains	12 V DC	
	☐ Battery	-	
Operational conditions	T _{nom} = 21 °C	T _{min} = -40 °C	T _{max} = +85 °C
EUT sample type	Engineering Samples		
Weight	0.240 kg		
Size [LxWxH]	17.5 cm x 10.0 cm x 5.0 cm		
Interfaces/Ports	Fakra 1 GNSS, Fakra 2 Cell, MateNet 2x 100BaseT1, MQS 18 pin- System connector		
For further details refer Applicants Declaration & following technical documents			

3.2 Detailed Technical data of Main EUT as Declared by Applicant

TX Frequency range [MHz] and Number of channels	☒ LTE 2	1850 - 1910 (UL), 1930 - 1990 (DL)	UARFCN range 18600 - 19199
	☒ LTE 4	1710 - 1755 (UL), 2110 - 2155 (DL)	UARFCN range 19950 - 20399
	☒ LTE 5	824 - 849 (UL), 869 -894 (DL)	UARFCN range 20400 - 20649
	☒ LTE 7	2505 - 2565 (UL), 2625 - 2685 (DL)	UARFCN range 20775 - 21350
	☒ LTE 12	699 - 716 (UL), 729 – 746 (DL)	UARFCN range 23010 - 23179
	☒ LTE 13	777 – 787 (UL), 746 – 756 (DL)	UARFCN range 23205 - 23230
	☒ LTE 17	704 - 716 (UL), 734 - 746 (DL)	UARFCN range 23755 - 23800
	☐ LTE 25	1850 - 1915 (UL), 1930 - 1995 (DL)	UARFCN range 26040 - 26689
	☐ LTE 26	814 – 848.9 (UL), 859 – 893.9 (DL)	UARFCN range 26690 - 27039
	☐ LTE 28	708 - 743 (UL), 763 - 798 (DL)	UARFCN range 27225 - 27645
	☐ LTE 41	2501 - 2685 (UL), 2501 - 2685 (DL)	UARFCN range 39675 - 41490
	☐ LTE 66	1710 - 1780 (UL), 2110 - 2200 (DL)	UARFCN range 131972 - 132671
Antenna Type	☒ Integrated ☐ External, no RF- connector ☒ External, separate RF-connector		
Antenna gain internal	LTE band 2: 8 dBi		LTE band 17: 6.5 dBi
	LTE band 4: 8 dBi		LTE band 25: -- dBi
	LTE band 5: 7.5 dBi		LTE band 26: -- dBi
	LTE band 7: 9 dBi		LTE band 28: -- dBi
	LTE band 12: 6.5 dBi		LTE band 41: -- dBi
	LTE band 13: 7.5 dBi		LTE band 66: -- dBi
Antenna gain external	LTE band 2: 6 dBi		LTE band 17: 4.7 dBi
	LTE band 4: 5.6 dBi		LTE band 25: -- dBi
	LTE band 5: 4.7 dBi		LTE band 26: -- dBi
	LTE band 7: 7 dBi		LTE band 28: -- dBi
	LTE band 12: 4.7 dBi		LTE band 41: -- dBi
	LTE band 13: 4.7 dBi		LTE band 66: -- dBi
FCC label attached	No		
Test firmware / software and storage location	EUT		
For further details refer Applicants Declaration & following technical documents			

Description of Reference Document (supplied by applicant)	Version	Total Pages
MBeCallBox_Tune-up-information_V1.2	1.2	11

3.3 Worst case identification

LTE mode	Data rate
LTE FDD 2	QPSK, ch18675, 1RB@mid, BW15MHz
LTE FDD 4	QPSK, ch20025, 1RB@mid, BW15MHz
LTE FDD 5	QPSK, ch20525, 1RB@high, BW10MHz
LTE FDD 7	QPSK, ch20825, 1RB@mid, BW15MHz
LTE FDD 12	QPSK, ch23165, 1RB@low, BW3MHz
LTE FDD 13	QPSK, ch23230, 1RB@mid, BW10MHz
LTE FDD 17	QPSK, ch23790, 1RB@mid, BW10MHz

3.4 Modifications on Test sample

Additions/deviations or exclusions	--
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4 Measurements

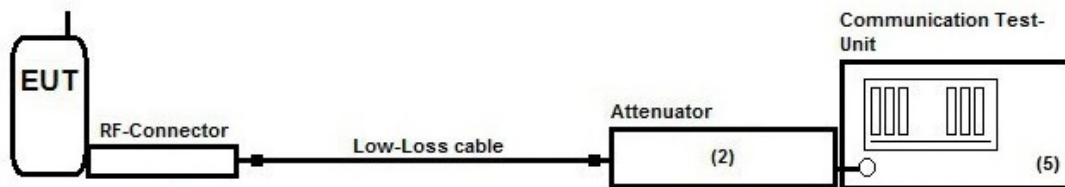
4.1 Conducted RF output power

4.1.1 Description of the general test setup and methodology, see below example:

Following modified test set-up apply for tests performed inside the climatic chamber (frequency stability) or conducted RF-carrier power-measurement. The EUT RF-Signal is directly connected over suitable RF-connector over low-loss cable and an attenuator (2) to the cellular radio communication test-unit. (5).

The measurements were performed with the integrated power measurement function of the communication test-unit. (5).

Schematic:



Testing method:

The measurement is made according to relevant reference clauses:

(See Tables *Summary of Test Results* and *Summary of Test Methods* on page 12)

EUT settings

The EUT was instructed to send with maximum power (if adjustable) according applicants instructions.

The measurements were made at the low, middle and high carrier frequencies of each of the supported operating band within the designated range within the allowed channel bandwidths. Choosing three TX-carrier frequencies of the mobile phone, should be sufficient to demonstrate compliance

4.1.2 Measurement Location

Test site	120910 - Radio Laboratory 1 (TS 8997)
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4.1.3 Limit

Operation band	Frequency Range [MHz]	FCC Limit [W] ☒	ISED Limit [W] ☒
LTE2	1850 - 1910	2 EIRP (33 dBm)	2 EIRP (33 dBm)
LTE4	1710 - 1755	1 EIRP (30dBm)	1 EIRP (30dBm)
LTE5	824 - 849	7 ERP (38.5 dBm)	7 ERP (38.5 dBm)
LTE7	2500 - 2570	2 EIRP (33 dBm)	2 EIRP (33 dBm)
LTE12	699 - 716	2 ERP (33 dBm)	5 ERP (37 dBm)
LTE13	777 - 787	3 ERP (34.8 dBm)	5 ERP (37 dBm)
LTE17	704 - 716	3 ERP (34.8 dBm)	5 ERP (37 dBm)

4.1.4 Results internal antenna (calculation)

LTE FDD Band 2																		
	Channel Nr.	ARFCN-Frequency (MHz)	Modulation	RB	Start RB	RMS Power at Antenna Port (dBm)	Maximum declared Antenna Gain(dBi)	Path loss to external Antenna Port	Path loss to Internal Antenna Port	EIRP in dBm	EIRP in Watt	ERP in dBm	ERP in Watt	FCC Limit(W), EIRP	FCC Limit (dBm); ERP	ISED Limit(W), EIRP	ISED Limit (dBm), EIRP	Verdict
BW 1.4 MHz	18607	1850.70	QPSK	1	0	20.87	8.00	2.00	2.30	28.57	0.71945	26.42	0.43853	2.00	33.01	2.00	33.01	Passed
				1	5	21.12	8.00	2.00	2.30	28.82	0.76208	26.67	0.46452	2.00	33.01	2.00	33.01	Passed
				3	0	20.80	8.00	2.00	2.30	28.50	0.70795	26.35	0.43152	2.00	33.01	2.00	33.01	Passed
				3	2	20.81	8.00	2.00	2.30	28.51	0.70958	26.36	0.43251	2.00	33.01	2.00	33.01	Passed
				6	0	19.82	8.00	2.00	2.30	27.52	0.56494	25.37	0.34435	2.00	33.01	2.00	33.01	Passed
				1	0	21.69	8.00	2.00	2.30	29.39	0.86896	27.24	0.52966	2.00	33.01	2.00	33.01	Passed
	18900	1880.00	QPSK	1	5	21.40	8.00	2.00	2.30	29.10	0.81283	26.95	0.49545	2.00	33.01	2.00	33.01	Passed
				3	0	21.44	8.00	2.00	2.30	29.14	0.82035	26.99	0.50003	2.00	33.01	2.00	33.01	Passed
				3	2	21.34	8.00	2.00	2.30	29.04	0.80168	26.89	0.48865	2.00	33.01	2.00	33.01	Passed
				6	0	20.45	8.00	2.00	2.30	28.15	0.65313	26.00	0.39811	2.00	33.01	2.00	33.01	Passed
				1	0	21.08	8.00	2.00	2.30	28.78	0.75509	26.63	0.46026	2.00	33.01	2.00	33.01	Passed
				1	5	21.01	8.00	2.00	2.30	28.71	0.74302	26.56	0.45290	2.00	33.01	2.00	33.01	Passed
	19193	1909.30	QPSK	3	0	21.01	8.00	2.00	2.30	28.71	0.74302	26.56	0.45290	2.00	33.01	2.00	33.01	Passed
				3	2	20.99	8.00	2.00	2.30	28.69	0.73961	26.54	0.45082	2.00	33.01	2.00	33.01	Passed
				6	0	19.93	8.00	2.00	2.30	27.63	0.57943	25.48	0.35318	2.00	33.01	2.00	33.01	Passed
				1	0	20.78	8.00	2.00	2.30	28.48	0.70469	26.33	0.42954	2.00	33.01	2.00	33.01	Passed
				1	14	21.24	8.00	2.00	2.30	28.94	0.78343	26.79	0.47753	2.00	33.01	2.00	33.01	Passed
				8	0	19.82	8.00	2.00	2.30	27.52	0.56494	25.37	0.34435	2.00	33.01	2.00	33.01	Passed
BW 3 MHz	18615	1851.50	QPSK	8	7	19.82	8.00	2.00	2.30	27.52	0.56494	25.37	0.34435	2.00	33.01	2.00	33.01	Passed
				15	0	19.79	8.00	2.00	2.30	27.49	0.56105	25.34	0.34198	2.00	33.01	2.00	33.01	Passed
				1	0	21.58	8.00	2.00	2.30	29.28	0.84723	27.13	0.51642	2.00	33.01	2.00	33.01	Passed
				1	14	21.35	8.00	2.00	2.30	29.05	0.80353	26.90	0.48978	2.00	33.01	2.00	33.01	Passed
				8	0	20.41	8.00	2.00	2.30	28.11	0.64714	25.96	0.39446	2.00	33.01	2.00	33.01	Passed
				8	7	20.42	8.00	2.00	2.30	28.12	0.64863	25.97	0.39537	2.00	33.01	2.00	33.01	Passed
	18900	1880.00	QPSK	15	0	20.42	8.00	2.00	2.30	28.12	0.64863	25.97	0.39537	2.00	33.01	2.00	33.01	Passed
				1	0	21.38	8.00	2.00	2.30	29.08	0.80910	26.93	0.49317	2.00	33.01	2.00	33.01	Passed
				1	14	21.04	8.00	2.00	2.30	28.74	0.74817	26.59	0.45604	2.00	33.01	2.00	33.01	Passed
				8	0	19.98	8.00	2.00	2.30	27.68	0.58614	25.53	0.35727	2.00	33.01	2.00	33.01	Passed
				8	7	19.98	8.00	2.00	2.30	27.68	0.58614	25.53	0.35727	2.00	33.01	2.00	33.01	Passed
				15	0	20.08	8.00	2.00	2.30	27.78	0.59979	25.63	0.36559	2.00	33.01	2.00	33.01	Passed
	18625	1852.50	QPSK	1	0	20.56	8.00	2.00	2.30	28.26	0.66988	26.11	0.40832	2.00	33.01	2.00	33.01	Passed
				1	24	20.95	8.00	2.00	2.30	28.65	0.73282	26.50	0.44668	2.00	33.01	2.00	33.01	Passed
				12	0	19.79	8.00	2.00	2.30	27.49	0.56105	25.34	0.34198	2.00	33.01	2.00	33.01	Passed
				12	11	20.01	8.00	2.00	2.30	27.71	0.59020	25.56	0.35975	2.00	33.01	2.00	33.01	Passed
				25	0	19.69	8.00	2.00	2.30	27.39	0.54828	25.24	0.33420	2.00	33.01	2.00	33.01	Passed
				1	0	21.23	8.00	2.00	2.30	28.93	0.78163	26.78	0.47643	2.00	33.01	2.00	33.01	Passed
BW 5 MHz	18900	1880.00	QPSK	1	24	21.30	8.00	2.00	2.30	29.00	0.79433	26.85	0.48417	2.00	33.01	2.00	33.01	Passed
				12	0	20.33	8.00	2.00	2.30	28.03	0.63533	25.88	0.38726	2.00	33.01	2.00	33.01	Passed
				12	11	20.33	8.00	2.00	2.30	28.03	0.63533	25.88	0.38726	2.00	33.01	2.00	33.01	Passed
				25	0	20.47	8.00	2.00	2.30	28.17	0.65615	26.02	0.39994	2.00	33.01	2.00	33.01	Passed
				1	0	20.94	8.00	2.00	2.30	28.64	0.73114	26.49	0.44566	2.00	33.01	2.00	33.01	Passed
				1	24	21.08	8.00	2.00	2.30	28.78	0.75509	26.63	0.46026	2.00	33.01	2.00	33.01	Passed
	19175	1907.50	QPSK	12	0	20.07	8.00	2.00	2.30	27.77	0.59841	25.62	0.36475	2.00	33.01	2.00	33.01	Passed
				12	11	19.94	8.00	2.00	2.30	27.64	0.58076	25.49	0.35400	2.00	33.01	2.00	33.01	Passed
				25	0	20.05	8.00	2.00	2.30	27.75	0.59566	25.60	0.36308	2.00	33.01	2.00	33.01	Passed
				1	0	20.73	8.00	2.00	2.30	28.43	0.69663	26.28	0.42462	2.00	33.01	2.00	33.01	Passed
				1	24	21.64	8.00	2.00	2.30	29.34	0.85901	27.19	0.52360	2.00	33.01	2.00	33.01	Passed
				1	49	21.76	8.00	2.00	2.30	29.46	0.88308	27.31	0.53827	2.00	33.01	2.00	33.01	Passed
BW 10 MHz	18650	1855.00	QPSK	25	0	19.91	8.00	2.00	2.30	27.61	0.57677	25.46	0.35156	2.00	33.01	2.00	33.01	Passed
				25	24	20.53	8.00	2.00	2.30	28.23	0.66527	26.08	0.40551	2.00	33.01	2.00	33.01	Passed
				50	0	20.24	8.00	2.00	2.30	27.94	0.62230	25.79	0.37931	2.00	33.01	2.00	33.01	Passed
				1	0	21.56	8.00	2.00	2.30	29.26	0.84333	27.11	0.51404	2.00	33.01	2.00	33.01	Passed
				1	24	21.67	8.00	2.00	2.30	29.37	0.86497	27.22	0.52723	2.00	33.01	2.00	33.01	Passed
				1	49	21.31	8.00	2.00	2.30	29.01	0.79616	26.86	0.48529	2.00	33.01	2.00	33.01	Passed
	18900	1880.00	QPSK	25	0	20.40	8.00	2.00	2.30	28.10	0.64565	25.95	0.39355	2.00	33.01	2.00	33.01	Passed
				25	24	20.04	8.00	2.00	2.30	27.74	0.59429	25.59	0.36224	2.00	33.01	2.00	33.01	Passed
				50	0	20.27	8.00	2.00	2.30	27.97	0.62661	25.82	0.38194	2.00	33.01	2.00	33.01	Passed
				1	0	21.14	8.00	2.00	2.30	28.84	0.76560	26.69	0.46666	2.00	33.01	2.00	33.01	Passed
				1	24	21.36	8.00	2.00	2.30	29.06	0.80538	26.91	0.49091	2.00	33.01	2.00	33.01	Passed
				1	49	21.12	8.00	2.00	2.30	28.82	0.76208	26.67	0.46452	2.00	33.01	2.00	33.01	Passed
BW 15 MHz	18675	1857.50	QPSK	25	0	20.14	8.00	2.00	2.30	27.84	0.60814	25.69	0.37068	2.00	33.01	2.00	33.01	Passed
				25	24	19.95	8.00	2.00	2.30	27.65	0.58210	25.50	0.35481	2.00	33.01	2.00	33.01	Passed
				50	0	20.10	8.00	2.00	2.30	27.80	0.60256	25.65	0.36728	2.00	33.01	2.00	33.01	Passed
				1	0	20.61	8.00	2.00	2.30	28.31	0.67764	26.16	0.41305	2.00	33.01	2.00	33.01	Passed
				1	27	21.96	8.00	2.00	2.30	29.66	0.92470	27.51	0.56364	2.00				

BW 20 MHz	18700	1860.00	QPSK	1	0	20.96	8.00	2.00	2.30	28.66	0.73451	26.51	0.44771	2.00	33.01	2.00	33.01	Passed		
				1	49	21.68	8.00	2.00	2.30	29.38	0.86696	27.23	0.52845	2.00	33.01	2.00	33.01	Passed		
				1	99	21.29	8.00	2.00	2.30	28.99	0.79250	26.84	0.48306	2.00	33.01	2.00	33.01	Passed		
				50	0	20.46	8.00	2.00	2.30	28.16	0.65464	26.01	0.39902	2.00	33.01	2.00	33.01	Passed		
				50	49	20.57	8.00	2.00	2.30	28.27	0.67143	26.12	0.40926	2.00	33.01	2.00	33.01	Passed		
				100	0	20.55	8.00	2.00	2.30	28.25	0.66834	26.10	0.40738	2.00	33.01	2.00	33.01	Passed		
	18900	1800.00	QPSK	1	0	21.24	8.00	2.00	2.30	28.94	0.78343	26.79	0.47753	2.00	33.01	2.00	33.01	Passed		
				1	49	21.36	8.00	2.00	2.30	29.06	0.80538	26.91	0.49091	2.00	33.01	2.00	33.01	Passed		
				1	99	20.78	8.00	2.00	2.30	28.48	0.70469	26.33	0.42954	2.00	33.01	2.00	33.01	Passed		
				50	0	20.26	8.00	2.00	2.30	27.96	0.62517	25.81	0.38107	2.00	33.01	2.00	33.01	Passed		
				50	49	19.91	8.00	2.00	2.30	27.61	0.57677	25.46	0.35156	2.00	33.01	2.00	33.01	Passed		
				100	0	20.16	8.00	2.00	2.30	27.86	0.61094	25.71	0.37239	2.00	33.01	2.00	33.01	Passed		
	19100	1900.00	QPSK	1	0	20.91	8.00	2.00	2.30	28.61	0.72611	26.46	0.44259	2.00	33.01	2.00	33.01	Passed		
				1	49	20.96	8.00	2.00	2.30	28.66	0.73451	26.51	0.44771	2.00	33.01	2.00	33.01	Passed		
				1	99	21.23	8.00	2.00	2.30	28.93	0.78163	26.78	0.47643	2.00	33.01	2.00	33.01	Passed		
				50	0	20.00	8.00	2.00	2.30	27.70	0.58884	25.55	0.35892	2.00	33.01	2.00	33.01	Passed		
				50	49	20.14	8.00	2.00	2.30	27.84	0.60814	25.69	0.37068	2.00	33.01	2.00	33.01	Passed		
				100	0	19.94	8.00	2.00	2.30	27.64	0.58076	25.49	0.35400	2.00	33.01	2.00	33.01	Passed		
				EIRP= RMS Power at Antenna Port + Maximum declared Antenna Gain - Path loss to Antenna Connector - Path loss in Antenna Cable																
ERP = EIRP - 2.15																				

