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FCC TEST REPORT

Application No:	ZR/2019/80032
Applicant:	Fibocom Wireless Inc.
Address of Applicant	5/F,Tower A,Technology Building II,1057 Nanhai Avenue,Shenzhen,China
Manufacturer:	Fibocom Wireless Inc.
Address of Manufacturer:	5/F,Tower A,Technology Building II,1057 Nanhai Avenue,Shenzhen,China
Factory:	Shenzhen Eternity Technology Co.,Ltd
Address of Factory:	1F,2F,4F Building A2, Yingzhan Industrial Zone, Longtian Community, Longtian Road, Pingshan District, Shenzhen, Guangdong Province, P.R. China
EUT Description:	LTE CatM1&NB-IoT&EGPRS Module
Model No.:	MA510-GL
Trade Mark:	Fibocom
FCC ID:	ZMOMA510GL
Standards:	47 CFR Part 2
	47 CFR Part 22 subpart H
	47 CFR Part 24 subpart E
	47 CFR Part 27 subpart C
	47 CFR Part 90 subpart R
	47 CFR Part 90 subpart S
Test Method:	FCC KDB 971168 D01 Power Meas License Digital Systems V03r01
	C63.26 (2015)
Date of Receipt:	2019/9/1
Date of Test:	2019/9/3 to 2019/10/30
Date of Issue:	2019/10/30
Test Result:	PASS *

In the configuration tested, the EUT detailed in this report complied with the standards specified above.

Authorized Signature:

Derele yang

Derek Yang Wireless Laboratory Manager



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1 Version

Revision Record					
Version	Chapter	Date	Modifier	Remark	
00		2019/10/30		Original	

Mike Mu	
	2019/10/30
(Mike Hu) /Project Engineer	Date
David Chen	
	2019/10/30
(David Chen) /Reviewer	Date
	(Mike Hu) /Project Engineer David Chen



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2 Test Summary

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2.1 GSM 850/ LTE NB1 Band 5/26/ LTE CatM1 Band 5/26

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §22.913	FCC: ERP ≤ 7 W	Section 1 of Appendix B	Pass
Peak-Average Ratio		Limit≤13 dB	Section 2 of Appendix B	Pass
Modulation Characteristics	§2.1047	Digital modulation	Section 3 of Appendix B	Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Section 4 of Appendix B	Pass
Band Edges Compliance	§2.1051, §22.917	≤ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	Section 5 of Appendix B	Pass
Spurious Emission at Antenna Terminals	§2.1051, §22.917	≤ -13 dBm/100 kHz, from 9 kHz to 10th harmonics but outside authorized operating frequency ranges.	Section 6 of Appendix B	Pass
Field Strength of Spurious Radiation	§2.1053, §22.917	FCC: ≤ -13 dBm/100 kHz.	Section 7 of Appendix B	Pass
Frequency Stability	§2.1055, §22.355	≤ ±2.5ppm.	Section 8 of Appendix B	Pass
Remark: For the verdict	t, the "N/A" denotes "n	ot applicable", the "N/T" denotes "not tested".		

2.2 GSM 1900/ LTE NB1 Band 2 /25/ LTE CatM1 Band 2 /25

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §24.232	EIRP ≤ 2 W	Section 1 of Appendix B	Pass
Peak-Average Ratio	§2.1046, §24.232	Limit≤13 dB	Section 2 of Appendix B	Pass
Modulation Characteristics	§2.1047	Digital modulation	Section 3 of Appendix B	Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Section 4 of Appendix B	Pass
Band Edges Compliance	§2.1051, §24.238	≤ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	Section 5 of Appendix B	Pass
Spurious Emission at Antenna Terminals	§2.1051, §24.238	≤ -13 dBm/1 MHz, from 9 kHz to 10 th harmonics but outside authorized operating frequency ranges.	Section 6 of Appendix B	Pass
Field Strength of Spurious Radiation	§2.1053, §24.238	≤ -13 dBm/1 MHz.	Section 7 of Appendix B	Pass
Frequency Stability	§2.1055, §24.235	≤ ±2.5 ppm.	Section 8 of Appendix B	Pass
	§24.235	≤ ± 2.5 ppm. ot applicable", the "N/T" denotes "not tested".		



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Test Item FCC Rule No. Requirements Test Result Verdict Effective (Isotropic) §2.1046. Section 1 of EIRP ≤ 1 W Radiated Power Pass §27.50(d) Appendix B **Output Data** §2.1046. Section 2 of Peak-Average Ratio Limit≤13 dB Pass §27.50(d) Appendix B Modulation Section 3 of §2.1047 Digital modulation Pass Characteristics Appendix B OBW: No limit. Section 4 of Bandwidth §2.1049 Pass EBW: No limit. Appendix B ≤ -13 dBm/1%*EBW, in 1 MHz bands Band Edges §2.1051, Section 5 of immediately outside and adjacent to the Pass Compliance §27.53(h) Appendix B frequency block. ≤ -13 dBm/1 MHz, from 9 kHz to 10th Spurious Emission at §2.1051, Section 6 of harmonics but outside authorized operating Pass §27.53(h) Antenna Terminals Appendix B frequency ranges. Field Strength of §2.1053, Section 7 of ≤ -13 dBm/1 MHz. Pass **Spurious Radiation** §27.53(h) Appendix B §2.1055, Section 8 of **Frequency Stability** Pass ≤ ±2.5 ppm. §27.54 Appendix B Remark: For the verdict, the "N/A" denotes "not applicable", the "N/T" denotes "not tested".

2.3 LTE NB1 Band 4/66/ LTE CatM1 Band 4/66

2.4 LTE NB1 Band 26(814-824)/ LTE CatM1 Band 26(814-824)

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Transmitter Conducted Power Output	§2.1046, §90.635	< 100 W.	Section 1 of Appendix B	PASS
Peak-Average Ratio		FCC: Limit≤13 dB	Section 2 of Appendix B	N/T
Modulation Characteristics	§2.1047	Digital modulation	Section 3 of Appendix B	PASS
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Section 4 of Appendix B	PASS
Band Edge	§2.1051 § 90.691	For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 Log10(f/6.1) decibels or 50+10Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.	Section 5 of Appendix B	PASS
Spurious Emission at Antenna Terminals	§2.1051, §90.691	< 43 + 10Log10(P[Watts]) for all out-of- band emissions	Section 6 of Appendix B	PASS
Field Strength of	§2.1053,	< 43 + 10Log10(P[Watts]) for all out-of-	Section 7 of	PASS



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Test Item	FCC Rule No.	Requirements	Test Result	Verdict	
Spurious	§90.691	band emissions	Appendix B		
Radiation					
Frequency	§2.1055,		Section 8 of	DAGO	
Stability	§90.213	< ±2.5ppm.	Appendix B	PASS	
Remark: For the ve	Remark: For the verdict, the "N/A" denotes "not applicable", the "N/T" denotes "not tested".				

2.5 LTE NB1 Band 12/85/ LTE CatM1 Band 12/85

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Test Item	FCC Rule No	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§27.50(c)	ERP ≤ 3 W.	Section 1 of Appendix B	Pass
Peak-Average Ratio	§2.1046, §27.50(c)	Limit≤13 dB	Section 2 of Appendix B	Pass
Modulation Characteristics	§2.1047	Digital modulation	Section 3 of Appendix B	Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Section 4 of Appendix B	Pass
Band Edges Compliance	§2.1051, §27.53(g)	≤ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	Section 5 of Appendix B	Pass
Spurious Emission at Antenna Terminals	§2.1051, §27.53(g)	FCC: ≤ -13 dBm/100 kHz, from 9 kHz to 10 th harmonics but outside authorized operating frequency ranges.	Section 6 of Appendix B	Pass
Field Strength of Spurious Radiation	§2.1053, §27.53(g)	FCC: ≤ -13 dBm/100 kHz.	Section 7 of Appendix B	Pass
Frequency Stability	§2.1055, §27.54	≤ ±2.5ppm.	Section 8 of Appendix B	Pass
Remark: For the verdic	t, the "N/A" denotes "n	ot applicable", the "N/T" denotes "not tested".		

2.6 LTE NB1 Band 13/ LTE CatM1 Band 13

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §27.50(b)	ERP ≤ 3 W.	Section 1 of Appendix B	Pass
Peak-Average Ratio	§27.50	Limit≤13 dB	Section 2 of Appendix B	N/T
Modulation Characteristics	§2.1047	Digital modulation	Section 3 of Appendix B	Pass
Bandwidth	§2.1049,	OBW: No limit. EBW: No limit.	Section 4 of Appendix B	Pass
Band Edges Compliance	§2.1051, §27.53(c)	≤ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	Section 5 of Appendix B	Pass
Spurious Emission at Antenna Terminals	§2.1051, §27.53(c) §27.53(f)	 ≤ -13 dBm/100 kHz, from 9 kHz to 10th harmonics but outside authorized operating frequency ranges. On all frequencies between 763–775 MHz and 793– 805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations. For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to −70 dBW/MHz 	Section 6 of Appendix B	Pass



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Test Item	FCC Rule No.	Requirements	Test Result	Verdict
		equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.		
Field Strength of Spurious Radiation	§2.1053, §27.53(c) §27.53(f)	≤ -13 dBm/100 kHz. For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to −70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and −80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.	Section 7 of Appendix B	Pass
Frequency Stability	§2.1055, §27.54	Within authorized bands of operation/frequency block.	Section 8 of Appendix B	Pass
Remark: For the verdict	, the "N/A" denotes "	not applicable", the "N/T" denotes "not tested".		

