

PARTIAL Test Report

23-1-0014801T031_TR1-R02

Number of pages:	60	Date of Report:	2024-Oct-21
Testing company:	cetecom advanced GmbH Untertuerkheimer Str. 6-10 66117 Saarbruecken GERMANY	Applicant:	VALEO Telematik und Akustik GmbH
Product:	Antenna and Remote Telematics Integrated System		
Model:	ARTEMIS-NAR-01		
FCC ID:	QWY-ARTEMIS-NAR01	IC:	6588A-ARTEMISNAR1
		PMN:	ARTEMIS-NAR-01
		HVIN:	ARTEMIS-NAR-01
		FVIN:	E20 R550
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 2 GHz Personal Communications Services RSS-139, Issue 4 Advanced Wireless Services Equipment Operating in the Bands 1710-1780 MHz and 2110-2200 MHz RSS-140, Issue 1 Equipment Operating in the Public Safety Broadband Frequency Bands 758-768 MHz and 788-798 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 23-1-0014801T031_TR1-R02 replaces the test report 23-1-0014801T031_TR1-R01 dated 2024-Jul-16. 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	25	-	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	50	-	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	43	-	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	47	-	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	25	-	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	50	-	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	43	-	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	47	-	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 LTE5 band	Reference Clause FCC	Reference Clause ISED	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	25	-	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)	50	-	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	43	-	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)	47	-	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	25	-	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	50	-	PASSED
Conducted RF Band Edge	§27.53(m)(4), §2.1051, §2.1057(a)	RSS-199, Issue 4: §5.6	-	-	NP
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	43	-	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	47	-	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	25	-	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	50	-	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	43	-	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	47	-	PASSED
Frequency stability, temperature variation	§27.54, §2.1055(a)(1)	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	25	-	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	50	-	PASSED
Conducted RF Band Edge	§27.53(c)(3)(4), §2.1051, §2.1057(a)	RSS-130, Issue 2: §4.7.1	-	-	NP
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	43	-	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	47	-	FAILED
Frequency stability, temperature variation	§27.54, §2.1055(a)(1)	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 LTE14 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	§90.542(a)(7), §2.1046	RSS-140, Issue 1: §4.3	25	-	PASSED
Radiated RF output power	§90.542(a)(7), §2.1046	RSS-140, Issue 1: §4.3	-	-	NP
Emission Mask	§90.210(n), §2.1051	RSS-Gen, Issue 5: §6.7	-	-	NP
Occupied Channel Bandwidth 99%	§2.1049	RSS-Gen, Issue 5: §6.7	-	-	NP
Radiated Band Edge	§90.543(f), §90.543(e), §2.1053	RSS-140, Issue 1: §4.4	50	-	PASSED
Conducted RF Band Edge	§90.534(e)(2)(3), §2.1053	RSS-140, Issue 1: §4.4	-	-	NP
Peak to Average ratio (PAPR)	§2.1046	RSS-140: Issue 1: §4.3	-	-	NP
Radiated field strength emissions below 30 MHz	§15.205, §15.209	RSS-140, Issue 1: §4.4	43	-	PASSED
Spurious emissions at antenna terminals	§90.534(e)(3), §2.1053	RSS-140, Issue 1: §4.4	-	-	NP
Radiated spurious emissions	§90.543(f), §90.543(e)(3), §2.1053	RSS-Gen, Issue 5: §6.13 RSS-140, Issue 1: §4.4	47	-	FAILED
Frequency stability, temperature variation	§90.539(e), §2.1055(a)(1)	RSS-Gen, Issue 5: §6.11 RSS-140, Issue 1: §4.2	-	-	NP
Frequency stability, voltage variation	§90.539(e), §2.1055(d)(1)	RSS-Gen, Issue 5: §6.11 RSS-140, Issue 1: §4.2	-	-	NP

Test case in LTE17 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	25	-	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	50	-	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	43	-	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	47	-	FAILED
Frequency stability, temperature variation	§27.54, §2.1055(a)(1)	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

Test case in LTE25 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	25	-	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	-	-	NP
Conducted RF Band Edge	§24.238(a)(b), §2.1051	RSS-133, Issue 7: §5.6	50	-	PASSED
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	43	-	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	47	-	FAILED
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 LTE26 band	Reference Clause FCC	Reference Clause ISCED	Page	Remark	Result
AC-Power Lines Conducted Emissions	§15.207(a)	-	-	-	N/A
Conducted RF output power	§22.913(a)(5), §90.635(b), §2.1046	-	25	-	PASSED
Radiated RF output power	§22.913, §90.635(b), §2.1046	-	-	-	NP
26dB Emission bandwidth	§22.917(b), §2.1049	-	-	-	NP
Occupied Channel Bandwidth 99%	§22.917(b), §2.1049	-	-	-	NP
Radiated Band Edge	§22.917(a)(b), §90.691(1)(2), §2.1053, §2.1057(a)	-	50	-	NP
Conducted RF Band Edge	§22.917(a)(b), §90.691, §2.1051, §2.1057(a)	-	50	-	PASSED
Emission Mask	§90.691	-	-	-	NP
Peak to Average ratio (PAPR)	§22.913(d), §90.635(b), §2.1046	-	-	-	NP
Radiated field strength emissions below 30 MHz	§15.205, §15.209	-	43	-	PASSED
Spurious emissions at antenna terminals	§22.917(a)(b), §90.691, §90.543(e)(3), §2.1051, §2.1057	-	-	-	NP
Radiated spurious emissions	§22.917(a)(b), §90.691, §90.543(e)(3), §2.1053, §2.1057	-	47	-	FAILED
Frequency stability, temperature variation	§22.355, §90.213, §2.1055(a)(1)	-	-	-	NP
Frequency stability, voltage variation	§22.355, §90.213, §2.1055(d)(1)	-	-	-	NP

Test case in LTE41 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(h)(2), §2.1046	RSS-199, Issue 3:§4.4 + SRSP 517, RSS-Gen, Issue 5:§6.12	25	-	PASSED
Radiated RF output power	§27.50(h)(2), §2.1046	RSS-199, Issue 3:§4.4 + SRSP 517, RSS-Gen, Issue 5:§6.12	-	-	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), §2.1049	RSS-Gen, Issue 5:§6.7	-	-	NP
Radiated Band Edge	§27.53(m)(4), §2.1053, §2.1057(a)	RSS-199, Issue 3: §4.5, RSS-Gen, Issue 5:§6.13	50	-	PASSED
Conducted RF Band Edge	§27.53(m)(4), §2.1051, §2.1057(a)	RSS-199, Issue 3: §4.5, RSS-Gen, Issue 5:§6.13	-	-	NP
Peak to Average ratio (PAPR)	§27.50(h)(2), §2.1046	RSS-199, Issue 3: §4.5	-	-	NP
Radiated field strength emissions below 30 MHz	§15.205, §15.209	RSS-Gen: Issue 5: §8.9 Table 6	43	-	PASSED
Spurious emissions at antenna terminals	§27.53(m)(4), §2.1051, §2.1057(a)	RSS-199, Issue 3: §4.5, RSS-Gen, Issue 5:§6.13	-	-	NP
Radiated spurious emissions	§27.53(m)(4), §2.1053, §2.1057(a)	RSS-199, Issue 3: §4.5, RSS-Gen, Issue 5:§6.13	47	-	FAILED
Frequency stability, temperature variation	§27.54, §2.1055(a)(1)	RSS-199, Issue 3: §4.3, RSS-Gen, Issue 5:§6.11	-	-	NP
Frequency stability, voltage variation	§27.54, §2.1055(d)(1)	RSS-199, Issue 3: §4.3, RSS-Gen, Issue 5:§6.11	-	-	NP

Test case in LTE66 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	25	-	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	50	-	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	43	-	PASSED
Spurious emissions at antenna terminals	§27.53(h), §2.1051, §2.1057(a)	RSS-139, Issue 4: 5.6	-	-	NP
Radiated spurious emissions	§27.53(h), §2.1053, §2.1057(a)	RSS-139, Issue 4: 5.6	47	-	FAILED
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 LTE71 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, RSS-Gen, Issue 5:§6.12	25	-	PASSED
Radiated RF output power	§27.50(c)(10), §2.1046	RSS-130, Issue 2: §4.6.1/ §4.6.3, RSS-Gen, Issue 5:§6.12	-	-	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, RSS-Gen, Issue 5:§6.7	-	-	NP
Radiated Band Edge	§27.53(g), §2.1053, §2.1057(a)	RSS-130, Issue 2:§4.7.1, RSS-Gen, Issue 5:§6.13	50	-	PASSED
Conducted RF Band Edge	§27.53(g), §2.1053(a), §2.1057(a)	RSS-130, Issue 2:§4.7.1, RSS-Gen, Issue 5:§6.13	-	-	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 Table 6	43	-	PASSED
Spurious emissions at antenna terminals	§27.53(g), §2.1051, §2.1057(a)	RSS-130, Issue 2:§4.7.1, RSS-Gen, Issue 5:§6.13	-	-	NP
Radiated spurious emissions	§27.53(g), §2.1053(a) §2.1057(1)	RSS-130, Issue 2:§4.7.1, RSS-Gen, Issue 5:§6.13	47	-	FAILED
Frequency stability, temperature variation	§27.54, §2.1055(a)(1)	RSS-130, Issue 2:§4.5, RSS-Gen, Issue 5:§6.11	-	-	NP
Frequency stability, voltage variation	§27.54, §2.1055(d)(1)	RSS-130, Issue 2:§4.5, RSS-Gen, Issue 5:§6.11	-	-	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 “FG370621-01A issued on 2023-Dec-01 and CG370621-01A issued on 2023-Dec-25 by Sporton International Inc. EMC & Wireless Communications Laboratory” 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, ANSI C63.26.1:2018