LTE FDD Band 4																		
	Channel Nr.	ARFCN-Frequency (MHz)	Modulation	RB	Start RB	RMS Power at Antenna Port (dBm)	Maximum declared Antenna Gain(dBi)	Path loss to external Antenna Port	Path loss to internal Antenna Port	EIRP in dBm	EIRP in Watt	ERP in dBm	ERP in Watt	FCC Limit(W), EIRP	FCC Limit (dBm); EIRP	ISED Limit(W), EIRP	ISED Limit (dBm), EIRP	Verdict
BW 1.4 MHz	19957	1710.70	QPSK	1	0	21.36	8.00	1.70	2.30	28.76	0.75162	26.61	0.45814	1.00	30.00	1.00	30.00	Passed
				1	5	21.60	8.00	1.70	2.30	29.00	0.79433	26.85	0.48417	1.00	30.00	1.00	30.00	Passed
				3	0	21.41	8.00	1.70	2.30	28.81	0.76033	26.66	0.46345	1.00	30.00	1.00	30.00	Passed
				3	2	21.44	8.00	1.70	2.30	28.84	0.76560	26.69	0.46666	1.00	30.00	1.00	30.00	Passed
				6	0	20.49	8.00	1.70	2.30	27.89	0.61518	25.74	0.37497	1.00	30.00	1.00	30.00	Passed
				1	0	21.75	8.00	1.70	2.30	29.15	0.82224	27.00	0.50119	1.00	30.00	1.00	30.00	Passed
	20175	1732.50	QPSK	1	5	21.66	8.00	1.70	2.30	29.06	0.80538	26.91	0.49091	1.00	30.00	1.00	30.00	Passed
				3	0	21.52	8.00	1.70	2.30	28.92	0.77983	26.77	0.47534	1.00	30.00	1.00	30.00	Passed
				3	2	21.45	8.00	1.70	2.30	28.85	0.76736	26.70	0.46774	1.00	30.00	1.00	30.00	Passed
				6	0	20.63	8.00	1.70	2.30	28.03	0.63533	25.88	0.38726	1.00	30.00	1.00	30.00	Passed
				1	0	21.02	8.00	1.70	2.30	28.42	0.69502	26.27	0.42364	1.00	30.00	1.00	30.00	Passed
				1	5	20.67	8.00	1.70	2.30	28.07	0.64121	25.92	0.39084	1.00	30.00	1.00	30.00	Passed
	20393	1754.30	QPSK	3	0	20.97	8.00	1.70	2.30	28.37	0.68707	26.22	0.41879	1.00	30.00	1.00	30.00	Passed
				3	2	20.94	8.00	1.70	2.30	28.34	0.68234	26.19	0.41591	1.00	30.00	1.00	30.00	Passed
				6	0	19.90	8.00	1.70	2.30	27.30	0.53703	25.15	0.32734	1.00	30.00	1.00	30.00	Passed
				1	0	21.50	8.00	1.70	2.30	28.90	0.77625	26.75	0.47315	1.00	30.00	1.00	30.00	Passed
				1	14	21.45	8.00	1.70	2.30	28.85	0.76736	26.70	0.46774	1.00	30.00	1.00	30.00	Passed
				8	0	20.52	8.00	1.70	2.30	27.92	0.61944	25.77	0.37757	1.00	30.00	1.00	30.00	Passed
BW 3 MHz	19965	1711.50	QPSK	8	7	20.45	8.00	1.70	2.30	27.85	0.60954	25.70	0.37154	1.00	30.00	1.00	30.00	Passed
				15	0	20.39	8.00	1.70	2.30	27.79	0.60117	25.64	0.36644	1.00	30.00	1.00	30.00	Passed
				1	0	21.59	8.00	1.70	2.30	28.99	0.79250	26.84	0.48306	1.00	30.00	1.00	30.00	Passed
				1	14	21.64	8.00	1.70	2.30	29.04	0.80168	26.89	0.48865	1.00	30.00	1.00	30.00	Passed
				8	0	20.62	8.00	1.70	2.30	28.02	0.63387	25.87	0.38637	1.00	30.00	1.00	30.00	Passed
				8	7	20.64	8.00	1.70	2.30	28.04	0.63680	25.89	0.38815	1.00	30.00	1.00	30.00	Passed
	20175	1732.50	QPSK	15	0	20.64	8.00	1.70	2.30	28.04	0.63680	25.89	0.38815	1.00	30.00	1.00	30.00	Passed
				1	0	21.13	8.00	1.70	2.30	28.53	0.71285	26.38	0.43451	1.00	30.00	1.00	30.00	Passed
				1	14	20.85	8.00	1.70	2.30	28.25	0.66834	26.10	0.40738	1.00	30.00	1.00	30.00	Passed
				8	0	19.87	8.00	1.70	2.30	27.27	0.53333	25.12	0.32509	1.00	30.00	1.00	30.00	Passed
				8	7	19.89	8.00	1.70	2.30	27.29	0.53580	25.14	0.32659	1.00	30.00	1.00	30.00	Passed
				15	0	19.90	8.00	1.70	2.30	27.30	0.53703	25.15	0.32734	1.00	30.00	1.00	30.00	Passed
	20385	1753.50	QPSK	1	0	21.21	8.00	1.70	2.30	28.61	0.72611	26.46	0.44259	1.00	30.00	1.00	30.00	Passed
				1	24	21.30	8.00	1.70	2.30	28.70	0.74131	26.55	0.45186	1.00	30.00	1.00	30.00	Passed
				12	0	20.44	8.00	1.70	2.30	27.84	0.60814	25.69	0.37068	1.00	30.00	1.00	30.00	Passed
				12	11	20.41	8.00	1.70	2.30	27.81	0.60395	25.66	0.36813	1.00	30.00	1.00	30.00	Passed
				25	0	20.41	8.00	1.70	2.30	27.81	0.60395	25.66	0.36813	1.00	30.00	1.00	30.00	Passed
				1	0	21.21	8.00	1.70	2.30	28.61	0.72611	26.46	0.44259	1.00	30.00	1.00	30.00	Passed
BW 5 MHz	19975	1712.50	QPSK	1	24	21.42	8.00	1.70	2.30	28.82	0.76208	26.67	0.46452	1.00	30.00	1.00	30.00	Passed
				12	0	20.53	8.00	1.70	2.30	27.93	0.62087	25.78	0.37844	1.00	30.00	1.00	30.00	Passed
				12	11	20.68	8.00	1.70	2.30	28.08	0.64269	25.93	0.39174	1.00	30.00	1.00	30.00	Passed
				25	0	20.63	8.00	1.70	2.30	28.03	0.63533	25.88	0.38726	1.00	30.00	1.00	30.00	Passed
				1	0	21.07	8.00	1.70	2.30	28.47	0.70307	26.32	0.42855	1.00	30.00	1.00	30.00	Passed
				1	24	20.94	8.00	1.70	2.30	28.34	0.68234	26.19	0.41591	1.00	30.00	1.00	30.00	Passed
	20175	1732.50	QPSK	12	0	20.17	8.00	1.70	2.30	27.57	0.57148	25.42	0.34834	1.00	30.00	1.00	30.00	Passed
				12	11	20.07	8.00	1.70	2.30	27.47	0.55847	25.32	0.34041	1.00	30.00	1.00	30.00	Passed
				25	0	20.00	8.00	1.70	2.30	27.40	0.54954	25.25	0.33497	1.00	30.00	1.00	30.00	Passed
				1	0	21.44	8.00	1.70	2.30	28.84	0.76560	26.69	0.46666	1.00	30.00	1.00	30.00	Passed
				1	24	21.61	8.00	1.70	2.30	29.01	0.79616	26.86	0.48529	1.00	30.00	1.00	30.00	Passed
				1	49	21.77	8.00	1.70	2.30	29.17	0.82604	27.02	0.50350	1.00	30.00	1.00	30.00	Passed
BW 10 MHz	20000	1715.00	QPSK	25	0	20.46	8.00	1.70	2.30	27.86	0.61094	25.71	0.37239	1.00	30.00	1.00	30.00	Passed
				25	24	20.57	8.00	1.70	2.30	27.97	0.62661	25.82	0.38194	1.00	30.00	1.00	30.00	Passed
				50	0	20.47	8.00	1.70	2.30	27.87	0.61235	25.72	0.37325	1.00	30.00	1.00	30.00	Passed
				1	0	21.69	8.00	1.70	2.30	29.09	0.81096	26.94	0.49431	1.00	30.00	1.00	30.00	Passed
				1	24	21.69	8.00	1.70	2.30	29.09	0.81096	26.94	0.49431	1.00	30.00	1.00	30.00	Passed
				1	49	21.36	8.00	1.70	2.30	28.76	0.75162	26.61	0.45814	1.00	30.00	1.00	30.00	Passed
	20175	1732.50	QPSK	25	0	20.63	8.00	1.70	2.30	28.03	0.63533	25.88	0.38726	1.00	30.00	1.00	30.00	Passed
				25	24	20.55	8.00	1.70	2.30	27.95	0.62373	25.80	0.38019	1.00	30.00	1.00	30.00	Passed
				50	0	20.48	8.00	1.70	2.30	27.88	0.61376	25.73	0.37411	1.00	30.00	1.00	30.00	Passed
				1	0	21.51	8.00	1.70	2.30	28.91	0.77804	26.76	0.47424	1.00	30.00	1.00	30.00	Passed
				1	24	21.56	8.00	1.70	2.30	28.96	0.78705	26.81	0.47973	1.00	30.00	1.00	30.00	Passed
				1	49	21.00	8.00	1.70	2.30	28.40	0.69183	26.25	0.42170	1.00	30.00	1.00	30.00	Passed
BW 15 MHz	20025	1717.50	QPSK	25	0	20.49	8.00	1.70	2.30	27.89	0.61518	25.74	0.37497	1.00	30.00	1.00	30.00	Passed
				25	24	19.98	8.00	1.70	2.30	27.38	0.54702	25.23	0.33343	1.00	30.00	1.00	30.00	Passed
				50	0	20.22	8.00	1.70	2.30	27.62	0.57810	25.47	0.35237	1.00	30.00	1.00	30.00	Passed
				1	0	21.61	8.00	1.70	2.30	29.01	0.79616	26.86	0.48529	1.00	30.00	1.00	30.00	Passed
				1	27	22.11	8.00	1.70	2.30	29.51	0.89331	27.36	0.54450	1.00	30.00	1.00	30.00	Passed

BW 20 MHz	20050	1720.00	QPSK	1	0	21.65	8.00	1.70	2.30	29.05	0.80353	26.90	0.48978	1.00	30.00	1.00	30.00	Passed		
				1	49	21.61	8.00	1.70	2.30	29.01	0.79616	26.86	0.48529	1.00	30.00	1.00	30.00	Passed		
				1	99	21.10	8.00	1.70	2.30	28.50	0.70795	26.35	0.43152	1.00	30.00	1.00	30.00	Passed		
				50	0	20.55	8.00	1.70	2.30	27.95	0.62373	25.80	0.38019	1.00	30.00	1.00	30.00	Passed		
				50	49	20.50	8.00	1.70	2.30	27.90	0.61660	25.75	0.37584	1.00	30.00	1.00	30.00	Passed		
				100	0	20.55	8.00	1.70	2.30	27.95	0.62373	25.80	0.38019	1.00	30.00	1.00	30.00	Passed		
				1	0	21.32	8.00	1.70	2.30	28.72	0.74473	26.57	0.45394	1.00	30.00	1.00	30.00	Passed		
				1	49	21.65	8.00	1.70	2.30	29.05	0.80353	26.90	0.48978	1.00	30.00	1.00	30.00	Passed		
	20175	1732.50	QPSK	1	99	20.89	8.00	1.70	2.30	28.29	0.67453	26.14	0.41115	1.00	30.00	1.00	30.00	Passed		
				50	0	20.40	8.00	1.70	2.30	27.80	0.60256	25.65	0.36728	1.00	30.00	1.00	30.00	Passed		
				50	49	20.28	8.00	1.70	2.30	27.68	0.58614	25.53	0.35727	1.00	30.00	1.00	30.00	Passed		
				100	0	20.34	8.00	1.70	2.30	27.74	0.59429	25.59	0.36224	1.00	30.00	1.00	30.00	Passed		
				1	0	21.36	8.00	1.70	2.30	28.76	0.75162	26.61	0.45814	1.00	30.00	1.00	30.00	Passed		
				1	49	21.28	8.00	1.70	2.30	28.68	0.73790	26.53	0.44978	1.00	30.00	1.00	30.00	Passed		
				1	99	21.11	8.00	1.70	2.30	28.51	0.70958	26.36	0.43251	1.00	30.00	1.00	30.00	Passed		
				50	0	20.19	8.00	1.70	2.30	27.59	0.57412	25.44	0.34995	1.00	30.00	1.00	30.00	Passed		
	20300	1745.00	QPSK	50	49	20.21	8.00	1.70	2.30	27.61	0.57677	25.46	0.35156	1.00	30.00	1.00	30.00	Passed		
				100	0	20.20	8.00	1.70	2.30	27.60	0.57544	25.45	0.35075	1.00	30.00	1.00	30.00	Passed		
				EIRP= RMS Power at Antenna Port + Maximum declared Antenna Gain - Path loss to Antenna Connector - Path loss in Antenna Cable																
				ERP = EIRP - 2.15																

LTE FDD Band 5																					
	Channel Nr.	ARFCN-Frequency (MHz)	Modulation	RB	Start RB	RMS Power at Antenna Port (dBm)	Maximum declared Antenna Gain(dBi)	Path loss to external Antenna Port	Path loss to internal Antenna Port	EIRP in dBm	EIRP in Watt	ERP in dBm	ERP in Watt	FCC Limit(W), ERP	FCC Limit (dBm), ERP	ISED Limit(W), ERP	ISED Limit (dBm), ERP	Verdict			
BW 1.4 MHz	20407	824.70	QPSK	1	0	21.86	7.50	1.40	1.60	29.16	0.82414	27.01	0.50234	7.00	38.45	7.00	38.45	Passed			
				1	5	22.05	7.50	1.40	1.60	29.35	0.86099	27.20	0.52481	7.00	38.45	7.00	38.45	Passed			
				3	0	21.93	7.50	1.40	1.60	29.23	0.83753	27.08	0.51050	7.00	38.45	7.00	38.45	Passed			
				3	2	21.97	7.50	1.40	1.60	29.27	0.84528	27.12	0.51523	7.00	38.45	7.00	38.45	Passed			
				6	0	21.06	7.50	1.40	1.60	28.36	0.68549	26.21	0.41783	7.00	38.45	7.00	38.45	Passed			
				1	0	21.90	7.50	1.40	1.60	29.20	0.83176	27.05	0.50699	7.00	38.45	7.00	38.45	Passed			
	20525	836.50	QPSK	1	5	21.93	7.50	1.40	1.60	29.23	0.83753	27.08	0.51050	7.00	38.45	7.00	38.45	Passed			
				3	0	21.85	7.50	1.40	1.60	29.15	0.82224	27.00	0.50119	7.00	38.45	7.00	38.45	Passed			
				3	2	22.00	7.50	1.40	1.60	29.30	0.85114	27.15	0.51880	7.00	38.45	7.00	38.45	Passed			
				6	0	21.01	7.50	1.40	1.60	28.31	0.67764	26.16	0.41305	7.00	38.45	7.00	38.45	Passed			
				1	0	21.71	7.50	1.40	1.60	29.01	0.79616	26.86	0.48529	7.00	38.45	7.00	38.45	Passed			
				1	5	21.85	7.50	1.40	1.60	29.15	0.82224	27.00	0.50119	7.00	38.45	7.00	38.45	Passed			
	20643	848.30	QPSK	3	0	21.82	7.50	1.40	1.60	29.12	0.81658	26.97	0.49774	7.00	38.45	7.00	38.45	Passed			
				3	2	21.78	7.50	1.40	1.60	29.08	0.80910	26.93	0.49317	7.00	38.45	7.00	38.45	Passed			
				6	0	20.92	7.50	1.40	1.60	28.22	0.66374	26.07	0.40458	7.00	38.45	7.00	38.45	Passed			
				1	0	22.12	7.50	1.40	1.60	29.42	0.87498	27.27	0.53333	7.00	38.45	7.00	38.45	Passed			
				1	14	21.70	7.50	1.40	1.60	29.00	0.79433	26.85	0.48417	7.00	38.45	7.00	38.45	Passed			
				8	0	20.95	7.50	1.40	1.60	28.25	0.66834	26.10	0.40738	7.00	38.45	7.00	38.45	Passed			
BW 3 MHz	20415	825.50	QPSK	8	7	20.86	7.50	1.40	1.60	28.16	0.65464	26.01	0.39902	7.00	38.45	7.00	38.45	Passed			
				15	0	20.76	7.50	1.40	1.60	28.06	0.63973	25.91	0.38994	7.00	38.45	7.00	38.45	Passed			
				1	0	21.72	7.50	1.40	1.60	29.02	0.79799	26.87	0.48641	7.00	38.45	7.00	38.45	Passed			
				1	14	22.02	7.50	1.40	1.60	29.32	0.85507	27.17	0.52119	7.00	38.45	7.00	38.45	Passed			
				8	0	20.84	7.50	1.40	1.60	28.14	0.65163	25.99	0.39719	7.00	38.45	7.00	38.45	Passed			
				8	7	21.03	7.50	1.40	1.60	28.33	0.68077	26.18	0.41495	7.00	38.45	7.00	38.45	Passed			
	20525	836.50	QPSK	15	0	20.96	7.50	1.40	1.60	28.26	0.66988	26.11	0.40832	7.00	38.45	7.00	38.45	Passed			
				1	0	21.36	7.50	1.40	1.60	28.66	0.73451	26.51	0.44771	7.00	38.45	7.00	38.45	Passed			
				1	14	21.62	7.50	1.40	1.60	28.92	0.77983	26.77	0.47534	7.00	38.45	7.00	38.45	Passed			
				8	0	20.21	7.50	1.40	1.60	27.51	0.56364	25.36	0.34356	7.00	38.45	7.00	38.45	Passed			
				8	7	20.92	7.50	1.40	1.60	28.22	0.66374	26.07	0.40458	7.00	38.45	7.00	38.45	Passed			
				15	0	20.59	7.50	1.40	1.60	27.89	0.61518	25.74	0.37497	7.00	38.45	7.00	38.45	Passed			
	20425	826.50	QPSK	1	0	21.77	7.50	1.40	1.60	29.07	0.80724	26.92	0.49204	7.00	38.45	7.00	38.45	Passed			
				1	24	21.50	7.50	1.40	1.60	28.80	0.75858	26.65	0.46238	7.00	38.45	7.00	38.45	Passed			
				12	0	20.82	7.50	1.40	1.60	28.12	0.64863	25.97	0.39537	7.00	38.45	7.00	38.45	Passed			
				12	11	20.69	7.50	1.40	1.60	27.99	0.62951	25.84	0.38371	7.00	38.45	7.00	38.45	Passed			
				25	0	20.81	7.50	1.40	1.60	28.11	0.64714	25.96	0.39446	7.00	38.45	7.00	38.45	Passed			
				1	0	21.47	7.50	1.40	1.60	28.77	0.75336	26.62	0.45920	7.00	38.45	7.00	38.45	Passed			
	20525	836.50	QPSK	1	24	21.66	7.50	1.40	1.60	28.96	0.78705	26.81	0.47973	7.00	38.45	7.00	38.45	Passed			
				12	0	20.73	7.50	1.40	1.60	28.03	0.63533	25.88	0.38726	7.00	38.45	7.00	38.45	Passed			
				12	11	21.02	7.50	1.40	1.60	28.32	0.67920	26.17	0.41400	7.00	38.45	7.00	38.45	Passed			
				25	0	20.83	7.50	1.40	1.60	28.13	0.65013	25.98	0.39628	7.00	38.45	7.00	38.45	Passed			
				1	0	21.62	7.50	1.40	1.60	28.92	0.77983	26.77	0.47534	7.00	38.45	7.00	38.45	Passed			
				1	24	21.62	7.50	1.40	1.60	28.92	0.77983	26.77	0.47534	7.00	38.45	7.00	38.45	Passed			
	20625	846.50	QPSK	12	0	20.67	7.50	1.40	1.60	27.97	0.62661	25.82	0.38194	7.00	38.45	7.00	38.45	Passed			
				12	11	20.35	7.50	1.40	1.60	27.65	0.58210	25.50	0.35481	7.00	38.45	7.00	38.45	Passed			
				25	0	20.34	7.50	1.40	1.60	27.64	0.58076	25.49	0.35400	7.00	38.45	7.00	38.45	Passed			
				1	0	21.83	7.50	1.40	1.60	29.13	0.81846	26.98	0.49888	7.00	38.45	7.00	38.45	Passed			
				1	24	22.13	7.50	1.40	1.60	29.43	0.87700	27.28	0.53456	7.00	38.45	7.00	38.45	Passed			
				1	49	21.80	7.50	1.40	1.60	29.10	0.81283	26.95	0.49545	7.00	38.45	7.00	38.45	Passed			
BW 10 MHz	20450	829.00	QPSK	25	0	20.78	7.50	1.40	1.60	28.08	0.64269	25.93	0.39174	7.00	38.45	7.00	38.45	Passed			
				25	24	20.86	7.50	1.40	1.60	28.16	0.65464	26.01	0.39902	7.00	38.45	7.00	38.45	Passed			
				50	0	20.75	7.50	1.40	1.60	28.05	0.63826	25.90	0.38905	7.00	38.45	7.00	38.45	Passed			
				1	0	21.94	7.50	1.40	1.60	29.24	0.83946	27.09	0.51168	7.00	38.45	7.00	38.45	Passed			
				1	24	22.15	7.50	1.40	1.60	29.45	0.88105	27.30	0.53703	7.00	38.45	7.00	38.45	Passed			
				1	49	22.22	7.50	1.40	1.60	29.52	0.89536	27.37	0.54576	7.00	38.45	7.00	38.45	Passed			
	20525	836.50	QPSK	25	0	20.68	7.50	1.40	1.60	27.98	0.62806	25.83	0.38282	7.00	38.45	7.00	38.45	Passed			
				25	24	21.00	7.50	1.40	1.60	28.30	0.67608	26.15	0.41210	7.00	38.45	7.00	38.45	Passed			
				50	0	20.86	7.50	1.40	1.60	28.16	0.65464	26.01	0.39902	7.00	38.45	7.00	38.45	Passed			
				1	0	22.20	7.50	1.40	1.60	29.50	0.89125	27.35	0.54325	7.00	38.45	7.00	38.45	Passed			
				1	24	21.97	7.50	1.40	1.60	29.27	0.84528	27.12	0.51523	7.00	38.45	7.00	38.45	Passed			
				1	49	21.56	7.50	1.40	1.60	28.86	0.76913	26.71	0.46881	7.00	38.45	7.00	38.45	Passed			
	20600	844.00	QPSK	25	0	20.99	7.50	1.40	1.60	28.29	0.67453	26.14	0.41115	7.00	38.45	7.00	38.45	Passed			
				25	24	20.55	7.50	1.40	1.60	27.85	0.60954	25.70	0.37154	7.00	38.45	7.00	38.45	Passed			
				50	0	20.85	7.50	1.40	1.60	28.15	0.65313	26.00	0.39811	7.00	38.45	7.00	38.45	Passed			
EIRP= RMS Power at Antenna Port + Maximum declared Antenna Gain - Path loss to Antenna Connector - Path loss in Antenna Cable																					
ERP = EIRP - 2.15																					