2.7 LTE CatM1 Band 14

Test Item	FCC Rule No	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§90.365	FCC: ERP ≤ 3 W.	Section 1 of Appendix B	Pass
Peak-Average Ratio	§2.1046, §27.50(c)	Limit≤13 dB	Section 2 of Appendix B	Pass
Modulation Characteristics	§2.1047	Digital modulation	Section 3 of Appendix B	Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Section 4 of Appendix B	Pass
Band Edges Compliance	§2.1051, §90.543(e)	(1) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations.(2) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations.(3) On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least 43 + 10 log (P) dB.	Section 5 of Appendix B	Pass
Spurious Emission at Antenna Terminals	§2.1051, §90.543(c) §90.543(f)	FCC: ≤ -13 dBm/100 kHz, from 9 kHz to 10th harmonics but outside authorized operating frequency ranges. For operations in the 758– 775 MHz and 788–805 MHz bands, all emissions including harmonics in the band 1559– 1610 MHz shall be limited to -70 dBW/ MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.	Section 6 of Appendix B	Pass
Field Strength of Spurious Radiation	§2.1053, §90.543(c) §90.543(f)	FCC: ≤ -13 dBm/100 kHz. For operations in the 758–775 MHz and 788–805 MHz bands, all emissions including harmonics in the band 1559–1610 MHz shall be limited to -70 dBW/ MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700	Section 7 of Appendix B	Pass





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Test Item	FCC Rule No	Requirements	Test Result	Verdict
		Hz bandwidth.		
Frequency Stability	§2.1055, §90.213	≤ ±2.5ppm.	Section 8 of Appendix B	Pass
Remark: For the verdict, the "N/A" denotes "not applicable", the "N/T" denotes "not tested".				

2.8 LTE NB1 Band 71

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §27.50(c)	EIRP ≤ 3 Wz	Section 1 of Appendix B	Pass
Peak-Average Ratio	§2.1046,	Limit≤13 dB	Section 2 of Appendix B	Pass
Modulation Characteristics	§2.1047	Digital modulation	Section 3 of Appendix B	Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Section 4 of Appendix B	Pass
Band Edges Compliance	§2.1051, §27.53(g)	≤ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	Section 5 of Appendix B	Pass
Spurious Emission at Antenna Terminals	§2.1051, §27.53(g)	 ≤ -13 dBm/1 MHz, from 9 kHz to 10th harmonics but outside authorized operating frequency ranges. 	Section 6 of Appendix B	Pass
Field Strength of Spurious Radiation	§2.1053, §27.53(g)	≤ -13 dBm/1 MHz.	Section 7 of Appendix B	Pass
Frequency Stability	§2.1055, §27.54	within the authorized bands of operation.	Section 8 of Appendix B	Pass
Remark: For the verdict, the "N/A" denotes "not applicable", the "N/T" denotes "not tested".				



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3 General Information

3.1 Client Information

Applicant:	Fibocom Wireless Inc.
Address of Applicant:	5/F,Tower A,Technology Building II,1057 Nanhai Avenue,Shenzhen,China
Manufacturer:	Fibocom Wireless Inc.
Address of Manufacturer:	5/F,Tower A,Technology Building II,1057 Nanhai Avenue,Shenzhen,China
Factory:	Shenzhen Eternity Technology Co.,Ltd
Address of Factory:	1F,2F,4F Building A2, Yingzhan Industrial Zone, Longtian Community, Longtian Road, Pingshan District, Shenzhen, Guangdong Province, P.R. China

3.2 Test Location

Company:	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
Address:	No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China
Post code:	518057
Telephone:	+86 (0) 755 2601 2053
Fax:	+86 (0) 755 2671 0594
E-mail:	ee.shenzhen@sgs.com

3.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• CNAS (No. CNAS L2929)

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

• A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

• VCCI

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

• FCC –Designation Number: CN1178

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

• Industry Canada (IC)

Two 3m Semi-anechoic chambers and the 10m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1, 4620C-2, 4620C-3.



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3.4 General Description of EUT

EUT Description::	LTE CatM1&NB-IoT&EGPRS Module	
Model No.:	MA510-GL	
Trade Mark:	Fibocom	
Hardware Version:	V1.0.3	
Software Version:	69400.1000.00.00.13	
IMEI for Test Sample:	1#:867420040011126	
	2#:867420040011167	
Sample Type:	Portable Device, Module	
Antenna Type:	🖾 External, 🗌 Integrated	
	GSM 850: -1.0dBi;	
	GSM1900: 0.9dBi;	
	LTE NB1 Band 2: 0.9dBi;	
	LTE NB1 Band 4:1.6dBi;	
	LTE NB1 Band 5: -1.0dBi;	
	LTE NB1 Band 12: -1.4dBi;	
	LTE NB1 Band 13: -0.7dBi;	
	LTE NB1 Band 25: 0.9dBi;	
	LTE NB1 Band 26 (814-824) : -1.0dBi;	
	LTE NB1 Band 26 (824-849) : -1.0dBi;	
	LTE NB1 Band 66: 1.6dBi;	
Antenna Gain:	LTE NB1 Band 71: -1.5dBi;	
Antenna Gain.	LTE NB1 Band 85: -0.7dBi;	
	LTE CatM1 Band 2: 0.9dBi;	
	LTE CatM1 Band 4: 1.6dBi;	
	LTE CatM1 Band 5: -1.0dBi;	
	LTE CatM1 Band 12: -1.4dBi;	
	LTE CatM1 Band 13: -0.7dBi;	
	LTE CatM1 Band 14: -0.7dBi;	
	LTE CatM1 Band 25: 0.9dBi;	
	LTE CatM1 Band 26 (814-824) : -1.0dBi;	
	LTE CatM1 Band 26 (824-849) : -1.0dBi;	
	LTE CatM1 Band 66: 1.6dBi;	
	LTE CatM1 Band 85: -0.7dBi;	
	LIE Cativi'i Band 85: -0.7dBI;	



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3.5 Test Mode

Test Mode	Test Modes Description
GSM/TM1	GSM system, GSM/GPRS, GMSK modulation
GSM/TM2	GSM system, EGPRS, 8PSK modulation
LTE NB1/TM1	LTE system, QPSK modulation
LTE NB1/TM2	LTE system, BPSK modulation
LTE CatM1/TM1	LTE system, QPSK modulation
LTE CatM1/TM2	LTE system, 16QAM modulation

Remark: The test mode(s) are selected according to relevant radio technology specifications.

3.6 Test Environment

Environment Parameter	Selected Values During Tests		
Relative Humidity	52%		
Atmospheric Pressure:	101.32 KPa		
Temperature	NT	25 °C	
	LV	3.3V	
Voltage:	NV	3.8V	
	HV	4.5V	