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-Oct-31
Date(s) of test:	2023-Nov-21 to 2024-Feb-27
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 Germany

2.7 Equipment under Test (EUT)

EUT No.*)	Sample No.	Product	Model	Type	SN	HW	SW
EUT 1	23-1-00148S177_C01	Antenna and Remote Telematics Integrated System	ARTEMIS-NAR-01	-	AT10NAFH24000000052	D4	E20 R550
EUT 2	23-1-00148S178_C01	Antenna and Remote Telematics Integrated System	ARTEMIS-NAR-01	-	AT10NAFH24000000051	D4	E20 R550

*) 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	23-1-00148S22_C01	Ethernet/USB Adapter	N/A	N/A	N/A	N/A
AE 2	23-1-00148S24_C01	Media Converter BCM	100Base-T1 Media Converter BCM	230230153	N/A	N/A
AE 3	23-1-00148S55_C01	Car roof	N/A	N/A	N/A	N/A
AE 4	23-1-00148S59_C01	EMC Load Box	N/A	N/A	N/A	N/A
AE 5	23-1-00148S63_C01	Evaluation KIT	VA6003	71012229012	N/A	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	23-1-00148S28_C01	Power cable	-	150 cm
CAB 2	23-1-00148S60_C01	EMC cable harness	-	150 cm
CAB 3	23-1-00148S70_C01	Cable	SMA / UFL	15 cm
CAB 4	23-1-00148S27_C01	LAN 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
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*) 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
1	EUT 1 + AE 1 + AE 2 + AE 3 + AE 4 + AE 5 + CAB 2 + CAB 4	Used for radiated measurements
2	EUT 2 + CAB 1 + CAB 3	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
Operating mode 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
Operating mode 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
Operating mode 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
Operating mode 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
Operating mode 5	LTE FDD Band 12 Traffic	Frequency / channel range: UL: 699 to 23179 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
Operating mode 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

Operating mode 7	LTE FDD Band 14 Traffic	Frequency / channel range: UL: 788 to 798 MHz, DL: 758 to 768 MHz / Channel: UL: 23280 to 23379, DL: 5280 to 5379. A Communication link has been established between Wideband Radio Communication Tester CMW500 and EUT
Operating mode 8	LTE FDD Band 17 Traffic	Frequency / channel range: UL: 704 to 716 MHz, DL: 734 to 746 MHz / Channel: UL: 23730 to 23849, DL: 5730 to 5849. A Communication link has been established between Wideband Radio Communication Tester CMW500 and EUT
Operating mode 9	LTE FDD Band 25 Traffic	Frequency / channel range: UL: 1850 to 1915 MHz, DL: 1930 to 1995 MHz / Channel: UL: 26040 to 26689, DL: 8040 to 8689. A Communication link has been established between Wideband Radio Communication Tester CMW500 and EUT
Operating mode 10	LTE FDD Band 26 Traffic	Frequency / channel range: UL: 814 to 849 MHz, DL: 859 to 894 MHz / Channel: UL: 26690 to 27039, DL: 8690 to 9039. A Communication link has been established between Wideband Radio Communication Tester CMW500 and EUT
Operating mode 11	LTE TDD Band 41 Traffic	Frequency / channel range: 2496 to 2690 MHz Channel: 39650 to 41589 A Communication link has been established between Wideband Radio Communication Tester CMW500 and EUT
Operating mode 12	LTE FDD Band 66 Traffic	Frequency / channel range: UL: 1710 to 1780 MHz, DL: 2110 to 2200 MHz / Channel: UL: 131972 to 132671, DL: 66436 to 67335. A Communication link has been established between Wideband Radio Communication Tester CMW500 and EUT
Operating mode 13	LTE FDD Band 71 Traffic	Frequency / channel range: UL: 663 to 698 MHz, DL: 617 to 652 MHz / Channel: UL: 133122 to 133471, DL: 68586 to 68935. 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} = -35 °C	T _{max} = +75 °C
EUT sample type	Engineering Samples		
Weight	0.860 kg		
Size [LxWxH]	61.0 cm x 11.0 cm x 4.5 cm		
Interfaces/Ports	2x Fakra, 2x MQS, 1x MateNet		
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), 2625 - 2685 (DL)	UARFCN range 23010 - 23179
	☒ LTE 13	782 - 782 (UL), 751 - 751 (DL)	UARFCN range 23205 - 23230
	☒ LTE 14	788 - 798 (UL), 758 - 768 (DL)	UARFCN range 23280 - 23379
	☒ 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
	☒ LTE 71	663 - 698 (UL), 617 - 652 (DL)	UARFCN range 133122 - 133471
Antenna Type	☒ Integrated ☐ External, no RF- connector ☐ External, separate RF-connector		
Antenna gain	LTE band 2: 9.5 dBi		LTE band 17: 5 dBi
	LTE band 4: 9.5 dBi		LTE band 25: 9.5 dBi
	LTE band 5: 5 dBi		LTE band 26: 5 dBi
	LTE band 7: 9.5 dBi		LTE band 28: - dBi
	LTE band 12: 5 dBi		LTE band 41: 9.5 dBi
	LTE band 13: 5 dBi		LTE band 66: 9.5 dBi
	LTE band 14: 5 dBi		LTE band 71: 5 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
ARTEMIS_Tune-up-information_Rev_1.4		1.4	23

3.3 Worst case identification

LTE mode	Data rate
LTE FDD 2	BW 3 MHz; ch Low 1851.5 MHz; 1RBlow; QPSK
LTE FDD 4	BW 10 MHz; ch Mid 1732.5 MHz; 1RBlow; QPSK
LTE FDD 5	BW 10 MHz; ch Low 829 MHz; 1RBlow; QPSK
LTE FDD 7	BW 5 MHz; ch Low 2502.5 MHz; 1RBhigh; QPSK
LTE FDD 12	BW 10 MHz; ch High 711 MHz; 1RBlow; QPSK
LTE FDD 13	BW 10 MHz; ch High 782 MHz; 1RBhigh; QPSK
LTE FDD 14	BW 10 MHz; ch High 793 MHz; 1RBlow; QPSK
LTE FDD 17	BW 10 MHz; ch High 711 MHz; 1RBhigh; QPSK
LTE FDD 25	BW 5 MHz; ch Low 1852.5 MHz; 1RBhigh; QPSK
LTE FDD 26	BW 3 MHz; ch Mid 831.5 MHz; 1RBlow; QPSK
LTE TDD 41	BW 20 MHz; ch High 2680 MHz; 1RBhigh; QPSK
LTE FDD 66	BW 3 MHz; ch High 1778.5 MHz; 1RBhigh; QPSK
LTE FDD 71	BW 5 MHz; ch Low 668 MHz; 1RBlow; QPSK

3.4 Modifications on Test sample

Additions/deviations or exclusions	--
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4 Measurements

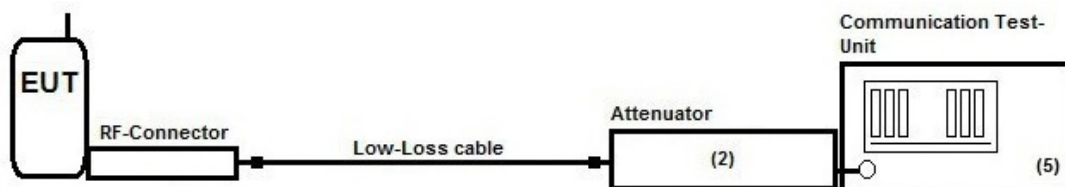
4.1 Conducted RF output power

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 18)

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)
LTE25	1850 - 1915	2 EIRP (33 dBm)	2 EIRP (33 dBm)
LTE26 (Part 22)	824 - 848.9	7 ERP (38.5 dBm)	11.5 ERP (40.6 dBm)
LTE26 (Part 90)	814 - 824	100 ERP (50 dBm)	x
LTE41	2496 - 2690	2 EIRP (33 dBm)	2 EIRP (33 dBm)
LTE66	1710 - 1780	1 EIRP (30dBm)	1 EIRP (30dBm)

BW 20 MHz	18700	1860.00	QPSK	1	0	21.98	9.50	3.40	28.08	0.64269	25.93	0.39174	2.00	33.01	2.00	33.01	Passed	
				1	99	21.90	9.50	3.40	28.00	0.63096	25.85	0.38459	2.00	33.01	2.00	33.01	Passed	
				50	0	21.19	9.50	3.40	27.29	0.53580	25.14	0.32659	2.00	33.01	2.00	33.01	Passed	
				50	49	21.11	9.50	3.40	27.21	0.52602	25.06	0.32063	2.00	33.01	2.00	33.01	Passed	
	100	0	21.15	9.50	3.40	27.25	0.53088	25.10	0.32359	2.00	33.01	2.00	33.01	Passed				
	18900	1800.00	QPSK	1	0	21.80	9.50	3.40	27.90	0.61660	25.75	0.37584	2.00	33.01	2.00	33.01	Passed	
				1	99	21.76	9.50	3.40	27.86	0.61094	25.71	0.37239	2.00	33.01	2.00	33.01	Passed	
				50	0	21.01	9.50	3.40	27.11	0.51404	24.96	0.31333	2.00	33.01	2.00	33.01	Passed	
				50	49	21.02	9.50	3.40	27.12	0.51523	24.97	0.31405	2.00	33.01	2.00	33.01	Passed	
	19100	1900.00	QPSK	100	0	21.04	9.50	3.40	27.14	0.51761	24.99	0.31550	2.00	33.01	2.00	33.01	Passed	
				1	0	21.93	9.50	3.40	28.03	0.63533	25.88	0.38726	2.00	33.01	2.00	33.01	Passed	
				1	99	21.86	9.50	3.40	27.96	0.62517	25.81	0.38107	2.00	33.01	2.00	33.01	Passed	
				50	0	20.93	9.50	3.40	27.03	0.50466	24.88	0.30761	2.00	33.01	2.00	33.01	Passed	
					50	49	21.08	9.50	3.40	27.18	0.52240	25.03	0.31842	2.00	33.01	2.00	33.01	Passed
					100	0	20.94	9.50	3.40	27.04	0.50582	24.89	0.30832	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																		