LTE FDD Band 7																		
	Channel Nr.	ARFCN-Frequency (MHz)	Modulation	RB	Start RB	RMS Power at Antenna Port (dBm)	Maximum declared Antenna Gain(dBi)	Path loss to external Antenna Port	Path loss to internal Antenna Port	EIRP in dBm	EIRP in Watt	ERP in dBm	ERP in Watt	FCC Limit(W), EIRP	FCC Limit (dBm); EIRP	ISED Limit(W), EIRP	ISED Limit (dBm), EIRP	Verdict
BW 5 MHz	20775	2502.50	QPSK	1	0	20.80	9.00	3.20	3.00	30.00	1.00000	27.85	0.60954	2.00	33.01	2.00	33.01	Passed
				1	24	20.82	9.00	3.20	3.00	30.02	1.00462	27.87	0.61235	2.00	33.01	2.00	33.01	Passed
				12	0	19.88	9.00	3.20	3.00	29.08	0.80910	26.93	0.49317	2.00	33.01	2.00	33.01	Passed
				12	11	19.97	9.00	3.20	3.00	29.17	0.82604	27.02	0.50350	2.00	33.01	2.00	33.01	Passed
				25	0	19.91	9.00	3.20	3.00	29.11	0.81470	26.96	0.49659	2.00	33.01	2.00	33.01	Passed
	21100	2535.00	QPSK	1	0	20.47	9.00	3.20	3.00	29.67	0.92683	27.52	0.56494	2.00	33.01	2.00	33.01	Passed
				1	24	20.53	9.00	3.20	3.00	29.73	0.93972	27.58	0.57280	2.00	33.01	2.00	33.01	Passed
				12	0	19.59	9.00	3.20	3.00	28.79	0.75683	26.64	0.46132	2.00	33.01	2.00	33.01	Passed
				12	11	19.58	9.00	3.20	3.00	28.78	0.75509	26.63	0.46026	2.00	33.01	2.00	33.01	Passed
				25	0	19.56	9.00	3.20	3.00	28.76	0.75162	26.61	0.45814	2.00	33.01	2.00	33.01	Passed
	21425	2567.50	QPSK	1	0	19.74	9.00	3.20	3.00	28.94	0.78343	26.79	0.47753	2.00	33.01	2.00	33.01	Passed
				1	24	19.85	9.00	3.20	3.00	29.05	0.80353	26.90	0.48978	2.00	33.01	2.00	33.01	Passed
				12	0	18.82	9.00	3.20	3.00	28.02	0.63387	25.87	0.38637	2.00	33.01	2.00	33.01	Passed
				12	11	18.80	9.00	3.20	3.00	28.00	0.63096	25.85	0.38459	2.00	33.01	2.00	33.01	Passed
				25	0	18.84	9.00	3.20	3.00	28.04	0.63680	25.89	0.38815	2.00	33.01	2.00	33.01	Passed
BW 10 MHz	20800	2505.00	QPSK	1	0	20.79	9.00	3.20	3.00	29.99	0.99770	27.84	0.60814	2.00	33.01	2.00	33.01	Passed
				1	24	21.20	9.00	3.20	3.00	30.40	1.09648	28.25	0.66834	2.00	33.01	2.00	33.01	Passed
				1	49	20.86	9.00	3.20	3.00	30.06	1.01391	27.91	0.61802	2.00	33.01	2.00	33.01	Passed
				25	0	19.92	9.00	3.20	3.00	29.12	0.81658	26.97	0.49774	2.00	33.01	2.00	33.01	Passed
				25	24	19.87	9.00	3.20	3.00	29.07	0.80724	26.92	0.49204	2.00	33.01	2.00	33.01	Passed
	21100	2535.00	QPSK	50	0	19.91	9.00	3.20	3.00	29.11	0.81470	26.96	0.49659	2.00	33.01	2.00	33.01	Passed
				1	0	20.71	9.00	3.20	3.00	29.91	0.97949	27.76	0.59704	2.00	33.01	2.00	33.01	Passed
				1	24	20.82	9.00	3.20	3.00	30.02	1.00462	27.87	0.61235	2.00	33.01	2.00	33.01	Passed
				1	49	20.72	9.00	3.20	3.00	29.92	0.98175	27.77	0.59841	2.00	33.01	2.00	33.01	Passed
				25	0	19.60	9.00	3.20	3.00	28.80	0.75858	26.65	0.46238	2.00	33.01	2.00	33.01	Passed
	21400	2565.00	QPSK	25	24	19.59	9.00	3.20	3.00	28.79	0.75683	26.64	0.46132	2.00	33.01	2.00	33.01	Passed
				50	0	19.59	9.00	3.20	3.00	28.79	0.75683	26.64	0.46132	2.00	33.01	2.00	33.01	Passed
				1	0	20.37	9.00	3.20	3.00	29.57	0.90573	27.42	0.55208	2.00	33.01	2.00	33.01	Passed
				1	24	20.18	9.00	3.20	3.00	29.38	0.86696	27.23	0.52845	2.00	33.01	2.00	33.01	Passed
				1	49	19.86	9.00	3.20	3.00	29.06	0.80538	26.91	0.49091	2.00	33.01	2.00	33.01	Passed
BW 15 MHz	20825	2507.50	QPSK	25	0	18.94	9.00	3.20	3.00	28.14	0.65163	25.99	0.39719	2.00	33.01	2.00	33.01	Passed
				25	24	18.84	9.00	3.20	3.00	28.04	0.63680	25.89	0.38815	2.00	33.01	2.00	33.01	Passed
				50	0	18.86	9.00	3.20	3.00	28.06	0.63973	25.91	0.38994	2.00	33.01	2.00	33.01	Passed
				1	0	20.81	9.00	3.20	3.00	30.01	1.00231	27.86	0.61094	2.00	33.01	2.00	33.01	Passed
				1	27	21.26	9.00	3.20	3.00	30.46	1.11173	28.31	0.67764	2.00	33.01	2.00	33.01	Passed
	21100	2535.00	QPSK	1	74	20.46	9.00	3.20	3.00	29.66	0.92470	27.51	0.56364	2.00	33.01	2.00	33.01	Passed
				27	0	19.91	9.00	3.20	3.00	29.11	0.81470	26.96	0.49659	2.00	33.01	2.00	33.01	Passed
				27	74	19.80	9.00	3.20	3.00	29.00	0.79433	26.85	0.48417	2.00	33.01	2.00	33.01	Passed
				75	0	19.75	9.00	3.20	3.00	28.95	0.78524	26.80	0.47863	2.00	33.01	2.00	33.01	Passed
				1	0	20.63	9.00	3.20	3.00	29.83	0.96161	27.68	0.58614	2.00	33.01	2.00	33.01	Passed
	21375	2562.50	QPSK	1	27	20.74	9.00	3.20	3.00	29.94	0.98628	27.79	0.60117	2.00	33.01	2.00	33.01	Passed
				1	74	20.22	9.00	3.20	3.00	29.42	0.87498	27.27	0.53333	2.00	33.01	2.00	33.01	Passed
				27	0	19.59	9.00	3.20	3.00	28.79	0.75683	26.64	0.46132	2.00	33.01	2.00	33.01	Passed
				27	74	19.67	9.00	3.20	3.00	28.87	0.77090	26.72	0.46989	2.00	33.01	2.00	33.01	Passed
				75	0	19.64	9.00	3.20	3.00	28.84	0.76560	26.69	0.46666	2.00	33.01	2.00	33.01	Passed
BW 20 MHz	20850	2510.00	QPSK	1	0	20.29	9.00	3.20	3.00	29.49	0.88920	27.34	0.54200	2.00	33.01	2.00	33.01	Passed
				1	27	20.06	9.00	3.20	3.00	29.26	0.84333	27.11	0.51404	2.00	33.01	2.00	33.01	Passed
				1	74	19.73	9.00	3.20	3.00	28.93	0.78163	26.78	0.47643	2.00	33.01	2.00	33.01	Passed
				27	0	18.99	9.00	3.20	3.00	28.19	0.65917	26.04	0.40179	2.00	33.01	2.00	33.01	Passed
				27	74	18.84	9.00	3.20	3.00	28.04	0.63680	25.89	0.38815	2.00	33.01	2.00	33.01	Passed
	21100	2535.00	QPSK	75	0	18.97	9.00	3.20	3.00	28.17	0.65615	26.02	0.39994	2.00	33.01	2.00	33.01	Passed
				1	0	20.89	9.00	3.20	3.00	30.09	1.02094	27.94	0.62230	2.00	33.01	2.00	33.01	Passed
				1	49	20.75	9.00	3.20	3.00	29.95	0.98855	27.80	0.60256	2.00	33.01	2.00	33.01	Passed
				1	99	20.34	9.00	3.20	3.00	29.54	0.89950	27.39	0.54828	2.00	33.01	2.00	33.01	Passed
				50	0	19.91	9.00	3.20	3.00	29.11	0.81470	26.96	0.49659	2.00	33.01	2.00	33.01	Passed
	21350	2560.00	QPSK	50	49	19.64	9.00	3.20	3.00	28.84	0.76560	26.69	0.46666	2.00	33.01	2.00	33.01	Passed
				100	0	19.77	9.00	3.20	3.00	28.97	0.78886	26.82	0.48084	2.00	33.01	2.00	33.01	Passed
				1	0	20.42	9.00	3.20	3.00	29.62	0.91622	27.47	0.55847	2.00	33.01	2.00	33.01	Passed
				1	49	20.68	9.00	3.20	3.00	29.88	0.97275	27.73	0.59293	2.00	33.01	2.00	33.01	Passed
				1	99	20.22	9.00	3.20	3.00	29.42	0.87498	27.27	0.53333	2.00	33.01	2.00	33.01	Passed
				50	0	19.70	9.00	3.20	3.00	28.90	0.77625	26.75	0.47315	2.00	33.01	2.00	33.01	Passed
				50	49	19.44	9.00	3.20	3.00	28.64	0.73114	26.49	0.44566	2.00	33.01	2.00	33.01	Passed
				100	0	19.63	9.00	3.20	3.00	28.83	0.76384	26.68	0.46559	2.00	33.01	2.00	33.01	Passed
				1	0	19.98	9.00	3.20	3.00	29.18	0.82794	27.03	0.50466	2.00	33.01	2.00	33.01	Passed
				1	49	19.99	9.00	3.20	3.00	29.19	0.82985	27.04	0.50					

LTE FDD Band 12																		
	Channel Nr.	ARFCN-Frequency (MHz)	Modulation	RB	Start RB	RMS Power at Antenna Port (dBm)	Maximum declared Antenna Gain(dBi)	Path loss to external Antenna Port	Path loss to internal Antenna Port	EIRP in dBm	EIRP in Watt	ERP in dBm	ERP in Watt	FCC Limit(W), ERP	FCC Limit (dBm), ERP	ISED Limit(W), ERP	ISED Limit (dBm), ERP	Verdict
BW 1.4 MHz	23017	699.70	QPSK	1	0	21.05	6.50	1.40	1.60	27.35	0.54325	25.20	0.33113	3.00	34.77	3.00	34.77	Passed
				1	5	21.30	6.50	1.40	1.60	27.60	0.57544	25.45	0.35075	3.00	34.77	3.00	34.77	Passed
				3	0	21.14	6.50	1.40	1.60	27.44	0.55463	25.29	0.33806	3.00	34.77	3.00	34.77	Passed
				3	2	21.14	6.50	1.40	1.60	27.44	0.55463	25.29	0.33806	3.00	34.77	3.00	34.77	Passed
				6	0	20.11	6.50	1.40	1.60	26.41	0.43752	24.26	0.26669	3.00	34.77	3.00	34.77	Passed
				1	0	21.35	6.50	1.40	1.60	27.65	0.58210	25.50	0.35481	3.00	34.77	3.00	34.77	Passed
	23095	707.50	QPSK	1	5	21.44	6.50	1.40	1.60	27.74	0.59429	25.59	0.36224	3.00	34.77	3.00	34.77	Passed
				3	0	21.36	6.50	1.40	1.60	27.66	0.58345	25.51	0.35563	3.00	34.77	3.00	34.77	Passed
				3	2	21.32	6.50	1.40	1.60	27.62	0.57810	25.47	0.35237	3.00	34.77	3.00	34.77	Passed
				6	0	20.47	6.50	1.40	1.60	26.77	0.47534	24.62	0.28973	3.00	34.77	3.00	34.77	Passed
				1	0	21.52	6.50	1.40	1.60	27.82	0.60534	25.67	0.36898	3.00	34.77	3.00	34.77	Passed
				1	5	21.39	6.50	1.40	1.60	27.69	0.58749	25.54	0.35810	3.00	34.77	3.00	34.77	Passed
	23173	715.30	QPSK	3	0	21.40	6.50	1.40	1.60	27.70	0.58884	25.55	0.35892	3.00	34.77	3.00	34.77	Passed
				3	2	21.44	6.50	1.40	1.60	27.74	0.59429	25.59	0.36224	3.00	34.77	3.00	34.77	Passed
				6	0	20.40	6.50	1.40	1.60	26.70	0.46774	24.55	0.28510	3.00	34.77	3.00	34.77	Passed
				1	0	20.97	6.50	1.40	1.60	27.27	0.53333	25.12	0.32509	3.00	34.77	3.00	34.77	Passed
				1	14	21.21	6.50	1.40	1.60	27.51	0.56364	25.36	0.34356	3.00	34.77	3.00	34.77	Passed
				8	0	20.11	6.50	1.40	1.60	26.41	0.43752	24.26	0.26669	3.00	34.77	3.00	34.77	Passed
BW 3 MHz	23025	700.50	QPSK	8	7	20.13	6.50	1.40	1.60	26.43	0.43954	24.28	0.26792	3.00	34.77	3.00	34.77	Passed
				15	0	20.16	6.50	1.40	1.60	26.46	0.44259	24.31	0.26977	3.00	34.77	3.00	34.77	Passed
				1	0	21.28	6.50	1.40	1.60	27.58	0.57280	25.43	0.34914	3.00	34.77	3.00	34.77	Passed
				1	14	21.50	6.50	1.40	1.60	27.80	0.60256	25.65	0.36728	3.00	34.77	3.00	34.77	Passed
				8	0	20.33	6.50	1.40	1.60	26.63	0.46026	24.48	0.28054	3.00	34.77	3.00	34.77	Passed
				8	7	20.42	6.50	1.40	1.60	26.72	0.46989	24.57	0.28642	3.00	34.77	3.00	34.77	Passed
	23095	707.50	QPSK	15	0	20.37	6.50	1.40	1.60	26.67	0.46452	24.52	0.28314	3.00	34.77	3.00	34.77	Passed
				1	0	21.78	6.50	1.40	1.60	28.08	0.64269	25.93	0.39174	3.00	34.77	3.00	34.77	Passed
				1	14	21.51	6.50	1.40	1.60	27.81	0.60395	25.66	0.36813	3.00	34.77	3.00	34.77	Passed
				8	0	20.51	6.50	1.40	1.60	26.81	0.47973	24.66	0.29242	3.00	34.77	3.00	34.77	Passed
				8	7	20.41	6.50	1.40	1.60	26.71	0.46881	24.56	0.28576	3.00	34.77	3.00	34.77	Passed
				15	0	20.43	6.50	1.40	1.60	26.73	0.47098	24.58	0.28708	3.00	34.77	3.00	34.77	Passed
	Channel 23165	714.50	QPSK	1	0	20.91	6.50	1.40	1.60	27.21	0.52602	25.06	0.32063	3.00	34.77	3.00	34.77	Passed
				1	24	20.77	6.50	1.40	1.60	27.07	0.50933	24.92	0.31046	3.00	34.77	3.00	34.77	Passed
				12	0	20.06	6.50	1.40	1.60	26.36	0.43251	24.21	0.26363	3.00	34.77	3.00	34.77	Passed
				12	11	20.04	6.50	1.40	1.60	26.34	0.43053	24.19	0.26242	3.00	34.77	3.00	34.77	Passed
				25	0	20.07	6.50	1.40	1.60	26.37	0.43351	24.22	0.26424	3.00	34.77	3.00	34.77	Passed
				1	0	20.83	6.50	1.40	1.60	27.13	0.51642	24.98	0.31477	3.00	34.77	3.00	34.77	Passed
BW 5 MHz	23035	701.50	QPSK	1	24	21.35	6.50	1.40	1.60	27.65	0.58210	25.50	0.35481	3.00	34.77	3.00	34.77	Passed
				12	0	20.15	6.50	1.40	1.60	26.45	0.44157	24.30	0.26915	3.00	34.77	3.00	34.77	Passed
				12	11	20.43	6.50	1.40	1.60	26.73	0.47098	24.58	0.28708	3.00	34.77	3.00	34.77	Passed
				25	0	20.34	6.50	1.40	1.60	26.64	0.46132	24.49	0.28119	3.00	34.77	3.00	34.77	Passed
				1	0	20.97	6.50	1.40	1.60	27.27	0.53333	25.12	0.32509	3.00	34.77	3.00	34.77	Passed
				1	24	21.17	6.50	1.40	1.60	27.47	0.55847	25.32	0.34041	3.00	34.77	3.00	34.77	Passed
	23095	707.50	QPSK	12	0	20.37	6.50	1.40	1.60	26.67	0.46452	24.52	0.28314	3.00	34.77	3.00	34.77	Passed
				12	11	20.44	6.50	1.40	1.60	26.74	0.47206	24.59	0.28774	3.00	34.77	3.00	34.77	Passed
				25	0	20.34	6.50	1.40	1.60	26.64	0.46132	24.49	0.28119	3.00	34.77	3.00	34.77	Passed
				1	0	20.88	6.50	1.40	1.60	27.18	0.52240	25.03	0.31842	3.00	34.77	3.00	34.77	Passed
				1	24	21.31	6.50	1.40	1.60	27.61	0.57677	25.46	0.35156	3.00	34.77	3.00	34.77	Passed
				1	49	21.64	6.50	1.40	1.60	27.94	0.62230	25.79	0.37931	3.00	34.77	3.00	34.77	Passed
	23060	704.00	QPSK	25	0	20.03	6.50	1.40	1.60	26.33	0.42954	24.18	0.26182	3.00	34.77	3.00	34.77	Passed
				25	24	20.13	6.50	1.40	1.60	26.43	0.43954	24.28	0.26792	3.00	34.77	3.00	34.77	Passed
				50	0	20.15	6.50	1.40	1.60	26.45	0.44157	24.30	0.26915	3.00	34.77	3.00	34.77	Passed
				1	0	21.13	6.50	1.40	1.60	27.43	0.55335	25.28	0.33729	3.00	34.77	3.00	34.77	Passed
				1	24	21.47	6.50	1.40	1.60	27.77	0.59841	25.62	0.36475	3.00	34.77	3.00	34.77	Passed
				1	49	21.19	6.50	1.40	1.60	27.49	0.56105	25.34	0.34198	3.00	34.77	3.00	34.77	Passed
	23095	707.50	QPSK	25	0	20.14	6.50	1.40	1.60	26.44	0.44055	24.29	0.26853	3.00	34.77	3.00	34.77	Passed
				25	24	20.31	6.50	1.40	1.60	26.61	0.45814	24.46	0.27925	3.00	34.77	3.00	34.77	Passed
				50	0	20.29	6.50	1.40	1.60	26.59	0.45604	24.44	0.27797	3.00	34.77	3.00	34.77	Passed
				1	0	21.27	6.50	1.40	1.60	27.57	0.57148	25.42	0.34834	3.00	34.77	3.00	34.77	Passed
				1	24	21.63	6.50	1.40	1.60	27.93	0.62087	25.78	0.37844	3.00	34.77	3.00	34.77	Passed
				1	49	21.23	6.50	1.40	1.60	27.53	0.56624	25.38	0.34514	3.00	34.77	3.00	34.77	Passed
BW 10 MHz	23130	711.00	QPSK	25	0	20.36	6.50	1.40	1.60	26.66	0.46345	24.51	0.28249	3.00	34.77	3.00	34.77	Passed
				25	24	20.35	6.50	1.40	1.60	26.65	0.46238	24.50	0.28184	3.00	34.77	3.00	34.77	Passed
				50	0	20.42	6.50	1.40	1.60	26.72	0.46989	24.57	0.28642	3.00	34.77	3.00	34.77	Passed

LTE FDD Band 13																				
	Channel Nr.	ARFCN-Frequency (MHz)	Modulation	RB	Start RB	RMS Power at Antenna Port (dBm)	Maximum declared Antenna Gain(dBi)	Path loss to external Antenna Port	Path loss to internal Antenna Port	EIRP in dBm	EIRP in Watt	ERP in dBm	ERP in Watt	FCC Limit(W), ERP	FCC Limit (dBm), ERP	ISED Limit(W), ERP	ISED Limit (dBm), ERP	Verdict		
BW 5 MHz	23205	779.50	QPSK	1	0	22.01	7.50	1.40	1.60	29.31	0.85310	27.16	0.52000	3.00	34.77	3.00	34.77	Passed		
				1	24	22.19	7.50	1.40	1.60	29.49	0.88920	27.34	0.54200	3.00	34.77	3.00	34.77	Passed		
				12	0	21.34	7.50	1.40	1.60	28.64	0.73114	26.49	0.44566	3.00	34.77	3.00	34.77	Passed		
				12	11	21.63	7.50	1.40	1.60	28.93	0.78163	26.78	0.47643	3.00	34.77	3.00	34.77	Passed		
				25	0	21.43	7.50	1.40	1.60	28.73	0.74645	26.58	0.45499	3.00	34.77	3.00	34.77	Passed		
	23230	782.00	QPSK	1	0	22.10	7.50	1.40	1.60	29.40	0.87096	27.25	0.53088	3.00	34.77	3.00	34.77	Passed		
				1	24	22.36	7.50	1.40	1.60	29.66	0.92470	27.51	0.56364	3.00	34.77	3.00	34.77	Passed		
				12	0	21.49	7.50	1.40	1.60	28.79	0.75683	26.64	0.46132	3.00	34.77	3.00	34.77	Passed		
				12	11	21.60	7.50	1.40	1.60	28.90	0.77625	26.75	0.47315	3.00	34.77	3.00	34.77	Passed		
				25	0	21.55	7.50	1.40	1.60	28.85	0.76736	26.70	0.46774	3.00	34.77	3.00	34.77	Passed		
	23255	784.50	QPSK	1	0	22.42	7.50	1.40	1.60	29.72	0.93756	27.57	0.57148	3.00	34.77	3.00	34.77	Passed		
				1	24	22.37	7.50	1.40	1.60	29.67	0.92683	27.52	0.56494	3.00	34.77	3.00	34.77	Passed		
				12	0	21.57	7.50	1.40	1.60	28.87	0.77090	26.72	0.46989	3.00	34.77	3.00	34.77	Passed		
				12	11	21.52	7.50	1.40	1.60	28.82	0.76208	26.67	0.46452	3.00	34.77	3.00	34.77	Passed		
				25	0	21.52	7.50	1.40	1.60	28.82	0.76208	26.67	0.46452	3.00	34.77	3.00	34.77	Passed		
	23230	782.00	QPSK	1	0	22.23	7.50	1.40	1.60	29.53	0.89743	27.38	0.54702	3.00	34.77	3.00	34.77	Passed		
				1	24	22.75	7.50	1.40	1.60	30.05	1.01158	27.90	0.61660	3.00	34.77	3.00	34.77	Passed		
				1	49	22.61	7.50	1.40	1.60	29.91	0.97949	27.76	0.59704	3.00	34.77	3.00	34.77	Passed		
				25	0	21.40	7.50	1.40	1.60	28.70	0.74131	26.55	0.45186	3.00	34.77	3.00	34.77	Passed		
				25	24	21.56	7.50	1.40	1.60	28.86	0.76913	26.71	0.46881	3.00	34.77	3.00	34.77	Passed		
				50	0	21.49	7.50	1.40	1.60	28.79	0.75683	26.64	0.46132	3.00	34.77	3.00	34.77	Passed		
				1	0	22.20	7.50	1.40	1.60	29.50	0.89125	27.35	0.54325	3.00	34.77	3.00	34.77	Passed		
				1	24	22.75	7.50	1.40	1.60	30.05	1.01158	27.90	0.61660	3.00	34.77	3.00	34.77	Passed		
				1	49	22.70	7.50	1.40	1.60	30.00	1.00000	27.85	0.60954	3.00	34.77	3.00	34.77	Passed		
25				0	21.43	7.50	1.40	1.60	28.73	0.74645	26.58	0.45499	3.00	34.77	3.00	34.77	Passed			
23230	782.00	QPSK	25	24	21.53	7.50	1.40	1.60	28.83	0.76384	26.68	0.46559	3.00	34.77	3.00	34.77	Passed			
			50	0	21.46	7.50	1.40	1.60	28.76	0.75162	26.61	0.45814	3.00	34.77	3.00	34.77	Passed			
			1	0	22.10	7.50	1.40	1.60	29.40	0.87096	27.25	0.53088	3.00	34.77	3.00	34.77	Passed			
			1	24	22.74	7.50	1.40	1.60	30.04	1.00925	27.89	0.61518	3.00	34.77	3.00	34.77	Passed			
			1	49	22.74	7.50	1.40	1.60	30.04	1.00925	27.89	0.61518	3.00	34.77	3.00	34.77	Passed			
			25	0	21.37	7.50	1.40	1.60	28.67	0.73621	26.52	0.44875	3.00	34.77	3.00	34.77	Passed			
			25	24	21.53	7.50	1.40	1.60	28.83	0.76384	26.68	0.46559	3.00	34.77	3.00	34.77	Passed			
			50	0	21.49	7.50	1.40	1.60	28.79	0.75683	26.64	0.46132	3.00	34.77	3.00	34.77	Passed			
			EIRP= RMS Power at Antenna Port + Maximum declared Antenna Gain - Path loss to Antenna Connector - Path loss in Antenna Cable																	
			ERP = EIRP - 2.15																	