Remark: LV= lower extreme test voltage; NV= nominal voltage

HV= upper extreme test voltage; NT= normal temperature



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3.7 Technical Specification

S

Characteristics	Description			
	⊠ GSM			
Radio System Type	⊠ NB1			
	 ⊠ CatM1			
	Band	ТХ	RX	
	GSM 850	824 to 849 MHz	869 to 894 MHz	
	GSM 1900	1850 to 1910 MHz	1930 to 1990 MHz	
	LTE NB1 Band 2	1850 to 1910 MHz	1930 to 1990 MHz	
	LTE NB1 Band 4	1710 to 1755 MHz	2110 to 2155 MHz	
	LTE NB1 Band 5	824 to 849 MHz	869 to 894 MHz	
	LTE NB1 Band 12	699 to 716 MHz	729 to 746 MHz	
	LTE NB1 Band 13	777 to 787 MHz	746 to 756 MHz	
	LTE NB1 Band 25	1850 to 1915MHz	1930 to 1995 MHz	
	LTE NB1 Band 26(814-824)	814 to 824MHz	859 to 869 MHz	
	LTE NB1 Band 26(824-849)	824 to 849 MHz	869 to 894 MHz	
Supported	LTE NB1 Band 66	1710 to 1780 MHz	2110 to 2200 MHz	
Frequency Range	LTE NB1 Band 71	663 to 698 MHz	617 to 652 MHz	
Frequency Range	LTE NB1 Band 85	698 to 716 MHz	728 to 746 MHz	
	LTE CatM1 Band 2	1850 to 1910 MHz	1930 to 1990 MHz	
	LTE CatM1 Band 4	1710 to 1755 MHz	2110 to 2155 MHz	
	LTE CatM1 Band 5	824 to 849 MHz	869 to 894 MHz	
	LTE CatM1 Band 12	699 to 716 MHz	729 to 746 MHz	
	LTE CatM1 Band 13	777 to 787 MHz	746 to 756 MHz	
	LTE CatM1 Band 14	788 to 798 MHz	758 to 768 MHz	
	LTE CatM1 Band 25	1850 to 1915MHz	1930 to 1995 MHz	
	LTE CatM1 Band 26(814-824)	814 to 824MHz	859 to 869 MHz	
	LTE CatM1 Band 26(824-849)	824 to 849 MHz	869 to 894 MHz	
	LTE CatM1 Band 66	1710 to 1780 MHz	2110 to 2200 MHz	
	LTE CatM1 Band 85	698 to 716 MHz	728 to 746 MHz	
	GSM 850: 32.5dBm			
	GSM 1900: 30dBm			
	LTE NB1 Band 2: 21.0dBm			
	LTE NB1 Band 4: 21.0dBm			
	LTE NB1 Band 5: 21.0dBm			
	LTE NB1 Band 12: 21.0dBm			
	LTE NB1 Band 13: 21.0dBm			
Terret TV Meri	LTE NB1 Band 25: 21.0dBm			
Target TX Max	LTE NB1 Band 26 (814-824): 21.0dBm			
Output Power	LTE NB1 Band 26 (824-849): 21.0dBm			
	LTE NB1 Band 66: 21.0dBm			
	LTE NB1 Band 71: 21.0dBm			
	LTE NB1 Band 85: 21.0dBm			
	LTE CatM1 Band 2: 22.0dBm LTE CatM1 Band 4: 22.0dBm			
	LTE CatM1 Band 4: 22.0dBm LTE CatM1 Band 5: 22.0dBm			
	LTE CatMT Band 5: 22.0dBm LTE CatM1 Band 12: 22.0dBm			
	LTE CatM1 Band 13: 22.0dBm			
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	LTE CatM1 Band 14: 22.0dBm		
	LTE CatM1 Band 25: 22.0dBm		
	LTE CatM1 Band 26 (814-824): 22.0dBm		
	LTE CatM1 Band 26 (824-849): 2		
	LTE CatM1 Band 66: 22.0dBm		
	LTE CatM1 Band 85: 22.0dBm		
	GSM Band	200KHz;	
	LTE NB1 Band 2	⊠180KHz;	
	LTE NB1 Band 4	X180KHz;	
	LTE NB1 Band 5	180KHz;	
	LTE NB1 Band 12	180KHz;	
	LTE NB1 Band 13	180KHz;	
	LTE NB1 Band 25	180KHz;	
	LTE NB1 Band 26 (814-824)	X180KHz;	
	LTE NB1 Band 26 (824-849)	X180KHz;	
	LTE NB1 Band 66	⊠180KHz;	
	LTE NB1 Band 71	⊠180KHz;	
	LTE NB1 Band 85	⊠180KHz;	
		\boxtimes 1.4 MHz; \boxtimes 3 MHz; \boxtimes 5 MHz; \boxtimes 10 MHz;	
Supported Channel	LTE CatM1 Band 2	\boxtimes 1.4 Min2, \boxtimes 3 Min2, \boxtimes 3 Min2, \boxtimes 10 Min2, \boxtimes 10 Min2, \boxtimes 15 MHz, \boxtimes 20 MHz	
Bandwidth		\square 1.4 MHz; \square 3 MHz; \square 5 MHz; \square 10 MHz;	
	LTE CatM1 Band 4	\boxtimes 1.4 Mi 12, \boxtimes 5 Mi 12, \boxtimes 5 Mi 12, \boxtimes 10 Mi 12, \boxtimes	
	LTE CatM1 Band 5	☐ ☐ 1.4 MHz; ☐ 3 MHz; ☐ 5 MHz; ☐ 10 MHz	
	LTE CatM1 Band 12	\square 1.4 MHz; \square 3 MHz; \square 5 MHz; \square 10 MHz	
	LTE CatM1 Band 13	\boxtimes 1.4 MHz, \boxtimes 3 MHz, \boxtimes 5 MHz, \boxtimes 10 MHz	
		S MHZ, ⊠10 MHZ	
	LTE CatM1 Band 14		
	LTE CatM1 Band 25	⊠1.4 MHz;⊠3 MHz; ⊠5 MHz; ⊠10 MHz; ⊠15 MHz, ⊠20 MHz	
	LTE CatM1 Band 26 (814-824)	☐ 1.4 MHz; ☐ 3 MHz; ☐ 5 MHz; ☐ 10 MHz	
	LTE CatM1 Band 26 (824-849)	\boxtimes 1.4 MHz; \boxtimes 3 MHz; \boxtimes 5 MHz; \boxtimes 10 MHz	
	, , , , , , , , , , , , , , , , , , ,	\boxtimes 1.4 MHz; \boxtimes 3 MHz; \boxtimes 5 MHz; \boxtimes 10 MHz;	
	LTE CatM1 Band 66	\boxtimes 15 MHz, \boxtimes 20 MHz	
	LTE CatM1 Band 85	⊠10 MHz; ⊠20 MHz	
Characteristics			
Characteristics	Description		
	GSM850	245KGXW; 247KG7W	
	GSM1900	243KGXW; 247KG7W	
Designation of	LTE NB1 Band 2	187KG7D;	
Emissions	LTE NB1 Band 4	187KG7D;	
	LTE NB1 Band 5	186KG7D;	
(Remark: the	LTE NB1 Band 12	186KG7D;	
necessary	LTE NB1 Band 13	186KG7D;	
bandwidth of which	LTE NB1 Band 25	187KG7D;	
is the worst value	LTE NB1 Band 26 (814-824)	186KG7D;	
from the measured	LTE NB1 Band 26 (824-849)	186KG7D;	
occupied bandwidths	LTE NB1 Band 66	187KG7D;	
for each type of	LTE NB1 Band 71	186KG7D;	
	LTE NB1 Band 85	186KG7D;	
channel bandwidth		1M11G7D;0M93W7D;	
		1M11G7D;0M93W7D;	
configuration.)			
configuration.)	LTE CatM1 Band 2	1M11G7D;0M93W7D;	



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		1M11G7D;0M93W7D;
		1M11G7D;0M93W7D;
		1M11G7D;0M92W7D;
		1M11G7D;0M92W7D;
	LTE CatM1 Band 4	1M11G7D;0M92W7D;
		1M11G7D;0M92W7D;
	LTE CatM1 Band 5	1M11G7D;0M92W7D;
	LTE Calimit Banu 5	1M11G7D;0M92W7D;
		1M11G7D;0M92W7D;
		1M10G7D;0M93W7D;
	LTE CatM1 Band 12	1M10G7D;0M93W7D;
		1M10G7D;0M93W7D;
		1M10G7D;0M93W7D;
	LTE CatM1 Band13	1M11G7D;0M92W7D;
	LTE CaliVIT Band 13	1M11G7D;0M92W7D;
	LTE CatM1 Band14	1M11G7D;0M93W7D;
	LTE CaliNT Band 14	1M11G7D;0M93W7D;
		1M11G7D;0M93W7D;
		1M11G7D;0M93W7D;
	LTE CotM1 Bond 25	1M11G7D;0M93W7D;
	LTE CatM1 Band 25	1M11G7D;0M93W7D;
		1M11G7D;0M93W7D;
		1M11G7D;0M93W7D;
	LTE CatM1 Band 26 (814-824)	1M11G7D;0M93W7D;
		1M11G7D;0M93W7D;
		1M11G7D;0M93W7D;
		1M11G7D;0M93W7D;
	LTE CatM1 Band 26 (824-849)	1M11G7D;0M92W7D;
	ζ, , ,	1M11G7D;0M92W7D;
		1M11G7D;0M92W7D;
		1M11G7D;0M92W7D;
		1M10G7D;0M92W7D;
		1M10G7D;0M92W7D;
		1M10G7D;0M92W7D;
	LTE CatM1 Band 66	1M10G7D;0M92W7D;
-		1M10G7D;0M92W7D;
		1M10G7D;0M92W7D;
		1M10G7D;0M92W7D;
	LTE CatM1 Band 85	1M10G7D;0M92W7D;
		, , ,

3.8 Test Frequencies

Test Mode	TX / RX	RF Channel				
		Low (L)	Middle (M)	High (H)		
	ТΧ	Channel 128	Channel 190	Channel 251		
COMOEO		824.2MHz	836.6 MHz	848.8 MHz		
GSM850	RX	Channel 128	Channel 190	Channel 251		
		869.2 MHz	881.6 MHz	893.8 MHz		



