



TEST REPORT

Applicant Name : Suzhou Ruibetaike Electronic Technology Co., Ltd.
Address : Nanan Intelligent Science and Technology Port, U Valley of Liandong
Nanan, Guangzhou city, China
Report Number : XMTN1220526-23042E-RF
FCC ID: 2A6SY-VP398

Test Standard (s)
FCC PART 22H;

Sample Description

Product: 4G network walkie talkie
Tested Model: VP398
Trademark: KAILIJIE
Date Received: 2022-05-20
Date of Test: 2022-05-21 to 2022-06-20
Report Date: 2022-06-21

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards above.

Prepared and Checked By:

Black Ding

Black Ding
EMC Engineer

Approved By:

Candy Li

Candy Li
EMC Engineer

Note: This report may contain data that are not covered by the A2LA accreditation and are marked with an asterisk "★".

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product	4G network walkie talkie
Tested Model	VP398
Frequency Range	WCDMA Band 5: 824-849MHz(TX); 869-894MHz(RX) LTE Band 5: 824-849MHz(TX); 869-894MHz(RX)
Maximum Output Power (ERP)	WCDMA Band 5:23.30dBm LTE Band 5:23.34dBm;
Modulation Technique	3G: BPSK, QPSK, 16QAM 4G: QPSK, 16QAM
Antenna Specification*	Internal Antenna: 3dBi (provided by the applicant):
Voltage Range	DC4.2V from battery or DC 5V from adapter
Sample serial number	XMTN1220526-23042E-RF-S1 (Assigned by ATC)
Sample/EUT Status	Good condition
Normal/Extreme Condition:	LV: Low Voltage 3.78 V _{DC} ; NV: Normal Voltage 4.2V _{DC} ; HV: High Voltage 5V _{DC} (provided by the applicant)

Objective

This test report is in accordance with Part 2-Subpart J, Part 22-Subpart H of the Federal Communication Commission's rules.

The objective is to determine the compliance of the EUT with FCC rules for output power, modulation characteristic, occupied bandwidth, and spurious emission at antenna terminal, spurious radiated emission, frequency stability and band edge.

Test Methodology

All tests and measurements indicated in this document were performed in accordance with the Code of Federal Regulations Title 47 Part 2-Subpart J as well as the following parts:

Part 22 Subpart H - Public Mobile Services

ANSI C63.26-2015: American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services

All emissions measurement was performed at Shenzhen Accurate Technology Co., Ltd. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Measurement Uncertainty

Parameter		Uncertainty
Occupied Channel Bandwidth		5%
RF output power, conducted		0.73dB
Unwanted Emission, conducted		1.6dB
RF Frequency		0.082×10^{-7}
Emissions, Radiated	30MHz - 1GHz	4.28dB
	1GHz - 18GHz	4.98dB
	18GHz - 26.5GHz	5.06dB
Temperature		1°C
Humidity		6%
Supply voltages		0.4%

Note: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

Test Facility

The Test site used by Shenzhen Accurate Technology Co., Ltd. to collect test data is located on the 1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China.

The test site has been approved by the FCC under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No.: 708358, the FCC Designation No.: CN1189. Accredited by American Association for Laboratory Accreditation (A2LA) The Certificate Number is 429 7.01.

Listed by Innovation, Science and Economic Development Canada (ISED), the Registration Number is 5077A.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The final qualification test was performed with the EUT operating at normal mode.

The test items were performed with the EUT operating at testing mode. Test was performed with channels as below table:

Band	Channel Bandwidth	Frequency
WCDMA Band 5	4.2 MHz	826.4MHz, 836.6MHz, 846.6MHz
LTE Band 5	1.4 MHz	824.7MHz, 836.5MHz, 848.3MHz
	3.0 MHz	825.5MHz, 836.5MHz, 847.5MHz
	5.0 MHz	826.5MHz, 836.5MHz, 846.5MHz
	10.0 MHz	829MHz, 836.5MHz, 844MHz

Equipment Modifications

No modification was made to the EUT.