LTE FDD Band 17																			
	Channel Nr.	ARFCN-Frequency (MHz)	Modulation	RB	Start RB	RMS Power at Antenna Port (dBm)	Maximum declared Antenna Gain(dBi)	Path loss to external Antenna Port	Path loss to internal Antenna Port	EIRP in dBm	EIRP in Watt	ERP in dBm	ERP in Watt	FCC Limit(W), ERP	FCC Limit (dBm), ERP	ISED Limit(W), ERP	ISED Limit (dBm), ERP	Verdict	
BW 5 MHz	23755	706.50	QPSK	1	0	21.06	6.50	1.40	1.60	27.36	0.54450	25.21	0.33189	3.00	34.77	3.00	34.77	Passed	
				1	24	21.28	6.50	1.40	1.60	27.58	0.57280	25.43	0.34914	3.00	34.77	3.00	34.77	Passed	
				12	0	20.27	6.50	1.40	1.60	26.57	0.45394	24.42	0.27669	3.00	34.77	3.00	34.77	Passed	
				12	11	20.42	6.50	1.40	1.60	26.72	0.46989	24.57	0.28642	3.00	34.77	3.00	34.77	Passed	
				25	0	20.28	6.50	1.40	1.60	26.58	0.45499	24.43	0.27733	3.00	34.77	3.00	34.77	Passed	
	23790	710.00	QPSK	1	0	21.16	6.50	1.40	1.60	27.46	0.55719	25.31	0.33963	3.00	34.77	3.00	34.77	Passed	
				1	24	21.46	6.50	1.40	1.60	27.76	0.59704	25.61	0.36392	3.00	34.77	3.00	34.77	Passed	
				12	0	20.55	6.50	1.40	1.60	26.85	0.48417	24.70	0.29512	3.00	34.77	3.00	34.77	Passed	
				12	11	20.72	6.50	1.40	1.60	27.02	0.50350	24.87	0.30690	3.00	34.77	3.00	34.77	Passed	
				25	0	20.59	6.50	1.40	1.60	26.89	0.48865	24.74	0.29785	3.00	34.77	3.00	34.77	Passed	
	23825	713.50	QPSK	1	0	21.63	6.50	1.40	1.60	27.93	0.62087	25.78	0.37844	3.00	34.77	3.00	34.77	Passed	
				1	24	21.52	6.50	1.40	1.60	27.82	0.60534	25.67	0.36898	3.00	34.77	3.00	34.77	Passed	
				12	0	20.61	6.50	1.40	1.60	26.91	0.49091	24.76	0.29923	3.00	34.77	3.00	34.77	Passed	
				12	11	20.65	6.50	1.40	1.60	26.95	0.49545	24.80	0.30200	3.00	34.77	3.00	34.77	Passed	
				25	0	20.58	6.50	1.40	1.60	26.88	0.48753	24.73	0.29717	3.00	34.77	3.00	34.77	Passed	
	23780	709.00	QPSK	1	0	21.29	6.50	1.40	1.60	27.59	0.57412	25.44	0.34995	3.00	34.77	3.00	34.77	Passed	
				1	24	21.91	6.50	1.40	1.60	28.21	0.66222	26.06	0.40365	3.00	34.77	3.00	34.77	Passed	
				1	49	21.70	6.50	1.40	1.60	28.00	0.63096	25.85	0.38459	3.00	34.77	3.00	34.77	Passed	
				25	0	20.55	6.50	1.40	1.60	26.85	0.48417	24.70	0.29512	3.00	34.77	3.00	34.77	Passed	
				25	24	20.71	6.50	1.40	1.60	27.01	0.50234	24.86	0.30620	3.00	34.77	3.00	34.77	Passed	
	BW 10 MHz	23790	710.00	QPSK	50	0	20.58	6.50	1.40	1.60	26.88	0.48753	24.73	0.29717	3.00	34.77	3.00	34.77	Passed
					1	0	21.48	6.50	1.40	1.60	27.78	0.59979	25.63	0.36559	3.00	34.77	3.00	34.77	Passed
					1	24	21.98	6.50	1.40	1.60	28.28	0.67298	26.13	0.41020	3.00	34.77	3.00	34.77	Passed
					1	49	21.72	6.50	1.40	1.60	28.02	0.63387	25.87	0.38637	3.00	34.77	3.00	34.77	Passed
25					0	20.57	6.50	1.40	1.60	26.87	0.48641	24.72	0.29648	3.00	34.77	3.00	34.77	Passed	
23790		710.00	QPSK	25	24	20.57	6.50	1.40	1.60	26.87	0.48641	24.72	0.29648	3.00	34.77	3.00	34.77	Passed	
				50	0	20.58	6.50	1.40	1.60	26.88	0.48753	24.73	0.29717	3.00	34.77	3.00	34.77	Passed	
				1	0	21.52	6.50	1.40	1.60	27.82	0.60534	25.67	0.36898	3.00	34.77	3.00	34.77	Passed	
				1	24	21.82	6.50	1.40	1.60	28.12	0.64863	25.97	0.39537	3.00	34.77	3.00	34.77	Passed	
				1	49	21.49	6.50	1.40	1.60	27.79	0.60117	25.64	0.36644	3.00	34.77	3.00	34.77	Passed	
23800		711.00	QPSK	25	0	20.57	6.50	1.40	1.60	26.87	0.48641	24.72	0.29648	3.00	34.77	3.00	34.77	Passed	
				25	24	20.59	6.50	1.40	1.60	26.89	0.48865	24.74	0.29785	3.00	34.77	3.00	34.77	Passed	
				50	0	20.57	6.50	1.40	1.60	26.87	0.48641	24.72	0.29648	3.00	34.77	3.00	34.77	Passed	
				EIRP= RMS Power at Antenna Port + Maximum declared Antenna Gain - Path loss to Antenna Connector - Path loss in Antenna Cable															
				ERP = EIRP - 2.15															

4.1.5 Result external antenna

LTE FDD Band 2																
	Channel Nr.	ARFCN-Frequency (MHz)	Modulation	RB	Start RB	RMS Power at Antenna Port (dBm)	Maximum declared Antenna Gain(dBi)	EIRP in dBm	EIRP in Watt	ERP in dBm	ERP in Watt	FCC Limit(W), EIRP	FCC Limit (dBm); EIRP	ISED Limit(W), EIRP	ISED Limit (dBm), EIRP	Verdict
BW 1.4 MHz	18607	1850.70	QPSK	1	0	20.87	6.00	26.87	0.48641	24.72	0.29648	2.00	33.01	2.00	33.01	Passed
				1	5	21.12	6.00	27.12	0.51523	24.97	0.31405	2.00	33.01	2.00	33.01	Passed
				3	0	20.80	6.00	26.80	0.47863	24.65	0.29174	2.00	33.01	2.00	33.01	Passed
				3	2	20.81	6.00	26.81	0.47973	24.66	0.29242	2.00	33.01	2.00	33.01	Passed
				6	0	19.82	6.00	25.82	0.38194	23.67	0.23281	2.00	33.01	2.00	33.01	Passed
				1	0	21.69	6.00	27.69	0.58749	25.54	0.35810	2.00	33.01	2.00	33.01	Passed
				1	5	21.40	6.00	27.40	0.54954	25.25	0.33497	2.00	33.01	2.00	33.01	Passed
				3	0	21.44	6.00	27.44	0.55463	25.29	0.33806	2.00	33.01	2.00	33.01	Passed
	18900	1880.00	QPSK	3	2	21.34	6.00	27.34	0.54200	25.19	0.33037	2.00	33.01	2.00	33.01	Passed
				6	0	20.45	6.00	26.45	0.44157	24.30	0.26915	2.00	33.01	2.00	33.01	Passed
				1	0	21.08	6.00	27.08	0.51050	24.93	0.31117	2.00	33.01	2.00	33.01	Passed
				1	5	21.01	6.00	27.01	0.50234	24.86	0.30620	2.00	33.01	2.00	33.01	Passed
				3	0	21.01	6.00	27.01	0.50234	24.86	0.30620	2.00	33.01	2.00	33.01	Passed
				3	2	20.99	6.00	26.99	0.50003	24.84	0.30479	2.00	33.01	2.00	33.01	Passed
				6	0	19.93	6.00	25.93	0.39174	23.78	0.23878	2.00	33.01	2.00	33.01	Passed
				1	0	20.78	6.00	26.78	0.47643	24.63	0.29040	2.00	33.01	2.00	33.01	Passed
	19193	1909.30	QPSK	1	14	21.24	6.00	27.24	0.52966	25.09	0.32285	2.00	33.01	2.00	33.01	Passed
				8	0	19.82	6.00	25.82	0.38194	23.67	0.23281	2.00	33.01	2.00	33.01	Passed
				8	7	19.82	6.00	25.82	0.38194	23.67	0.23281	2.00	33.01	2.00	33.01	Passed
				15	0	19.79	6.00	25.79	0.37931	23.64	0.23121	2.00	33.01	2.00	33.01	Passed
				1	0	21.58	6.00	27.58	0.57280	25.43	0.34914	2.00	33.01	2.00	33.01	Passed
				1	14	21.35	6.00	27.35	0.54325	25.20	0.33113	2.00	33.01	2.00	33.01	Passed
				8	0	20.41	6.00	26.41	0.43752	24.26	0.26669	2.00	33.01	2.00	33.01	Passed
				8	7	20.42	6.00	26.42	0.43853	24.27	0.26730	2.00	33.01	2.00	33.01	Passed
BW 3 MHz	18615	1851.50	QPSK	15	0	20.42	6.00	26.42	0.43853	24.27	0.26730	2.00	33.01	2.00	33.01	Passed
				1	0	21.38	6.00	27.38	0.54702	25.23	0.33343	2.00	33.01	2.00	33.01	Passed
				1	14	21.04	6.00	27.04	0.50582	24.89	0.30832	2.00	33.01	2.00	33.01	Passed
				8	0	19.98	6.00	25.98	0.39628	23.83	0.24155	2.00	33.01	2.00	33.01	Passed
				8	7	19.98	6.00	25.98	0.39628	23.83	0.24155	2.00	33.01	2.00	33.01	Passed
				15	0	20.08	6.00	26.08	0.40551	23.93	0.24717	2.00	33.01	2.00	33.01	Passed
				1	0	20.56	6.00	26.56	0.45290	24.41	0.27606	2.00	33.01	2.00	33.01	Passed
				1	24	20.95	6.00	26.95	0.49545	24.80	0.30200	2.00	33.01	2.00	33.01	Passed
	18900	1880.00	QPSK	12	0	19.79	6.00	25.79	0.37931	23.64	0.23121	2.00	33.01	2.00	33.01	Passed
				12	11	20.01	6.00	26.01	0.39902	23.86	0.24322	2.00	33.01	2.00	33.01	Passed
				25	0	19.69	6.00	25.69	0.37068	23.54	0.22594	2.00	33.01	2.00	33.01	Passed
				1	0	21.23	6.00	27.23	0.52845	25.08	0.32211	2.00	33.01	2.00	33.01	Passed
				1	24	21.30	6.00	27.30	0.53703	25.15	0.32734	2.00	33.01	2.00	33.01	Passed
				12	0	20.33	6.00	26.33	0.42954	24.18	0.26182	2.00	33.01	2.00	33.01	Passed
				12	11	20.33	6.00	26.33	0.42954	24.18	0.26182	2.00	33.01	2.00	33.01	Passed
				25	0	20.47	6.00	26.47	0.44361	24.32	0.27040	2.00	33.01	2.00	33.01	Passed
	19185	1908.50	QPSK	1	0	20.94	6.00	26.94	0.49431	24.79	0.30130	2.00	33.01	2.00	33.01	Passed
				1	24	21.08	6.00	27.08	0.51050	24.93	0.31117	2.00	33.01	2.00	33.01	Passed
				12	0	20.07	6.00	26.07	0.40458	23.92	0.24660	2.00	33.01	2.00	33.01	Passed
				12	11	19.94	6.00	25.94	0.39264	23.79	0.23933	2.00	33.01	2.00	33.01	Passed
				25	0	20.05	6.00	26.05	0.40272	23.90	0.24547	2.00	33.01	2.00	33.01	Passed
				1	0	20.73	6.00	26.73	0.47098	24.58	0.28708	2.00	33.01	2.00	33.01	Passed
				1	24	21.64	6.00	27.64	0.58076	25.49	0.35400	2.00	33.01	2.00	33.01	Passed
				1	49	21.76	6.00	27.76	0.59704	25.61	0.36392	2.00	33.01	2.00	33.01	Passed
BW 5 MHz	18625	1852.50	QPSK	25	0	19.91	6.00	25.91	0.38994	23.76	0.23768	2.00	33.01	2.00	33.01	Passed
				25	24	20.53	6.00	26.53	0.44978	24.38	0.27416	2.00	33.01	2.00	33.01	Passed
				50	0	20.24	6.00	26.24	0.42073	24.09	0.25645	2.00	33.01	2.00	33.01	Passed
				1	0	21.56	6.00	27.56	0.57016	25.41	0.34754	2.00	33.01	2.00	33.01	Passed
				1	24	21.67	6.00	27.67	0.58479	25.52	0.35645	2.00	33.01	2.00	33.01	Passed
				1	49	21.31	6.00	27.31	0.53827	25.16	0.32810	2.00	33.01	2.00	33.01	Passed
				25	0	20.40	6.00	26.40	0.43652	24.25	0.26607	2.00	33.01	2.00	33.01	Passed
				25	24	20.04	6.00	26.04	0.40179	23.89	0.24491	2.00	33.01	2.00	33.01	Passed
	18900	1880.00	QPSK	50	0	20.27	6.00	26.27	0.42364	24.12	0.25823	2.00	33.01	2.00	33.01	Passed
				1	0	21.14	6.00	27.14	0.51761	24.99	0.31550	2.00	33.01	2.00	33.01	Passed
				1	24	21.36	6.00	27.36	0.54450	25.21	0.33189	2.00	33.01	2.00	33.01	Passed
				1	49	21.12	6.00	27.12	0.51523	24.97	0.31405	2.00	33.01	2.00	33.01	Passed
				25	0	20.14	6.00	26.14	0.41115	23.99	0.25061	2.00	33.01	2.00	33.01	Passed
				25	24	19.95	6.00	25.95	0.39355	23.80	0.23988	2.00	33.01	2.00	33.01	Passed
				50	0	20.10	6.00	26.10	0.40738	23.95	0.24831	2.00	33.01	2.00	33.01	Passed
				1	0	20.61	6.00	26.61	0.45814	24.46	0.27925	2.00	33.01	2.00	33.01	Passed
	18675	1857.50	QPSK	1	27	21.96	6.00	27.96	0.62517	25.81	0.38107	2.00	33.01	2.00	33.01	Passed
				1	74	21.42	6.00	27.42	0.55208	25.27	0.33651	2.00	33.01	2.00	33.01	Passed
				27	0	20.17	6.00	26.17	0.41400	24.02	0.25235	2.00	33.01	2.00	33.01	Passed
				27	74	20.62	6.00	26.62	0.45920	24.47	0.27990	2.00	33.01	2.00	33.01	Passed
				75	0	20.42	6.00	26.42	0.43853	24.27	0.26730	2.00	33.01	2.00	33.01	Passed
				1	0	21.29	6.00	27.29	0.53580	25.14	0.32659	2.00	33.01	2.00	33.01	Passed
				1	27	21.69	6.00	27.69	0.58749	25.54	0.35810	2.00	33.01	2.00	33.01	Passed
				1	74	20.92	6.00	26.92	0.49204	24.77	0.29992	2.00	33.01	2.00	33.01	Passed
BW 10 MHz	18900	1880.00	QPSK	27	0	20.32	6.00	26.32	0.42855	24.17	0.26122					

BW 20 MHz	18700	1860.00	QPSK	1	0	20.96	6.00	26.96	0.49659	24.81	0.30269	2.00	33.01	2.00	33.01	Passed	
				1	49	21.68	6.00	27.68	0.58614	25.53	0.35727	2.00	33.01	2.00	33.01	Passed	
				1	99	21.29	6.00	27.29	0.53580	25.14	0.32659	2.00	33.01	2.00	33.01	Passed	
				50	0	20.46	6.00	26.46	0.44259	24.31	0.26977	2.00	33.01	2.00	33.01	Passed	
				50	49	20.57	6.00	26.57	0.45394	24.42	0.27669	2.00	33.01	2.00	33.01	Passed	
	18900	1800.00	QPSK	100	0	20.55	6.00	26.55	0.45186	24.40	0.27542	2.00	33.01	2.00	33.01	Passed	
				1	0	21.24	6.00	27.24	0.52966	25.09	0.32285	2.00	33.01	2.00	33.01	Passed	
				1	49	21.36	6.00	27.36	0.54450	25.21	0.33189	2.00	33.01	2.00	33.01	Passed	
				1	99	20.78	6.00	26.78	0.47643	24.63	0.29040	2.00	33.01	2.00	33.01	Passed	
				50	0	20.26	6.00	26.26	0.42267	24.11	0.25763	2.00	33.01	2.00	33.01	Passed	
	19100	1900.00	QPSK	50	49	19.91	6.00	25.91	0.38994	23.76	0.23768	2.00	33.01	2.00	33.01	Passed	
				100	0	20.16	6.00	26.16	0.41305	24.01	0.25177	2.00	33.01	2.00	33.01	Passed	
				1	0	20.91	6.00	26.91	0.49091	24.76	0.29923	2.00	33.01	2.00	33.01	Passed	
				1	49	20.96	6.00	26.96	0.49659	24.81	0.30269	2.00	33.01	2.00	33.01	Passed	
				1	99	21.23	6.00	27.23	0.52845	25.08	0.32211	2.00	33.01	2.00	33.01	Passed	
					50	0	20.00	6.00	26.00	0.39811	23.85	0.24266	2.00	33.01	2.00	33.01	Passed
					50	49	20.14	6.00	26.14	0.41115	23.99	0.25061	2.00	33.01	2.00	33.01	Passed
					100	0	19.94	6.00	25.94	0.39264	23.79	0.23933	2.00	33.01	2.00	33.01	Passed
	EIRP= RMS Power at Antenna Port + Maximum declared Antenna Gain - Path loss to Antenna Connector - Path loss in Antenna Cable																
ERP = EIRP - 2.15																	

LTE FDD Band 4																
	Channel Nr.	ARFCN-Frequency (MHz)	Modulation	RB	Start RB	RMS Power at Antenna Port (dBm)	Maximum declared Antenna Gain(dBi)	EIRP in dBm	EIRP in Watt	ERP in dBm	ERP in Watt	FCC Limit(W), EIRP	FCC Limit (dBm), EIRP	ISED Limit(W), EIRP	ISED Limit (dBm), EIRP	Verdict
BW 1.4 MHz	19957	1710.70	QPSK	1	0	21.36	5.60	26.96	0.49659	24.81	0.30269	1.00	30.00	1.00	30.00	Passed
				1	5	21.60	5.60	27.20	0.52481	25.05	0.31989	1.00	30.00	1.00	30.00	Passed
				3	0	21.41	5.60	27.01	0.50234	24.86	0.30620	1.00	30.00	1.00	30.00	Passed
				3	2	21.44	5.60	27.04	0.50582	24.89	0.30832	1.00	30.00	1.00	30.00	Passed
				6	0	20.49	5.60	26.09	0.40644	23.94	0.24774	1.00	30.00	1.00	30.00	Passed
				1	0	21.75	5.60	27.35	0.54325	25.20	0.33113	1.00	30.00	1.00	30.00	Passed
	20175	1732.50	QPSK	1	5	21.66	5.60	27.26	0.53211	25.11	0.32434	1.00	30.00	1.00	30.00	Passed
				3	0	21.52	5.60	27.12	0.51523	24.97	0.31405	1.00	30.00	1.00	30.00	Passed
				3	2	21.45	5.60	27.05	0.50699	24.90	0.30903	1.00	30.00	1.00	30.00	Passed
				6	0	20.63	5.60	26.23	0.41976	24.08	0.25586	1.00	30.00	1.00	30.00	Passed
				1	0	21.02	5.60	26.62	0.45920	24.47	0.27990	1.00	30.00	1.00	30.00	Passed
				1	5	20.67	5.60	26.27	0.42364	24.12	0.25823	1.00	30.00	1.00	30.00	Passed
	20393	1754.30	QPSK	3	0	20.97	5.60	26.57	0.45394	24.42	0.27669	1.00	30.00	1.00	30.00	Passed
				3	2	20.94	5.60	26.54	0.45082	24.39	0.27479	1.00	30.00	1.00	30.00	Passed
				6	0	19.90	5.60	25.50	0.35481	23.35	0.21627	1.00	30.00	1.00	30.00	Passed
				1	0	21.50	5.60	27.10	0.51286	24.95	0.31261	1.00	30.00	1.00	30.00	Passed
				1	14	21.45	5.60	27.05	0.50699	24.90	0.30903	1.00	30.00	1.00	30.00	Passed
				8	0	20.52	5.60	26.12	0.40926	23.97	0.24946	1.00	30.00	1.00	30.00	Passed
BW 3 MHz	19965	1711.50	QPSK	8	7	20.45	5.60	26.05	0.40272	23.90	0.24547	1.00	30.00	1.00	30.00	Passed
				15	0	20.39	5.60	25.99	0.39719	23.84	0.24210	1.00	30.00	1.00	30.00	Passed
				1	0	21.59	5.60	27.19	0.52360	25.04	0.31915	1.00	30.00	1.00	30.00	Passed
				1	14	21.64	5.60	27.24	0.52966	25.09	0.32285	1.00	30.00	1.00	30.00	Passed
				8	0	20.62	5.60	26.22	0.41879	24.07	0.25527	1.00	30.00	1.00	30.00	Passed
				8	7	20.64	5.60	26.24	0.42073	24.09	0.25645	1.00	30.00	1.00	30.00	Passed
	20175	1732.50	QPSK	15	0	20.64	5.60	26.24	0.42073	24.09	0.25645	1.00	30.00	1.00	30.00	Passed
				1	0	21.13	5.60	26.73	0.47098	24.58	0.28708	1.00	30.00	1.00	30.00	Passed
				1	14	20.85	5.60	26.45	0.44157	24.30	0.26915	1.00	30.00	1.00	30.00	Passed
				8	0	19.87	5.60	25.47	0.35237	23.32	0.21478	1.00	30.00	1.00	30.00	Passed
				8	7	19.89	5.60	25.49	0.35400	23.34	0.21577	1.00	30.00	1.00	30.00	Passed
				15	0	19.90	5.60	25.50	0.35481	23.35	0.21627	1.00	30.00	1.00	30.00	Passed
	19975	1712.50	QPSK	1	0	21.21	5.60	26.81	0.47973	24.66	0.29242	1.00	30.00	1.00	30.00	Passed
				1	24	21.30	5.60	26.90	0.48978	24.75	0.29854	1.00	30.00	1.00	30.00	Passed
				12	0	20.44	5.60	26.04	0.40179	23.89	0.24491	1.00	30.00	1.00	30.00	Passed
				12	11	20.41	5.60	26.01	0.39902	23.86	0.24322	1.00	30.00	1.00	30.00	Passed
				25	0	20.41	5.60	26.01	0.39902	23.86	0.24322	1.00	30.00	1.00	30.00	Passed
				1	0	21.21	5.60	26.81	0.47973	24.66	0.29242	1.00	30.00	1.00	30.00	Passed
	20175	1732.50	QPSK	1	24	21.42	5.60	27.02	0.50350	24.87	0.30690	1.00	30.00	1.00	30.00	Passed
				12	0	20.53	5.60	26.13	0.41020	23.98	0.25003	1.00	30.00	1.00	30.00	Passed
				12	11	20.68	5.60	26.28	0.42462	24.13	0.25882	1.00	30.00	1.00	30.00	Passed
				25	0	20.63	5.60	26.23	0.41976	24.08	0.25586	1.00	30.00	1.00	30.00	Passed
				1	0	21.07	5.60	26.67	0.46452	24.52	0.28314	1.00	30.00	1.00	30.00	Passed
				1	24	20.94	5.60	26.54	0.45082	24.39	0.27479	1.00	30.00	1.00	30.00	Passed
	20375	1752.50	QPSK	12	0	20.17	5.60	25.77	0.37757	23.62	0.23014	1.00	30.00	1.00	30.00	Passed
				12	11	20.07	5.60	25.67	0.36898	23.52	0.22491	1.00	30.00	1.00	30.00	Passed
				25	0	20.00	5.60	25.60	0.36308	23.45	0.22131	1.00	30.00	1.00	30.00	Passed
				1	0	21.44	5.60	27.04	0.50582	24.89	0.30832	1.00	30.00	1.00	30.00	Passed
				1	24	21.61	5.60	27.21	0.52602	25.06	0.32063	1.00	30.00	1.00	30.00	Passed
				1	49	21.77	5.60	27.37	0.54576	25.22	0.33266	1.00	30.00	1.00	30.00	Passed
BW 10 MHz	20000	1715.00	QPSK	25	0	20.46	5.60	26.06	0.40365	23.91	0.24604	1.00	30.00	1.00	30.00	Passed
				25	24	20.57	5.60	26.17	0.41400	24.02	0.25235	1.00	30.00	1.00	30.00	Passed
				50	0	20.47	5.60	26.07	0.40458	23.92	0.24660	1.00	30.00	1.00	30.00	Passed
				1	0	21.69	5.60	27.29	0.53580	25.14	0.32659	1.00	30.00	1.00	30.00	Passed
				1	24	21.69	5.60	27.29	0.53580	25.14	0.32659	1.00	30.00	1.00	30.00	Passed
				1	49	21.36	5.60	26.96	0.49659	24.81	0.30269	1.00	30.00	1.00	30.00	Passed
	20175	1732.50	QPSK	25	0	20.63	5.60	26.23	0.41976	24.08	0.25586	1.00	30.00	1.00	30.00	Passed
				25	24	20.55	5.60	26.15	0.41210	24.00	0.25119	1.00	30.00	1.00	30.00	Passed
				50	0	20.48	5.60	26.08	0.40551	23.93	0.24717	1.00	30.00	1.00	30.00	Passed
				1	0	21.51	5.60	27.11	0.51404	24.96	0.31333	1.00	30.00	1.00	30.00	Passed
				1	24	21.56	5.60	27.16	0.52000	25.01	0.31696	1.00	30.00	1.00	30.00	Passed
				1	49	21.00	5.60	26.60	0.45709	24.45	0.27861	1.00	30.00	1.00	30.00	Passed
	20350	1750.00	QPSK	25	0	20.49	5.60	26.09	0.40644	23.94	0.24774	1.00	30.00	1.00	30.00	Passed
				25	24	19.98	5.60	25.58	0.36141	23.43	0.22029	1.00	30.00	1.00	30.00	Passed
				50	0	20.22	5.60	25.82	0.38194	23.67	0.23281	1.00	30.00	1.00	30.00	Passed
				1	0	21.61	5.60	27.21	0.52602	25.06	0.32063	1.00	30.00	1.00	30.00	Passed
				1	27	22.11	5.60	27.71	0.59020	25.56	0.35975	1.00	30.00	1.00	30.00	Passed
				1	74	21.33	5.60	26.93	0.49317	24.78	0.30061	1.00	30.00	1.00	30.00	Passed
	20025	1717.50	QPSK	27	0	20.58	5.60	26.18	0.41495	24.03	0.25293	1.00	30.00	1.00	30.00	Passed
				27	74	20.65	5.60	26.25	0.42170	24.10	0.25704	1.00	30.00	1.00	30.00	Passed
				75	0	20.63	5.60	26.23	0.41976	24.08	0.25586	1.00	30.00	1.00	30.00	Passed
				1	0	21.32	5.60	26.92	0.49204	24.77	0.29992	1.00	30.00	1.00	30.00	Passed
				1	27	21.82	5.60	27.42	0.55208	25.27	0.33651	1.00	30.00	1.00	30.00	Passed
				1	74	20.89	5.60	26.49	0.44566	24.34	0.27164	1.00	30.00	1.00	30.00	Passed
BW 15 MHz	20175	1732.50	QPSK	27	0	2										