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	ТХ	Channel 512	Channel 661	Channel 810
GSM1900		1850.2MHz	1880.0 MHz	1909.8 MHz
GSM1900	RX	Channel 512	Channel 661	Channel 810
	ΓΛ	1930.2 MHz	1960.0 MHz	1989.8 MHz

Test Mede	Dava du vi dith			RF Channel		
Test Mode	Bandwidth	TX / RX	Low (L)	Middle (M)	High (H)	
		Ť	Channel 18601	Channel 18900	Channel 19199	
LTE NB1		ТХ	1850.1 MHz	1880 MHz	1909.9 MHz	
Band 2	180KHz		Channel 601	Channel 900	Channel 1199	
Duna 2		RX	1930.1 MHz	1960 MHz	1989.9 MHz	
			Channel 19951	Channel 20175	Channel 20399	
LTE NB1		ТХ	1710.1 MHz	1732.5 MHz	1754.9 MHz	
Band 4	180KHz	/	Channel 1975	Channel 2175	Channel 2375	
Duna 4		RX	2110.1 MHz	2132.5MHz	2154.9 MHz	
			Channel 20401	Channel 20525	Channel 20649	
LTE NB1		ТХ	824.1 MHz	836.5 MHz	848.9 MHz	
Band 5	180KHz		Channel 2401	Channel 2525	Channel 2649	
Dana J		RX	869.1 MHz	881.5 MHz	893.9 MHz	
			Channel 23011	Channel 23095	Channel 23179	
LTE NB1		ТХ	699.1 MHz	707.5 MHz	715.9 MHz	
Band 12	180KHz		Channel 5011	Channel 5095	Channel 5179	
Dana 12		RX	729.1 MHz	737.5 MHz	745.9 MHz	
		Ť	Channel 23181	Channel 23230	Channel 23279	
LTE NB1	1001/11	ТХ	777.1 MHz	782 MHz	786.9 MHz	
Band 13	180KHz	RX	Channel 5181	Channel 5230	Channel 5279	
			746.1 MHz	752 MHz	755.9 MHz	
		ту	Channel 26041	Channel 26365	Channel 26689	
LTE NB1		ТХ	1850.1 MHz	1882.5 MHz	1914.9 MHz	
Band 25	180KHz		DV	Channel 8041	Channel 8365	Channel 8689
		RX	1930.1 MHz	1962.5 MHz	1994.9 MHz	
	4001/11-	ту	Channel 26692	Channel 26740	Channel 26788	
LTE NB1 Band		ТХ	814.2 MHz	819 MHz	823.8 MHz	
26(814-824)	180KHz	RX	Channel 8692	Channel 8740	Channel 8788	
			859.2MHz	864MHz	868.8MHz	
		ΤХ	Channel 26791	Channel 26915	Channel 27039	
LTE NB1 Band	180KHz		824.1 MHz	836.5 MHz	848.9 MHz	
26(824-849)		RX	Channel 8791	Channel 8915	Channel 9039	
		ĸ۸	869.1 MHz	881.5 MHz	893.9 MHz	
		ΤХ	Channel 131973	Channel 132322	Channel 132671	
LTE NB1	180KHz		1710.1 MHz	1745 MHz	1779.9 MHz	
Band 66	TOURNZ	ΒV	Channel 66437	Channel 66786	Channel 67135	
		RX	2110.1 MHz	2145 MHz	2179.9 MHz	
		ΤХ	Channel 133123	Channel 133297	Channel 133471	
LTE NB1	180KHz		663.1 MHz	680.5 MHz	697.9 MHz	
Band 71	TOURNZ	RX	Channel 68587	Channel 68761	Channel 68935	
-		KΛ	617.1 MHz	634.5 MHz	651.9 MHz	
LTE NB1		τv	Channel 134003	Channel 134092	Channel 134181	
	180KHz	ТХ	698.1 MHz	707 MHz	715.9 MHz	
Band 85		RX	Channel 70367	Channel 0456	Channel 70545	



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	728.1 MHz	737 MHz	745.9 MHz

Test Mede	Bandwidth	TX /		RF Channel	
Test Mode	Danowidin	RX	Low (L)	Middle (M)	High (H)
		ΤХ	Channel 18607	Channel 18900	Channel 19193
	4 4141-		1850.7 MHz	1880 MHz	1909.3 MHz
	1.4MHz	RX	Channel 607	Channel 900	Channel 1193
		КЛ	1930.7 MHz	1960 MHz	1989.3 MHz
		ТХ	Channel 18615	Channel 18900	Channel 19185
	3MHz		1851.5 MHz	1880 MHz	1908.5 MHz
	SIVIEZ	RX	Channel 615	Channel 900	Channel 1185
		RΛ	1931.5 MHz	1960 MHz	1988.5 MHz
		ΤХ	Channel 18625	Channel 18900	Channel 19175
	5MHz		1852.5 MHz	1880 MHz	1907.5 MHz
		RX	Channel 625	Channel 900	Channel1175
LTE CatM1			1932.5 MHz	1960 MHz	1987.5 MHz
Band 2		тх	Channel 18650	Channel 18900	Channel 19150
	10MHz		1855 MHz	1880 MHz	1905 MHz
	ΙΟΙΝΙΠΖ	ΒV	Channel 650	Channel 900	Channel 1150
		RX	1935 MHz	1960 MHz	1985 MHz
		ΤХ	Channel 18675	Channel 18900	Channel 19125
	15MHz		1857.5 MHz	1880 MHz	1902.5 MHz
		RX	Channel 675	Channel 900	Channel 1125
		RΛ	1937.5 MHz	1960 MHz	1982.5 MHz
		ΤХ	Channel 18700	Channel 18900	Channel 19100
	20MHz		1860 MHz	1880 MHz	1900 MHz
		RX	Channel 700	Channel 900	Channel 1100
		ΓΛ	1940 MHz	1960 MHz	1980 MHz

Test Mode	Bandwidth	TX / RX	RF Channel		
Test Mode	Danuwiuth		Low (L)	Middle (M)	High (H)
		тх	Channel 19957	Channel 20175	Channel 20393
	1.4MHz		1710.7 MHz	1732.5 MHz	1754.3 MHz
LTE CatM1	1.410112	RX	Channel 1975	Channel 2175	Channel 2375
Band 4			2112.5 MHz	2132.5MHz	2152.5 MHz
Dund 4		тх	Channel 19965	Channel 20175	Channel 20385
	3MHz		1711.5 MHz	1732.5 MHz	1753.5 MHz
		RX	Channel 2000	Channel 2175	Channel 2350



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			2115 MHz	2132.5MHz	2150 MHz
		тх	Channel 19975	Channel 20175	Channel 20375
	5MHz		1712.5 MHz	1732.5 MHz	1752.5 MHz
	Sivii 12	RX	Channel 1975	Channel 2175	Channel 2375
			2112.5 MHz	2132.5MHz	2152.5 MHz
		тх	Channel 20000	Channel 20175	Channel 20350
	10MHz		1715 MHz	1732.5 MHz	1750 MHz
	TOMICZ	RX	Channel 2000	Channel 2175	Channel 2350
			2115 MHz	2132.5MHz	2150 MHz
		ТХ	Channel 20025	Channel 20175	Channel 20325
	15MHz		1717.5 MHz	1732.5 MHz	1747.5 MHz
	1 JIVII 12	RX	Channel 2025	Channel 2175	Channel 2325
			2117.5 MHz	2132.5MHz	2147.5 MHz
		тх	Channel 20050	Channel 20175	Channel 20300
	20MHz		1720 MHz	1732.5 MHz	1745 MHz
		RX	Channel 2050	Channel 2175	Channel 2300
		RX	2120 MHz	2132.5MHz	2145 MHz

TeetMede	Donoduuidth			RF Channel	
Test Mode	Bandwidth	TX/RX	Low (L)	Middle (M)	High (H)
		тх	Channel 20407	Channel 20525	Channel 20643
	1.4MHz		824.7 MHz	836.5 MHz	848.3 MHz
		RX	Channel 2407	Channel 2525	Channel 2643
		КΛ	869.7 MHz	881.5 MHz	893.3 MHz
		τv	Channel 20415	Channel 20525	Channel 20635
	3MHz	ТХ	825.5 MHz	836.5 MHz	847.5 MHz
		RX	Channel 2415	Channel 2525	Channel 2635
LTE CatM1			870.5 MHz	881.5 MHz	892.5 MHz
Band 5		тх	Channel 20425	Channel 20525	Channel 20625
	5MHz		826.5 MHz	836.5 MHz	846.5 MHz
	SIVINZ	DV	Channel 2425	Channel 2525	Channel 2625
		RX	871.5 MHz	881.5 MHz	891.5 MHz
		тх	Channel 20450	Channel 20525	Channel 20600
	10MHz		829 MHz	836.5 MHz	844 MHz
		RX	Channel 2450	Channel 2525	Channel 2600
		ΓA	874 MHz	881.5 MHz	889 MHz



