



TESTING LABORATORY
CERTIFICATE#4323.01



FCC PART 15B TEST REPORT

For

Quanzhou Wouxun Electronics Co., Ltd.

Jiangnan High Technology Industry Park, No.928 Nanhuan Road, Quanzhou, Fujian, China

FCC ID: WVTWOXUN21

Report Type: Original Report	Product Type: TWO-WAY RADIOS
Test Engineer:	Jett Zhao <i>Jett Zhao</i>
Report Number:	RXM201020050-00AM1
Report Date:	2021-02-03
Reviewed By:	Oscar Ye EMC Manager <i>Oscar Ye</i>
Prepared By:	Bay Area Compliance Laboratories Corp. (Kunshan) No.248 Chenghu Road, Kunshan, Jiangsu province, China Tel: +86-0512-86175000 Fax: +86-0512-88934268 www.baclcorp.com.cn

TABLE OF CONTENTS

DOCUMENT REVISION HISTORY	3
GENERAL INFORMATION.....	4
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)	4
OBJECTIVE	4
RELATED SUBMITTAL(S)/GRANT(S).....	4
TEST METHODOLOGY	4
TEST FACILITY	5
SYSTEM TEST CONFIGURATION.....	6
JUSTIFICATION	6
EUT EXERCISE SOFTWARE	6
SPECIAL ACCESSORIES.....	6
EQUIPMENT MODIFICATIONS	6
SUPPORT EQUIPMENT LIST AND DETAILS	6
BLOCK DIAGRAM OF RADIATED TEST SETUP.....	7
SUMMARY OF TEST RESULTS	8
FCC §15.107 – CONDUCTED EMISSIONS	9
APPLICABLE STANDARD	9
MEASUREMENT UNCERTAINTY	9
EUT SETUP	9
EMI TEST RECEIVER SETUP.....	10
TEST PROCEDURE	10
TEST EQUIPMENT LIST AND DETAILS.....	10
FACTOR & OVER LIMIT CALCULATION.....	10
TEST DATA	11
FCC §15.109 - RADIATED EMISSIONS	13
APPLICABLE STANDARD	13
MEASUREMENT UNCERTAINTY	13
EUT SETUP	13
EMI TEST RECEIVER SETUP.....	14
TEST PROCEDURE	14
TEST EQUIPMENT LIST AND DETAILS.....	15
CORRECTED AMPLITUDE & MARGIN CALCULATION	15
TEST DATA	16
FCC §15.111 - ANTENNA CONDUCTED POWER FOR RECEIVERS.....	22
APPLICABLE STANDARD	22
EUT SETUP	22
TEST PROCEDURE	22
TEST EQUIPMENT LIST AND DETAILS.....	22
TEST DATA	23
FCC §15.121(B) - SCANNING RECEIVERS AND FREQUENCY CONVERTERS USED WITH SCANNING RECEIVERS.....	26
APPLICABLE STANDARD	26
EUT SETUP	26
TEST PROCEDURE	26
TEST EQUIPMENT LIST AND DETAILS.....	27
TEST DATA	28

DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
0	RXM201020050-00A	Original Report	2020-11-03
1	RXM201020050-00AM1	Revised Report (See Note)	2021-02-03

Note: Add test procedure description on page 26 and updated the data table on page 28.

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Applicant	Quanzhou Wouxun Electronics Co., Ltd.
Test Model	KG-989
Series Model	KG-978,KG-916,KG-866,KG-839,KG-939,KG-998,KG-988,KG-828,KG-968,KG-958,KG-928,KG-969,KG-918,KG-959,KG-T56,KG-T58,KG-T59,KG-T52,KG-T53,KG-T55,KG-T57,KG-T60,KG-T61,KG-T62,KG-T63,KG-T65,KG-T66,KG-T67,KG-T68,KG-T69,KG-989G, KG-879G
Model Difference	See Declaration letter
Product	TWO-WAY RADIOS
Rate Voltage	DC 7.4V from Li-ion battery pack and DC 8.4V charging by charger
*Highest Operation Frequency	480 MHz

Adapter information:

Model: DSX-120050L-US

Input: AC 100-240V, 50/60Hz, 0.3A

Output: DC 12V, 0.5A

Note: The Highest Operating Frequency was provided by the applicant.

*All measurement and test data in this report was gathered from production sample serial number: 20201020050.

(Assigned by the BACL. The EUT supplied by the applicant was received on 2020-10-20)

Objective

This report is prepared on behalf of *Quanzhou Wouxun Electronics Co., Ltd.* in accordance with Part 2-Subpart J, and Part 15-Subparts A and B of the Federal Communication Commission's rules.