BW 20 MHz	20050	1720.00	QPSK	1	0	21.65	5.60	27.25	0.53088	25.10	0.32359	1.00	30.00	1.00	30.00	Passed
				1	49	21.61	5.60	27.21	0.52602	25.06	0.32063	1.00	30.00	1.00	30.00	Passed
				1	99	21.10	5.60	26.70	0.46774	24.55	0.28510	1.00	30.00	1.00	30.00	Passed
				50	0	20.55	5.60	26.15	0.41210	24.00	0.25119	1.00	30.00	1.00	30.00	Passed
				50	49	20.50	5.60	26.10	0.40738	23.95	0.24831	1.00	30.00	1.00	30.00	Passed
				100	0	20.55	5.60	26.15	0.41210	24.00	0.25119	1.00	30.00	1.00	30.00	Passed
	20175	1732.50	QPSK	1	0	21.32	5.60	26.92	0.49204	24.77	0.29992	1.00	30.00	1.00	30.00	Passed
				1	49	21.65	5.60	27.25	0.53088	25.10	0.32359	1.00	30.00	1.00	30.00	Passed
				1	99	20.89	5.60	26.49	0.44566	24.34	0.27164	1.00	30.00	1.00	30.00	Passed
				50	0	20.40	5.60	26.00	0.39811	23.85	0.24266	1.00	30.00	1.00	30.00	Passed
				50	49	20.28	5.60	25.88	0.38726	23.73	0.23605	1.00	30.00	1.00	30.00	Passed
				100	0	20.34	5.60	25.94	0.39264	23.79	0.23933	1.00	30.00	1.00	30.00	Passed
	20300	1745.00	QPSK	1	0	21.36	5.60	26.96	0.49659	24.81	0.30269	1.00	30.00	1.00	30.00	Passed
				1	49	21.28	5.60	26.88	0.48753	24.73	0.29717	1.00	30.00	1.00	30.00	Passed
				1	99	21.11	5.60	26.71	0.46881	24.56	0.28576	1.00	30.00	1.00	30.00	Passed
				50	0	20.19	5.60	25.79	0.37931	23.64	0.23121	1.00	30.00	1.00	30.00	Passed
				50	49	20.21	5.60	25.81	0.38107	23.66	0.23227	1.00	30.00	1.00	30.00	Passed
				100	0	20.20	5.60	25.80	0.38019	23.65	0.23174	1.00	30.00	1.00	30.00	Passed
EIRP= RMS Power at Antenna Port + Maximum declared Antenna Gain - Path loss to Antenna Connector - Path loss in Antenna Cable																
ERP = EIRP - 2.15																

LTE FDD Band 5																				
	Channel Nr.	ARFCN-Frequency (MHz)	Modulation	RB	Start RB	RMS Power at Antenna Port (dBm)	Maximum declared Antenna Gain(dBi)	EIRP in dBm	EIRP in Watt	ERP in dBm	ERP in Watt	FCC Limit(W), ERP	FCC Limit (dBm); ERP	ISED Limit(W), ERP	ISED Limit (dBm), ERP	Verdict				
BW 1.4 MHz	20407	824.70	QPSK	1	0	21.86	4.70	26.56	0.45290	24.41	0.27606	7.00	38.45	7.00	38.45	Passed				
				1	5	22.05	4.70	26.75	0.47315	24.60	0.28840	7.00	38.45	7.00	38.45	Passed				
				3	0	21.93	4.70	26.63	0.46026	24.48	0.28054	7.00	38.45	7.00	38.45	Passed				
				3	2	21.97	4.70	26.67	0.46452	24.52	0.28314	7.00	38.45	7.00	38.45	Passed				
	20525	836.50	QPSK	6	0	21.06	4.70	25.76	0.37670	23.61	0.22961	7.00	38.45	7.00	38.45	Passed				
				1	0	21.90	4.70	26.60	0.45709	24.45	0.27861	7.00	38.45	7.00	38.45	Passed				
				1	5	21.93	4.70	26.63	0.46026	24.48	0.28054	7.00	38.45	7.00	38.45	Passed				
				3	0	21.85	4.70	26.55	0.45186	24.40	0.27542	7.00	38.45	7.00	38.45	Passed				
	20643	848.30	QPSK	3	2	22.00	4.70	26.70	0.46774	24.55	0.28510	7.00	38.45	7.00	38.45	Passed				
				6	0	21.01	4.70	25.71	0.37239	23.56	0.22699	7.00	38.45	7.00	38.45	Passed				
				1	0	21.71	4.70	26.41	0.43752	24.26	0.26669	7.00	38.45	7.00	38.45	Passed				
				1	5	21.85	4.70	26.55	0.45186	24.40	0.27542	7.00	38.45	7.00	38.45	Passed				
				3	0	21.82	4.70	26.52	0.44875	24.37	0.27353	7.00	38.45	7.00	38.45	Passed				
				3	2	21.78	4.70	26.48	0.44463	24.33	0.27102	7.00	38.45	7.00	38.45	Passed				
				6	0	20.92	4.70	25.62	0.36475	23.47	0.22233	7.00	38.45	7.00	38.45	Passed				
				BW 3 MHz	20415	825.50	QPSK	1	0	22.12	4.70	26.82	0.48084	24.67	0.29309	7.00	38.45	7.00	38.45	Passed
1	14	21.70	4.70					26.40	0.43652	24.25	0.26607	7.00	38.45	7.00	38.45	Passed				
8	0	20.95	4.70					25.65	0.36728	23.50	0.22387	7.00	38.45	7.00	38.45	Passed				
8	7	20.86	4.70					25.56	0.35975	23.41	0.21928	7.00	38.45	7.00	38.45	Passed				
20525	836.50	QPSK	15		0	20.76	4.70	25.46	0.35156	23.31	0.21429	7.00	38.45	7.00	38.45	Passed				
			1		0	21.72	4.70	26.42	0.43853	24.27	0.26730	7.00	38.45	7.00	38.45	Passed				
			1		14	22.02	4.70	26.72	0.46989	24.57	0.28642	7.00	38.45	7.00	38.45	Passed				
			8		0	20.84	4.70	25.54	0.35810	23.39	0.21827	7.00	38.45	7.00	38.45	Passed				
20635	847.50	QPSK	8		7	21.03	4.70	25.73	0.37411	23.58	0.22803	7.00	38.45	7.00	38.45	Passed				
			15		0	20.96	4.70	25.66	0.36813	23.51	0.22439	7.00	38.45	7.00	38.45	Passed				
			1		0	21.36	4.70	26.06	0.40365	23.91	0.24604	7.00	38.45	7.00	38.45	Passed				
			1		14	21.62	4.70	26.32	0.42855	24.17	0.26122	7.00	38.45	7.00	38.45	Passed				
			8		0	20.21	4.70	24.91	0.30974	22.76	0.18880	7.00	38.45	7.00	38.45	Passed				
			8		7	20.92	4.70	25.62	0.36475	23.47	0.22233	7.00	38.45	7.00	38.45	Passed				
			15		0	20.59	4.70	25.29	0.33806	23.14	0.20606	7.00	38.45	7.00	38.45	Passed				
			1		0	21.77	4.70	26.47	0.44361	24.32	0.27040	7.00	38.45	7.00	38.45	Passed				
BW 5 MHz	20425	826.50	QPSK	1	24	21.50	4.70	26.20	0.41687	24.05	0.25410	7.00	38.45	7.00	38.45	Passed				
				12	0	20.82	4.70	25.52	0.35645	23.37	0.21727	7.00	38.45	7.00	38.45	Passed				
				12	11	20.69	4.70	25.39	0.34594	23.24	0.21086	7.00	38.45	7.00	38.45	Passed				
				25	0	20.81	4.70	25.51	0.35563	23.36	0.21677	7.00	38.45	7.00	38.45	Passed				
	20525	836.50	QPSK	1	0	21.47	4.70	26.17	0.41400	24.02	0.25235	7.00	38.45	7.00	38.45	Passed				
				1	24	21.66	4.70	26.36	0.43251	24.21	0.26363	7.00	38.45	7.00	38.45	Passed				
				12	0	20.73	4.70	25.43	0.34914	23.28	0.21281	7.00	38.45	7.00	38.45	Passed				
				12	11	21.02	4.70	25.72	0.37325	23.57	0.22751	7.00	38.45	7.00	38.45	Passed				
	20625	846.50	QPSK	25	0	20.83	4.70	25.53	0.35727	23.38	0.21777	7.00	38.45	7.00	38.45	Passed				
				1	0	21.62	4.70	26.32	0.42855	24.17	0.26122	7.00	38.45	7.00	38.45	Passed				
				1	24	21.62	4.70	26.32	0.42855	24.17	0.26122	7.00	38.45	7.00	38.45	Passed				
				12	0	20.67	4.70	25.37	0.34435	23.22	0.20989	7.00	38.45	7.00	38.45	Passed				
				12	11	20.35	4.70	25.05	0.31989	22.90	0.19498	7.00	38.45	7.00	38.45	Passed				
				25	0	20.34	4.70	25.04	0.31915	22.89	0.19454	7.00	38.45	7.00	38.45	Passed				
				BW 10 MHz	20450	829.00	QPSK	1	0	21.83	4.70	26.53	0.44978	24.38	0.27416	7.00	38.45	7.00	38.45	Passed
								1	24	22.13	4.70	26.83	0.48195	24.68	0.29376	7.00	38.45	7.00	38.45	Passed
1	49	21.80	4.70					26.50	0.44668	24.35	0.27227	7.00	38.45	7.00	38.45	Passed				
25	0	20.78	4.70					25.48	0.35318	23.33	0.21528	7.00	38.45	7.00	38.45	Passed				
20525	836.50	QPSK	25		24	20.86	4.70	25.56	0.35975	23.41	0.21928	7.00	38.45	7.00	38.45	Passed				
			50		0	20.75	4.70	25.45	0.35075	23.30	0.21380	7.00	38.45	7.00	38.45	Passed				
			1		0	21.94	4.70	26.64	0.46132	24.49	0.28119	7.00	38.45	7.00	38.45	Passed				
			1		24	22.15	4.70	26.85	0.48417	24.70	0.29512	7.00	38.45	7.00	38.45	Passed				
20600	844.00	QPSK	1		49	22.22	4.70	26.92	0.49204	24.77	0.29992	7.00	38.45	7.00	38.45	Passed				
			25		0	20.68	4.70	25.38	0.34514	23.23	0.21038	7.00	38.45	7.00	38.45	Passed				
			25		24	21.00	4.70	25.70	0.37154	23.55	0.22646	7.00	38.45	7.00	38.45	Passed				
			50		0	20.86	4.70	25.56	0.35975	23.41	0.21928	7.00	38.45	7.00	38.45	Passed				
			1		0	22.20	4.70	26.90	0.48978	24.75	0.29854	7.00	38.45	7.00	38.45	Passed				
			1		24	21.97	4.70	26.67	0.46452	24.52	0.28314	7.00	38.45	7.00	38.45	Passed				
			1		49	21.56	4.70	26.26	0.42267	24.11	0.25763	7.00	38.45	7.00	38.45	Passed				
			25		0	20.99	4.70	25.69	0.37068	23.54	0.22594	7.00	38.45	7.00	38.45	Passed				
EIRP= RMS Power at Antenna Port + Maximum declared Antenna Gain - Path loss to Antenna Connector - Path loss in Antenna Cable																				
ERP = EIRP - 2.15																				

LTE FDD Band 7																
	Channel Nr.	ARFCN-Frequency (MHz)	Modulation	RB	Start RB	RMS Power at Antenna Port (dBm)	Maximum declared Antenna Gain(dBi)	EIRP in dBm	EIRP in Watt	ERP in dBm	ERP in Watt	FCC Limit(W), EIRP	FCC Limit (dBm); EIRP	ISED Limit(W), EIRP	ISED Limit (dBm), EIRP	Verdict
BW 5 MHz	20775	2502.50	QPSK	1	0	20.80	7.00	27.80	0.60256	25.65	0.36728	2.00	33.01	2.00	33.01	Passed
				1	24	20.82	7.00	27.82	0.60534	25.67	0.36898	2.00	33.01	2.00	33.01	Passed
				12	0	19.88	7.00	26.88	0.48753	24.73	0.29717	2.00	33.01	2.00	33.01	Passed
				12	11	19.97	7.00	26.97	0.49774	24.82	0.30339	2.00	33.01	2.00	33.01	Passed
				25	0	19.91	7.00	26.91	0.49091	24.76	0.29923	2.00	33.01	2.00	33.01	Passed
	21100	2535.00	QPSK	1	0	20.47	7.00	27.47	0.55847	25.32	0.34041	2.00	33.01	2.00	33.01	Passed
				1	24	20.53	7.00	27.53	0.56624	25.38	0.34514	2.00	33.01	2.00	33.01	Passed
				12	0	19.59	7.00	26.59	0.45604	24.44	0.27797	2.00	33.01	2.00	33.01	Passed
				12	11	19.58	7.00	26.58	0.45499	24.43	0.27733	2.00	33.01	2.00	33.01	Passed
				25	0	19.56	7.00	26.56	0.45290	24.41	0.27606	2.00	33.01	2.00	33.01	Passed
	21425	2567.50	QPSK	1	0	19.74	7.00	26.74	0.47206	24.59	0.28774	2.00	33.01	2.00	33.01	Passed
				1	24	19.85	7.00	26.85	0.48417	24.70	0.29512	2.00	33.01	2.00	33.01	Passed
				12	0	18.82	7.00	25.82	0.38194	23.67	0.23281	2.00	33.01	2.00	33.01	Passed
				12	11	18.80	7.00	25.80	0.38019	23.65	0.23174	2.00	33.01	2.00	33.01	Passed
				25	0	18.84	7.00	25.84	0.38371	23.69	0.23388	2.00	33.01	2.00	33.01	Passed
BW 10 MHz	20800	2505.00	QPSK	1	0	20.79	7.00	27.79	0.60117	25.64	0.36644	2.00	33.01	2.00	33.01	Passed
				1	24	21.20	7.00	28.20	0.66069	26.05	0.40272	2.00	33.01	2.00	33.01	Passed
				1	49	20.86	7.00	27.86	0.61094	25.71	0.37239	2.00	33.01	2.00	33.01	Passed
				25	0	19.92	7.00	26.92	0.49204	24.77	0.29992	2.00	33.01	2.00	33.01	Passed
				25	24	19.87	7.00	26.87	0.48641	24.72	0.29648	2.00	33.01	2.00	33.01	Passed
	21100	2535.00	QPSK	50	0	19.91	7.00	26.91	0.49091	24.76	0.29923	2.00	33.01	2.00	33.01	Passed
				1	0	20.71	7.00	27.71	0.59020	25.56	0.35975	2.00	33.01	2.00	33.01	Passed
				1	24	20.82	7.00	27.82	0.60534	25.67	0.36898	2.00	33.01	2.00	33.01	Passed
				1	49	20.72	7.00	27.72	0.59156	25.57	0.36058	2.00	33.01	2.00	33.01	Passed
				25	0	19.60	7.00	26.60	0.45709	24.45	0.27861	2.00	33.01	2.00	33.01	Passed
	21400	2565.00	QPSK	25	24	19.59	7.00	26.59	0.45604	24.44	0.27797	2.00	33.01	2.00	33.01	Passed
				50	0	19.59	7.00	26.59	0.45604	24.44	0.27797	2.00	33.01	2.00	33.01	Passed
				1	0	20.37	7.00	27.37	0.54576	25.22	0.33266	2.00	33.01	2.00	33.01	Passed
				1	24	20.18	7.00	27.18	0.52240	25.03	0.31842	2.00	33.01	2.00	33.01	Passed
				1	49	19.86	7.00	26.86	0.48529	24.71	0.29580	2.00	33.01	2.00	33.01	Passed
BW 15 MHz	20825	2507.50	QPSK	25	0	18.94	7.00	25.94	0.39264	23.79	0.23933	2.00	33.01	2.00	33.01	Passed
				25	24	18.84	7.00	25.84	0.38371	23.69	0.23388	2.00	33.01	2.00	33.01	Passed
				50	0	18.86	7.00	25.86	0.38548	23.71	0.23496	2.00	33.01	2.00	33.01	Passed
				1	0	20.81	7.00	27.81	0.60395	25.66	0.36813	2.00	33.01	2.00	33.01	Passed
				1	27	21.26	7.00	28.26	0.66988	26.11	0.40832	2.00	33.01	2.00	33.01	Passed
	21100	2535.00	QPSK	1	74	20.46	7.00	27.46	0.55719	25.31	0.33963	2.00	33.01	2.00	33.01	Passed
				27	0	19.91	7.00	26.91	0.49091	24.76	0.29923	2.00	33.01	2.00	33.01	Passed
				27	74	19.80	7.00	26.80	0.47863	24.65	0.29174	2.00	33.01	2.00	33.01	Passed
				75	0	19.75	7.00	26.75	0.47315	24.60	0.28840	2.00	33.01	2.00	33.01	Passed
				1	0	20.63	7.00	27.63	0.57943	25.48	0.35318	2.00	33.01	2.00	33.01	Passed
	21375	2562.50	QPSK	1	27	20.74	7.00	27.74	0.59429	25.59	0.36224	2.00	33.01	2.00	33.01	Passed
				1	74	20.22	7.00	27.22	0.52723	25.07	0.32137	2.00	33.01	2.00	33.01	Passed
				27	0	19.59	7.00	26.59	0.45604	24.44	0.27797	2.00	33.01	2.00	33.01	Passed
				27	74	19.67	7.00	26.67	0.46452	24.52	0.28314	2.00	33.01	2.00	33.01	Passed
				75	0	19.64	7.00	26.64	0.46132	24.49	0.28119	2.00	33.01	2.00	33.01	Passed
BW 20 MHz	20850	2510.00	QPSK	1	0	20.29	7.00	27.29	0.53580	25.14	0.32659	2.00	33.01	2.00	33.01	Passed
				1	27	20.06	7.00	27.06	0.50816	24.91	0.30974	2.00	33.01	2.00	33.01	Passed
				1	74	19.73	7.00	26.73	0.47098	24.58	0.28708	2.00	33.01	2.00	33.01	Passed
				27	0	18.99	7.00	25.99	0.39719	23.84	0.24210	2.00	33.01	2.00	33.01	Passed
				27	74	18.84	7.00	25.84	0.38371	23.69	0.23388	2.00	33.01	2.00	33.01	Passed
	20850	2510.00	QPSK	75	0	18.97	7.00	25.97	0.39537	23.82	0.24099	2.00	33.01	2.00	33.01	Passed
				1	0	20.89	7.00	27.89	0.61518	25.74	0.37497	2.00	33.01	2.00	33.01	Passed
				1	49	20.75	7.00	27.75	0.59566	25.60	0.36308	2.00	33.01	2.00	33.01	Passed
				1	99	20.34	7.00	27.34	0.54200	25.19	0.33037	2.00	33.01	2.00	33.01	Passed
				50	0	19.91	7.00	26.91	0.49091	24.76	0.29923	2.00	33.01	2.00	33.01	Passed
	21100	2535.00	QPSK	50	49	19.64	7.00	26.64	0.46132	24.49	0.28119	2.00	33.01	2.00	33.01	Passed
				100	0	19.77	7.00	26.77	0.47534	24.62	0.28973	2.00	33.01	2.00	33.01	Passed
				1	0	20.42	7.00	27.42	0.55208	25.27	0.33651	2.00	33.01	2.00	33.01	Passed
				1	49	20.68	7.00	27.68	0.58614	25.53	0.35727	2.00	33.01	2.00	33.01	Passed
				1	99	20.22	7.00	27.22	0.52723	25.07	0.32137	2.00	33.01	2.00	33.01	Passed
21350	2560.00	QPSK	50	0	19.70	7.00	26.70	0.46774	24.55	0.28510	2.00	33.01	2.00	33.01	Passed	
			50	49	19.44	7.00	26.44	0.44055	24.29	0.26853	2.00	33.01	2.00	33.01	Passed	
			100	0	19.63	7.00	26.63	0.46026	24.48	0.28054	2.00	33.01	2.00	33.01	Passed	
			1	0	19.98	7.00	26.98	0.49888	24.83	0.30409	2.00	33.01	2.00	33.01	Passed	
			1	49	19.99	7.00	26.99	0.50003	24.84	0.30479	2.00	33.01	2.00	33.01	Passed	
21350	2560.00	QPSK	1	99	19.83	7.00	26.83	0.48195	24.68	0.29376	2.00	33.01	2.00	33.01	Passed	
			50	0	19.11	7.00	26.11	0.40832	23.96	0.24889	2.00	33.01	2.00	33.01	Passed	
			50	49	18.85	7.00	25.85	0.38459	23.70	0.23442	2.00	33.01	2.00	33.01	Passed	
			100	0	18.93	7.00	25.93	0.39174	23.78	0.23878	2.00	33.01	2.00	33.01	Passed	
			EIRP= RMS Power at Antenna Port + Maximum declared Antenna Gain - Path loss to Antenna Connector - Path loss in Antenna Cable													
ERP = EIRP - 2.15																