Support Equipment List and Details

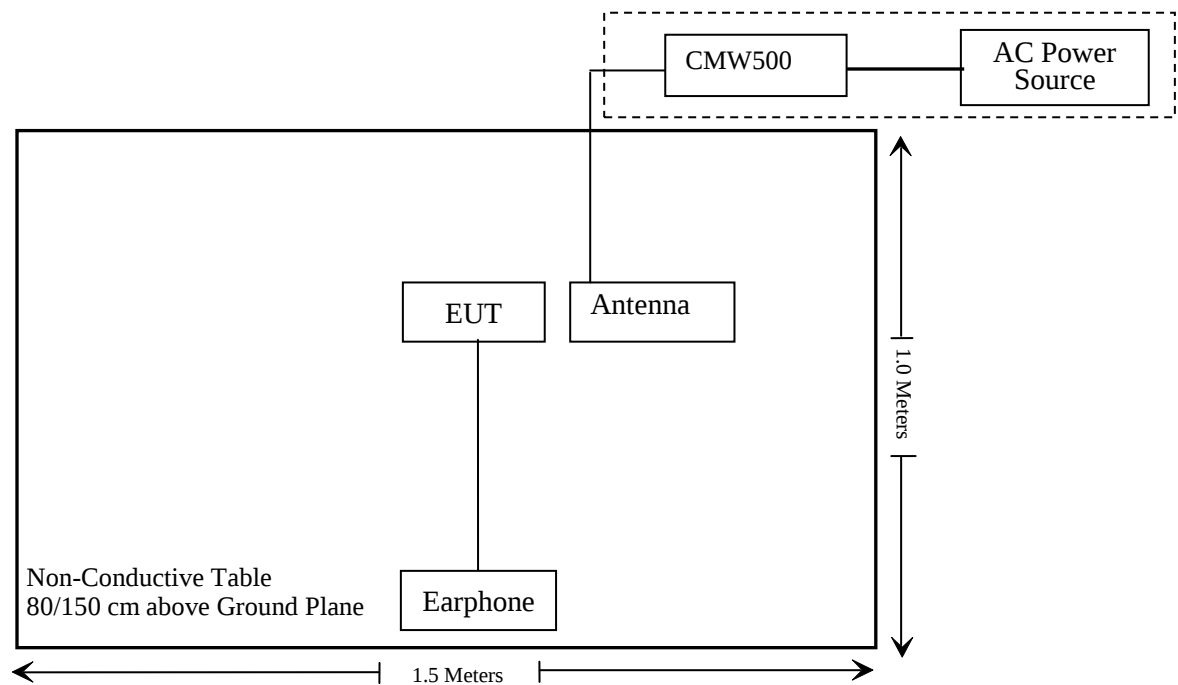
Manufacturer	Description	Model	Serial Number
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	1201.002K50-116218-UY
Unknown	Earphone	Unknown	Unknown

Support Cable Description

Cable Description	Length (m)	From / Port	To
Unshielded Un-detachable AC cable	1.2	AC Power	CMW500
Unshielded Un-detachable Earphone cable	1.0	EUT	Earphone

Block Diagram of Test Setup

For Radiated emission:



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§1.1307 , §2.1093	RF Exposure (SAR)	Compliant*
§2.1046; § 22.913 (a);	RF Output Power	Compliant
§ 2.1047	Modulation Characteristics	Not Applicable
§ 2.1049; § 22.905; § 22.917;	Occupied Bandwidth	Compliant
§ 2.1051; § 22.917 (a);	Spurious Emissions at Antenna Terminal	Compliant
§ 2.1053; § 22.917 (a);	Field Strength of Spurious Radiation	Compliant
§ 22.917 (a);	Band Edge	Compliant
§ 2.1055; § 22.355;	Frequency stability	Compliant

Compliant*: Please refer to SAR report number: XMTN1220526-23042E-SA

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emission Test					
Rohde & Schwarz	Test Receiver	ESR	102725	2021/12/13	2022/12/12
Rohde & Schwarz	Spectrum Analyzer	FSV40	101949	2021/12/13	2022/12/12
SONOMA INSTRUMENT	Amplifier	310 N	186131	2021/11/09	2022/11/08
A.H. Systems, inc.	Preamplifier	PAM-0118P	135	2021/11/09	2022/11/08
Schwarzbeck	Bilog Antenna	VULB9163	9163-323	2021/07/06	2024/07/05
Schwarzbeck	Bilog Antenna	VULB9163	9163-194	2020/01/05	2023/01/04
Schwarzbeck	Horn Antenna	BBHA9120D	9120D-1067	2020/01/05	2023/01/04
Schwarzbeck	Horn Antenna	BBHA9120D	9120D-655	2020/01/05	2023/01/04
Unknown	Band Reject Filter	MSF824-862 MS-1147	ATCE-141	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.16	N200	2021/12/14	2022/12/13
Agilent	Signal Generator	N5183A	MY51040755	2021/12/13	2022/12/12
Unknown	RF Coaxial Cable	No.10	N050	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.11	N1000	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.12	N040	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.13	N300	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.14	N800	2021/12/14	2022/12/13
Radiated Emission Test Software: e3 19821b(V9)					