The objective of the manufacturer is to determine the compliance of EUT with FCC Part 15, Class B device.

Related Submittal(s)/Grant(s)

FCC Part 95 TNF Submittal with FCC ID: WVTWOUXUN21.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2014, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

All radiated and conducted emissions measurement was performed at Bay Area Compliance Laboratories Corp. (Kunshan). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Test Facility

The test site used by Bay Area Compliance Laboratories Corp. (Kunshan) to collect test data is located on the No.248 Chenghu Road, Kunshan, Jiangsu province, China.

Bay Area Compliance Laboratories Corp. (Kunshan) Lab is accredited to ISO/IEC 17025 by A2LA (Lab code: 4323.01) and the FCC designation No. CN1185 under the FCC KDB 974614 D01 and CAB identifier CN0004 under the ISED requirement. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2014.

SYSTEM TEST CONFIGURATION

Justification

The system was configured for testing in a typical fashion (as normally used by a typical user).

Test mode 1: Charging

Test mode 2: Scanning receiver mode

Test mode 3: Receive at low channel(400MHz)

Test mode 4: Receive at Middle channel(440MHz)

Test mode 5: Receive at high channel(480MHz)

EUT Exercise Software

No exercise software.

Special Accessories

No special accessory was used.

Equipment Modifications

No modification was made to the EUT tested.

Support Equipment List and Details

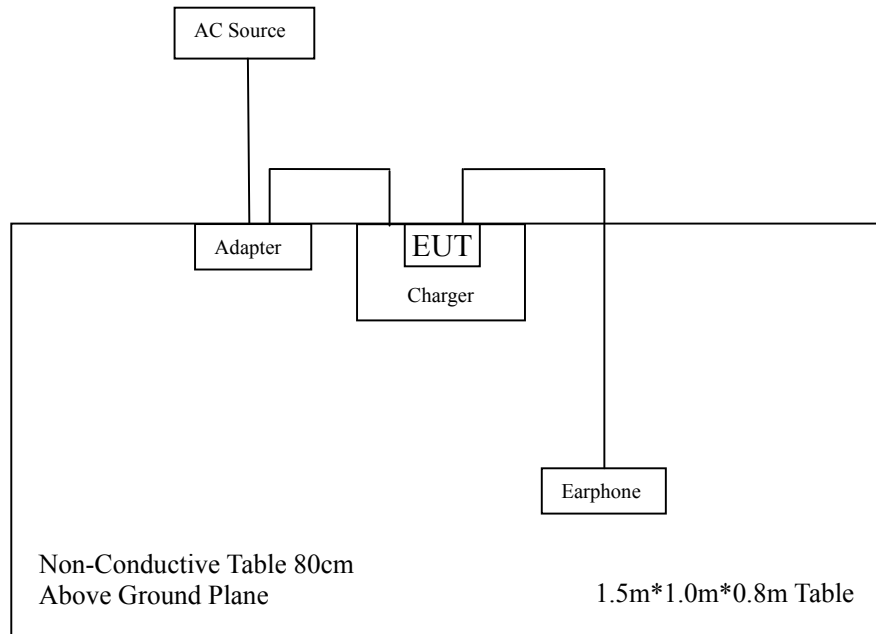
Manufacturer	Description	Model	Serial Number
Wouxun	Earphone	/	/
Rohde & Schwarz	SMB 100A Signal Generator	SMB100A	110390