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Teet Mede	Donalusialth		RF Channel		
Test Mode	Bandwidth	TX/RX	Low (L)	Middle (M)	High (H)
		TV	Channel 23017	Channel 23095	Channel 23173
		TX	699.7 MHz	707.5 MHz	715.3 MHz
	1.4MHz	RX	Channel 5017	Channel 5095	Channel 5173
		КЛ	729.7 MHz	737.5 MHz	745.3 MHz
		тх	Channel 23025	Channel 23095	Channel 23165
	3MHz		700.5 MHz	707.5 MHz	714.5 MHz
		RX	Channel 5025	Channel 5095	Channel 5165
LTE CatM1			730.5 MHz	737.5 MHz	744.5 MHz
Band 12		тх	Channel 23035	Channel 23095	Channel 23155
			701.5 MHz	707.5 MHz	713.5 MHz
	5MHz	RX	Channel 5035	Channel 5095	Channel 5155
		КЛ	731.5 MHz	737.5 MHz	743.5 MHz
		тх	Channel 23060	Channel 23095	Channel 23130
			704 MHz	707.5 MHz	711 MHz
	10MHz	RX	Channel 5060	Channel 5095	Channel 5130
		ΓA	734 MHz	737.5 MHz	741 MHz

Test Mode	Bandwidth	TX / RX	RF Channel		
Test Mode	Banuwium		Low (L)	Middle (M)	High (H)
		τv	Channel 23025	Channel 23230	Channel 23255
	5MHz	TX	779.5 MHz	782 MHz	784.5 MHz
	SIVIEZ	RX	Channel 5205	Channel 5230	Channel 5255
LTE CatM1			748.5 MHz	751 MHz	753.5 MHz
Band 13	40141	тх	Channel 23230	Channel 23230	Channel 23230
			782 MHz	782 MHz	782 MHz
	10MHz	ΒV	Channel 5230	Channel 5230	Channel 5230
		RX	751 MHz	751 MHz	751 MHz

Test Mode	Bandwidth	th TX / RX	RF Channel			
Test Mode	Danuwiutn		Low (L)	Middle (M)	High (H)	
		ТХ	Channel 23305	Channel 23330	Channel 23355	
	5MHz		790.5 MHz	793 MHz	795.5 MHz	
	SIMILE	RX -	Channel 5305	Channel 5330	Channel 5355	
LTE CatM1			760.5 MHz	763 MHz	765.5 MHz	
Band 14	10MHz	тх	Channel 23330	Channel 23330	Channel 23330	
			793MHz	793 MHz	793 MHz	
		RX	Channel 5330	Channel 5330	Channel 5330	
		ĸλ	763MHz	763 MHz	763 MHz	



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Test Mede	Bandwidth	TX / RX	RF Channel				
Test Mode	Danowidin		Low (L)	Middle (M)	High (H)		
		ТХ	Channel 26047	Channel 26365	Channel 26683		
	1.4MHz		1850.7 MHz	1882.5 MHz	1914.3 MHz		
	1.4IVITZ	RX	Channel 8047	Channel 8365	Channel 8683		
		ΓЛ	1930.7 MHz	1962.5 MHz	1994.3 MHz		
		ТХ	Channel 26055	Channel 26365	Channel 26675		
	3MHz		1851.5 MHz	1882.5 MHz	1913.5 MHz		
	SIVITZ	RX	Channel 8055	Channel 8365	Channel 8675		
		ΓЛ	1931.5 MHz	1962.5 MHz	1993.5 MHz		
		ТХ	Channel 26065	Channel 26365	Channel 26665		
	5MHz		1852.5 MHz	1882.5 MHz	1912.5 MHz		
		DV	Channel 8065	Channel 8365	Channel 8665		
LTE CatM1		RX	1932.5 MHz	1962.5 MHz	1992.5 MHz		
Band 25		ТХ	Channel 26090	Channel 26365	Channel 26640		
	10MHz		1855 MHz	1882.5 MHz	1910 MHz		
	TOMITZ	RX	Channel 8090	Channel 8365	Channel 8640		
			ΓA	1935 MHz	1962.5 MHz	1990 MHz	
		ТХ	Channel 26115	Channel 26365	Channel 26615		
	15MHz		1857.5 MHz	1882.5 MHz	1907.5 MHz		
	TOIVIE	RX	Channel 8115	Channel 8365	Channel 8615		
		ΓЛ	1937.5 MHz	1962.5 MHz	1987.5 MHz		
		τv	Channel 26140	Channel 26365	Channel 26590		
	20MHz	TX	1860 MHz	1882.5 MHz	1905 MHz		
		RX	Channel 8140	Channel 8365	Channel 8590		
		ΓΛ	1940 MHz	1962.5 MHz	1985 MHz		



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Test Mede	Dondwidth	TX / RX		RF Channel			
Test Mode	Bandwidth		Low (L)	Middle (M)	High (H)		
		ΤХ	Channel 26697	Channel 26740	Channel 26783		
	1.4MHz		814.7 MHz	819 MHz	823.3 MHz		
		RX	Channel 8697	Channel 8740	Channel 8783		
			859.7 MHz	864MHz	868.3 MHz		
		ΤХ	Channel 26705	Channel 26740	Channel 26775		
	3MHz		815.5 MHz	819 MHz	822.5 MHz		
LTE CatM1	SIVIFIZ	Sivil IZ	RX	Channel 8705	Channel 8740	Channel 8775	
Band26					860.5 MHz	864MHz	867.5 MHz
		ТХ	Channel 26715	Channel 26740	Channel 26765		
(814-824)		5MU-7	5MHz		816.5 MHz	819 MHz	821.5 MHz
		RX	Channel 8715	Channel 8740	Channel 8755		
			861.5 MHz	864MHz	866.5 MHz		
		ΤХ	Channel 26740	Channel 26740	Channel 26740		
	10MHz		819 MHz	819 MHz	819 MHz		
		RX	Channel 8740	Channel 8740	Channel 8740		
			864MHz	864MHz	864MHz		

Test Mode	Bandwidth TX / RX			RF Channel					
Test Mode	Danuwiuth		Low (L)	Middle (M)	High (H)				
		ТΧ	Channel 26797	Channel 26915	Channel 27033				
	1.4MHz		824.7 MHz	836.5 MHz	848.3 MHz				
	1.4IVITZ	RX	Channel 8697	Channel 8915	Channel 9033				
			859.7 MHz	881.5 MHz	893.3 MHz				
		ТΧ	Channel 26805	Channel 26915	Channel 27025				
	3MHz		825.5 MHz	836.5 MHz	847.5 MHz				
LTE CatM1	SIVIFIZ		SIVILIZ	RX	Channel 8805	Channel 8915	Channel 9025		
Band 26					860.5 MHz	881.5 MHz	892.5 MHz		
		ТΧ	Channel 26815	Channel 26915	Channel 27015				
(824-849)	5MHz		826.5 MHz	836.5 MHz	846.5 MHz				
						SIVIFIZ	RX	Channel 8815	Channel 8915
			871.5 MHz	881.5 MHz	891.5 MHz				
		TX	Channel 26840	Channel 26915	Channel 26990				
	10MHz		829 MHz	836.5 MHz	844 MHz				
		RX	Channel 8840	Channel 8915	Channel 8990				
		INA	874 MHz	881.5 MHz	889 MHz				



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TestMade	Bandwidth TX / RX			RF Channel		
Test Mode	Bandwidth		Low (L)	Middle (M)	High (H)	
		ТХ	Channel 131979	Channel 132322	Channel 132665	
	1.4MHz		1710.7 MHz	1745 MHz	1779.3 MHz	
	1.4IVITZ	RX	Channel 66443	Channel 66786	Channel 67129	
		КЛ	2110.7 MHz	2145MHz	2179.3 MHz	
		ТХ	Channel 131987	Channel 132322	Channel 132657	
	3MHz		1711.5 MHz	1745 MHz	1778.5MHz	
	SIVIEZ	RX	Channel 66451	Channel 66786	Channel 67121	
		КЛ	2111.5 MHz	2145MHz	2178.5MHz	
		ТХ	Channel 131997	Channel 132322	Channel 132647	
	5MHz		1712.5 MHz	1745 MHz	1777.5 MHz	
		υV	Channel 66461	Channel 66786	Channel 67711	
LTE CatM1		RX	2112.5 MHz	2145MHz	2177.5 MHz	
Band 66		TX	Channel 132022	Channel 132322	Channel 132622	
			1715 MHz	1745 MHz	1775 MHz	
	TOIVINZ	10MHz RX	Channel 66486	Channel 66786	Channel 67086	
				2115 MHz	2145MHz	2175 MHz
		τv	Channel 132047	Channel 132322	Channel 132597	
	15MHz	TX	1717.5 MHz	1745 MHz	1772.5 MHz	
		RX	Channel 66511	Channel 66786	Channel 67061	
		КЛ	2117.5 MHz	2145MHz	2172.5 MHz	
		ТΧ	Channel 132072	Channel 132322	Channel 132572	
	20141-		1720 MHz	1745 MHz	1770 MHz	
	20MHz	RX	Channel 66536	Channel 66786	Channel 67036	
		ΓΛ	2120 MHz	2145MHz	2170 MHz	