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
RF Conducted Test					
Rohde & Schwarz	Spectrum Analyzer	FSV-40	101495	2021/12/13	2022/12/12
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	154606	2021/12/13	2022/12/12
Mini-Circuits	Power Splitter	DC-18000MHz	SF10944151S	2021/12/14	2022/12/13
Gongwen	Temp. & Humid. Chamber	HSD-500	109	2021/10/14	2022/10/13
Unknown	RF Coaxial Cable	No.32	RF-02	Each time	
Unknown	RF Coaxial Cable	No.33	RF-03	Each time	

* Statement of Traceability: Shenzhen Accurate Technology Co., Ltd. attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

FCC §1.1307(b) & §2.1093 - RF EXPOSURE INFORMATION

Applicable Standard

FCC§1.1310 and §2.1093.

Test Result

Compliant, please refer to the SAR report: XMTN1220526-23042E-SA

FCC §2.1047 - MODULATION CHARACTERISTIC

According to FCC § 2.1047(d), Part 22H, there is no specific requirement for digital modulation, therefore modulation characteristic is not presented.

FCC § 2.1046, § 22.913 (a) - RF OUTPUT POWER

Applicable Standard

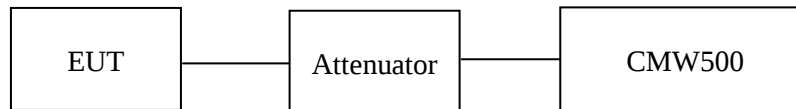
According to FCC §2.1046 and §22.913 (a), the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

The peak-to-average power ratio (PAPR) of the transmitter output power must not exceed 13 dB.

Test Procedure

Conducted method:

The RF output of the transmitter was connected to the CMW500 through sufficient attenuation.



Radiated method:

ANSI C63.26-2015 Section 5.5.

Test Data**Environmental Conditions**

Temperature:	24 °C
Relative Humidity:	52 %
ATM Pressure:	101.0 kPa

The testing was performed by Jeff Jiang on 2022-06-10.

Conducted Power**Cellular Band (Part 22H)**

Mode	Test Mode	3GPP Sub Test	Average Output Power (dBm)			ERP(dBm)		
			Low	Mid	High	Low	Mid	High
WCDMA (Band 5)	RMC12.2k		22.78	22.95	22.88	23.13	23.30	23.23
	HSDPA	1	21.41	22.04	21.56	21.76	22.39	21.91
		2	21.46	21.70	21.96	21.81	22.05	22.31
		3	22.44	22.40	22.44	22.79	22.75	22.79
		4	21.93	21.28	22.22	22.28	21.63	22.57
	HSUPA	1	22.27	22.36	21.36	22.62	22.71	21.71
		2	22.24	21.64	21.68	22.59	21.99	22.03
		3	22.13	22.42	22.27	22.48	22.77	22.62
		4	21.35	21.06	21.48	21.70	21.41	21.83
		5	21.17	21.58	21.47	21.52	21.93	21.82

Note: $ERP(dBm) = \text{Conducted Power}(dBm) + \text{Antenna Gain}(dBd) - \text{Cable loss}(dB)$

For WCDMA Band5: Antenna Gain = 3dBi = 0.85dBd (0dBd=2.15dBi)

For Below 1GHz, Cable Loss=0.5dB* (provided by the applicant)