LTE FDD Band 12																
	Channel Nr.	ARFCN-Frequency (MHz)	Modulation	RB	Start RB	RMS Power at Antenna Port (dBm)	Maximum declared Antenna Gain(dBi)	EIRP in dBm	EIRP in Watt	ERP in dBm	ERP in Watt	FCC Limit(W), ERP	FCC Limit (dBm); ERP	ISED Limit(W), ERP	ISED Limit (dBm), ERP	Verdict
BW 1.4 MHz	23017	699.70	QPSK	1	0	21.05	4.70	25.75	0.37584	23.60	0.22909	3.00	34.77	3.00	34.77	Passed
				1	5	21.30	4.70	26.00	0.39811	23.85	0.24266	3.00	34.77	3.00	34.77	Passed
				3	0	21.14	4.70	25.84	0.38371	23.69	0.23388	3.00	34.77	3.00	34.77	Passed
				3	2	21.14	4.70	25.84	0.38371	23.69	0.23388	3.00	34.77	3.00	34.77	Passed
				6	0	20.11	4.70	24.81	0.30269	22.66	0.18450	3.00	34.77	3.00	34.77	Passed
				1	0	21.35	4.70	26.05	0.40272	23.90	0.24547	3.00	34.77	3.00	34.77	Passed
	23095	707.50	QPSK	1	5	21.44	4.70	26.14	0.41115	23.99	0.25061	3.00	34.77	3.00	34.77	Passed
				3	0	21.36	4.70	26.06	0.40365	23.91	0.24604	3.00	34.77	3.00	34.77	Passed
				3	2	21.32	4.70	26.02	0.39994	23.87	0.24378	3.00	34.77	3.00	34.77	Passed
				6	0	20.47	4.70	25.17	0.32885	23.02	0.20045	3.00	34.77	3.00	34.77	Passed
				1	0	21.52	4.70	26.22	0.41879	24.07	0.25527	3.00	34.77	3.00	34.77	Passed
				1	5	21.39	4.70	26.09	0.40644	23.94	0.24774	3.00	34.77	3.00	34.77	Passed
	23173	715.30	QPSK	3	0	21.40	4.70	26.10	0.40738	23.95	0.24831	3.00	34.77	3.00	34.77	Passed
				3	2	21.44	4.70	26.14	0.41115	23.99	0.25061	3.00	34.77	3.00	34.77	Passed
				6	0	20.40	4.70	25.10	0.32359	22.95	0.19724	3.00	34.77	3.00	34.77	Passed
				1	0	20.97	4.70	25.67	0.36898	23.52	0.22491	3.00	34.77	3.00	34.77	Passed
				1	14	21.21	4.70	25.91	0.38994	23.76	0.23768	3.00	34.77	3.00	34.77	Passed
				8	0	20.11	4.70	24.81	0.30269	22.66	0.18450	3.00	34.77	3.00	34.77	Passed
BW 3 MHz	23025	700.50	QPSK	8	7	20.13	4.70	24.83	0.30409	22.68	0.18535	3.00	34.77	3.00	34.77	Passed
				15	0	20.16	4.70	24.86	0.30620	22.71	0.18664	3.00	34.77	3.00	34.77	Passed
				1	0	21.28	4.70	25.98	0.39628	23.83	0.24155	3.00	34.77	3.00	34.77	Passed
				1	14	21.50	4.70	26.20	0.41687	24.05	0.25410	3.00	34.77	3.00	34.77	Passed
				8	0	20.33	4.70	25.03	0.31842	22.88	0.19409	3.00	34.77	3.00	34.77	Passed
				8	7	20.42	4.70	25.12	0.32509	22.97	0.19815	3.00	34.77	3.00	34.77	Passed
	23095	707.50	QPSK	15	0	20.37	4.70	25.07	0.32137	22.92	0.19588	3.00	34.77	3.00	34.77	Passed
				1	0	21.78	4.70	26.48	0.44463	24.33	0.27102	3.00	34.77	3.00	34.77	Passed
				1	14	21.51	4.70	26.21	0.41783	24.06	0.25468	3.00	34.77	3.00	34.77	Passed
				8	0	20.51	4.70	25.21	0.33189	23.06	0.20230	3.00	34.77	3.00	34.77	Passed
				8	7	20.41	4.70	25.11	0.32434	22.96	0.19770	3.00	34.77	3.00	34.77	Passed
				15	0	20.43	4.70	25.13	0.32584	22.98	0.19861	3.00	34.77	3.00	34.77	Passed
	23035	701.50	QPSK	1	0	20.91	4.70	25.61	0.36392	23.46	0.22182	3.00	34.77	3.00	34.77	Passed
				1	24	20.77	4.70	25.47	0.35237	23.32	0.21478	3.00	34.77	3.00	34.77	Passed
				12	0	20.06	4.70	24.76	0.29923	22.61	0.18239	3.00	34.77	3.00	34.77	Passed
				12	11	20.04	4.70	24.74	0.29785	22.59	0.18155	3.00	34.77	3.00	34.77	Passed
				25	0	20.07	4.70	24.77	0.29992	22.62	0.18281	3.00	34.77	3.00	34.77	Passed
				1	0	20.83	4.70	25.53	0.35727	23.38	0.21777	3.00	34.77	3.00	34.77	Passed
23095	707.50	QPSK	1	24	21.35	4.70	26.05	0.40272	23.90	0.24547	3.00	34.77	3.00	34.77	Passed	
			12	0	20.15	4.70	24.85	0.30549	22.70	0.18621	3.00	34.77	3.00	34.77	Passed	
			12	11	20.43	4.70	25.13	0.32584	22.98	0.19861	3.00	34.77	3.00	34.77	Passed	
			25	0	20.34	4.70	25.04	0.31915	22.89	0.19454	3.00	34.77	3.00	34.77	Passed	
			1	0	20.97	4.70	25.67	0.36898	23.52	0.22491	3.00	34.77	3.00	34.77	Passed	
			1	24	21.17	4.70	25.87	0.38637	23.72	0.23550	3.00	34.77	3.00	34.77	Passed	
23155	713.50	QPSK	12	0	20.37	4.70	25.07	0.32137	22.92	0.19588	3.00	34.77	3.00	34.77	Passed	
			12	11	20.44	4.70	25.14	0.32659	22.99	0.19907	3.00	34.77	3.00	34.77	Passed	
			25	0	20.34	4.70	25.04	0.31915	22.89	0.19454	3.00	34.77	3.00	34.77	Passed	
			1	0	20.88	4.70	25.58	0.36141	23.43	0.22029	3.00	34.77	3.00	34.77	Passed	
			1	24	21.31	4.70	26.01	0.39902	23.86	0.24322	3.00	34.77	3.00	34.77	Passed	
			1	49	21.64	4.70	26.34	0.43053	24.19	0.26242	3.00	34.77	3.00	34.77	Passed	
BW 10 MHz	23060	704.00	QPSK	25	0	20.03	4.70	24.73	0.29717	22.58	0.18113	3.00	34.77	3.00	34.77	Passed
				25	24	20.13	4.70	24.83	0.30409	22.68	0.18535	3.00	34.77	3.00	34.77	Passed
				50	0	20.15	4.70	24.85	0.30549	22.70	0.18621	3.00	34.77	3.00	34.77	Passed
				1	0	21.13	4.70	25.83	0.38282	23.68	0.23335	3.00	34.77	3.00	34.77	Passed
				1	24	21.47	4.70	26.17	0.41400	24.02	0.25235	3.00	34.77	3.00	34.77	Passed
				1	49	21.19	4.70	25.89	0.38815	23.74	0.23659	3.00	34.77	3.00	34.77	Passed
	23095	707.50	QPSK	25	0	20.14	4.70	24.84	0.30479	22.69	0.18578	3.00	34.77	3.00	34.77	Passed
				25	24	20.31	4.70	25.01	0.31696	22.86	0.19320	3.00	34.77	3.00	34.77	Passed
				50	0	20.29	4.70	24.99	0.31550	22.84	0.19231	3.00	34.77	3.00	34.77	Passed
				1	0	21.27	4.70	25.97	0.39537	23.82	0.24099	3.00	34.77	3.00	34.77	Passed
				1	24	21.63	4.70	26.33	0.42954	24.18	0.26182	3.00	34.77	3.00	34.77	Passed
				1	49	21.23	4.70	25.93	0.39174	23.78	0.23878	3.00	34.77	3.00	34.77	Passed
	23130	711.00	QPSK	25	0	20.36	4.70	25.06	0.32063	22.91	0.19543	3.00	34.77	3.00	34.77	Passed
				25	24	20.35	4.70	25.05	0.31989	22.90	0.19498	3.00	34.77	3.00	34.77	Passed
				50	0	20.42	4.70	25.12	0.32509	22.97	0.19815	3.00	34.77	3.00	34.77	Passed
				EIRP= RMS Power at Antenna Port + Maximum declared Antenna Gain - Path loss to Antenna Connector - Path loss in Antenna Cable												
				ERP = EIRP - 2.15												

LTE FDD Band 13																
	Channel Nr.	ARFCN-Frequency (MHz)	Modulation	RB	Start RB	RMS Power at Antenna Port (dBm)	Maximum declared Antenna Gain(dBi)	EIRP in dBm	EIRP in Watt	ERP in dBm	ERP in Watt	FCC Limit(W), ERP	FCC Limit (dBm); ERP	ISED Limit(W), ERP	ISED Limit (dBm), ERP	Verdict
BW 5 MHz	23205	779.50	QPSK	1	0	22.01	4.70	26.71	0.46881	24.56	0.28576	3.00	34.77	3.00	34.77	Passed
				1	24	22.19	4.70	26.89	0.48865	24.74	0.29785	3.00	34.77	3.00	34.77	Passed
				12	0	21.34	4.70	26.04	0.40179	23.89	0.24491	3.00	34.77	3.00	34.77	Passed
				12	11	21.63	4.70	26.33	0.42954	24.18	0.26182	3.00	34.77	3.00	34.77	Passed
				25	0	21.43	4.70	26.13	0.41020	23.98	0.25003	3.00	34.77	3.00	34.77	Passed
	23230	782.00	QPSK	1	0	22.10	4.70	26.80	0.47863	24.65	0.29174	3.00	34.77	3.00	34.77	Passed
				1	24	22.36	4.70	27.06	0.50816	24.91	0.30974	3.00	34.77	3.00	34.77	Passed
				12	0	21.49	4.70	26.19	0.41591	24.04	0.25351	3.00	34.77	3.00	34.77	Passed
				12	11	21.60	4.70	26.30	0.42658	24.15	0.26002	3.00	34.77	3.00	34.77	Passed
				25	0	21.55	4.70	26.25	0.42170	24.10	0.25704	3.00	34.77	3.00	34.77	Passed
	23255	784.50	QPSK	1	0	22.42	4.70	27.12	0.51523	24.97	0.31405	3.00	34.77	3.00	34.77	Passed
				1	24	22.37	4.70	27.07	0.50933	24.92	0.31046	3.00	34.77	3.00	34.77	Passed
				12	0	21.57	4.70	26.27	0.42364	24.12	0.25823	3.00	34.77	3.00	34.77	Passed
				12	11	21.52	4.70	26.22	0.41879	24.07	0.25527	3.00	34.77	3.00	34.77	Passed
				25	0	21.52	4.70	26.22	0.41879	24.07	0.25527	3.00	34.77	3.00	34.77	Passed
BW 10 MHz	23230	782.00	QPSK	1	0	22.23	4.70	26.93	0.49317	24.78	0.30061	3.00	34.77	3.00	34.77	Passed
				1	24	22.75	4.70	27.45	0.55590	25.30	0.33884	3.00	34.77	3.00	34.77	Passed
				1	49	22.61	4.70	27.31	0.53827	25.16	0.32810	3.00	34.77	3.00	34.77	Passed
				25	0	21.40	4.70	26.10	0.40738	23.95	0.24831	3.00	34.77	3.00	34.77	Passed
				25	24	21.56	4.70	26.26	0.42267	24.11	0.25763	3.00	34.77	3.00	34.77	Passed
	23230	782.00	QPSK	50	0	21.49	4.70	26.19	0.41591	24.04	0.25351	3.00	34.77	3.00	34.77	Passed
				1	0	22.20	4.70	26.90	0.48978	24.75	0.29854	3.00	34.77	3.00	34.77	Passed
				1	24	22.75	4.70	27.45	0.55590	25.30	0.33884	3.00	34.77	3.00	34.77	Passed
				1	49	22.70	4.70	27.40	0.54954	25.25	0.33497	3.00	34.77	3.00	34.77	Passed
				25	0	21.43	4.70	26.13	0.41020	23.98	0.25003	3.00	34.77	3.00	34.77	Passed
23230	782.00	QPSK	25	24	21.53	4.70	26.23	0.41976	24.08	0.25586	3.00	34.77	3.00	34.77	Passed	
			50	0	21.46	4.70	26.16	0.41305	24.01	0.25177	3.00	34.77	3.00	34.77	Passed	
			1	0	22.10	4.70	26.80	0.47863	24.65	0.29174	3.00	34.77	3.00	34.77	Passed	
			1	24	22.74	4.70	27.44	0.55463	25.29	0.33806	3.00	34.77	3.00	34.77	Passed	
			1	49	22.74	4.70	27.44	0.55463	25.29	0.33806	3.00	34.77	3.00	34.77	Passed	
23230	782.00	QPSK	25	0	21.37	4.70	26.07	0.40458	23.92	0.24660	3.00	34.77	3.00	34.77	Passed	
			25	24	21.53	4.70	26.23	0.41976	24.08	0.25586	3.00	34.77	3.00	34.77	Passed	
			50	0	21.49	4.70	26.19	0.41591	24.04	0.25351	3.00	34.77	3.00	34.77	Passed	
EIRP= RMS Power at Antenna Port + Maximum declared Antenna Gain - Path loss to Antenna Connector - Path loss in Antenna Cable																
ERP = EIRP - 2.15																

LTE FDD Band 17																	
	Channel Nr.	ARFCN-Frequency (MHz)	Modulation	RB	Start RB	RMS Power at Antenna Port (dBm)	Maximum declared Antenna Gain(dBi)	EIRP in dBm	EIRP in Watt	ERP in dBm	ERP in Watt	FCC Limit(W), ERP	FCC Limit (dBm), ERP	ISED Limit(W), ERP	ISED Limit (dBm), ERP	Verdict	
BW 5 MHz	23755	706.50	QPSK	1	0	21.06	4.70	25.76	0.37670	23.61	0.22961	3.00	34.77	3.00	34.77	Passed	
				1	24	21.28	4.70	25.98	0.39628	23.83	0.24155	3.00	34.77	3.00	34.77	Passed	
				12	0	20.27	4.70	24.97	0.31405	22.82	0.19143	3.00	34.77	3.00	34.77	Passed	
				12	11	20.42	4.70	25.12	0.32509	22.97	0.19815	3.00	34.77	3.00	34.77	Passed	
	23790	710.00	QPSK	25	0	20.28	4.70	24.98	0.31477	22.83	0.19187	3.00	34.77	3.00	34.77	Passed	
				1	0	21.16	4.70	25.86	0.38548	23.71	0.23496	3.00	34.77	3.00	34.77	Passed	
				1	24	21.46	4.70	26.16	0.41305	24.01	0.25177	3.00	34.77	3.00	34.77	Passed	
				12	0	20.55	4.70	25.25	0.33497	23.10	0.20417	3.00	34.77	3.00	34.77	Passed	
				12	11	20.72	4.70	25.42	0.34834	23.27	0.21232	3.00	34.77	3.00	34.77	Passed	
				25	0	20.59	4.70	25.29	0.33806	23.14	0.20606	3.00	34.77	3.00	34.77	Passed	
	23825	713.50	QPSK	1	0	21.63	4.70	26.33	0.42954	24.18	0.26182	3.00	34.77	3.00	34.77	Passed	
				1	24	21.52	4.70	26.22	0.41879	24.07	0.25527	3.00	34.77	3.00	34.77	Passed	
				12	0	20.61	4.70	25.31	0.33963	23.16	0.20701	3.00	34.77	3.00	34.77	Passed	
				12	11	20.65	4.70	25.35	0.34277	23.20	0.20893	3.00	34.77	3.00	34.77	Passed	
	BW 10 MHz	23780	709.00	QPSK	25	0	20.58	4.70	25.28	0.33729	23.13	0.20559	3.00	34.77	3.00	34.77	Passed
					1	0	21.29	4.70	25.99	0.39719	23.84	0.24210	3.00	34.77	3.00	34.77	Passed
					1	24	21.91	4.70	26.61	0.45814	24.46	0.27925	3.00	34.77	3.00	34.77	Passed
					1	49	21.70	4.70	26.40	0.43652	24.25	0.26607	3.00	34.77	3.00	34.77	Passed
					25	0	20.55	4.70	25.25	0.33497	23.10	0.20417	3.00	34.77	3.00	34.77	Passed
					25	24	20.71	4.70	25.41	0.34754	23.26	0.21184	3.00	34.77	3.00	34.77	Passed
50					0	20.58	4.70	25.28	0.33729	23.13	0.20559	3.00	34.77	3.00	34.77	Passed	
1					0	21.48	4.70	26.18	0.41495	24.03	0.25293	3.00	34.77	3.00	34.77	Passed	
23790		710.00	QPSK	1	24	21.98	4.70	26.68	0.46559	24.53	0.28379	3.00	34.77	3.00	34.77	Passed	
				1	49	21.72	4.70	26.42	0.43853	24.27	0.26730	3.00	34.77	3.00	34.77	Passed	
				25	0	20.57	4.70	25.27	0.33651	23.12	0.20512	3.00	34.77	3.00	34.77	Passed	
				25	24	20.57	4.70	25.27	0.33651	23.12	0.20512	3.00	34.77	3.00	34.77	Passed	
				50	0	20.58	4.70	25.28	0.33729	23.13	0.20559	3.00	34.77	3.00	34.77	Passed	
				1	0	21.52	4.70	26.22	0.41879	24.07	0.25527	3.00	34.77	3.00	34.77	Passed	
				1	24	21.82	4.70	26.52	0.44875	24.37	0.27353	3.00	34.77	3.00	34.77	Passed	
				1	49	21.49	4.70	26.19	0.41591	24.04	0.25351	3.00	34.77	3.00	34.77	Passed	
23800		711.00	QPSK	25	0	20.57	4.70	25.27	0.33651	23.12	0.20512	3.00	34.77	3.00	34.77	Passed	
				25	24	20.59	4.70	25.29	0.33806	23.14	0.20606	3.00	34.77	3.00	34.77	Passed	
				50	0	20.57	4.70	25.27	0.33651	23.12	0.20512	3.00	34.77	3.00	34.77	Passed	
				EIRP= RMS Power at Antenna Port + Maximum declared Antenna Gain - Path loss to Antenna Connector - Path loss in Antenna Cable													
ERP = EIRP - 2.15																	

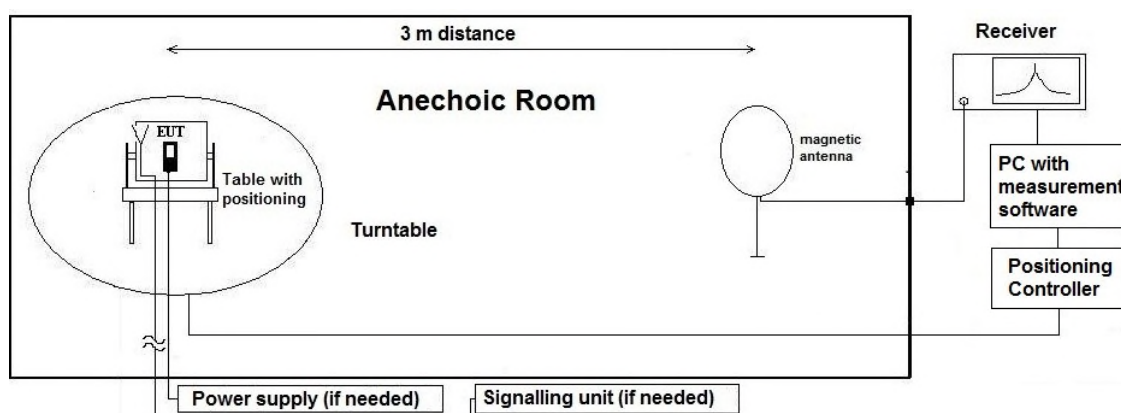
4.2 Radiated field strength emissions below 30 MHz

4.2.1 Description of the general test setup and methodology, see below example:

Evaluating the radiated field emissions are done first by an exploratory emission measurement and a final measurement for most critical frequencies determined.