BW 20 MHz	20050	1720.00	QPSK	1	0	22.17	9.50	3.50	28.17	0.65615	26.02	0.39994	1.00	30.00	1.00	30.00	Passed
				1	99	21.26	9.50	3.50	27.26	0.53211	25.11	0.32434	1.00	30.00	1.00	30.00	Passed
				50	0	21.23	9.50	3.50	27.23	0.52845	25.08	0.32211	1.00	30.00	1.00	30.00	Passed
				50	49	21.33	9.50	3.50	27.33	0.54075	25.18	0.32961	1.00	30.00	1.00	30.00	Passed
	100	0	22.10	9.50	3.50	28.10	0.64565	25.95	0.39355	1.00	30.00	1.00	30.00	Passed			
	20175	1732.50	QPSK	1	0	22.23	9.50	3.50	28.23	0.66527	26.08	0.40551	1.00	30.00	1.00	30.00	Passed
				1	99	21.41	9.50	3.50	27.41	0.55081	25.26	0.33574	1.00	30.00	1.00	30.00	Passed
				50	0	21.27	9.50	3.50	27.27	0.53333	25.12	0.32509	1.00	30.00	1.00	30.00	Passed
				50	49	21.38	9.50	3.50	27.38	0.54702	25.23	0.33343	1.00	30.00	1.00	30.00	Passed
	100	0	22.37	9.50	3.50	28.37	0.68707	26.22	0.41879	1.00	30.00	1.00	30.00	Passed			
	20300	1745.00	QPSK	1	0	22.13	9.50	3.50	28.13	0.65013	25.98	0.39628	1.00	30.00	1.00	30.00	Passed
				1	99	21.44	9.50	3.50	27.44	0.55463	25.29	0.33806	1.00	30.00	1.00	30.00	Passed
50				49	21.37	9.50	3.50	27.37	0.54576	25.22	0.33266	1.00	30.00	1.00	30.00	Passed	
100				0	21.44	9.50	3.50	27.44	0.55463	25.29	0.33806	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 12																			
	Channel Nr.	ARFCN-Frequency (MHz)	Modulation	RB	Start RB	RMS Power at Antenna Port (dBm)	Maximum declared Antenna Gain(dBi)	Path loss to Antenna Connector	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	22.27	5.00	4.70	22.57	0.18072	20.42	0.11015	3.00	34.77	3.00	34.77	Passed		
				1	5	22.29	5.00	4.70	22.59	0.18155	20.44	0.11066	3.00	34.77	3.00	34.77	Passed		
				3	0	22.26	5.00	4.70	22.56	0.18030	20.41	0.10990	3.00	34.77	3.00	34.77	Passed		
				3	2	22.25	5.00	4.70	22.55	0.17989	20.40	0.10965	3.00	34.77	3.00	34.77	Passed		
				6	0	21.31	5.00	4.70	21.61	0.14488	19.46	0.08831	3.00	34.77	3.00	34.77	Passed		
				1	0	22.24	5.00	4.70	22.54	0.17947	20.39	0.10940	3.00	34.77	3.00	34.77	Passed		
	23095	707.50	QPSK	1	5	22.25	5.00	4.70	22.55	0.17989	20.40	0.10965	3.00	34.77	3.00	34.77	Passed		
				3	0	22.29	5.00	4.70	22.59	0.18155	20.44	0.11066	3.00	34.77	3.00	34.77	Passed		
				3	2	22.22	5.00	4.70	22.52	0.17865	20.37	0.10889	3.00	34.77	3.00	34.77	Passed		
				6	0	21.31	5.00	4.70	21.61	0.14488	19.46	0.08831	3.00	34.77	3.00	34.77	Passed		
				1	0	22.29	5.00	4.70	22.59	0.18155	20.44	0.11066	3.00	34.77	3.00	34.77	Passed		
				1	5	22.1	5.00	4.70	22.40	0.17378	20.25	0.10593	3.00	34.77	3.00	34.77	Passed		
	23173	715.30	QPSK	3	0	22.06	5.00	4.70	22.36	0.17219	20.21	0.10495	3.00	34.77	3.00	34.77	Passed		
				3	2	22.12	5.00	4.70	22.42	0.17458	20.27	0.10641	3.00	34.77	3.00	34.77	Passed		
				6	0	21.26	5.00	4.70	21.56	0.14322	19.41	0.08730	3.00	34.77	3.00	34.77	Passed		
				1	0	22.45	5.00	4.70	22.75	0.18836	20.60	0.11482	3.00	34.77	3.00	34.77	Passed		
BW 3 MHz	23025	700.50	QPSK	1	14	22.2	5.00	4.70	22.50	0.17783	20.35	0.10839	3.00	34.77	3.00	34.77	Passed		
				8	0	21.49	5.00	4.70	21.79	0.15101	19.64	0.09204	3.00	34.77	3.00	34.77	Passed		
				8	7	21.41	5.00	4.70	21.71	0.14825	19.56	0.09036	3.00	34.77	3.00	34.77	Passed		
				15	0	21.45	5.00	4.70	21.75	0.14962	19.60	0.09120	3.00	34.77	3.00	34.77	Passed		
	23095	707.50	QPSK	1	0	22.39	5.00	4.70	22.69	0.18578	20.54	0.11324	3.00	34.77	3.00	34.77	Passed		
				1	14	22.34	5.00	4.70	22.64	0.18365	20.49	0.11194	3.00	34.77	3.00	34.77	Passed		
				8	0	21.4	5.00	4.70	21.70	0.14791	19.55	0.09016	3.00	34.77	3.00	34.77	Passed		
				8	7	21.4	5.00	4.70	21.70	0.14791	19.55	0.09016	3.00	34.77	3.00	34.77	Passed		
				15	0	21.38	5.00	4.70	21.68	0.14723	19.53	0.08974	3.00	34.77	3.00	34.77	Passed		
	23165	714.50	QPSK	1	0	22.33	5.00	4.70	22.63	0.18323	20.48	0.11169	3.00	34.77	3.00	34.77	Passed		
				1	14	22.26	5.00	4.70	22.56	0.18030	20.41	0.10990	3.00	34.77	3.00	34.77	Passed		
				8	0	21.36	5.00	4.70	21.66	0.14655	19.51	0.08933	3.00	34.77	3.00	34.77	Passed		
				8	7	21.25	5.00	4.70	21.55	0.14289	19.40	0.08710	3.00	34.77	3.00	34.77	Passed		
BW 5 MHz	23035	701.50	QPSK	1	0	22.32	5.00	4.70	22.62	0.18281	20.47	0.11143	3.00	34.77	3.00	34.77	Passed		
				1	24	22.36	5.00	4.70	22.66	0.18450	20.51	0.11246	3.00	34.77	3.00	34.77	Passed		
				12	0	21.39	5.00	4.70	21.69	0.14757	19.54	0.08995	3.00	34.77	3.00	34.77	Passed		
				12	11	21.38	5.00	4.70	21.68	0.14723	19.53	0.08974	3.00	34.77	3.00	34.77	Passed		
				25	0	21.41	5.00	4.70	21.71	0.14825	19.56	0.09036	3.00	34.77	3.00	34.77	Passed		
				1	0	22.3	5.00	4.70	22.60	0.18197	20.45	0.11092	3.00	34.77	3.00	34.77	Passed		
	23095	707.50	QPSK	1	24	22.28	5.00	4.70	22.58	0.18113	20.43	0.11041	3.00	34.77	3.00	34.77	Passed		
				12	0	21.34	5.00	4.70	21.64	0.14588	19.49	0.08892	3.00	34.77	3.00	34.77	Passed		
				12	11	21.35	5.00	4.70	21.65	0.14622	19.50	0.08913	3.00	34.77	3.00	34.77	Passed		
				25	0	21.42	5.00	4.70	21.72	0.14859	19.57	0.09057	3.00	34.77	3.00	34.77	Passed		
				1	0	22.2	5.00	4.70	22.50	0.17783	20.35	0.10839	3.00	34.77	3.00	34.77	Passed		
				1	24	22.14	5.00	4.70	22.44	0.17539	20.29	0.10691	3.00	34.77	3.00	34.77	Passed		
	23155	713.50	QPSK	12	0	21.37	5.00	4.70	21.67	0.14689	19.52	0.08954	3.00	34.77	3.00	34.77	Passed		
				12	11	21.35	5.00	4.70	21.65	0.14622	19.50	0.08913	3.00	34.77	3.00	34.77	Passed		
				25	0	21.27	5.00	4.70	21.57	0.14355	19.42	0.08750	3.00	34.77	3.00	34.77	Passed		
				1	0	22.43	5.00	4.70	22.73	0.18750	20.58	0.11429	3.00	34.77	3.00	34.77	Passed		
BW 10 MHz	23060	704.00	QPSK	1	49	22.3	5.00	4.70	22.60	0.18197	20.45	0.11092	3.00	34.77	3.00	34.77	Passed		
				25	0	21.43	5.00	4.70	21.73	0.14894	19.58	0.09078	3.00	34.77	3.00	34.77	Passed		
				25	24	21.36	5.00	4.70	21.66	0.14655	19.51	0.08933	3.00	34.77	3.00	34.77	Passed		
				50	0	21.38	5.00	4.70	21.68	0.14723	19.53	0.08974	3.00	34.77	3.00	34.77	Passed		
				1	0	22.41	5.00	4.70	22.71	0.18664	20.56	0.11376	3.00	34.77	3.00	34.77	Passed		
	23095	707.50	QPSK	1	49	22.33	5.00	4.70	22.63	0.18323	20.48	0.11169	3.00	34.77	3.00	34.77	Passed		
				25	0	21.43	5.00	4.70	21.73	0.14894	19.58	0.09078	3.00	34.77	3.00	34.77	Passed		
				25	24	21.24	5.00	4.70	21.54	0.14256	19.39	0.08690	3.00	34.77	3.00	34.77	Passed		
				50	0	21.38	5.00	4.70	21.68	0.14723	19.53	0.08974	3.00	34.77	3.00	34.77	Passed		
				1	0	22.56	5.00	4.70	22.86	0.19320	20.71	0.11776	3.00	34.77	3.00	34.77	Passed		
	23130	711.00	QPSK	1	49	22.31	5.00	4.70	22.61	0.18239	20.46	0.11117	3.00	34.77	3.00	34.77	Passed		
				25	0	21.4	5.00	4.70	21.70	0.14791	19.55	0.09016	3.00	34.77	3.00	34.77	Passed		
				25	24	21.25	5.00	4.70	21.55	0.14289	19.40	0.08710	3.00	34.77	3.00	34.77	Passed		
				50	0	21.25	5.00	4.70	21.55	0.14289	19.40	0.08710	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)	Path loss to Antenna Connector	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	22.85	5.00	3.00	24.85	0.30549	22.70	0.18621	3.00	34.77	3.00	34.77	Passed
				1	24	23.04	5.00	3.00	25.04	0.31915	22.89	0.19454	3.00	34.77	3.00	34.77	Passed
				12	0	22.03	5.00	3.00	24.03	0.25293	21.88	0.15417	3.00	34.77	3.00	34.77	Passed
				12	11	22.18	5.00	3.00	24.18	0.26182	22.03	0.15959	3.00	34.77	3.00	34.77	Passed
				25	0	22.03	5.00	3.00	24.03	0.25293	21.88	0.15417	3.00	34.77	3.00	34.77	Passed
	23230	782.00	QPSK	1	0	22.91	5.00	3.00	24.91	0.30974	22.76	0.18880	3.00	34.77	3.00	34.77	Passed
				1	24	23.04	5.00	3.00	25.04	0.31915	22.89	0.19454	3.00	34.77	3.00	34.77	Passed
				12	0	22.16	5.00	3.00	24.16	0.26062	22.01	0.15885	3.00	34.77	3.00	34.77	Passed
				12	11	22.26	5.00	3.00	24.26	0.26669	22.11	0.16255	3.00	34.77	3.00	34.77	Passed
				25	0	22.2	5.00	3.00	24.20	0.26303	22.05	0.16032	3.00	34.77	3.00	34.77	Passed
	23255	784.50	QPSK	1	0	23.1	5.00	3.00	25.10	0.32359	22.95	0.19724	3.00	34.77	3.00	34.77	Passed
				1	24	23.03	5.00	3.00	25.03	0.31842	22.88	0.19409	3.00	34.77	3.00	34.77	Passed
				12	0	22.23	5.00	3.00	24.23	0.26485	22.08	0.16144	3.00	34.77	3.00	34.77	Passed
				12	11	22.17	5.00	3.00	24.17	0.26122	22.02	0.15922	3.00	34.77	3.00	34.77	Passed
				25	0	22.18	5.00	3.00	24.18	0.26182	22.03	0.15959	3.00	34.77	3.00	34.77	Passed
BW 10 MHz	23230	782.00	QPSK	1	0	23.08	5.00	3.00	25.08	0.32211	22.93	0.19634	3.00	34.77	3.00	34.77	Passed
				1	49	23.08	5.00	3.00	25.08	0.32211	22.93	0.19634	3.00	34.77	3.00	34.77	Passed
				25	0	22.19	5.00	3.00	24.19	0.26242	22.04	0.15996	3.00	34.77	3.00	34.77	Passed
				25	24	22.25	5.00	3.00	24.25	0.26607	22.10	0.16218	3.00	34.77	3.00	34.77	Passed
				50	0	22.14	5.00	3.00	24.14	0.25942	21.99	0.15812	3.00	34.77	3.00	34.77	Passed
	23230	782.00	QPSK	1	0	23.05	5.00	3.00	25.05	0.31989	22.90	0.19498	3.00	34.77	3.00	34.77	Passed
				1	49	22.97	5.00	3.00	24.97	0.31405	22.82	0.19143	3.00	34.77	3.00	34.77	Passed
				25	0	22.13	5.00	3.00	24.13	0.25882	21.98	0.15776	3.00	34.77	3.00	34.77	Passed
				25	24	22.15	5.00	3.00	24.15	0.26002	22.00	0.15849	3.00	34.77	3.00	34.77	Passed
				50	0	22.16	5.00	3.00	24.16	0.26062	22.01	0.15885	3.00	34.77	3.00	34.77	Passed
	23230	782.00	QPSK	1	0	22.96	5.00	3.00	24.96	0.31333	22.81	0.19099	3.00	34.77	3.00	34.77	Passed
				1	49	23.17	5.00	3.00	25.17	0.32885	23.02	0.20045	3.00	34.77	3.00	34.77	Passed
				25	0	22.12	5.00	3.00	24.12	0.25823	21.97	0.15740	3.00	34.77	3.00	34.77	Passed
				25	24	22.27	5.00	3.00	24.27	0.26730	22.12	0.16293	3.00	34.77	3.00	34.77	Passed
				50	0	22.14	5.00	3.00	24.14	0.25942	21.99	0.15812	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 14																	
	Channel Nr.	ARFCN-Frequency (MHz)	Modulation	RB	Start RB	RMS Power at Antenna Port (dBm)	Maximum declared Antenna Gain(dBi)	Path loss to Antenna Connector	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	23305	790.50	QPSK	1	0	22.83	5.00	3.00	24.83	0.30409	22.68	0.18535	3.00	34.77	3.00	34.77	Passed
				1	24	22.98	5.00	3.00	24.98	0.31477	22.83	0.19187	3.00	34.77	3.00	34.77	Passed
				12	0	22.01	5.00	3.00	24.01	0.25177	21.86	0.15346	3.00	34.77	3.00	34.77	Passed
				12	11	22.04	5.00	3.00	24.04	0.25351	21.89	0.15453	3.00	34.77	3.00	34.77	Passed
				25	0	22.1	5.00	3.00	24.10	0.25704	21.95	0.15668	3.00	34.77	3.00	34.77	Passed
	23330	793.00	QPSK	1	0	22.85	5.00	3.00	24.85	0.30549	22.70	0.18621	3.00	34.77	3.00	34.77	Passed
				1	24	22.81	5.00	3.00	24.81	0.30269	22.66	0.18450	3.00	34.77	3.00	34.77	Passed
				12	0	21.97	5.00	3.00	23.97	0.24946	21.82	0.15205	3.00	34.77	3.00	34.77	Passed
				12	11	21.97	5.00	3.00	23.97	0.24946	21.82	0.15205	3.00	34.77	3.00	34.77	Passed
				25	0	22.01	5.00	3.00	24.01	0.25177	21.86	0.15346	3.00	34.77	3.00	34.77	Passed
	23355	795.50	QPSK	1	0	22.86	5.00	3.00	24.86	0.30620	22.71	0.18664	3.00	34.77	3.00	34.77	Passed
				1	24	22.68	5.00	3.00	24.68	0.29376	22.53	0.17906	3.00	34.77	3.00	34.77	Passed
				12	0	22.01	5.00	3.00	24.01	0.25177	21.86	0.15346	3.00	34.77	3.00	34.77	Passed
				12	11	21.97	5.00	3.00	23.97	0.24946	21.82	0.15205	3.00	34.77	3.00	34.77	Passed
				25	0	22.02	5.00	3.00	24.02	0.25235	21.87	0.15382	3.00	34.77	3.00	34.77	Passed
BW 10 MHz	23330	793.00	QPSK	1	0	23.03	5.00	3.00	25.03	0.31842	22.88	0.19409	3.00	34.77	3.00	34.77	Passed
				1	49	23	5.00	3.00	25.00	0.31623	22.85	0.19275	3.00	34.77	3.00	34.77	Passed
				25	0	22.04	5.00	3.00	24.04	0.25351	21.89	0.15453	3.00	34.77	3.00	34.77	Passed
				25	24	21.94	5.00	3.00	23.94	0.24774	21.79	0.15101	3.00	34.77	3.00	34.77	Passed
				50	0	22.03	5.00	3.00	24.03	0.25293	21.88	0.15417	3.00	34.77	3.00	34.77	Passed
	23330	793.00	QPSK	1	0	22.99	5.00	3.00	24.99	0.31550	22.84	0.19231	3.00	34.77	3.00	34.77	Passed
				1	49	22.86	5.00	3.00	24.86	0.30620	22.71	0.18664	3.00	34.77	3.00	34.77	Passed
				25	0	21.94	5.00	3.00	23.94	0.24774	21.79	0.15101	3.00	34.77	3.00	34.77	Passed
				25	24	21.95	5.00	3.00	23.95	0.24831	21.80	0.15136	3.00	34.77	3.00	34.77	Passed
				50	0	21.96	5.00	3.00	23.96	0.24889	21.81	0.15171	3.00	34.77	3.00	34.77	Passed
	23330	793.00	QPSK	1	0	23.23	5.00	3.00	25.23	0.33343	23.08	0.20324	3.00	34.77	3.00	34.77	Passed
				1	49	23	5.00	3.00	25.00	0.31623	22.85	0.19275	3.00	34.77	3.00	34.77	Passed
				25	0	22.04	5.00	3.00	24.04	0.25351	21.89	0.15453	3.00	34.77	3.00	34.77	Passed
				25	24	21.94	5.00	3.00	23.94	0.24774	21.79	0.15101	3.00	34.77	3.00	34.77	Passed
				50	0	21.92	5.00	3.00	23.92	0.24660	21.77	0.15031	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 Antenna Connector	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	22.15	5.00	4.70	22.45	0.17579	20.30	0.10715	3.00	34.77	3.00	34.77	Passed
				1	24	22.33	5.00	4.70	22.63	0.18323	20.48	0.11169	3.00	34.77	3.00	34.77	Passed
				12	0	21.23	5.00	4.70	21.53	0.14223	19.38	0.08670	3.00	34.77	3.00	34.77	Passed
				12	11	21.32	5.00	4.70	21.62	0.14521	19.47	0.08851	3.00	34.77	3.00	34.77	Passed
				25	0	21.35	5.00	4.70	21.65	0.14622	19.50	0.08913	3.00	34.77	3.00	34.77	Passed
	23790	710.00	QPSK	1	0	22.09	5.00	4.70	22.39	0.17338	20.24	0.10568	3.00	34.77	3.00	34.77	Passed
				1	24	22.19	5.00	4.70	22.49	0.17742	20.34	0.10814	3.00	34.77	3.00	34.77	Passed
				12	0	21.22	5.00	4.70	21.52	0.14191	19.37	0.08650	3.00	34.77	3.00	34.77	Passed
				12	11	21.32	5.00	4.70	21.62	0.14521	19.47	0.08851	3.00	34.77	3.00	34.77	Passed
				25	0	21.26	5.00	4.70	21.56	0.14322	19.41	0.08730	3.00	34.77	3.00	34.77	Passed
	23825	713.50	QPSK	1	0	22.17	5.00	4.70	22.47	0.17660	20.32	0.10765	3.00	34.77	3.00	34.77	Passed
				1	24	22.22	5.00	4.70	22.52	0.17865	20.37	0.10889	3.00	34.77	3.00	34.77	Passed
				12	0	21.27	5.00	4.70	21.57	0.14355	19.42	0.08750	3.00	34.77	3.00	34.77	Passed
				12	11	21.23	5.00	4.70	21.53	0.14223	19.38	0.08670	3.00	34.77	3.00	34.77	Passed
				25	0	21.34	5.00	4.70	21.64	0.14588	19.49	0.08892	3.00	34.77	3.00	34.77	Passed
BW 10 MHz	23780	709.00	QPSK	1	0	22.34	5.00	4.70	22.64	0.18365	20.49	0.11194	3.00	34.77	3.00	34.77	Passed
				1	49	22.17	5.00	4.70	22.47	0.17660	20.32	0.10765	3.00	34.77	3.00	34.77	Passed
				25	0	21.28	5.00	4.70	21.58	0.14388	19.43	0.08770	3.00	34.77	3.00	34.77	Passed
				25	24	21.40	5.00	4.70	21.70	0.14791	19.55	0.09016	3.00	34.77	3.00	34.77	Passed
				50	0	21.19	5.00	4.70	21.49	0.14093	19.34	0.08590	3.00	34.77	3.00	34.77	Passed
	23790	710.00	QPSK	1	0	22.32	5.00	4.70	22.62	0.18281	20.47	0.11143	3.00	34.77	3.00	34.77	Passed
				1	49	22.29	5.00	4.70	22.59	0.18155	20.44	0.11066	3.00	34.77	3.00	34.77	Passed
				25	0	21.22	5.00	4.70	21.52	0.14191	19.37	0.08650	3.00	34.77	3.00	34.77	Passed
				25	24	21.29	5.00	4.70	21.59	0.14421	19.44	0.08790	3.00	34.77	3.00	34.77	Passed
				50	0	21.16	5.00	4.70	21.46	0.13996	19.31	0.08531	3.00	34.77	3.00	34.77	Passed
	23800	711.00	QPSK	1	0	22.31	5.00	4.70	22.61	0.18239	20.46	0.11117	3.00	34.77	3.00	34.77	Passed
				1	49	22.38	5.00	4.70	22.68	0.18535	20.53	0.11298	3.00	34.77	3.00	34.77	Passed
				25	0	21.19	5.00	4.70	21.49	0.14093	19.34	0.08590	3.00	34.77	3.00	34.77	Passed
				25	24	21.24	5.00	4.70	21.54	0.14256	19.39	0.08690	3.00	34.77	3.00	34.77	Passed
				50	0	21.26	5.00	4.70	21.56	0.14322	19.41	0.08730	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																	