External I/O Cable

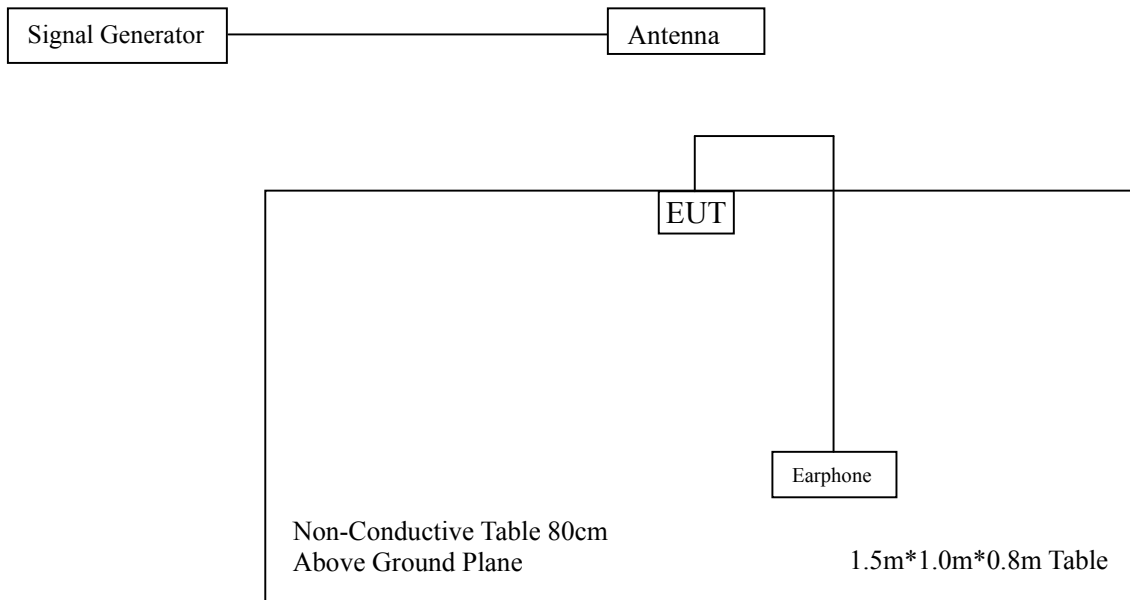
Cable Description	Length (m)	From/Port	To
Power Cable	1.2	EUT	Adapter
Power Cable	1.0	Adapter	AC Source
Audio Cable	0.8	EUT	Earphone

Block Diagram of Radiated Test Setup

Test mode 1



Test mode 2~5



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Results
§15.107	Conducted Emissions	Compliant
§15.109	Radiated Emissions	Compliant
§15.111	Antenna Conducted Power for receivers	Compliant
§15.121(b)	Scanning receivers and frequency converters used with scanning receivers	Compliant

FCC §15.107 – CONDUCTED EMISSIONS

Applicable Standard

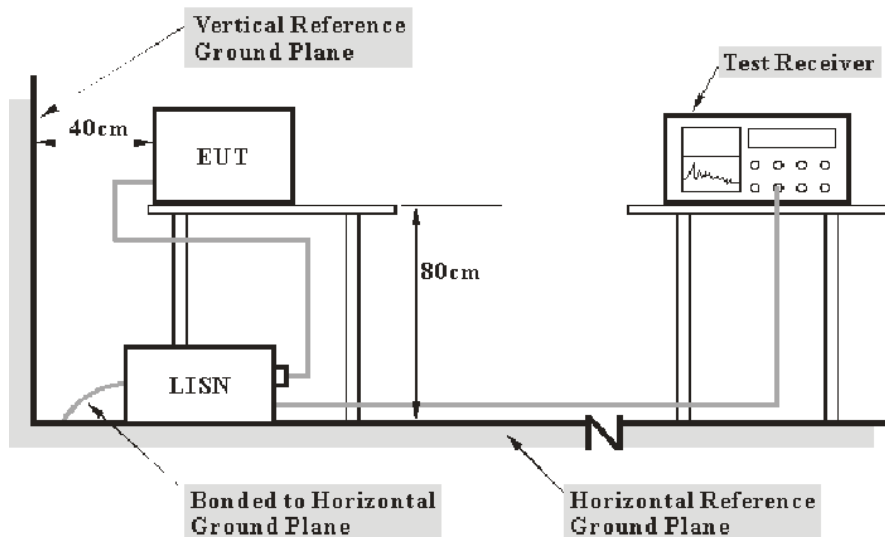
According to FCC§15.107

Measurement Uncertainty

Input quantities to be considered for conducted disturbance measurements maybe receiver reading, attenuation of the connection between LISN and receiver, LISN voltage division factor, LISN VDF frequency interpolation and receiver related input quantities, etc.

Item		Terminal	Measurement Uncertainty	U_{cispr}
Conducted Emission	150kHz~30MHz	AC Mains	3.19 dB	3.4 dB

EUT Setup



- Note: 1. Support units were connected to second LISN.
 2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The measurement procedure of EUT setup is according with ANSI C63.4-2014. The related limit was specified in FCC Part 15.107 Class B.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

Test Procedure

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESR	1316.3003K03-101746-zn	2020-08-05	2021-08-04
Rohde & Schwarz	LISN	ENV216	3560655016	2019-11-30	2020-11-29
Audix	Test Software	e3	V9	--	--
Rohde & Schwarz	Pulse limiter	ESH3-Z2	100552	2020-08-15	2021-08-14
MICRO-COAX	Coaxial Cable	Cable-15	015	2020-08-15	2021-08-14