Test Mode	Bandwidth	TX / RX	RF Channel				
Test Mode	Banuwiutn		Low (L)	Middle (M)	High (H)		
		ТХ	Channel 23025	Channel 23090	Channel 23155		
	5MHz		700.5 MHz	707 MHz	713.5 MHz		
	SIMILIZ		RX	Channel 5025	Channel 5090	Channel 5155	
LTE CatM1		KA .	730.5 MHz	737 MHz	743.5 MHz		
Band 85		TV	Channel 23050	Channel 23090	Channel 23130		
	400411-		400411-	ТХ	703 MHz	707 MHz	711 MHz
	10MHz	RX	Channel 5050	Channel 5090	Channel 5130		
			KΛ	733 MHz	737 MHz	741 MHz	



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4 Description of Tests

4.1 Conducted Output Power

Measurement Procedure: FCC KDB 971168 D01 V03r01

The transmitter output was connected to a calibrated coaxial cable, attenuator and power meter, the other end of which was connected to a Base Station Simulator. The Base Station Simulator was set to force the EUT to its maximum power setting. The power output at the transmitter antenna port was determined by adding the value of the cable insertion loss to the power reading. The tests were performed at three frequencies (low channel, middle channel and high channel) and on the highest power levels, which can be setup on the transmitters.

Remark: Reference test setup 1

4.2 Effective (Isotropic) Radiated Power of Transmitter

Measurement Procedure: FCC KDB 971168 D01 V03r01 ; C63.26 (2015)

Calculate power in dBm by the following formula:

ERP (dBm) = Conducted Power (dBm) + antenna gain (dBd)

EIRP(dBm) = Conducted Power (dBm) + antenna gain (dBi)

EIRP=ERP+2.15dB

4.3 Occupied Bandwidth

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 4.2

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured. The transmitter output was connected to a calibrated coaxial cable, attenuator and Spectrum analyser, the other end of which was connected to a Base Station Simulator. The Base Station Simulator was set to force the EUT to its maximum power setting. The tests were performed at three frequencies (low channel, middle channel and high channel). The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts. The resolution bandwidth shall be set to as close to 1 percent of the selected span as is possible without being below 1 percent. The video bandwidth shall be set to 3 times the resolution bandwidth. Video averaging is not permitted. Where practical, a sampling detector shall be used since a peak or, peak hold, may produce a wider bandwidth than actual. The trace data points are recovered and are directly summed in linear terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 percent of the total is reached and that frequency recorded. The process is repeated for the highest frequency data points. This frequency is recorded. The span between the two recorded frequencies is the occupied bandwidth.

Remark1: Because the effective bandwidth of LTE CatM1 is 1.4MHz. We only choose 5MHz bandwidth for testing, and the data can represent all bandwidth.

Remark2: Reference test setup 1



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Test Settings

- The signal analyzer's automatic bandwidth measurement capability was used to perform the 99% occupied bandwidth and the 26dB bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
- 2. RBW = 1 5% of the expected OBW
- 3. VBW ≥ 3 x RBW
- 4. Detector = Peak
- 5. Trace mode = max hold
- 6. Sweep = auto couple
- 7. The trace was allowed to stabilize
- 8. If necessary, steps 2 7 were repeated after changing the RBW such that it would be within

1 - 5% of the 99% occupied bandwidth observed in Step 7

4.4 Band Edge at Antenna Terminals

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 6.0

The transmitter output was connected to a calibrated coaxial cable, attenuator and Spectrum analyser, the other end of which was connected to a Base Station Simulator. The Base Station Simulator was set to force the EUT to its maximum power setting. The tests were performed at two frequencies (low channel and high channel).in the 1MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of 100kHz or 1% of the emission bandwidth of the fundamental emission of the transmitter may be employed. The EUT emission bandwidth is measured as the width of the signal between two points, outside of which all emission are attenuated at least 26dB below the transmitter power. The video bandwidth of the spectrum analyzer was set at thrice the resolution bandwidth. Detector Mode was set to peak or peak hold power.

Remark: Reference test setup 1

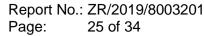
Test Settings

- 1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
- 2. Span was set large enough so as to capture all out of band emissions near the band edge
- 3. RBW ≥ 1% of the emission bandwidth
- 4. $VBW \ge 3 \times RBW$
- 5. Detector = RMS
- 6. Number of sweep points ≥ 2 x Span/RBW
- 7. Trace mode = trace average for continuous emissions, max hold for pulse emissions
- 8. Sweep time = auto couple
- 9. The trace was allowed to stabilize



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4.5 Spurious And Harmonic Emissions at Antenna Terminal

Measurement Procedure: FCC KDB 971168 D01 V03r01

The transmitter output was connected to a calibrated coaxial cable, attenuator and Spectrum analyzer, the other end of which was connected to a Base Station Simulator. The Base Station Simulator was set to force the EUT to its maximum power setting. The tests were performed at three frequencies (low channel and high channel). The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log(P) dB. Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.

Remark: Reference test setup 1

Test Settings

- 1. Start frequency was set to 30MHz and stop frequency was set to at least 10 * the fundamental frequency (separated into at least two plots per channel)
- Detector = RMS
- 3. Trace mode = trace average for continuous emissions, max hold for pulse emissions
- Sweep time = auto couple
- 5. The trace was allowed to stabilize
- 6. Please see test notes below for RBW and VBW settings

4.6 Peak-Average Ratio

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 5.7.1

A peak to average ratio measurement is performed at the conducted port of the EUT. For WCDMA signals, the spectrum analyzers Complementary Cumulative Distribution Function (CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT in a given bandwidth. The CCDF curve shows how much time the peak waveform spends at or above a given average power level. The percent of time the signal spends at or above the level defines the probability for that particular power level. For GSM signals, an average and a peak trace are used on a spectrum analyzer to determine the largest deviation between the average and the peak power of the EUT in a bandwidth greater than the emission bandwidth. The traces are generated with the spectrum analyzer set to zero span mode.

Remark: Reference test setup 1



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Test Settings

- 1. The signal analyzer's CCDF measurement profile is enabled
- 2. Frequency = carrier center frequency
- 3. Measurement BW > Emission bandwidth of signal
- 4. The signal analyzer was set to collect one million samples to generate the CCDF curve
- 5. The measurement interval was set depending on the type of signal analyzed. For continuous signals (>98% duty cycle), the measurement interval was set to 1ms. For burst transmissions, the spectrum analyzer is set to use an internal "RF Burst" trigger that is synced with an incoming pulse and the measurement interval is set to less than the duration of the "on time" of one burst to ensure that energy is only captured during a time in which the transmitter is operating at maximum power

4.7 Field Strength of Spurious Radiation

Measurement Procedure: FCC KDB 971168 D01 V03r01

Below 1GHz test procedure as below:

- 1). The EUT was powered ON and placed on a 80cm high table in the chamber. The antenna of the transmitter was extended to its maximum length.
- 2). The disturbance of the transmitter was maximized on the test receiver display by raising and lowering from 1m to 4m (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) the receive antenna and by rotating through 360° the turntable. After the fundamental emission was maximized, a field strength measurement was made.
- 3). Steps 1) and 2) were performed with the EUT and the receive antenna in both vertical and horizontal polarization.
- 4). The transmitter was then removed and replaced with another antenna. The center of the antenna was approximately at the same location as the center of the transmitter.
- 5). A signal at the disturbance was fed to the substitution antenna by means of a non-radiating cable. With both the substitution and the receive antennas horizontally polarized, the receive antenna was raised and lowered to obtain a maximum reading at the test receiver. The level of the signal generator was adjusted until the measured field strength level in step 2) is obtained for this set of conditions.
- 6). The output power into the substitution antenna was then measured.
- 7). Steps 5) and 6) were repeated with both antennas polarized.
- 8) Calculate power in dBm by the following formula:

ERP(dBm) = Pg(dBm) - cable loss (dB) + antenna gain (dBd)

Where:

Pd is the dipole equivalent power, Pg is the generator output into the substitution antenna, and the antenna gain is the gain of the substitute antenna used relative to either a half-wave dipole (dBd) or an isotropic source (dBi). The substitute level is equal to Pg [dBm] – cable loss [dB]. The calculated Pd levels are then compared to the absolute spurious emission limit of -13dBm which is equivalent to the required minimum attenuation of $43 + 10\log 10$ (Power [Watts]).