BW 20 MHz	26140	1860.00	QPSK	1	0	22.00	9.50	3.30	28.20	0.66069	26.05	0.40272	2.00	33.01	2.00	33.01	Passed
				1	24	21.92	9.50	3.30	28.12	0.64863	25.97	0.39537	2.00	33.01	2.00	33.01	Passed
				12	0	21.24	9.50	3.30	27.44	0.55463	25.29	0.33806	2.00	33.01	2.00	33.01	Passed
				12	11	21.09	9.50	3.30	27.29	0.53580	25.14	0.32659	2.00	33.01	2.00	33.01	Passed
	26365	1882.50	QPSK	25	0	21.18	9.50	3.30	27.38	0.54702	25.23	0.33343	2.00	33.01	2.00	33.01	Passed
				1	0	21.92	9.50	3.30	28.12	0.64863	25.97	0.39537	2.00	33.01	2.00	33.01	Passed
				1	24	21.78	9.50	3.30	27.98	0.62806	25.83	0.38282	2.00	33.01	2.00	33.01	Passed
				12	0	21.06	9.50	3.30	27.26	0.53211	25.11	0.32434	2.00	33.01	2.00	33.01	Passed
	26590	1905.00	QPSK	12	11	21.01	9.50	3.30	27.21	0.52602	25.06	0.32063	2.00	33.01	2.00	33.01	Passed
				25	0	21.03	9.50	3.30	27.23	0.52845	25.08	0.32211	2.00	33.01	2.00	33.01	Passed
				1	0	21.92	9.50	3.30	28.12	0.64863	25.97	0.39537	2.00	33.01	2.00	33.01	Passed
				1	24	21.76	9.50	3.30	27.96	0.62517	25.81	0.38107	2.00	33.01	2.00	33.01	Passed
				12	0	21.08	9.50	3.30	27.28	0.53456	25.13	0.32584	2.00	33.01	2.00	33.01	Passed
				12	11	21.12	9.50	3.30	27.32	0.53951	25.17	0.32885	2.00	33.01	2.00	33.01	Passed
				25	0	21.07	9.50	3.30	27.27	0.53333	25.12	0.32509	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																	