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

Factor & Over Limit Calculation

The Factor is calculated by adding LISN VDF (Voltage Division Factor), Cable Loss and Transient Limiter Attenuation. The basic equation is as follows:

$$\text{Factor (dB)} = \text{LISN VDF (dB)} + \text{Cable Loss (dB)} + \text{Transient Limiter Attenuation (dB)}$$

The “**Over Limit**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, an over limit of 7dB means the emission is 7 dB above the limit. The equation for over limit calculation is as follows:

$$\text{Over Limit (dB)} = \text{Read level (dB}\mu\text{V)} + \text{Factor (dB)} - \text{Limit (dB}\mu\text{V)}$$

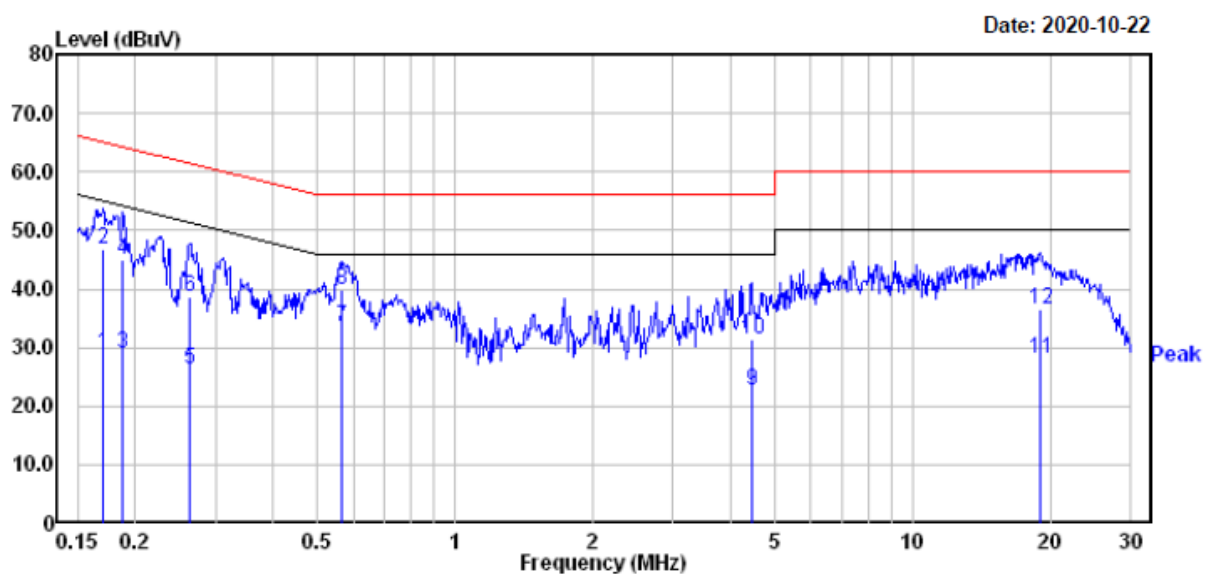
Test Data**Environmental Conditions**

Temperature:	24.2 °C
Relative Humidity:	46 %
ATM Pressure:	101.2 kPa

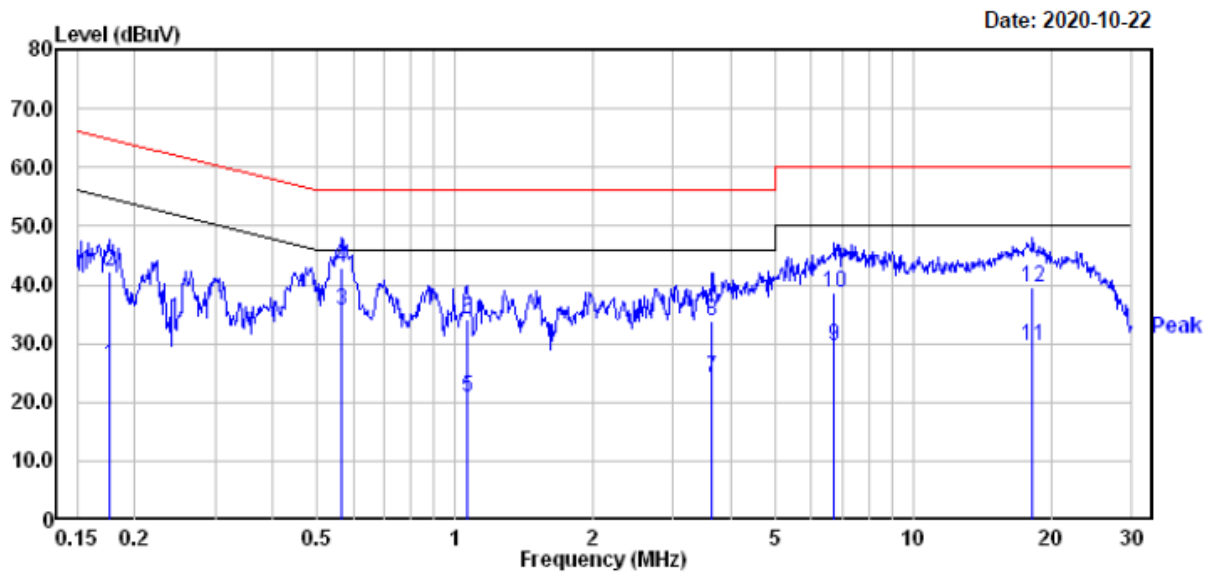
The testing was performed by Jett Zhao on 2020-10-22.