Limit: $ERP \leq 38.45dBm$

LTE Band 5

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			ERP(dBm)		
			Low	Mid	High	Low	Mid	High
1.4	QPSK	RB1#0	21.47	21.86	22.50	21.82	22.21	22.85
		RB1#2	22.49	22.48	22.55	22.84	22.83	22.90
		RB1#5	22.55	21.52	22.88	22.90	21.87	23.23
		RB3#0	21.26	21.25	22.15	21.61	21.60	22.5
		RB3#1	22.40	21.70	22.33	22.75	22.05	22.68
		RB3#2	22.16	21.87	21.62	22.51	22.22	21.97
		RB6#0	21.73	22.39	22.65	22.08	22.74	23.00
	16QAM	RB1#0	21.80	21.82	21.94	22.15	22.17	22.29
		RB1#2	22.50	22.41	22.92	22.85	22.76	23.27
		RB1#5	21.31	22.74	22.10	21.66	23.09	22.45
		RB3#0	22.60	22.88	21.40	22.95	23.23	21.75
		RB3#1	21.72	21.76	21.68	22.07	22.11	22.03
		RB3#2	21.58	22.69	21.93	21.93	23.04	22.28
		RB6#0	21.53	22.21	22.29	21.88	22.56	22.64
3.0	QPSK	RB1#0	22.36	22.55	21.91	22.71	22.90	22.26
		RB1#7	21.54	22.37	21.69	21.89	22.72	22.04
		RB1#14	21.64	21.60	22.43	21.99	21.95	22.78
		RB8#0	22.75	22.28	22.94	23.10	22.63	23.29
		RB8#4	21.52	21.64	21.86	21.87	21.99	22.21
		RB8#7	22.61	21.79	22.58	22.96	22.14	22.93
		RB15#0	21.37	22.84	22.64	21.72	23.19	22.99
	16QAM	RB1#0	22.65	22.62	22.32	23.00	22.97	22.67
		RB1#7	21.30	21.74	21.55	21.65	22.09	21.90
		RB1#14	22.99	22.37	22.79	23.34	22.72	23.14
		RB8#0	22.74	21.51	22.20	23.09	21.86	22.55
		RB8#4	22.85	21.98	22.26	23.20	22.33	22.61
		RB8#7	21.37	22.47	21.42	21.72	22.82	21.77
		RB15#0	22.08	21.46	21.40	22.43	21.81	21.75

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			ERP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QPSK	RB1#0	22.99	21.64	22.67	23.34	21.99	23.02
		RB1#12	21.86	22.33	21.80	22.21	22.68	22.15
		RB1#24	22.35	22.00	22.34	22.70	22.35	22.69
		RB12#0	22.61	21.52	21.69	22.96	21.87	22.04
		RB12#6	21.78	21.35	22.55	22.13	21.70	22.90
		RB12#11	22.08	22.54	22.26	22.43	22.89	22.61
		RB25#0	21.56	21.66	21.62	21.91	22.01	21.97
	16QAM	RB1#0	22.79	22.51	21.59	23.14	22.86	21.94
		RB1#12	22.35	21.98	21.87	22.70	22.33	22.22
		RB1#24	22.51	22.38	22.00	22.86	22.73	22.35
		RB12#0	21.98	21.74	21.39	22.33	22.09	21.74
		RB12#6	21.95	21.98	22.52	22.30	22.33	22.87
		RB12#11	21.61	22.91	21.78	21.96	23.26	22.13
		RB25#0	21.48	22.63	22.04	21.83	22.98	22.39
10.0	QPSK	RB1#0	21.53	21.83	22.85	21.88	22.18	23.20
		RB1#24	22.05	22.95	21.65	22.40	23.30	22.00
		RB1#49	21.81	21.33	21.23	22.16	21.68	21.58
		RB25#0	21.24	21.35	22.73	21.59	21.70	23.08
		RB25#12	21.24	22.89	22.49	21.59	23.24	22.84
		RB25#24	21.70	22.97	22.16	22.05	23.32	22.51
		RB50#0	21.66	22.76	21.74	22.01	23.11	22.09
	16QAM	RB1#0	22.94	21.27	21.48	23.29	21.62	21.83
		RB1#24	21.59	21.68	22.82	21.94	22.03	23.17
		RB1#49	22.84	21.85	21.91	23.19	22.20	22.26
		RB25#0	22.62	21.60	22.79	22.97	21.95	23.14
		RB25#12	22.25	21.76	22.93	22.60	22.11	23.28
		RB25#24	21.78	22.64	21.35	22.13	22.99	21.70
		RB50#0	22.09	22.28	22.70	22.44	22.63	23.05