BW 20 MHz	132072	1720.00	QPSK	1	0	22.14	9.50	3.50	28.14	0.65163	25.99	0.39719	1.00	30.00	1.00	30.00	Passed
				1	99	22.06	9.50	3.50	28.06	0.63973	25.91	0.38994	1.00	30.00	1.00	30.00	Passed
				50	0	21.23	9.50	3.50	27.23	0.52845	25.08	0.32211	1.00	30.00	1.00	30.00	Passed
				50	49	21.26	9.50	3.50	27.26	0.53211	25.11	0.32434	1.00	30.00	1.00	30.00	Passed
				100	0	21.26	9.50	3.50	27.26	0.53211	25.11	0.32434	1.00	30.00	1.00	30.00	Passed
	132322	1745.00	QPSK	1	0	22.32	9.50	3.50	28.32	0.67920	26.17	0.41400	1.00	30.00	1.00	30.00	Passed
				1	99	22.31	9.50	3.50	28.31	0.67764	26.16	0.41305	1.00	30.00	1.00	30.00	Passed
				50	0	21.42	9.50	3.50	27.42	0.55208	25.27	0.33651	1.00	30.00	1.00	30.00	Passed
				50	49	21.57	9.50	3.50	27.57	0.57148	25.42	0.34834	1.00	30.00	1.00	30.00	Passed
				100	0	21.51	9.50	3.50	27.51	0.56364	25.36	0.34356	1.00	30.00	1.00	30.00	Passed
	132572	1770.00	QPSK	1	0	22.57	9.50	3.50	28.57	0.71945	26.42	0.43853	1.00	30.00	1.00	30.00	Passed
				1	99	22.35	9.50	3.50	28.35	0.68391	26.20	0.41687	1.00	30.00	1.00	30.00	Passed
				50	0	21.64	9.50	3.50	27.64	0.58076	25.49	0.35400	1.00	30.00	1.00	30.00	Passed
				50	49	21.58	9.50	3.50	27.58	0.57280	25.43	0.34914	1.00	30.00	1.00	30.00	Passed
				100	0	21.63	9.50	3.50	27.63	0.57943	25.48	0.35318	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																	