The loop antenna was placed at 1 m height above ground plane and 3 m measurement distance from set-up for investigations. Because of reduced measurement distance, correction data were applied, as stated in chapter “General Limit - Radiated field strength emissions below 30 MHz”. The tests are performed in the semi anechoic room recognized by the regulatory commission.

Schematic:



Testing method:

The measurement is made according to relevant reference clauses:

(See Tables *Summary of Test Results* and *Summary of Test Methods* on page 12)

Exploratory, preliminary measurements

The EUT and it's associated accessories are placed on a non-conductive position manipulator (tipping device) of 0.8 m height which is placed on the turntable. By rotating the turntable (step 90°, range 0° to 360°) and the EUT itself either on 3-orthogonal axis (portable equipment) or 2-orthogonal axis (defined operational position of EUT), the emission spectrum was recorded.

The loop antenna was moved at least to 2-perpendicular axes (antenna vector in direction of EUT and parallel to EUT) in order to maximize the emissions. The results are documented in a diagram. Critical frequencies (low margin to limit) are saved within a data reduction table for further investigations. If various operating modes are supported, further investigations are made to find the worst-case. Also the interconnection cables and equipment position were varied in order to maximize the emissions.

Final measurement on critical frequencies

Based on the exploratory measurements, the most critical frequencies are re-measured by main-taining the EUT's worst-case operation mode, cable position, etc.

First a frequency zoom around the critical frequency is done to locate the frequency more precisely. After this step, for all identified critical frequencies, the maximum peak was determined.

Following parameters were varied: the turntable angle continuously in the range 0 to 360 degree, the EUT itself either over 3-orthogonal axis (not defined usage position) or 2-orthogonal axis (defined usage position).

On the determined worst-case position, a final measurement with necessary bandwidth and detector according standard has been carried out.

Formula:

$$E_C = E_R + AF + C_L + D_F - G_A$$

$$M = L_T - E_C$$

AF = Antenna factor

C_L = Cable loss

D_F = Distance correction factor (if used)

E_C = Electrical field – corrected value

E_R = Receiver reading

G_A = Gain of pre-amplifier (if used)

L_T = Limit

M = Margin

All units are dB-units, positive margin means value is below limit.

4.2.2 Sample calculation

Raw-Value [dBuV/m]	Antenna factor	Distance Correction [dB]	Cable Loss	Preamplifier	Resulting correction value [dB]	Final result [dBuV/m]	Remarks
19.83	18.9	-70.75	0.18	--	-51.67	-31.83	30 to 3 m correction used according ANSI C63.10-2013

Remark: This calculation is based on an example value at 458 kHz

4.2.3 Correction factors due to reduced meas. distance ($f < 30$ MHz):

The used correction factors when the measurement distance is reduced compared to regulatory measurement distance, are calculated according to Extrapolation formulas valid for EUT's with maximum dimension of $0.625 \times \lambda$. Formula 2+3+4 as presented in ANSI C63.10, Chapter 6.4.4 are used for the calculations of proper extrapolation factors

Frequency Range	f [kHz/MHz]	Lambda [m]	Far-Field Point [m]	Distance Limit accord. 15.209 [m]	1st Condition (dmeas < Dnear-field)	2nd Condition (Limit distance bigger dnear-field)	Distance Correction accord. Formula
kHz	9	33333.33	5305.17	300	fulfilled	not fulfilled	-80.00
	10	30000.00	4774.65		fulfilled	not fulfilled	-80.00
	20	15000.00	2387.33		fulfilled	not fulfilled	-80.00
	30	10000.00	1591.55		fulfilled	not fulfilled	-80.00
	40	7500.00	1193.66		fulfilled	not fulfilled	-80.00
	50	6000.00	954.93		fulfilled	not fulfilled	-80.00
	60	5000.00	795.78		fulfilled	not fulfilled	-80.00
	70	4285.71	682.09		fulfilled	not fulfilled	-80.00
	80	3750.00	596.83		fulfilled	not fulfilled	-80.00
	90	3333.33	530.52		fulfilled	not fulfilled	-80.00
	100	3000.00	477.47		fulfilled	not fulfilled	-80.00
	125	2400.00	381.97		fulfilled	not fulfilled	-80.00
	200	1500.00	238.73		fulfilled	fulfilled	-78.02
	300	1000.00	159.16		fulfilled	fulfilled	-74.49
	400	750.00	119.37		fulfilled	fulfilled	-72.00
	490	612.24	97.44		fulfilled	fulfilled	-70.23
	500	600.00	95.49	30	fulfilled	not fulfilled	-40.00
	600	500.00	79.58		fulfilled	not fulfilled	-40.00
	700	428.57	68.21		fulfilled	not fulfilled	-40.00
	800	375.00	59.68		fulfilled	not fulfilled	-40.00
	900	333.33	53.05		fulfilled	not fulfilled	-40.00
MHz	1.00	300.00	47.75		fulfilled	not fulfilled	-40.00
	1.59	188.50	30.00		fulfilled	not fulfilled	-40.00
	2.00	150.00	23.87		fulfilled	fulfilled	-38.02
	3.00	100.00	15.92		fulfilled	fulfilled	-34.49
	4.00	75.00	11.94		fulfilled	fulfilled	-32.00
	5.00	60.00	9.55		fulfilled	fulfilled	-30.06
	6.00	50.00	7.96		fulfilled	fulfilled	-28.47
	7.00	42.86	6.82		fulfilled	fulfilled	-27.13
	8.00	37.50	5.97		fulfilled	fulfilled	-25.97
	9.00	33.33	5.31		fulfilled	fulfilled	-24.95
	10.00	30.00	4.77		fulfilled	fulfilled	-24.04
	10.60	28.30	4.50		fulfilled	fulfilled	-23.53
	11.00	27.27	4.34		fulfilled	fulfilled	-23.21
	12.00	25.00	3.98		fulfilled	fulfilled	-22.45
	13.56	22.12	3.52		fulfilled	fulfilled	-21.39
	15.00	20.00	3.18		fulfilled	fulfilled	-20.51
	15.92	18.85	3.00		fulfilled	fulfilled	-20.00
	17.00	17.65	2.81		not fulfilled	fulfilled	-20.00
	18.00	16.67	2.65		not fulfilled	fulfilled	-20.00
	20.00	15.00	2.39		not fulfilled	fulfilled	-20.00
	21.00	14.29	2.27		not fulfilled	fulfilled	-20.00
	23.00	13.04	2.08		not fulfilled	fulfilled	-20.00
	25.00	12.00	1.91		not fulfilled	fulfilled	-20.00
	27.00	11.11	1.77		not fulfilled	fulfilled	-20.00
	29.00	10.34	1.65		not fulfilled	fulfilled	-20.00
	30.00	10.00	1.59		not fulfilled	fulfilled	-20.00

4.2.4 Measurement Location

Test site	120901 - SAC3 - Radiated Emission <1GHz
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4.2.5 Limit

Radiated emissions limits (3 meters)					
Frequency Range [MHz]	Limit [$\mu\text{V}/\text{m}$]	Limit [$\text{dB}\mu\text{V}/\text{m}$]	Distance [m]	Detector	RBW [kHz]
0.009 – 0.09	2400 / f [kHz]	67.6 – 20Log(f) (kHz)	300	Pk & Avg	0.2
0.09 – 0.11	2400 / f [kHz]	67.6 – 20Log(f) (kHz)	300	Quasi peak	0.2
0.11 – 0.15	2400 / f [kHz]	67.6 – 20Log(f) (kHz)	300	Pk & Avg	0.2
0.15 – 0.49	2400 / f [kHz]	67.6 – 20Log(f) (kHz)	300	Pk & Avg	9
0.49 – 1.705	24000 / f [kHz]	87.6 – 20Log(f) (kHz)	30	Quasi peak	9
1.705 - 30	30	29.5	30	Quasi peak	9

*Remark: In Canada same limits apply, just unit reference is different

4.2.6 Result

Internal antenna

Diagram	Band	Mode	Maximum Level [$\text{dB}\mu\text{V}/\text{m}$] Frequency Range 0.009 – 30 MHz	Result
2.201	2	Set 1 Op 1 lying	No peaks < 6 dB margin found	Passed
2.202	2	Set 1 Op 1 standing	No peaks < 6 dB margin found	Passed
2.401	4	Set 1 Op 2	No peaks < 6 dB margin found	Passed
2.501	5	Set 1 Op 3	No peaks < 6 dB margin found	Passed
2.701	7	Set 1 Op 4	No peaks < 6 dB margin found	Passed
2.1201	12	Set 1 Op 5	No peaks < 6 dB margin found	Passed
2.1301	13	Set 1 Op 6	No peaks < 6 dB margin found	Passed
2.1701	17	Set 1 Op 7	No peaks < 6 dB margin found	Passed

Remark: for more information and graphical plot see annex A1 23-1-0017601T027_TR1-A201-R03

External antenna

Diagram	Band	Mode	Maximum Level [$\text{dB}\mu\text{V}/\text{m}$] Frequency Range 0.009 – 30 MHz	Result
2.201	2	Set 2 Op 1 lying	No peaks < 6 dB margin found	Passed
2.202	2	Set 2 Op 1 standing	No peaks < 6 dB margin found	Passed
2.401	4	Set 2 Op 2	No peaks < 6 dB margin found	Passed
2.501	5	Set 2 Op 3	No peaks < 6 dB margin found	Passed
2.701	7	Set 2 Op 4	No peaks < 6 dB margin found	Passed
2.1201	12	Set 2 Op 5	No peaks < 6 dB margin found	Passed
2.1301	13	Set 2 Op 6	No peaks < 6 dB margin found	Passed
2.1701	17	Set 2 Op 7	No peaks < 6 dB margin found	Passed

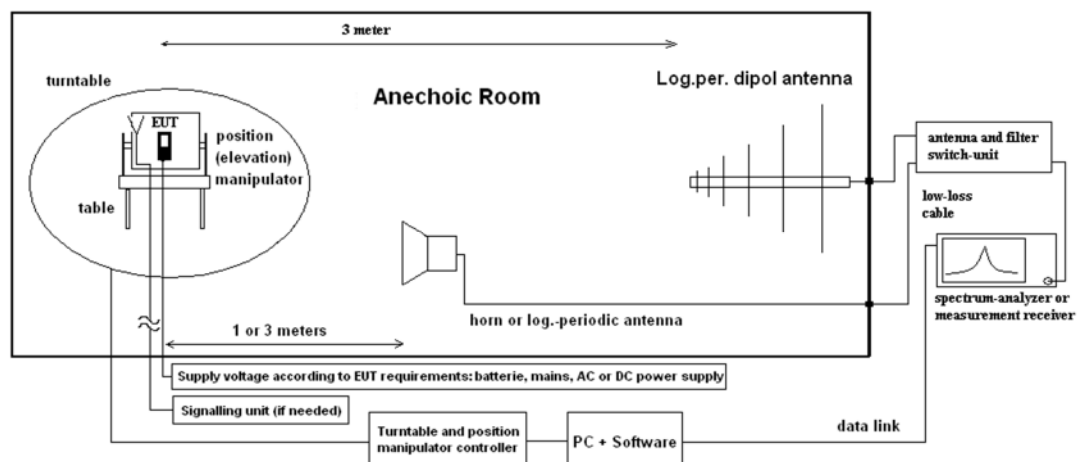
Remark: for more information and graphical plot see annex A1 23-1-0017601T027_TR1-A201-R03

4.3 Radiated spurious emissions

4.3.1 Description of the general test setup and methodology, see below example:

Evaluating the emissions have to be done first by an exploratory emissions measurement and a final measurement for most critical frequencies. The tests are performed in a CISPR 16-1-4:2010 compliant fully anechoic room (FAR) recognized by the regulatory commission. The measurement distance was set to 3 meter for frequencies up to 18 GHz and 2 meter above 18 GHz. A logarithmic periodic antenna is used for the frequency range 30 MHz to 1 GHz. Horn antennas are used for frequency range 1 GHz to 40 GHz. The EUT is aligned within 3 dB beam width of the measurement antenna with three orthogonal axis measurements on the EUT.

Schematic:



Testing method:

The measurement is made according to relevant reference clauses:

(See Tables *Summary of Test Results* and *Summary of Test Methods* on page 12)

Exploratory, preliminary measurements

The EUT and its associated accessories are placed on a non-conductive position manipulator (tipping device) of 1.50 m height which is placed on the turntable. By rotating the turntable (range 0° to 360°, step 45°) and the EUT itself on 3-orthogonal axis (the emission spectrum and it's characteristics was recorded with an EMI-receiver, broadband antenna and software.

The measurements are performed in horizontal and vertical polarization of the measurement antennas. The results are documented in a diagram. Critical frequencies (low margin to limit) are saved within a table for further investigations. If various operating modes are supported, further investigations are made to find the worst-case of them. Also the interconnection cables and equipment position were varied in order to maximize the emissions.

Final measurement on critical frequencies

Based on the exploratory measurements, the most critical frequencies are re-measured by main-taining the EUT's worst-case operation mode, cable position, etc.

First a frequency zoom around the critical frequency is done to locate the frequency more precisely. After this step, for all identified critical frequencies, the maximum peak was determined.

Following parameters were varied: the turntable angle continuously in the range 0 to 360 degree, the EUT itself over 3-orthogonal axis and the height for EUT with large dimensions.

On the determined worst-case position, a final measurement with necessary bandwidth and detector according standard has been carried out.

The readings on the spectrum analyzer are corrected with conversion value between field strength and E(I)RP, so the readings shown are equivalent to ERP/EIRP values. Critical measurements near the limit are re-measured with a substitution method accord. ANSI/TIA/EIA 603 C/D

Formula:

$$P_{EIRP} = P_{MEAS} + C_L + FSL - G_{PreA} - G_{ANT} \quad (1)$$

P_{MEAS} = measured power at instrument

M = Margin

L_T = Limit

FSL = Free Space loss = Function(frequency, measurement distance)

$$M = L_T - P_{EIRP}$$

C_L = cable loss

G_{PreA} = Gain of pre-amplifier (if used)

G_{ANT} = Gain of antenna in [dBi]

All units are dB-units, positive margin means value is below limit.

4.3.2 Measurement Location

Test site	120904 - FAC1 - Radiated Emissions
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4.3.3 Limit

Operation band	Frequency Range [MHz]	Limit [dBm]	Detector [MaxHold]	RBW / VBW [MHz]
LTE2	30 - 19100	-13	RMS	1 / 3
LTE4	30 - 17500	-13	RMS	1 / 3
LTE5	30 - 8500	-13	RMS	1 / 3
LTE7	30 - 25700	-25	RMS	1 / 3
LTE12	30 - 7200	-13	RMS	1 / 3
LTE13	30 - 8000	-13	RMS	1 / 3
	763-775 and 793-805	-35 (RBW = 6.25 kHz, ERP)		
	1559 – 1610	-40 (RBW = 1 MHz)		
	1559 – 1610	-50 (RBW = 700 Hz)		
LTE17	30 - 7200	-13	RMS	1 / 3

4.3.4 Result

Internal antenna

Diagram	Band	Mode	30 MHz to 1000 MHz	1 GHz to 2.8 GHz	2.8 to 10 th Harmonics	Stop Freq [MHz]	Result
8.02	2	Set 1 Op 1	No peaks < 6 dB margin found	No peaks < 6 dB margin found	No peaks < 6 dB margin found	19500	Passed
8.02a	2	Set 1 Op 1	No peaks < 6 dB margin found	No peaks < 6 dB margin found	No peaks < 6 dB margin found		Passed
8.04	4	Set 1 Op 2	No peaks < 6 dB margin found	No peaks < 6 dB margin found	No peaks < 6 dB margin found	18000	Passed
8.05	5	Set 1 Op 3	No peaks < 6 dB margin found	No peaks < 6 dB margin found	No peaks < 6 dB margin found	9000	Passed
8.07a	7	Set 1 Op 4	No peaks < 6 dB margin found	No peaks < 6 dB margin found	No peaks < 6 dB margin found	27000	Passed
8.07b	7	Set 1 Op 4	No peaks < 6 dB margin found	No peaks < 6 dB margin found	No peaks < 6 dB margin found		Passed
8.07c	7	Set 1 Op 4	No peaks < 6 dB margin found	No peaks < 6 dB margin found	No peaks < 6 dB margin found		Passed
8.07d	7	Set 1 Op 4	No peaks < 6 dB margin found	No peaks < 6 dB margin found	No peaks < 6 dB margin found		Passed
8.12	12	Set 1 Op 5	No peaks < 6 dB margin found	No peaks < 6 dB margin found	No peaks < 6 dB margin found	8000	Passed
8.13	13	Set 1 Op 6	No peaks < 6 dB margin found	No peaks < 6 dB margin found	No peaks < 6 dB margin found	8000	Passed
8.13a	13	Set 1 Op 6	No peaks < 6 dB margin found	No peaks < 6 dB margin found	No peaks < 6 dB margin found		Passed
8.13b	13	Set 1 Op 6	No peaks < 6 dB margin found	No peaks < 6 dB margin found	No peaks < 6 dB margin found		Passed
8.17	17	Set 1 Op 7	No peaks < 6 dB margin found	No peaks < 6 dB margin found	No peaks < 6 dB margin found	9000	Passed

Remark: for more information and graphical plot see annex A1 **23-1-0017601T027_TR1-A201-R03**

External antenna

Diagram	Band	Mode	30 MHz to 1000 MHz	1 GHz to 2.8 GHz	2.8 to 10 th Harmonics	Stop Freq [MHz]	Result
8.02	2	Set 2 Op 1	No peaks < 6 dB margin found	No peaks < 6 dB margin found	No peaks < 6 dB margin found	19500	Passed
8.02a	2	Set 2 Op 1	No peaks < 6 dB margin found	No peaks < 6 dB margin found	No peaks < 6 dB margin found		Passed
8.04	4	Set 2 Op 2	No peaks < 6 dB margin found	No peaks < 6 dB margin found	No peaks < 6 dB margin found	18000	Passed
8.05	5	Set 2 Op 3	No peaks < 6 dB margin found	No peaks < 6 dB margin found	No peaks < 6 dB margin found	9000	Passed
8.07a	7	Set 2 Op 4	No peaks < 6 dB margin found	No peaks < 6 dB margin found	No peaks < 6 dB margin found	27000	Passed
8.07b	7	Set 2 Op 4	No peaks < 6 dB margin found	No peaks < 6 dB margin found	No peaks < 6 dB margin found		Passed
8.07c	7	Set 2 Op 4	No peaks < 6 dB margin found	No peaks < 6 dB margin found	No peaks < 6 dB margin found		Passed
8.07d	7	Set 2 Op 4	No peaks < 6 dB margin found	No peaks < 6 dB margin found	No peaks < 6 dB margin found		Passed
8.12	12	Set 2 Op 5	No peaks < 6 dB margin found	No peaks < 6 dB margin found	No peaks < 6 dB margin found	8000	Passed
8.13	13	Set 2 Op 6	No peaks < 6 dB margin found	No peaks < 6 dB margin found	No peaks < 6 dB margin found	8000	Passed
8.13a	13	Set 2 Op 6	No peaks < 6 dB margin found	No peaks < 6 dB margin found	No peaks < 6 dB margin found		Passed
8.13b	13	Set 2 Op 6	No peaks < 6 dB margin found	No peaks < 6 dB margin found	No peaks < 6 dB margin found		Passed
8.17	17	Set 2 Op 7	No peaks < 6 dB margin found	No peaks < 6 dB margin found	No peaks < 6 dB margin found	9000	Passed

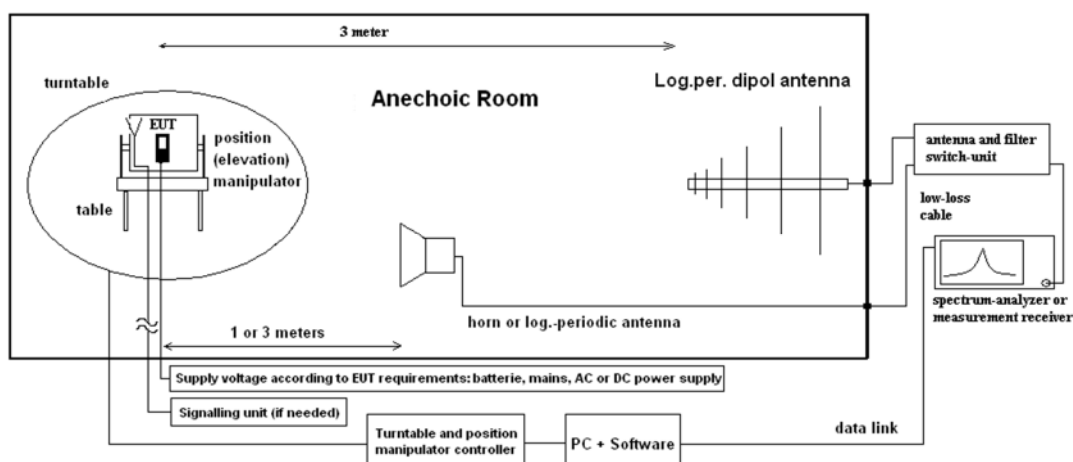
Remark: for more information and graphical plot see annex A1 **23-1-0017601T027_TR1-A201-R03**

4.4 Radiated Band Edge

4.4.1 Description of the general test setup and methodology, see below example:

Evaluating the emissions have to be done first by an exploratory emissions measurement and a final measurement for most critical frequencies. The tests are performed in a CISPR 16-1-4:2010 compliant fully anechoic room (FAR) recognized by the regulatory commission. The measurement distance was set to 3 meter for frequencies up to 18 GHz and 2 meter above 18 GHz. A logarithmic periodic antenna is used for the frequency range 30 MHz to 1 GHz. Horn antennas are used for frequency range 1 GHz to 40 GHz. The EUT is aligned within 3 dB beam width of the measurement antenna with three orthogonal axis measurements on the EUT

Schematic:



Testing method:

The measurement is made according to relevant reference clauses:
(See Tables *Summary of Test Results* and *Summary of Test Methods* on page 12)

See chapter Radiated Spurious Emission for Test method.

4.4.2 Measurement Location

Test site	120904 - FAC1 - Radiated Emissions
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4.4.3 Limit

Operation band	Frequency Range [MHz]	Limit [dBm]	Detector [MaxHold]	RBW / VBW [MHz]
LTE2	Below 1850 and above 1910	-13	Peak	0.03 / 0.3
LTE4	Below 1710 and above 1755	-13	Peak	0.03 / 0.3
LTE5	Below 824 and above 849	-13	Peak	0.02 / 0.2
LTE12	698.9 – 699.0 and 716.0 – 716.1 Below 698.9 and above 716.1	-13 (RBW = 30 kHz, VBW = 100 kHz) -13 (RBW = 100 kHz, VBW = 300 kHz)	Peak	0.03 / 0.3

4.4.4 Result

Diagram	Band	Mode	Edge [Low / High]	Value [dBm]	Result
9.201	2	CH_low_RB_1_low	Low	-29.575	Passed
9.202	2	CH_low_RB_full	Low	-34.783	Passed
9.203	2	CH_high_RB_1_low	High	-31.528	Passed
9.204	2	CH_high_RB_full	High	-33.664	Passed
9.401	4	CH_low_RB_1_low	Low	-26.87	Passed
9.402	4	CH_low_RB_full	Low	-28.82	Passed
9.403	4	CH_high_RB_1_low	High	-27.62	Passed
9.404	4	CH_high_RB_full	High	-29.08	Passed
9.501	5	CH_low_RB_1_low	Low	-33.115	Passed
9.502	5	CH_low_RB_full	Low	-36.129	Passed
9.503	5	CH_high_RB_1_low	High	-30.561	Passed
9.504	5	CH_high_RB_full	High	-31.314	Passed
9.1201	12	CH_low_RB_1_low	Low	-46.828	Passed
9.1202	12	CH_low_RB_full	Low	-43.364	Passed
9.1203	12	CH_high_RB_1_low	High	-32.11	Passed
9.1204	12	CH_high_RB_full	High	-33.99	Passed

Remark: for more information and graphical plot see annex 1 **23-1-0017601T027_TR1-A201-R03**

Remark: band-edge only performed on external antenna since internal is only used as backup and not used during normal operation.