Note: Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd) - Cable loss(dB)

For LTE Band5: Antenna Gain = 3dBi = 0.85dBd (0dBd=2.15dBi)

For Below 1GHz, Cable Loss=0.5dB* (provided by the applicant)

Limit: ERP≤38.45dBm

Peak-to-average ratio (PAR)**Cellular Band**

Mode	Channel	PAR (dB)	Limit (dB)
RMC (BPSK)	Low	3.54	13
	Middle	3.62	13
	High	3.53	13
HSDPA (16QAM)	Low	4.40	13
	Middle	4.11	13
	High	4.25	13
HSUPA (BPSK)	Low	4.41	13
	Middle	4.26	13
	High	4.45	13

LTE Band 5 10MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	4.70	4.72	4.75	13	Pass
QPSK (50RB Size)	5.04	5.10	5.04	13	Pass
16QAM (1RB Size)	5.71	5.74	5.74	13	Pass
16QAM (50RB Size)	6.12	6.17	6.03	13	Pass

FCC §2.1049, §22.917, §22.905 - OCCUPIED BANDWIDTH

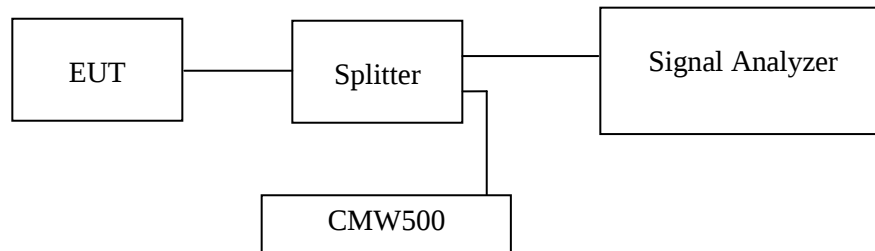
Applicable Standard

FCC 47 §2.1049, §22.917, §22.905.

Test Procedure

The RF output of the transmitter was connected to the simulator and the spectrum analyzer through sufficient attenuation.

The resolution bandwidth of the spectrum analyzer was set at 1% to 5% of the anticipated emission bandwidth and the 26 dB & 99% bandwidth was recorded.



Test Data

Environmental Conditions

Temperature:	24 °C
Relative Humidity:	52 %
ATM Pressure:	101.0 kPa

The testing was performed by Jeff Jiang on 2022-06-10.

EUT operation mode: Transmitting

Test Result: Pass

Test plots refer to the Appendix A.

FCC §2.1051, §22.917(a) - SPURIOUS EMISSIONS AT ANTENNA TERMINALS

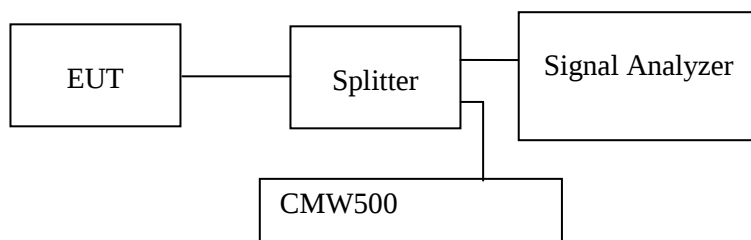
Applicable Standard

FCC §2.1051, §22.917(a).

The spectrum was to be investigated to the tenth harmonics of the highest fundamental frequency as specified in § 2.1051.

Test Procedure

The RF output of the transceiver was connected to a spectrum analyzer and simulator through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 100kHz or 1MHz. Sufficient scans were taken to show any out of band emissions up to 10th harmonic.



Test Data

Environmental Conditions

Temperature:	24~26 °C
Relative Humidity:	49~52 %
ATM Pressure:	101.0~101.3 kPa

The testing was performed by Jeff Jiang from 2022-05-21 to 2022-06-20.

EUT operation mode: Transmitting

Test result: Pass

Test plots refer to the Appendix B.

FCC § 2.1053; § 22.917 (a) - SPURIOUS RADIATED EMISSIONS

Applicable Standard

FCC § 2.1053, §22.917(a).

Test Procedure

The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable.

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the receiving antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.

The frequency range up to tenth harmonic of the fundamental frequency was investigated.