Test mode 1:

Line:



		Read			Limit	Over	
	Freq	Level	Factor	Level	Line	Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.170	9.10	19.83	28.93	54.94	-26.01	Average
2	0.170	27.10	19.83	46.93	64.94	-18.01	QP
3	0.188	9.31	19.82	29.13	54.11	-24.98	Average
4	0.188	25.21	19.82	45.03	64.11	-19.08	QP
5	0.263	6.50	19.82	26.32	51.34	-25.02	Average
6	0.263	18.80	19.82	38.62	61.34	-22.72	QP
7	0.567	13.70	19.75	33.45	46.00	-12.55	Average
8	0.567	20.20	19.75	39.95	56.00	-16.05	QP
9	4.454	3.31	19.47	22.78	46.00	-23.22	Average
10	4.454	11.91	19.47	31.38	56.00	-24.62	QP
11	19.021	8.20	19.90	28.10	50.00	-21.90	Average
12	19.021	16.50	19.90	36.40	60.00	-23.60	QP

Neutral:

		Read		Limit	Over	
	Freq	Level	Factor	Level	Line	Limit Remark
	MHz	dBuV	dB	dBuV	dBuV	dB
1	0.176	6.30	19.83	26.13	54.68	-28.55 Average
2	0.176	22.40	19.83	42.23	64.68	-22.45 QP
3	0.567	16.00	19.75	35.75	46.00	-10.25 Average
4	0.567	23.00	19.75	42.75	56.00	-13.25 QP
5	1.060	0.90	19.82	20.72	46.00	-25.28 Average
6	1.060	14.20	19.82	34.02	56.00	-21.98 QP
7	3.642	4.70	19.47	24.17	46.00	-21.83 Average
8	3.642	14.40	19.47	33.87	56.00	-22.13 QP
9	6.733	10.09	19.52	29.61	50.00	-20.39 Average
10	6.733	19.09	19.52	38.61	60.00	-21.39 QP
11	18.232	9.80	19.85	29.65	50.00	-20.35 Average
12	18.232	19.80	19.85	39.65	60.00	-20.35 QP

Note:

- 1) Factor (dB) = LISN VDF (dB) + Cable Loss (dB) + Transient Limiter Attenuation (dB)
- 2) Over Limit (dB) = Read level (dBuV) + Factor (dB) - Limit (dBuV)

FCC §15.109 - RADIATED EMISSIONS

Applicable Standard

FCC §15.109

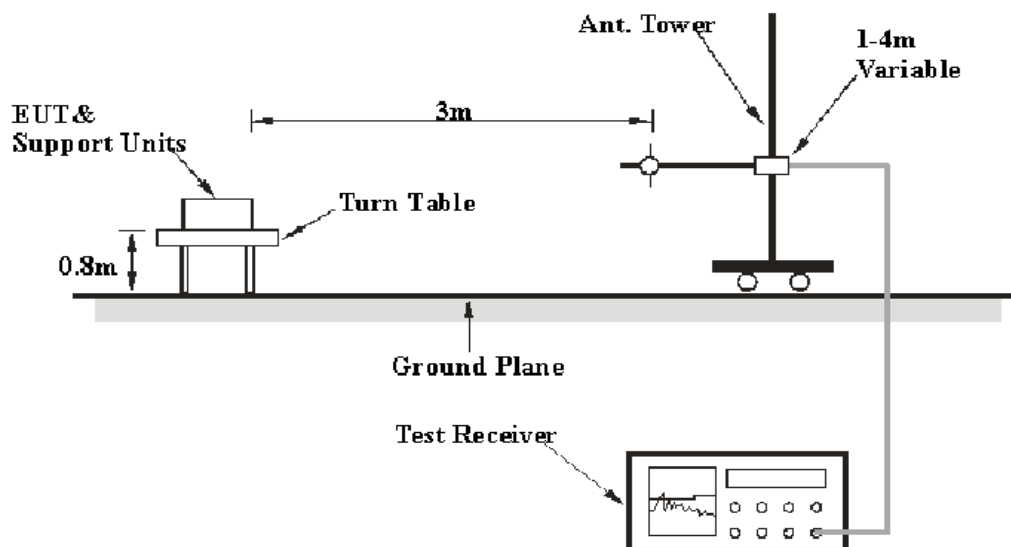
Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average) and system repeatability.