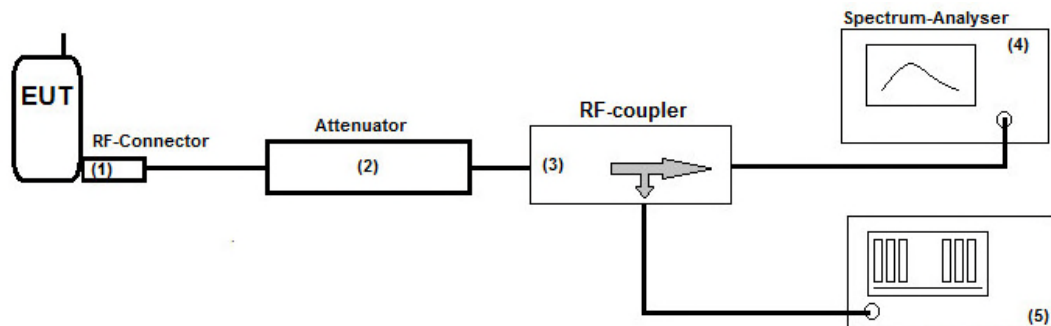
4.5 Conducted Band Edge

4.5.1 Description of the general test setup and methodology, see below example:

The EUT RF-Signal is connected over a suitable RF-connector, low-loss cable and RF-coupler and an attenuator (2) to the cellular radio communication test-unit. (5) and Spectrum Analyser (4).

The measurements were performed with a spectrum analyser. (4).

Schematic:



Testing method:

The measurement is made according to relevant reference clauses:

(See Tables *Summary of Test Results* and *Summary of Test Methods* on page Fehler! Textmarke nicht definiert.)

EUT settings

The EUT was instructed to send with maximum power (if adjustable) according applicants instructions.

The measurements were made at the low and high carrier frequencies.

4.5.2 Measurement Location

Test site	120910 - Radio Laboratory 1 (TS 8997)
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4.5.3 Limit

Operation band	Frequency Range [MHz]	Limit [dBm]	Detector [MaxHold]	RBW / VBW [MHz]
LTE7	2496 - 2499 2499 - 2500 2570 - 2571 2571 - 2575	-10 (RBW = 1 MHz, VBW = 3 MHz) -10 (RBW = 500 kHz, VBW = 2 MHz) -10 (RBW = 500 kHz, VBW = 2 MHz) -10 (RBW = 1 MHz, VBW = 3 MHz)	Peak	0.03 / 0.3
LTE13	776.9 - 777 and 787 - 787.1 Below 776.9 and above 787.1 763-775 and 793-805	-13 (RBW = 30 kHz, VBW = 100 kHz) -13 (RBW = 100 kHz, VBW = 300 kHz) -35 (RBW = 10 kHz, VBW = 30 kHz)	Peak	0.03 / 0.3
LTE17	703.9 - 704 and 716 - 716.1 Below 703.9 and above 716.1	-13 (RBW = 30 kHz, VBW = 100 kHz) -13 (RBW = 100 kHz, VBW = 300 kHz)	Peak	0.03 / 0.3

4.5.4 Result

Diagram	Band	Mode	Edge [Low / High]	Band Power Value [dBm]	Result
9.701	7	CH_low_RB_1_low	Low	-35.77	Passed
9.702	7	CH_low_RB_full	Low	-33.15	Passed
9.703	7	CH_high_RB_1_high	High	-38.35	Passed
9.704	7	CH_high_RB_full	High	-31.44	Passed
9.1301	13	CH_low_RB_1_low	Low	-31.79	Passed
9.1302	13	CH_low_RB_full	Low	-26.02	Passed
9.1303	13	CH_high_RB_1_high	High	-32.25	Passed
9.1304	13	CH_high_RB_full	High	-23.86	Passed
9.1701	17	CH_low_RB_1_low	Low	-35.91	Passed
9.1702	17	CH_low_RB_full	Low	-28.86	Passed
9.1703	17	CH_high_RB_1_high	High	-35.57	Passed
9.1704	17	CH_high_RB_full	High	-31.52	Passed

Remark: for more information and graphical plot see Annex 1 **23-1-0017601T027_TR1-A201-R03**

Remark: band-edge only performed on external antenna since internal is only used as backup and not used during normal operation.

4.6 Equipment lists

ID	Description	Manufacturer	SerNo	CheckType	Last Check	Interval	Next Check
	120901 - SAC3 - Radiated Emission <1GHz			calchk	cal: 2015-Jul-21 chk: 2021-Jul-27	cal: 10Y chk: 12M	cal: 2025-Jul-21 chk: 2022-Jul-27
20341	Digital Multimeter Fluke 112	Fluke Deutschland GmbH / Glottertal	81650455	cal	cal: 2024-May-13	cal: 24M	cal: 2026-May-13
20442	Semi Anechoic Chamber	ETS-Lindgren GmbH / Taufkirchen	without	cnn	cal: - chk: -	cal: - chk: -	cal: - chk: -
20482	filter matrix Filter matrix SAR 1	cetekom advanced GmbH / Essen	without	cnn	cal: - chk: -	cal: - chk: -	cal: - chk: -
20574	Biconilog Hybrid Antenna BTA-L	Frankonia GmbH / Heideck	980026L	cal	cal: 2022-Jun-15	cal: 36M	cal: 2025-Jun-15
20620	Test Receiver ESU26	Rohde & Schwarz Messgerätebau GmbH / Memmingen	100362	cal	cal: 2024-May-15	cal: 12M	cal: 2025-May-15
20885	Power Supply EA3632A	Agilent Technologies Deutschland GmbH	75305850	cnn	cal: - chk: -	cal: - chk: -	cal: - chk: -
25038	Loop Antenna HFH2-Z2	Rohde & Schwarz Messgerätebau GmbH / Memmingen	879824/13	cal	cal: 2022-Jul-04	cal: 24M	cal: 2024-Jul-04
	120904 - FAC1 - Radiated Emissions			chk	chk: 2023-Aug-22	chk: 12M	chk: 2024-Aug-22
20020	Horn Antenna 3115 (Subst 1)	EMCO Elektronik GmbH	9107-3699	calchk	cal: 2021-Aug-17 chk: 2013-Apr-20	cal: 36M chk: 12M	cal: 2024-Aug-17
20066	Notch Filter WRCT 1900/2200-5/40-10EEK	Wainwright Instruments GmbH	5	chk	chk: 2023-Aug-22	chk: 12M	chk: 2024-Aug-22
20121	Notch Filter WRCB 1879,5/1880,5EE	Wainwright Instruments GmbH	15	chk	chk: 2023-Aug-22	chk: 12M	chk: 2024-Aug-22
20122	Notch Filter WRCB 1747/1748	Wainwright Instruments GmbH / Andechs	12	chk	chk: 2023-Aug-22	chk: 12M	chk: 2024-Aug-22
20254	High Pass Filter SHC 2600/12750-1.5KK	Trilithic	23042	chk	chk: 2023-Aug-22	chk: 12M	chk: 2024-Aug-22
20287	Pre-Amplifier 25MHz - 4GHz AMF-2D-100M4G-35-10P	Miteq Inc.	379418	chk	chk: 2023-Aug-22	chk: 12M	chk: 2024-Aug-22
20290	Notch Filter WRCA 901,9/903,15S	Wainwright Instruments GmbH	3RR	chk	chk: 2023-Aug-22	chk: 12M	chk: 2024-Aug-22
20291	High Pass Filter WHJ 2200-4EE	Wainwright Instruments GmbH	14	chk	chk: 2023-Aug-22	chk: 12M	chk: 2024-Aug-22
20338	Pre-Amplifier 100MHz - 26GHz JS4-00102600-38-5P	Miteq Inc.	838697	chk	chk: 2023-Aug-22	chk: 12M	chk: 2024-Aug-22
20448	Notch Filter WRCT 1850.0/2170.0-5/40-105SK	Wainwright Instruments GmbH	5	chk	chk: 2023-Aug-22	chk: 12M	chk: 2024-Aug-22
20449	Notch Filter WRCT 824.0/894.0-5/40-85SK	Wainwright Instruments GmbH	1	chk	chk: 2023-Aug-22	chk: 12M	chk: 2024-Aug-22
20484	Pre-Amplifier 2,5GHz - 18GHz AMF-5D-02501800-25-10P	Miteq Inc.	1244554	chk	chk: 2023-Aug-22	chk: 12M	chk: 2024-Aug-22
20489	Test Receiver ESU40	Rohde & Schwarz Messgerätebau GmbH / Memmingen	100030	cal	cal: 2024-May-15	cal: 12M	cal: 2025-May-15
20512	Notch Filter WRCA 800/960-02/40-6EEK (GSM 850)	Wainwright Instruments GmbH	24	chk	chk: 2023-Aug-22	chk: 12M	chk: 2024-Aug-22
20549	Log. Per. Antenna HL025	Rohde & Schwarz Messgerätebau GmbH	1000060	calchk	cal: 2021-Aug-18	cal: 36M chk: 12M	cal: 2024-Aug-18
20558	Fully Anechoic Chamber 1	ETS-Lindgren GmbH / Taufkirchen	-	cnn	cal: - chk: -	cal: - chk: -	cal: - chk: -
20608	Ultrabroadband-Antenna HL562	Rohde & Schwarz Messgerätebau GmbH / Memmingen	830547/009	cal	cal: 2023-Jul-04	cal: 36M	cal: 2026-Jul-04
20611	Power Supply E3632A	Agilent Technologies Deutschland GmbH	KR 75305854	cpu			
20690	Spectrum Analyzer FSU	Rohde & Schwarz Messgerätebau GmbH / Memmingen	100302/026	cal	cal: 2023-May-25	cal: 24M	cal: 2025-May-25
20720	Measurement Software EMC32 [FAC]	Rohde & Schwarz Messgerätebau GmbH	V10.xx	cnn	cal: - chk: -	cal: - chk: -	cal: - chk: -
20868	High Pass Filter AFH-07000	AtlanTecRF	16071300004	chk	chk: 2023-Aug-22	chk: 12M	chk: 2024-Aug-22
20883	Open Switch and control Platform OSP-B20052 Satellite	Rohde & Schwarz Messgerätebau GmbH / Memmingen	101432	chk	chk: 2023-Aug-22	chk: 12M	chk: 2024-Aug-22
20884	Open Switch and control Platform OSP320	Rohde & Schwarz Messgerätebau GmbH / Memmingen	101391	chk	chk: 2023-Aug-22	chk: 12M	chk: 2024-Aug-22
	120907 - FAC2 - Radiated Emissions			chk	chk: 2024-Mar-15	chk: 12M	chk: 2025-Mar-15
20005	AC - LISN 50 Ohm/50µH ESH2-Z5	Rohde & Schwarz Messgerätebau GmbH / Memmingen	861741/005	cal	cal: 2024-May-16	cal: 12M	cal: 2025-May-16
20133	Horn Antenna 3115 (Meas 1)	EMCO Elektronik GmbH / Gilching	9012-3629	cal	cal: 2023-May-22	cal: 36M	cal: 2026-May-22
20302	Horn Antenna BBHA9170 (Meas 1)	Schwarzbeck Mess-Elektronik OHG / Schönaun	155	cpu	chk: 2020-Apr-15	chk: 12M	
20412	Fully Anechoic Chamber 2	ETS-Lindgren GmbH / Taufkirchen	without	chk	chk: 2023-Apr-14	chk: 12M	chk: 2024-Apr-14
20729	FS-Z140	Rohde & Schwarz Messgerätebau GmbH / Memmingen	101004	cal	cal: 2023-Jun-16	cal: 36M	cal: 2026-Jun-16
20730	FS-Z110	Rohde & Schwarz Messgerätebau GmbH / Memmingen	101468	cal	cal: 2023-Jun-02	cal: 36M	cal: 2026-Jun-02
20731	FS-Z75	Rohde & Schwarz Messgerätebau GmbH / Memmingen	101022	cal	cal: 2022-May-18	cal: 36M	cal: 2025-May-18
20733	Harmonic Mixer FS-2220	RPG-Radiometer Physics GmbH / Meckenheim	101009	cal	cal: 2024-May-24	cal: 36M	cal: 2027-May-24
20734	Harmonic Mixer FS-2325	RPG-Radiometer Physics GmbH / Meckenheim	101005	cal	cal: 2024-May-24	cal: 36M	cal: 2027-May-24
20765	Pickett-Potter Horn Antenna FH-PP 40-60	RPG-Radiometer Physics GmbH / Meckenheim	010001	chk	chk: 2023-Oct-20	chk: 12M	chk: 2024-Oct-20
20767	Pickett-Potter Horn Antenna FH-PP 140-220	RPG-Radiometer Physics GmbH / Meckenheim	010011	chk	chk: 2023-Oct-20	chk: 12M	chk: 2024-Oct-20
20811	Horn Antenna ASY-SGH-124-SMA	Antenna Systems Solutions S.L	29F14182337	cal	cal: 2021-Oct-20	cal: 36M	cal: 2024-Oct-20
20812	Pickett-Potter Horn Antenna FH-PP-325	RPG-Radiometer Physics GmbH / Meckenheim	10024	chk	chk: 2023-Oct-20	chk: 12M	chk: 2024-Oct-20
20813	Pickett-Potter Horn Antenna FH-PP 075	RPG-Radiometer Physics GmbH / Meckenheim	10006	chk	chk: 2023-Oct-20	chk: 12M	chk: 2024-Oct-20

ID	Description	Manufacturer	SerNo	CheckType	Last Check	Interval	Next Check
20814	Pickett-Potter Horn Antenna FH-PP 140	RPG-Radiometer Physics GmbH / Meckenheim	10008	chk	chk: 2023-Oct-20	chk: 12M	chk: 2024-Oct-20
20815	Pickett-Potter Horn Antenna FH-PP 110	RPG-Radiometer Physics GmbH / Meckenheim	10014	chk	chk: 2023-Oct-20	chk: 12M	chk: 2024-Oct-20
20816	SGH Antenna SGH-26-WR10	Anteral S.L.	1144	cnn	cal: - chk: -	cal: - chk: -	cal: - chk: -
20817	Waveguide Rectangular Horn Antenna SAR-2309-22-S2	ERAVANT / Torrance	13254-01	chk	chk: 2023-Oct-20	chk: 12M	chk: 2024-Oct-20
20836	1-18 GHz Amplifier	Wright Technologies, Inc. / Roseville	0001	chk		chk: 36M	
20907	Waveguide WR-15 attenuator STA-30-15-M2	SAGE Millimeter Inc.	13256-01	cnn	cal: - chk: -	cal: - chk: -	cal: - chk: -
20908	Waveguide WR 10 attenuator STA-30-10-M2	SAGE Millimeter Inc.	13256-01	cnn	cal: - chk: -	cal: - chk: -	cal: - chk: -
20909	Waveguide Horn Antenna PE9881-24	Pasternack Enterprises, Inc.	37/2016	cnn	cal: - chk: -	cal: - chk: -	cal: - chk: -
20910	Frequency Multiplier 936VF-10/385	MI-Wave, Millimeter Wave Products Inc.	142	cnn	cal: - chk: -	cal: - chk: -	cal: - chk: -
20911	Frequency Multiplier 938WF-10/387	MI-Wave, Millimeter Wave Products Inc.	141	cnn	cal: - chk: -	cal: - chk: -	cal: - chk: -
20913	Phase Amplitude Stable Cable Assembly DC-40GHz	RF-Lambda Europe GmbH	AC19040001	cnn	cal: - chk: -	cal: - chk: -	cal: - chk: -
25457	DRG Horn Antenna SAS-574	A.H. Systems, Inc. / Chatsworth	383	cal	cal: 2022-Mar-28	cal: 36M	cal: 2025-Mar-28
	120910 - Radio Laboratory 1 (TS 8997)			chk	chk: 2023-Jul-10	chk: 12M	chk: 2024-Jul-10
20559	Vector Signal Generator SMU200A	Rohde & Schwarz Messgerätebau GmbH / Memmingen	103736	cal	cal: 2023-May-25	cal: 24M	cal: 2025-May-25
20691	Open Switch and control Platform OSP157W 8 Port Plus	Rohde & Schwarz Messgerätebau GmbH / Memmingen	100950	cal	cal: 2023-Jun-30	cal: 36M	cal: 2026-Jun-30
20805	Open Switch and control Platform OSP B157WX 40GHz 8Port Switch	Rohde & Schwarz Messgerätebau GmbH / Memmingen	101264	cal	cal: 2023-May-26	cal: 36M	cal: 2026-May-26
20866	Signal Analyzer FSV3030	Rohde & Schwarz Messgerätebau GmbH / Memmingen	101247	cal	cal: 2023-Jun-14	cal: 12M	cal: 2024-Jun-14
20871	NRP-Z81	Rohde & Schwarz Messgerätebau GmbH / Memmingen	104631	cal	cal: 2024-May-15	cal: 12M	cal: 2025-May-15
20872	NRX Power Meter	Rohde & Schwarz Messgerätebau GmbH / Memmingen	101831	cal	cal: 2024-May-14	cal: 24M	cal: 2026-May-14
20904	Climatic Chamber ClimeEvent C/1000/70a/5	Weiss Umwelttechnik GmbH / Reiskirchen-Lindenstruth	58226223240010	cal	cal: 2022-Nov-29	cal: 24M	cal: 2024-Nov-29
20927	Signal Generator SMF 100A	Rohde & Schwarz Messgerätebau GmbH / Memmingen	102109	cal	cal: 2022-May-19	cal: 36M	cal: 2025-May-19
20902	Wideband Radio Communication Tester CMW500	Rohde & Schwarz Messgerätebau GmbH / Memmingen	168880	cal	cal: 2023-Jun-02	cal: 12M	cal: 2024-Jun-02

Tools used in 'P1M1'

4.6.1 Legend

Note / remarks	Interval of calibration & Verification
12M	12 months
24M	24 months
36M	36 months
10Y	10 Years

Abbreviation Check Type	Description
cnn	Calibration and verification not necessary
cal	Calibration
calchk	Calibration plus intermediate Verification
chk	Verification
cpu	Verification before usage

5 Results from external laboratory

None

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6 Opinions and interpretations

None

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7 List of abbreviations

None

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8 Measurement Uncertainty valid for conducted/radiated measurements

The reported uncertainties are calculated based on the standard uncertainty multiplied with the appropriate coverage factor **k**, such that a confidence level of approximately 95% is achieved. For uncertainty determination, each component used in the concrete measurement set-up was taken in account and its contribution to the overall uncertainty according its statistical distribution calculated.

Issue No.	Measurement type	Reference	Frequency range of measurement		Calculated Uncertainty based on confidence level of 95.54%	Remarks
			Start [MHz]	Stop [MHz]		
1	Magnetic Field Strength	EN ,FCC, JP, IC	0.009	30	4.86	Magnetic loop antenna, Pre-Amp on
2	RF-Output Power (EIRP) Unwanted emissions (EIRP) [dB]	EN, FCC, JP, IC	30	100	4.57	without Pre-Amp
			30	100	4.91	with Pre-Amp
			100	1000	4.02	without Pre-Amp
			100	1000	4.26	with Pre-Amp
			1000	18000	4.36	without Pre-Amp
			1000	18000	5.23	with Pre-Amp
			18000	33000	4.92	Schwarzbeck BBHA9170 (#20302) Antenna set-up non-waveguide antenna)
			33000	50000	4.17	Set-up for Q-Band (WR-22), non-wave guide antenna
			40000	60000	4.69	Set-up U-Band (WR-19), non-waveguide antenna
			50000	75000	4.06	External Mixer set-up V-Band (WR-15)
			75000	110000	4.17	External Mixer set-up W-Band (WR-6)
			90000	140000	5.49	External Mixer set-up F-Band (WR-8)
			140000	225000	6.22	External Mixer set-up G-Band (WR-5)
			225000	325000	7.04	External Mixer set-up (WR-3)
			325000	500000	8.84	External Mixer set-up (WR-2.2)
3	Radiated Blocking [dB]	EN	1000	18000	2.85	Typical set-up with microwave generator and antenna, value for 7 GHz calculated
			18000	33000	4.66	Typical set-up with microwave generator and antenna
			33000	50000	3.48	WR-22 set-up
			50000	75000	3.73	WR-15 set-up
			75000	110000	4.26	WR-6 set-up
4	Frequency Error / UWB+FMCW [kHz]	EN, FCC, JP, ISCED	40000	77000	276.19	calculated for 77 GHz (FMCW) carrier
	Frequency Error / NFC [Hz]	EN, FCC, JP, ISCED	6000	7000	33.92	calculated for 6.5 GHz UWB Ch.5
			11.00	14.00	20.76	calculated for 13.56 MHz NFC carrier
5	TS 8997 Conducted Parameters	FCC15/18 / ISCED	30	6000	1.11	1. Power measurement with Fast-sampling-detector
			30	6000	1.20	2. Power measurement with Spectrum-Analyzer
			30	6000	1.20	3. Power Spectrum-Density measurement
			30	7500	1.20	4. Conducted Spurious emissions
			0.009	30	2.56	5. Conducted Spurious emissions
			2.4	2.48	1.95 ppm	6a. Bandwidth / 2-Marker Method for 2.4 GHz ISM
			5.18	5.825	7.180 ppm	6b. Bandwidth / 2-Marker Method for 5 GHz WLAN
			5.18	5.825	1.099 ppm	7. Frequency (Marker method) for 5 GHz WLAN
			30	6000	0.11561 µs	8. Medium-Utilization factor / Timing
			30	6000	1.85	9a. Blocking-Level of companion device
			30	6000	1.62	9b. Blocking Generator level
6	Conducted Emissions	EN, FCC	0.009	30	3.57	general EMI-measurements on AC/DC ports

9 Versions of test reports (change history)

Version	Applied changes	Date of release
R01	Initial release	2024-Sep-18
R02	Correction of HVIN, PMN and FVIN	2024-Oct-02
R03	Correction of PMN and ISED-Regulations updated	2024-Oct-11
R04	Corrected typos in power tables in chapter 4.1.4 and 4.1.5 Added chapter 4.1.4 with internal antenna results	2024-Oct-30

End Of Test Report