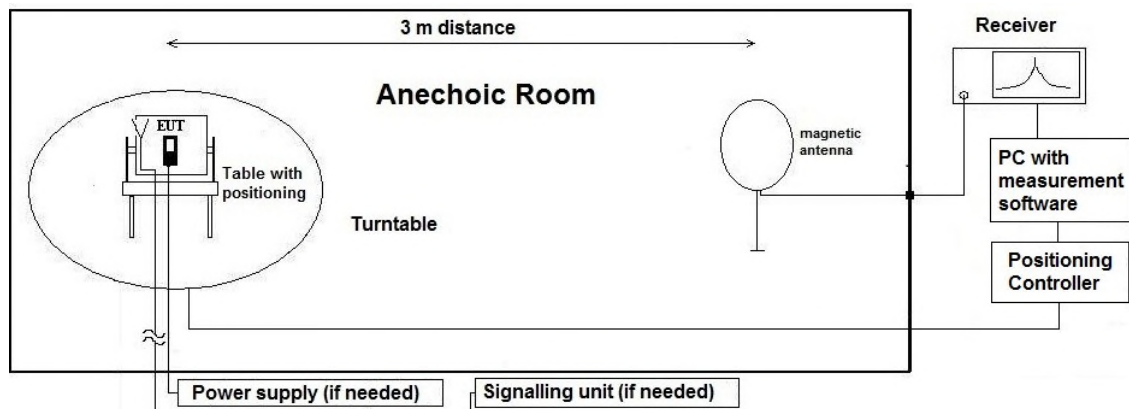
4.2 Radiated field strength emissions below 30 MHz

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 18)

Exploratory, preliminary measurements

The EUT and its 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 maintaining 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

Diagram	Band	Mode	Maximum Level [$\text{dB}\mu\text{V}/\text{m}$] Frequency Range 0.009 – 30 MHz	Result
2.201	2	LTE_FDD_B02_CH_18900_lying	No peaks < 6 dB margin	Passed
2.201	2	LTE_FDD_B02_CH_18900_standing	No peaks < 6 dB margin	Passed
2.401	4	LTE_FDD_B04_CH_20350_lying	No peaks < 6 dB margin	Passed
2.401	4	LTE_FDD_B04_CH_20350_standing	No peaks < 6 dB margin	Passed
2.501	5	LTE_FDD_B05_CH_20600_lying	No peaks < 6 dB margin	Passed
2.501	5	LTE_FDD_B05_CH_20600_standing	No peaks < 6 dB margin	Passed
2.701	7	LTE_FDD_B07_CH_21100_lying	No peaks < 6 dB margin	Passed
2.701	7	LTE_FDD_B07_CH_21100_standing	No peaks < 6 dB margin	Passed
2.1201	12	LTE_FDD_B12_CH_23095_lying	No peaks < 6 dB margin	Passed
2.1201	12	LTE_FDD_B12_CH_23095_standing	No peaks < 6 dB margin	Passed
2.1301	13	LTE_FDD_B13_CH_23230_lying	No peaks < 6 dB margin	Passed
2.1301	13	LTE_FDD_B13_CH_23230_standing	No peaks < 6 dB margin	Passed
2.1401	14	LTE_FDD_B14_CH_23330_lying	No peaks < 6 dB margin	Passed
2.1401	14	LTE_FDD_B14_CH_23330_standing	No peaks < 6 dB margin	Passed
2.1701	17	LTE_FDD_B17_CH_23790_lying	No peaks < 6 dB margin	Passed
2.1701	17	LTE_FDD_B17_CH_23790_standing	No peaks < 6 dB margin	Passed
2.2501	25	LTE_FDD_B025_CH_26090_lying	No peaks < 6 dB margin	Passed
2.2501	25	LTE_FDD_B025_CH_26090_standing	No peaks < 6 dB margin	Passed
2.2601	26	LTE_FDD_B26_CH_26865_lying	No peaks < 6 dB margin	Passed
2.2601	26	LTE_FDD_B26_CH_26865_standing	No peaks < 6 dB margin	Passed
2.4101	41	LTE_TDD_B41_CH_41540_lying	No peaks < 6 dB margin	Passed
2.4101	41	LTE_TDD_B41_CH_41540_standing	No peaks < 6 dB margin	Passed
2.6601	66	LTE_FDD_B66_CH_132322_lying	No peaks < 6 dB margin	Passed
2.6601	66	LTE_FDD_B66_CH_132322_standing	No peaks < 6 dB margin	Passed
2.7101	71	LTE_FDD_B71_CH_133172_lying	No peaks < 6 dB margin	Passed
2.7101	71	LTE_FDD_B71_CH_133172_standing	No peaks < 6 dB margin	Passed

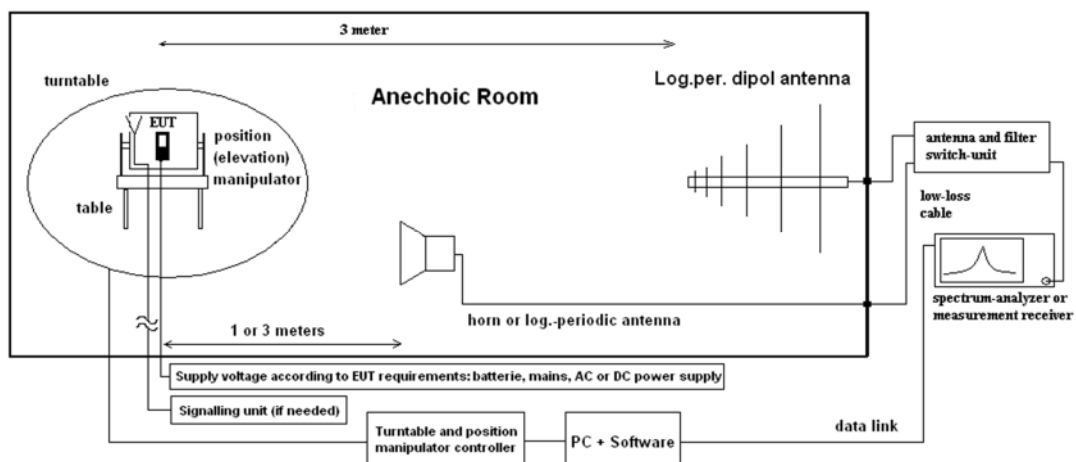
Remark: for more information and graphical plot see Annex 1 **23-1-0014801T031_TR1-A201-R02**

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 18)

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	Peak	3 / 3
LTE4	30 - 17500	-13	Peak	3 / 3
LTE5	30 - 8500	-13	Peak	3 / 3
LTE7	30 - 25700	-25	Peak	3 / 3
LTE12	30 - 7200	-13	Peak	3 / 3
LTE13	30 - 8000 763-775 and 793-805 1559 – 1610 1559 – 1610	-13 -35 (RBW = 6.25 kHz, ERP) -40 (RBW = 1 MHz) -50 (RBW = 700 Hz)	Peak	3 / 3
LTE14	30 - 8000	-13	Peak	3 / 3
LTE17	30 - 7200	-13	Peak	3 / 3
LTE25	30 - 19100	-13	Peak	3 / 3
LTE26	30 - 18000	-13	Peak	3 / 3
LTE41	30 - 23100	-25	Peak	3 / 3
LTE66	30 - 17700	- 13	Peak	3 / 3
LTE71	30 - 17700	- 13	Peak	3 / 3

4.3.4 Result

Diagram	Band	Mode	30 MHz to 10 th Harmonics	Stop Freq [MHz]	Result
8.02a1	2	LTE_FDD_B02_CH_18900_lying	No peaks < 6 dB margin	19500	Passed
8.02a2	2	LTE_FDD_B02_CH_18900_standing	No peaks < 6 dB margin	19500	Passed
8.02b1	2	LTE_FDD_B02_CH_18900_AntV_lying	No peaks < 6 dB margin	19500	Passed
8.02b2	2	LTE_FDD_B02_CH_18900_AntH_lying	No peaks < 6 dB margin	19500	Passed
8.04	4	LTE_FDD_B04_CH_20350_lying	No peaks < 6 dB margin	18000	Passed
8.04	4	LTE_FDD_B04_CH_20350_standing	No peaks < 6 dB margin	18000	Passed
8.05	5	LTE_FDD_B05_CH_20600_lying	No peaks < 6 dB margin	9000	Passed
8.05	5	LTE_FDD_B05_CH_20600_standing	No peaks < 6 dB margin	9000	Passed
8.07a	7	LTE_FDD_B07_CH_21100_lying	No peaks < 6 dB margin	27000	Passed
8.07a	7	LTE_FDD_B07_CH_21100_standing	No peaks < 6 dB margin	27000	Passed