Above 1GHz test procedure as below:

1) Different between above is the test site, change from Semi- Anechoic

Chamber to fully Anechoic Chamber



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2) Calculate power in dBm by the following formula:

EIRP(dBm) = Pg(dBm) - cable loss (dB) + antenna gain (dBi)

EIRP=ERP+2.15dB

Where:

Pg is the generator output power into the substitution antenna.

- 3. Test the EUT in the lowest channel, the middle channel the Highest channel
- 4. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, Only the test worst case mode is recorded in the report.
- 5. Repeat above procedures until all frequencies measured was complete

Remark: Reference test setup 3

4.8 Frequency Stability / Temperature Variation

Measurement Procedure:

Frequency stability testing is performed in accordance with the guidelines of FCC KDB 971168 D01 V03r01; ANSI/C63.26 (2015)

- . The frequency stability of the transmitter is measured by:
- a.) **Temperature:** The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.
- b.) **Primary Supply Voltage:** The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

Specification – The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ (± 2.5 ppm) of the center frequency.

Time Period and Procedure:

- 1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
- 2. The equipment is turned on in a "standby" condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
- 3. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

Remark: Reference test setup 4



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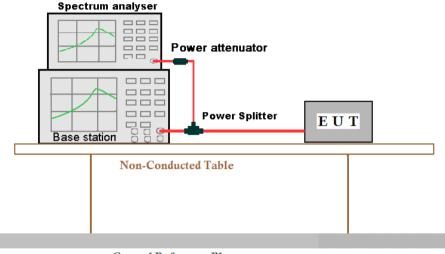
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4.9 Test Setups

4.9.1 Test Setup 1



Ground Reference Plane

4.9.2 Test Setup 2

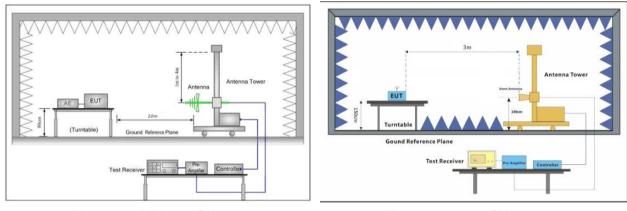


Figure 1. 30MHz to 1GHz





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4.9.3 Test Setup 3

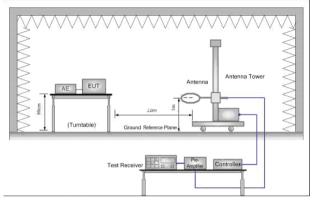


Figure 1. Below 30MHz

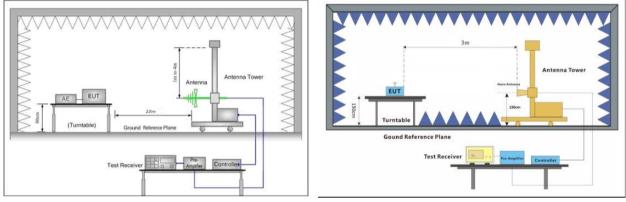
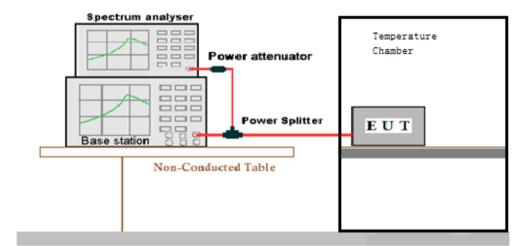


Figure 2. 30MHz to 1GHz

Figure 3. above 1GHz



Ground Reference Plane



4.9.4 Test Setup 4

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4.10 Test Conditions

Test Case		Test Conditions		
		Test Environment	Ambient Climate & Rated Voltage	
	Average	Test Setup	Test Setup 1	
Power, Total	RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= I channel)		
Transmit Output		Test Mode	GSM/TM1; GSM/TM2; LTE NB1/TM1; LTE NB1/TM2; LTE CatM1/TM1; LTE CatM1/TM2	
Power	Average	Test Environment	Ambient Climate & Rated Voltage	
Data	Average Power,	Test Setup	Test Setup 1	
	Spectral Density (if	RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)	
	required)	Test Mode	GSM/TM1; GSM/TM2; LTE NB1/TM1; LTE NB1/TM2; LTE CatM1/TM1; LTE CatM1/TM2	
		Test Environment	Ambient Climate & Rated Voltage	
Peak-to-Ave	orago Patio	Test Setup	Test Setup 1	
(if required)	•	RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)	
		Test Mode	GSM/TM1; GSM/TM2; LTE NB1/TM1; LTE NB1/TM2; LTE CatM1/TM1; LTE CatM1/TM2	
		Test Environment	Ambient Climate & Rated Voltage	
Modulation		Test Setup	Test Setup 1	
Characteris	tics	RF Channels (TX)	M (M= middle channel)	
		Test Mode	GSM/TM1; GSM/TM2; LTE NB1/TM1; LTE NB1/TM2; LTE CatM1/TM1; LTE CatM1/TM2	
		Test Environment	Ambient Climate & Rated Voltage	
		Test Setup	Test Setup 1	
	Occupied Bandwidth	RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)	
Bandwidth		Test Mode	GSM/TM1; GSM/TM2; LTE NB1/TM1; LTE NB1/TM2; LTE CatM1/TM1; LTE CatM1/TM2	
Danuwidin		Test Environment	Ambient Climate & Rated Voltage	
	Emission	Test Setup	Test Setup 1	
Bandwidth (if	(if	RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)	
required)		Test Mode	GSM/TM1; GSM/TM2; LTE NB1/TM1; LTE NB1/TM2; LTE CatM1/TM1; LTE CatM1/TM2	
Band Edges	3	Test Environment	Ambient Climate & Rated Voltage	
Compliance	•	Test Setup	Test Setup 1	
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	RF Channels (TX)	L, H (L= low channel, H= high channel)		
	Test Mode	GSM/TM1; GSM/TM2; LTE NB1/TM1; LTE NB1/TM2; LTE CatM1/TM1; LTE CatM1/TM2		
	Test Environment	Ambient Climate & Rated Voltage		
	Test Setup	Test Setup 1		
Spurious Emission at	RF Channels (TX)	L,M, H		
Antenna Terminals		(L= low channel, M= middle channel, H= high channel)		
	Test Mode	GSM/TM1; GSM/TM2; LTE NB1/TM1; LTE NB1/TM2; LTE CatM1/TM1; LTE CatM1/TM2		
	Test Environment	Ambient Climate & Rated Voltage		
	Test Setup	Test Setup 2		
Field Strength of		GSM/TM1; GSM/TM2; LTE NB1/TM1; LTE NB1/TM2; LTE CatM1/TM1; LTE CatM1/TM2		
Spurious Radiation	Test Mode	Remark: If applicable, the EUT conf. that has maximum power density (based on the equivalent power level) is selected.		
	RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)		
	Test Environment	(1) -30 °C to +50 °C with step 10 °C at Rated Voltage;		
	rest Environment	(2) VL, VN and VH of Rated Voltage at Ambient Climate.		
	Test Setup	Test Setup 4		
Frequency Stability	RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)		
	Test Mode	GSM/TM1; GSM/TM2; LTE NB1/TM1; LTE NB1/TM2; LTE CatM1/TM1; LTE CatM1/TM2		