Test Data**Environmental Conditions**

Temperature:	25 °C
Relative Humidity:	52 %
ATM Pressure:	101.4 kPa

The testing was performed by Level Li on 2022-06-06.

EUT operation mode: Transmitting (Worst case record in the reports)

The worst case is as below:

30MHz – 10GHz:

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
	Reading (dBm)	PK/AV		Height (m)	Polar (H/V)				
3G BAND5, Low Channel									
188.9	-43.88	PK	181	1.5	H	-1.7	-45.58	-13	32.58
388.84	-48.64	PK	127	1.6	V	5.09	-43.55	-13	30.55
1652.8	-28.05	PK	316	1.5	H	3.53	-24.52	-13	11.52
1652.8	-26.15	PK	241	1.8	V	3.1	-23.05	-13	10.05
3G BAND5, Middle Channel									
188.9	-43.99	PK	153	1.3	H	-1.7	-45.69	-13	32.69
388.84	-49.11	PK	273	1.6	V	5.09	-44.02	-13	31.02
1673.2	-28.03	PK	131	2.0	H	3.78	-24.25	-13	11.25
1673.2	-26.68	PK	146	1.8	V	3.1	-23.58	-13	10.58
3G BAND5, High Channel									
188.9	-43.96	PK	271	1.2	H	-1.7	-45.66	-13	32.66
388.84	-48.96	PK	309	1.8	V	5.09	-43.87	-13	30.87
1693.2	-27.60	PK	120	1.8	H	4.02	-23.58	-13	10.58
1693.2	-25.99	PK	283	1.5	V	3.1	-22.89	-13	9.89
4G BAND5, 1.4MHz, Low Channel									
188.9	-44.55	PK	5	1.7	H	-1.7	-46.25	-13	33.25
388.84	-49.85	PK	264	2.1	V	5.09	-44.76	-13	31.76
1649.4	-21.86	PK	56	1.8	H	-2.79	-24.65	-13	11.65
1649.4	-21.25	PK	208	1.9	V	-2.73	-23.98	-13	10.98
4G BAND5, 1.4MHz, Middle Channel									
188.9	-44.40	PK	98	1.6	H	-1.7	-46.10	-13	33.10
388.84	-50.14	PK	1	1.7	V	5.09	-45.05	-13	32.05
1673	-20.84	PK	266	1.4	H	-2.74	-23.58	-13	10.58
1673	-20.34	PK	207	1.9	V	-2.69	-23.03	-13	10.03
4G BAND5, 1.4MHz, High Channel									
188.9	-43.99	PK	236	2.0	H	-1.7	-45.69	-13	32.69
388.84	-49.70	PK	207	1.5	V	5.09	-44.61	-13	31.61
1696.6	-21.77	PK	131	1.6	H	-2.7	-24.47	-13	11.47
1696.6	-21.37	PK	14	1.5	V	-2.65	-24.02	-13	11.02

Note:

Absolute Level = Reading Level + Substituted Factor

Substituted Factor contains: SG Level - Cable loss+ Antenna Gain

Margin = Limit – Absolute Level

FCC § 22.917 (a) - BAND EDGES

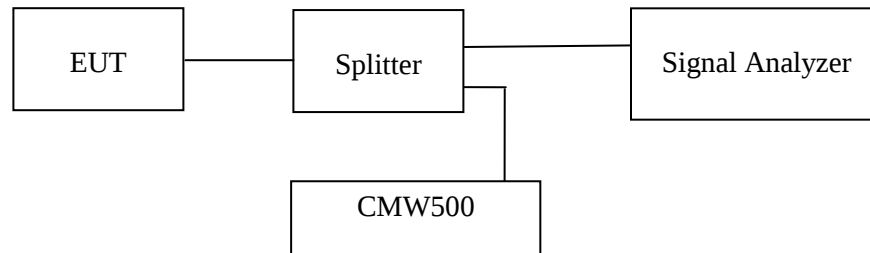
Applicable Standard

According to § 22.917(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

Test Procedure

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

The center of the spectrum analyzer was set to block edge frequency



Test Data

Environmental Conditions

Temperature:	24 °C
Relative Humidity:	52 %
ATM Pressure:	101.0 kPa

The testing was performed by Jeff Jiang on 2022-06-10.