8.07b	7	LTE_FDD_B07_CH_21100_lying	No peaks < 6 dB margin	27000	Passed
8.07b	7	LTE_FDD_B07_CH_21100_standing	No peaks < 6 dB margin	27000	Passed
8.07c1	7	LTE_FDD_B07_CH_21100_AntH_lying	No peaks < 6 dB margin	27000	Passed
8.07c1	7	LTE_FDD_B07_CH_21100_AntH_standing	No peaks < 6 dB margin	27000	Passed
8.07c2	7	LTE_FDD_B07_CH_21100_AntV_lying	No peaks < 6 dB margin	27000	Passed
8.07c2	7	LTE_FDD_B07_CH_21100_AntV_standing	No peaks < 6 dB margin	27000	Passed
8.12	12	LTE_FDD_B12_CH_23095_lying	No peaks < 6 dB margin	8000	Passed
8.12	12	LTE_FDD_B12_CH_23095_standing	No peaks < 6 dB margin	8000	Passed
8.13	13	LTE_FDD_B13_CH_23230_lying	No peaks < 6 dB margin	8000	Passed
8.13	13	LTE_FDD_B13_CH_23230_standing	No peaks < 6 dB margin	8000	Passed
8.13a	13	LTE_FDD_B13_CH_23230_GPS_Band_lying	No peaks < 6 dB margin	763 MHz – 806 MHz	Passed
8.13a	13	LTE_FDD_B13_CH_23230_GPS_Band_standing	No peaks < 6 dB margin	763 MHz – 806 MHz	Passed
8.13b	13	LTE_FDD_B13_CH_23230_GPS_Band_lying	No peaks < 6 dB margin	1559 MHz – 1610 MHz	Passed
8.13b	13	LTE_FDD_B13_CH_23230_GPS_Band_standing	No peaks < 6 dB margin	1559 MHz – 1610 MHz	Passed
8.14	14	LTE_FDD_B14_CH_23330_lying	No peaks < 6 dB margin	9000	Passed
8.14	14	LTE_FDD_B14_CH_23330_standing	No peaks < 6 dB margin	9000	Passed
8.14a	14	LTE_FDD_B14_CH_23330_GPS_Band_lying	No peaks < 6 dB margin	763 MHz – 806 MHz	Passed
8.14b	14	LTE_FDD_B14_CH_23330_GPS_Band_standing	No peaks < 6 dB margin	763 MHz – 806 MHz	Passed
8.14c	14	LTE_FDD_B14_CH_23330_GPS_Band_lying	No peaks < 6 dB margin	1559 MHz – 1610 MHz	Passed
8.14d	14	LTE_FDD_B14_CH_23330_GPS_Band_standing	No peaks < 6 dB margin	1559 MHz – 1610 MHz	Passed
8.17	17	LTE_FDD_B17_CH_23790_lying	No peaks < 6 dB margin	9000	Passed
8.17	17	LTE_FDD_B17_CH_23790_standing	No peaks < 6 dB margin	9000	Passed
8.25	25	LTE_FDD_B025_CH_26090_lying	No peaks < 6 dB margin	18000	Passed
8.25	25	LTE_FDD_B025_CH_26090_standing	No peaks < 6 dB margin	18000	Passed
8.26	26	LTE_FDD_B26_CH_26865_lying	No peaks < 6 dB margin	9000	Passed
8.26	26	LTE_FDD_B26_CH_26865_standing	No peaks < 6 dB margin	9000	Passed
8.41a	41	LTE_TDD_B41_CH_41540_lying	No peaks < 6 dB margin	27000	Passed
8.41a	41	LTE_TDD_B41_CH_41540_standing	No peaks < 6 dB margin	27000	Passed
8.41b	41	LTE_TDD_B41_CH_41540_lying	No peaks < 6 dB margin	27000	Passed
8.41b	41	LTE_TDD_B41_CH_41540_standing	No peaks < 6 dB margin	27000	Passed
8.41c1	41	LTE_TDD_B41_CH_41540_AntV_lying	No peaks < 6 dB margin	27000	Passed
8.41c1	41	LTE_TDD_B41_CH_41540_AntV_standing	No peaks < 6 dB margin	27000	Passed
8.41c2	41	LTE_TDD_B41_CH_41540_AntH_lying	No peaks < 6 dB margin	27000	Passed
8.41c2	41	LTE_TDD_B41_CH_41540_AntH_standing	No peaks < 6 dB margin	27000	Passed
8.66	66	LTE_FDD_B66_CH_132322_lying	No peaks < 6 dB margin	18000	Passed
8.66	66	LTE_FDD_B66_CH_132322_standing	No peaks < 6 dB margin	18000	Passed
8.71	71	LTE_FDD_B71_CH_133172_lying	No peaks < 6 dB margin	8000	Passed
8.71	71	LTE_FDD_B71_CH_133172_standing	No peaks < 6 dB margin	8000	Passed

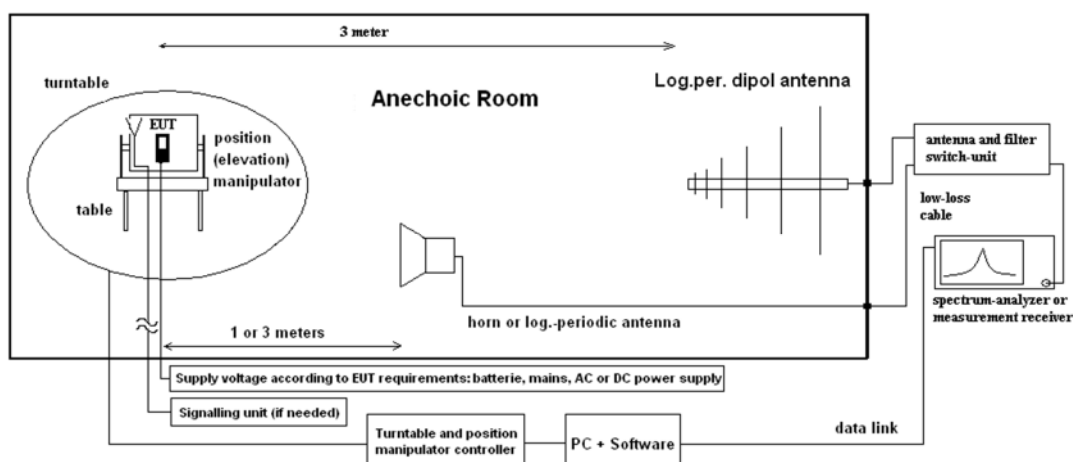
Remark: for more information and graphical plot see Annex 1 **23-1-0014801T031_TR1-A201-R02**

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 18)

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
LTE7	2496 - 2500 2570 – 2575	-10 -10	Peak	0.03 / 0.3
LTE12	Below 698 and above 716	-13	Peak	0.03 / 0.3
LTE13	Below 776 and above 788	-13	Peak	0.03 / 0.3
LTE14	Below 788 and above 799	-13 -25	Peak	0.03 / 0.3
LTE17	Below 704 and above 716	-13	Peak	0.03 / 0.3
LTE25	Below 1850 and above 1915	-13		
LTE26	Below 814 and above 849	-13	Peak	0.02 / 0.2
LTE41	Below 2490.5 2490.5 – 2496 2690 – 2695 2695 – 2700 Above 2700	-25 -13 -10 -13 -25	Peak	0.03 / 0.3
LTE66	Below 1710 and above 1780	- 13	Peak	0.03 / 0.3
LTE71	Below 663 and above 698	- 13	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_lying	Low	-27.5	Passed
9.201	2	CH_low_RB_1_low_standing	Low	-30.6	Passed
9.202	2	CH_low_RB_full_lying	Low	-30.5	Passed
9.202	2	CH_low_RB_full_standing	Low	-24.9	Passed
9.203	2	CH_high_RB_1_high_lying	High	-22.7	Passed
9.203	2	CH_high_RB_1_high_standing	High	-15.1	Passed
9.204	2	CH_high_RB_full_lying	High	-33.7	Passed
9.204	2	CH_high_RB_full_standing	High	-27.6	Passed
9.401	4	CH_low_RB_1_low_lying	Low	-24.6	Passed
9.401	4	CH_low_RB_1_low_standing	Low	-29.2	Passed
9.402	4	CH_low_RB_full_lying	Low	-26.0	Passed
9.402	4	CH_low_RB_full_standing	Low	-30.3	Passed
9.403	4	CH_high_RB_1_high_lying	High	-28.1	Passed
9.403	4	CH_high_RB_1_high_standing	High	-30.1	Passed
9.404	4	CH_high_RB_full_lying	High	-28.7	Passed
9.404	4	CH_high_RB_full_standing	High	-34.0	Passed
9.501	5	CH_low_RB_1_low_lying	Low	-33.0	Passed
9.501	5	CH_low_RB_1_low_standing	Low	-32.6	Passed
9.502	5	CH_low_RB_full_lying	Low	-31.0	Passed
9.502	5	CH_low_RB_full_standing	Low	-33.6	Passed
9.503	5	CH_high_RB_1_high_lying	High	-31.2	Passed
9.503	5	CH_high_RB_1_high_standing	High	-33.5	Passed
9.504	5	CH_high_RB_full_lying	High	-33.5	Passed
9.504	5	CH_high_RB_full_standing	High	-33.5	Passed
9.701_01	7	CH_low_RB_1_low_lying_AntH	Low	-33.7	Passed
9.701_02	7	CH_low_RB_full_lying_AntV	Low	-33.6	Passed
9.702_01	7	CH_low_RB_full_lying_AntH	Low	-27.8	Passed
9.702_02	7	CH_low_RB_1_low_lying_AntV	Low	-30.1	Passed
9.701_03	7	CH_low_RB_1_low_standing_AntV	Low	-25.1	Passed