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5 Main Test Instruments

	RE in Chambe	er			
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date	Cal.Due date
			-	(yyyy-mm-dd)	(yyyy-mm-dd)
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2018/3/13	2021/3/12
Spectrum Analyzer (20Hz-43GHz)	Rohde & Schwarz	FSU43	SEM004-08	2019/3/2	2020/3/1
BiConiLog Antenna (26-3000MHz)	ETS-Lindgren	3142C	SEM003-01	2017/6/27	2020/6/26
Horn Antenna (800MHz-18GHz)	Rohde & Schwarz	HF907	SEM003-07	2018/413	2021/412
Horn Antenna (15-40GHz)	Schwarzbeck	BBHA 9170	SEM003-15	2017/10/17	2020/10/16
Amplifier (0.1-1300MHz)	HP	8447D	SEM005-02	2019/7/14	2020/7/14
Low Noise Amplifier (100MHz-18GHz)	Black Diamond Series	BDLNA-0118-352810	SEM005-05	2019/7/14	2020/7/14
Pre-Amplifier (0.1-26.5GHz)	Compliance Directions Systems Inc.	PAP-0126	EMC2063	2019/9/20	2020/9/19
Pre-amplifier (26-40GHz)	Compliance Directions Systems Inc.	PAP-2640-50	SEM005-08	2019/3/2	2020/3/1
Band filter	N/A	N/A	N/A	N/A	N/A
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2019/6/12	2020/6/11
Wideband Radio CommunicationTeste	Anristu	MT8821C	6201462742	2019/4/3	2020/4/3
Wideband Radio CommunicationTester	Rohde & Schwarz	CMW500	W005-02	2019/1/13	2020/1/12
	RF conducted t	test			
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date	Cal.Due date
• •				(yyyy-mm-dd)	(yyyy-mm-dd)
Dual Output Mobile Communication DC Source	Agilent Technologies Inc	66311B	W009-09	2018/11/2	2019/11/1
Signal Analyzer	Rohde & Schwarz	FSV	W005-02	2019/3/2	2020/3/1
Coaxial Cable	SGS	N/A	SEM031-01	2019/6/12	2020/6/11
Attenuator	Weinschel Associates	WA41	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2018/11/2	2019/11/1
3	Shanghai Meteorological Industry				
Humidity/ Temperature Indicator	Factory	HTC-1	W006-17	2018/11/2	2019/11/1
Temperature Chamber	GIANT FORCE	ICT-150-40-CP-AR	W027-03	2018/11/2	2019/11/1
Wideband Radio CommunicationTeste	Anristu	MT8821C	6201462742	2019/3/2	2020/3/1
Wideband Radio CommunicationTester	Rohde & Schwarz	CMW500	W005-02	2018/11/2	2019/11/1
	RF conducted	test			
To at Faurinmont	Manufacturer	Model No.		Cal. date	Cal.Due date
Test Equipment	Manufacturer	woder No.	Inventory No.	(yyyy-mm-dd)	(yyyy-mm-dd)
Dual Output Mobile Communication DC Source	Agilent Technologies Inc	66311B	W009-09	2019/3/2	2020/3/1
Signal Analyzer	Rohde & Schwarz	FSV	W005-02	2019/3/2	2020/3/1
Coaxial Cable	SGS	N/A	SEM031-01	2018/11/2	2019/11/1
Attenuator	Weinschel Associates	WA41	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2018/11/2	2019/11/1
Humidity/ Temperature Indicator	Shanghai Meteorological Industry	HTC-1	W006-17	2019/3/2	2019/11/1
Tana and an Obarahan	Factory		14/007.00	0040/0/0	0000/0/4
Temperature Chamber	GIANT FORCE	ICT-150-40-CP-AR	W027-03	2019/3/2	2020/3/1
Wideband Radio CommunicationTeste	Anristu	MT8821C	6201462742	2019/3/2	2020/3/1
Wideband Radio CommunicationTester	Rohde & Schwarz	CMW500	W005-02	2019/3/2	2020/3/1
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date	Cal.Due date
••				(yyyy-mm-dd)	(yyyy-mm-dd)
Dual Output Mobile Communication DC Source	Agilent Technologies Inc	66311B	W009-09	2019/7/15	2020/7/14
Signal Analyzer	Rohde & Schwarz	FSV	W025-05	2019/1/13	2020/1/12
Coaxial Cable	SGS	N/A	SEM031-01	2019/6/12	2020/6/11
	Weinschel Associates	WA41	SEM021-09	N/A	N/A
Attenuator		N5173B	SEM006-05	2019/7/14	2020/7/14
Attenuator Signal Generator	KEYSIGHT		0211000000	2010/1/14	2020/1/14
Attenuator Signal Generator Humidity/ Temperature Indicator	KEYSIGHT Shanghai Meteorological Industry	HTC-1	W006-17	2019/7/15	2020/7/14
Signal Generator Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	HTC-1			
Signal Generator Humidity/ Temperature Indicator Temperature Chamber	Shanghai Meteorological Industry Factory GIANT FORCE	HTC-1 ICT-150-40-CP-AR	W027-03	2018/11/27	2019/11/27
Signal Generator Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	HTC-1			



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Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (yyyy-mm- dd)	Cal. Due date (yyyy- mm-dd)
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2018/3/13	2021/3/12
Wideband Radio CommunicationTeste	Anristu	MT8821C	6201462742	2019/4/3	2020/4/3
Wideband Radio CommunicationTester	Rohde & Schwarz	CMW500	W005-02	2019/1/13	2020/1/12
EXA Signal Analyzer (10Hz-26.5GHz)	Agilent Technologies Inc	N9010A	SEM004-09	2019/3/13	2020/3/12
Spectrum Analyzer (20Hz-43GHz)	Rohde & Schwarz	FSU43	SEM004-08	2019/3/2	2020/3/1
BiConiLog Antenna (26-3000MHz)	ETS-Lindgren	3142C	SEM003-01	2017/6/27	2020/6/26
Horn Antenna (800MHz-18GHz)	Rohde & Schwarz	HF907	SEM003-07	2018/4/13	2021/4/12
Horn Antenna (15-40GHz)	Schwarzbeck	BBHA 9170	SEM003-15	2017/10/17	2020/10/16
Amplifier (0.1-1300MHz)	HP	8447D	SEM005-02	2019/7/25	2020/7/24
Pre-Amplifier (0.1-26.5GHz)	Compliance Directions Systems Inc.	PAP-0126	SEM004-11	2019/7/25	2020/7/24
Pre-amplifier (26-40GHz)	Compliance Directions Systems Inc.	PAP-2640-50	SEM005-08	2019/3/2	2020/3/1
Band filter	N/A	N/A	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2019/6/12	2020/6/11
Tunable Notch Filter WRCD1700/2000-0.2/40-10EEK	WAINRIGHT Instruments GMBH	N/A	N/A	N/A	N/A
Tunable Notch Filter WRCD800/960-0.2/40-10EEK	WAINRIGHT Instruments GMBH	N/A	N/A	N/A	N/A
HighPass Filter WHK1.2/15G-10SS	WAINRIGHT Instruments GMBH	N/A	N/A	N/A	N/A
HighPass Filter WHKX10-2700-3000-18000-40SS	WAINRIGHT Instruments GMBH	N/A	N/A	N/A	N/A
HighPass Filter WHKX7.0/26.5G-6SS	WAINRIGHT Instruments GMBH	N/A	N/A	N/A	N/A
Band Reject Filter WRCG 824/849-814/859-40/8SS	WAINRIGHT Instruments GMBH	N/A	N/A	N/A	N/A
Band Reject Filter WRCG 1850/1910-1835/1925-40/8SS	WAINRIGHT Instruments GMBH	N/A	N/A	N/A	N/A
Measurement Software	AUDIX	e3 V8.2014- 6-27	N/A	N/A	N/A



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6 Measurement Uncertainty

For a 95% confidence level (k = 2), the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 as following:

Test Item	Extended Uncertainty	Data
Transmit Output Power Data	Power [dBm]	U =±0.37 dB
Bandwidth	Magnitude [%]	U =± 0.2%
Band Edge Compliance	Disturbance Power [dBm]	U = ±2.0 dB
Spurious Emissions, Conducted	Disturbance Power [dBm]	U = ±2.0 dB
		For 3 m Chamber:
		$U = \pm 4.5 \text{ dB}$ (30 MHz to 1GHz)
Field Strength of Spurious Radiation	ERP[dBm]/EIRP [dBm]	$U = \pm 3.3 \text{ dB}$ (above 1 GHz)
		For 10 m Chamber:
		$U = \pm 4.5 \text{ dB}$ (30 MHz to 1GHz)
		$U = \pm 3.2 \text{ dB}$ (above 1 GHz)
Frequency Stability	Frequency Accuracy [ppm]	U = ±0.24 ppm

7 Appendixes

Appendix A	Photographs of EUT Constructional Details for ZR201980032
Appendix B.1	GSM 850 & 1900
Appendix B.2	LTE NB1 Band 2
Appendix B.3	LTE NB1 Band 4
Appendix B.4	LTE NB1 Band 5
Appendix B.5	LTE NB1 Band 12
Appendix B.6	LTE NB1 Band 13
Appendix B.7	LTE NB1 Band 25
Appendix B.8	LTE NB1 Band 26(814-824)
Appendix B.9	LTE NB1 Band 26(824-849)
Appendix B.10	LTE NB1 Band 66
Appendix B.11	LTE NB1 Band 71
Appendix B.12	LTE NB1 Band 85
Appendix B.13	LTE CatM1 Band 2
Appendix B.14	LTE CatM1 Band 4
Appendix B.15	LTE CatM1 Band 5
Appendix B.16	LTE CatM1 Band 12
Appendix B.17	LTE CatM1 Band 13
Appendix B.18	LTE CatM1 Band 14
Appendix B.19	LTE CatM1 Band 25
Appendix B.20	LTE CatM1 Band 26(814-824)
Appendix B.21	LTE CatM1 Band 26(824-849)
Appendix B.22	LTE CatM1 Band 66
Appendix B.23	LTE CatM1 Band 85

The End



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