EUT operation mode: Transmitting (Worst case)

Test Result: Pass

Test plots refer to the Appendix C.

FCC § 2.1055; § 22.355 - FREQUENCY STABILITY**Applicable Standard**

FCC § 2.1055, §22.355.

According to FCC §2.1055, the frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

According to §22.355, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table below:

Frequency Tolerance for Transmitters in the Public Mobile Services

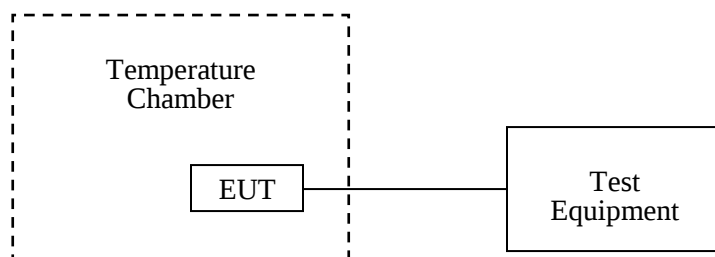
Frequency Range (MHz)	Base, fixed (ppm)	Mobile ≤ 3 watts (ppm)	Mobile > 3 watts (ppm)
25 to 50	20.0	20.0	50.0
50 to 450	5.0	5.0	50.0
450 to 512	2.5	5.0	5.0
821 to 896	1.5	2.5	2.5
928 to 929.	5.0	N/A	N/A
929 to 960.	1.5	N/A	N/A
2110 to 2220	10.0	N/A	N/A

Test Procedure

Frequency Stability vs. Temperature: The equipment under test was connected to an external AC power supply and the RF output was connected to communication test set via feed-through attenuators. The EUT was placed inside the temperature chamber. The AC leads and RF output cable exited the chamber through an opening made for the purpose.

After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from the communication test set.

Frequency Stability vs. Voltage: For hand carried, battery powered equipment; reduce primary supply voltage to the battery operating end point which shall be specified by the manufacturer.



Test Data**Environmental Conditions**

Temperature:	24 °C
Relative Humidity:	52 %
ATM Pressure:	101.0 kPa

The testing was performed by Jeff Jiang on 2022-06-10.

EUT operation mode: Transmitting

Test Result: Pass

Please refer to the following tables.

Cellular Band (Part 22H)**WCDMA Mode**

Middle Channel, $f_o = 836.6\text{MHz}$				
Temperature (°C)	Voltage Supplied (V_{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-30	4.2	-0.36	-0.0004	2.5
-20		-8.86	-0.0106	2.5
-10		-5.25	-0.0063	2.5
0		5.42	0.0065	2.5
10		7.66	0.0092	2.5
20		6.44	0.0077	2.5
30		-6.48	-0.0077	2.5
40		7.22	0.0086	2.5
50		-9.52	-0.0113	2.5
20	V min.= 3.78	-7.96	-0.0094	2.5
	V max.= 5.0	-8.12	-0.0096	2.5

LTE:**QPSK:****Band 5:**

10.0 MHz Middle Channel, $f_o = 836.5\text{MHz}$				
Temperature (°C)	Voltage Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-30	4.2	-0.46	-0.0005	2.5
-20		-9.97	-0.0119	2.5
-10		-6.13	-0.0073	2.5
0		6.17	0.0074	2.5
10		7.92	0.0095	2.5
20		6.46	0.0077	2.5
30		-6.52	-0.0078	2.5
40		7.18	0.0086	2.5
50		-9.69	-0.0116	2.5
20	V min.= 3.78	-8.17	-0.0098	2.5
	V max.= 5.0	-7.05	-0.0084	2.5

16QAM:**Band 5:**

10.0 MHz Middle Channel, $f_o = 836.5\text{MHz}$				
Temperature (°C)	Voltage Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-30	4.2	-0.60	-0.0007	2.5
-20		-6.68	-0.008	2.5
-10		9.77	0.0117	2.5
0		-7.62	-0.0091	2.5
10		-9.91	-0.0118	2.5
20		-9.82	-0.0117	2.5
30		-6.68	-0.008	2.5
40		-8.85	-0.0106	2.5
50		5.67	0.0068	2.5
20	V min.= 3.78	6.05	0.0072	2.5
	V max.= 5.0	7.52	0.009	2.5

******* END OF REPORT *******