9.701_04	7	CH_low_RB_1_low_standing_AntH	Low	-32.7	Passed
9.702_03	7	CH_low_RB_full_standing_AntV	Low	-20.8	Passed
9.702_04	7	CH_low_RB_full_standing_AntH	Low	-27.9	Passed
9.703_01	7	CH_high_RB_1_high_lying_AntH	High	-31.5	Passed
9.703_02	7	CH_high_RB_1_high_lying_AntV	High	-32.8	Passed
9.704_01	7	CH_high_RB_full_lying_AntV	High	-27.4	Passed
9.704_02	7	CH_high_RB_full_lying_AntH	High	-26.0	Passed
9.703_03	7	CH_high_RB_1_high_standing_AntH	High	-32.9	Passed
9.703_04	7	CH_high_RB_1_high_standing_AntV	High	-26.3	Passed
9.704_03	7	CH_high_RB_full_standing_Ant_H	High	-26.7	Passed
9.704_04	7	CH_high_RB_full_standing_AntV	High	-26.2	Passed
9.1201	12	CH_low_RB_1_low_lying	Low	-47.5	Passed
9.1201	12	CH_low_RB_1_low_standing	Low	-47.2	Passed
9.1202	12	CH_low_RB_full_low_lying	Low	-40.0	Passed
9.1202	12	CH_low_RB_full_low_standing	Low	-39.4	Passed
9.1203	12	CH_low_RB_1_high_lying	High	-33.8	Passed
9.1203	12	CH_low_RB_1_high_standing	High	-31.3	Passed
9.1204	12	CH_low_RB_full_lying	High	-35.0	Passed
9.1204	12	CH_low_RB_full_standing	High	-32.6	Passed
9.1301	13	CH_low_RB_1_low_lying	Low	-53.9	Passed
9.1301	13	CH_low_RB_1_low_standing	Low	-51.9	Passed
9.1302	13	CH_low_RB_full_low_lying	Low	-35.0	Passed
9.1302	13	CH_low_RB_full_low_standing	Low	-31.0	Passed
9.1303	13	CH_low_RB_1_high_lying	High	-33.5	Passed
9.1303	13	CH_low_RB_1_high_standing	High	-28.4	Passed
9.1304	13	CH_low_RB_full_lying	High	-34.9	Passed
9.1304	13	CH_low_RB_full_standing	High	-31.7	Passed
9.1401	14	CH_low_RB_1_low_lying	Low	-41.7	Passed
9.1401	14	CH_low_RB_1_low_standing	Low	-38.7	Passed
9.1402	14	CH_low_RB_full_low_lying	Low	-40.9	Passed
9.1402	14	CH_low_RB_full_low_standing	Low	-36.9	Passed
9.1403	14	CH_low_RB_1_high_lying	High	-40.3	Passed
9.1403	14	CH_low_RB_1_high_standing	High	-38.5	Passed
9.1404	14	CH_low_RB_full_lying	High	-41.4	Passed
9.1404	14	CH_low_RB_full_standing	High	-38.6	Passed
9.1701	17	CH_low_RB_1_low_lying	Low	-41.9	Passed
9.1701	17	CH_low_RB_1_low_standing	Low	-39.7	Passed
9.1702	17	CH_low_RB_full_low_lying	Low	-38.2	Passed
9.1702	17	CH_low_RB_full_low_standing	Low	-34.3	Passed
9.1703	17	CH_low_RB_1_high_lying	High	-42.6	Passed
9.1703	17	CH_low_RB_1_high_standing	High	-38.9	Passed
9.1704	17	CH_low_RB_full_lying	High	-41.5	Passed
9.1704	17	CH_low_RB_full_standing	High	-37.0	Passed
9.4101_01	41	CH_low_RB_1_low_standing_AntH	Low	-29.6	Passed
9.4101_02	41	CH_low_RB_1_low_standing_AntV	Low	-23.6	Passed
9.4102_01	41	CH_low_RB_full_standing_AntH	Low	-28.0	Passed
9.4102_02	41	CH_low_RB_full_standing_AntV	Low	-26.1	Passed
9.4103_01	41	CH_high_RB_1_high_standing_AntV	High	-28.0	Passed
9.4103_02	41	CH_high_RB_1_high_standing_AntH	High	-33.8	Passed
9.4104_01	41	CH_high_RB_full_standing_AntV	High	-25.4	Passed
9.4104_02	41	CH_high_RB_full_standing_AntH	High	-30.5	Passed
9.6601	66	CH_low_RB_1_low_lying	Low	-29.8	Passed
9.6601	66	CH_low_RB_1_low_standing	Low	-25.6	Passed
9.6602	66	CH_low_RB_full_low_lying	Low	-29.4	Passed
9.6602	66	CH_low_RB_full_low_standing	Low	-26.8	Passed
9.6603	66	CH_low_RB_1_high_lying	High	-28.9	Passed
9.6603	66	CH_low_RB_1_high_standing	High	-26.3	Passed
9.6604	66	CH_low_RB_full_lying	High	-29.2	Passed

9.6604	66	CH_low_RB_full_standing	High	-26.9	Passed
9.7101	71	CH_low_RB_1_low_lying	Low	-45.3	Passed
9.7101	71	CH_low_RB_1_low_standing	Low	-36.8	Passed
9.7102	71	CH_low_RB_full_low_lying	Low	-41.0	Passed
9.7102	71	CH_low_RB_full_low_standing	Low	-34.6	Passed
9.7103	71	CH_low_RB_1_high_lying	High	-41.1	Passed
9.7103	71	CH_low_RB_1_high_standing	High	-38.7	Passed
9.7104	71	CH_low_RB_full_lying	High	-38.6	Passed
9.7104	71	CH_low_RB_full_standing	High	-35.4	Passed

Remark: for more information and graphical plot see Annex 1 **23-1-0014801T031_TR1-A201-R02**

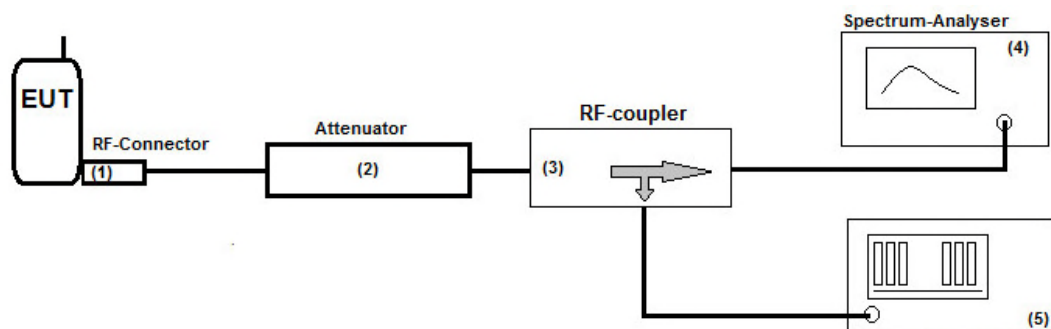
4.5 Conducted Band Edge

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 18)

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]
LTE25	1849 – 1850 and 1915 – 1916 Below 1849 and above 1916.0	-13 (RBW = 200 kHz, VBW = 1 MHz) -13 (RBW = 1 MHz, VBW = 3 MHz)	Peak	0.03 / 0.3
LTE26	Below 824 and above 849	-13	Peak	0.03 / 0.3

4.5.4 Result

Band	Mode	Edge [Low / High]	Band Power Value [dBm]	Result
25	CH_low_RB_1_low	Low	-26.7	Passed
25	CH_low_RB_1_high	Low	-50.6	Passed
25	CH_low_RB_50PCT_low	Low	-22.3	Passed
25	CH_low_RB_50PCT_high	Low	-34.0	Passed
25	CH_low_RB_100PCT	Low	-20.1	Passed
25	CH_low_RB_25PCT_low	Low	-23.1	Passed
25	CH_high_RB_1_low	High	-51.7	Passed
25	CH_high_RB_1_high	High	-20.7	Passed
25	CH_high_RB_50PCT_low	High	-36.3	Passed
25	CH_high_RB_50PCT_high	High	-29.9	Passed
25	CH_high_RB_100PCT	High	-28.1	Passed
25	CH_high_RB_25PCT_low	High	-45.1	Passed
26	CH_low_RB_1_low	Low	-32.0	Passed
26	CH_low_RB_1_high	Low	-48.5	Passed
26	CH_low_RB_50PCT_low	Low	-28.2	Passed
26	CH_low_RB_50PCT_high	Low	-35.6	Passed
26	CH_low_RB_100PCT	Low	-23.8	Passed
26	CH_low_RB_25PCT_low	Low	-27.2	Passed
26	CH_high_RB_1_low	High	-46.9	Passed
26	CH_high_RB_1_high	High	-33.7	Passed
26	CH_high_RB_50PCT_low	High	-39.5	Passed
26	CH_high_RB_50PCT_high	High	-29.4	Passed
26	CH_high_RB_100PCT	High	-24.7	Passed
26	CH_high_RB_25PCT_low	High	-46.1	Passed

Remark: for more information and graphical plot see Annex 1 **23-1-0014801T031_TR1-A202-R01**

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 SAC3	ETS-Lindgren GmbH / Taufkirchen	without	cnn	cal: - chk: -	cal: - chk: -	cal: - chk: -
20482	filter matrix Filter matrix SAR 1	cetecom 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	EMI 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 901,9/903,1SS	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 J54-00102600-38-5P	Miteq Inc.	838697	chk	chk: 2023-Aug-22	chk: 12M	chk: 2024-Aug-22
20448	Notch Filter WRCT 1850.0/2170.0-5/40-10SK	Wainwright Instruments GmbH	5	chk	chk: 2023-Aug-22	chk: 12M	chk: 2024-Aug-22
20449	Notch Filter WRCT 824.0/894.0-5/40-8SSK	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-B200S2 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

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-Jul-16
R02	PMN, HVIN and FVIN for ISED corrected ISED references corrected	2024-Oct-21
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End Of Test Report