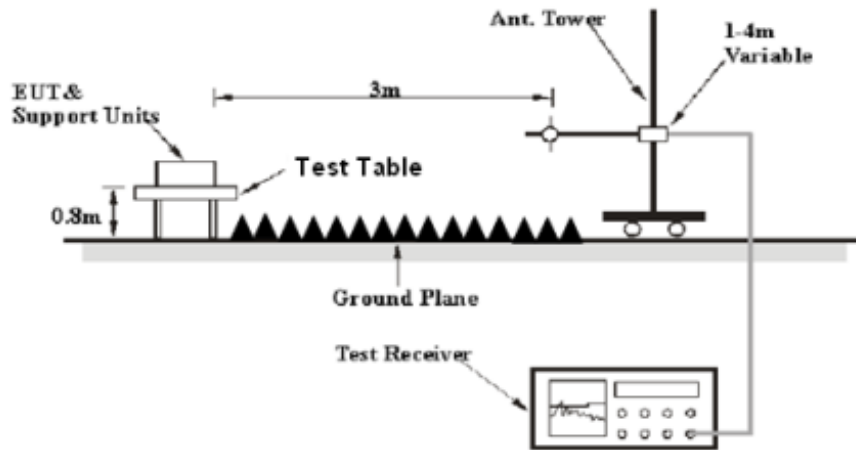
Item		Measurement Uncertainty	U_{cispr}
Radiated Emissions	30MHz~1GHz	6.11dB	6.3 dB
	1GHz~2GHz	4.45dB	5.2 dB

EUT Setup

Below 1GHz:



Above 1GHz:



The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.4-2014. The specification used was the FCC Part 15.109 Class B limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

EMI Test Receiver Setup

The system was investigated from 30 MHz to 2 GHz.

During the radiated emission test, the EMI test receiver was set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Detector
30MHz – 1000 MHz	120 kHz	300 kHz	120kHz	QP
Above 1 GHz	1MHz	3 MHz	/	Peak
	1MHz	3 MHz	1MHz	AVG

Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sonoma Instrument	Amplifier	310N	185700	2020-08-14	2021-08-13
Rohde & Schwarz	EMI Test Receiver	ESCI	100195	2019-12-14	2020-12-13
Sunol Sciences	Broadband Antenna	JB3	A090413-1	2017-12-26	2020-12-25
Champrotek	Chamber 1#	3m-SAC 966	NA	2019-05-08	2022-05-07
Albatross	Chamber 2#	3m-SAC 966	NA	2019-05-08	2022-05-07
ETS	Horn Antenna	3115	9207-3900	2020-07-15	2023-07-14
Rohde & Schwarz	EMI Receiver	ESU40	100207	2020-04-01	2021-03-31
A.H.Systems, inc	Amplifier	PAM-0118P	512	2020-02-20	2021-02-19
MICRO-COAX	Coaxial Cable	Cable-8	008	2020-08-15	2021-08-14
MICRO-COAX	Coaxial Cable	Cable-9	009	2020-08-15	2021-08-14
MICRO-COAX	Coaxial Cable	Cable-10	010	2020-08-15	2021-08-14
MICRO-COAX	Coaxial Cable	Cable-4	004	2019-12-12	2020-12-11
MICRO-COAX	Coaxial Cable	Cable-5	005	2019-12-12	2020-12-11

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

$$\text{Corrected Amplitude} = \text{Meter Reading} + \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7 dB means the emission is 7 dB below the limit. The equation for margin calculation is as follows:

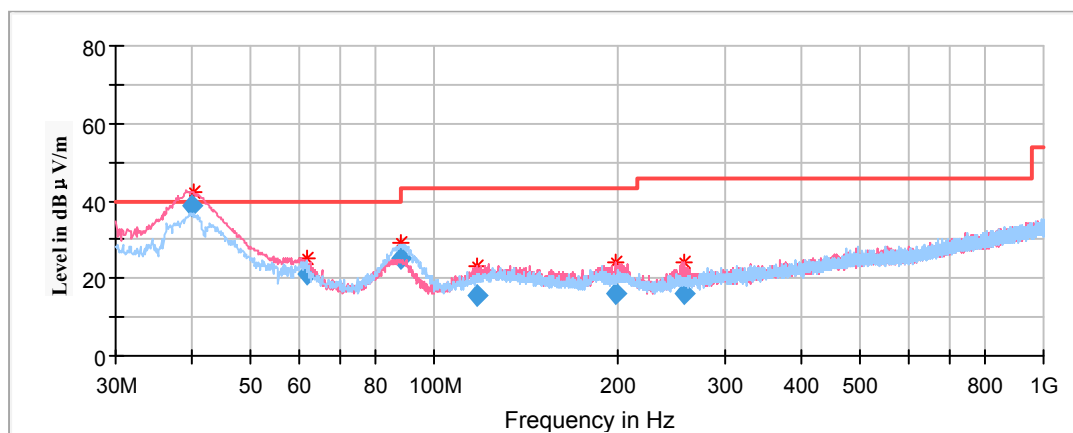
$$\text{Margin} = \text{Limit} - \text{Corrected Amplitude}$$

Test Data**Environmental Conditions**

Temperature:	25.2 °C
Relative Humidity:	51 %
ATM Pressure:	101.5 kPa

The testing was performed by Jett Zhao on 2020-10-22.

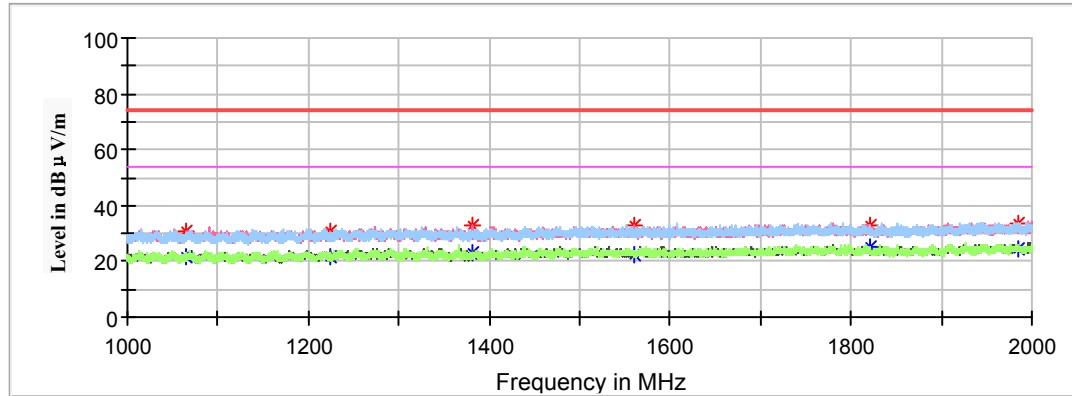
Test mode 1:

1)30MHz ~ 1GHz

Frequency (MHz)	Corrected Amplitude	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
	Quasi-Peak (dBμV/m)						
40.115400	38.80	40.00	1.20	100.0	V	213.0	-11.3
61.742850	21.12	40.00	18.88	200.0	V	44.0	-17.8
88.093550	24.93	43.50	18.57	200.0	H	93.0	-17.7
117.282600	15.76	43.50	27.74	100.0	V	194.0	-12.4
198.751000	15.98	43.50	27.52	200.0	V	212.0	-11.5
257.145150	16.09	46.00	29.91	100.0	V	49.0	-12.9

Above 1 GHz:

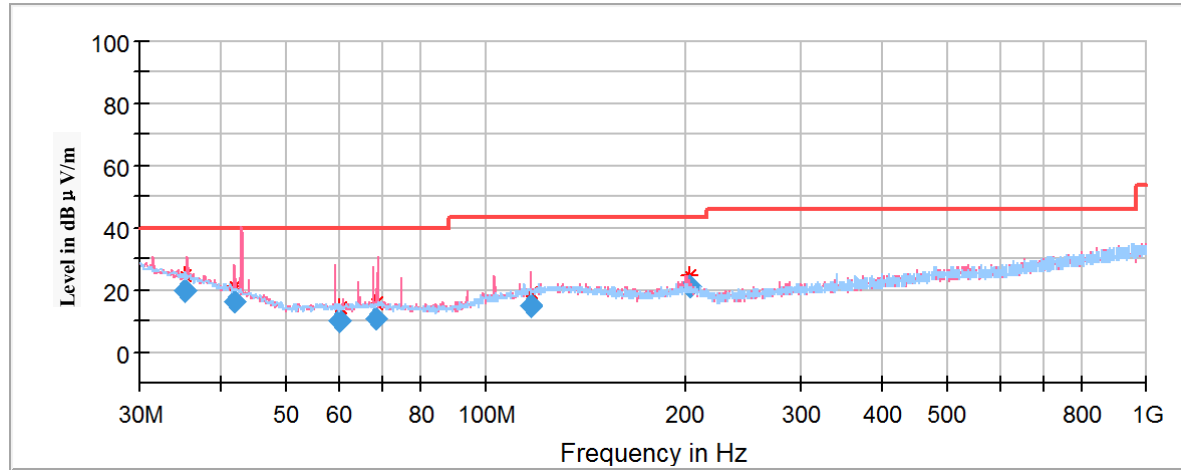
Full Spectrum



Frequency (MHz)	Corrected Amplitude		Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
	Max Peak (dBμV/m)	Average (dBμV/m)						
1064.700000	---	21.63	54.00	32.37	100.0	H	334.0	-18.7
1064.700000	30.76	---	74.00	43.24	100.0	H	334.0	-18.7
1223.300000	---	21.60	54.00	32.40	100.0	V	47.0	-17.9
1223.300000	30.76	---	74.00	43.24	100.0	V	47.0	-17.9
1381.900000	---	22.88	54.00	31.12	100.0	H	255.0	-17.0
1381.900000	32.56	---	74.00	41.44	100.0	H	255.0	-17.0
1560.300000	---	22.68	54.00	31.32	200.0	V	126.0	-16.1
1560.300000	32.85	---	74.00	41.15	200.0	V	126.0	-16.1
1820.100000	---	25.29	54.00	28.71	200.0	H	80.0	-15.2
1820.100000	32.78	---	74.00	41.22	200.0	H	80.0	-15.2
1985.800000	---	24.68	54.00	29.32	100.0	V	184.0	-14.5
1985.800000	33.28	---	74.00	40.72	100.0	V	184.0	-14.5

Test mode 2:

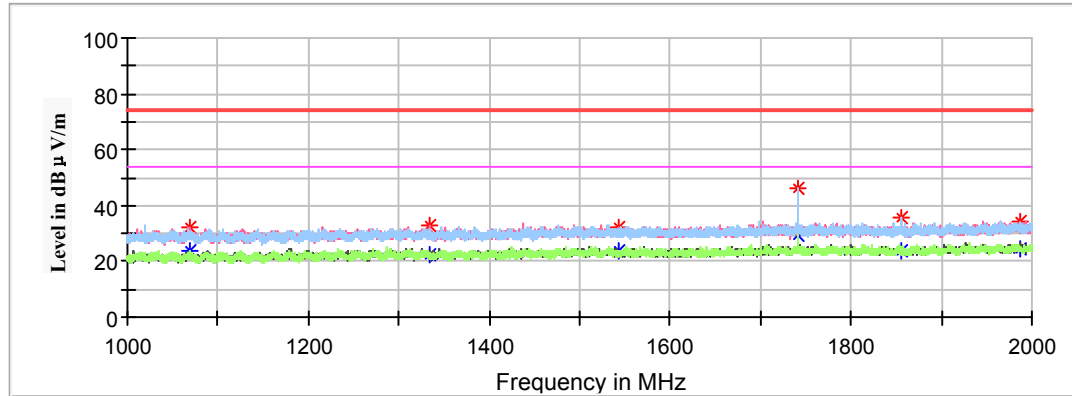
1)30MHz ~ 1GHz



Frequency (MHz)	Corrected Amplitude	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
	Quasi-Peak (dBμV/m)						
35.028750	20.02	40.00	19.98	100.0	V	359.0	-7.9
41.607750	16.58	40.00	23.42	200.0	V	107.0	-12.4
59.937350	10.15	40.00	29.85	100.0	V	66.0	-18.0
68.480100	10.81	40.00	29.19	100.0	V	104.0	-17.2
116.980550	15.20	43.50	28.30	100.0	V	111.0	-12.4
202.798250	20.81	43.50	22.69	100.0	V	34.0	-11.7

Above 1 GHz:

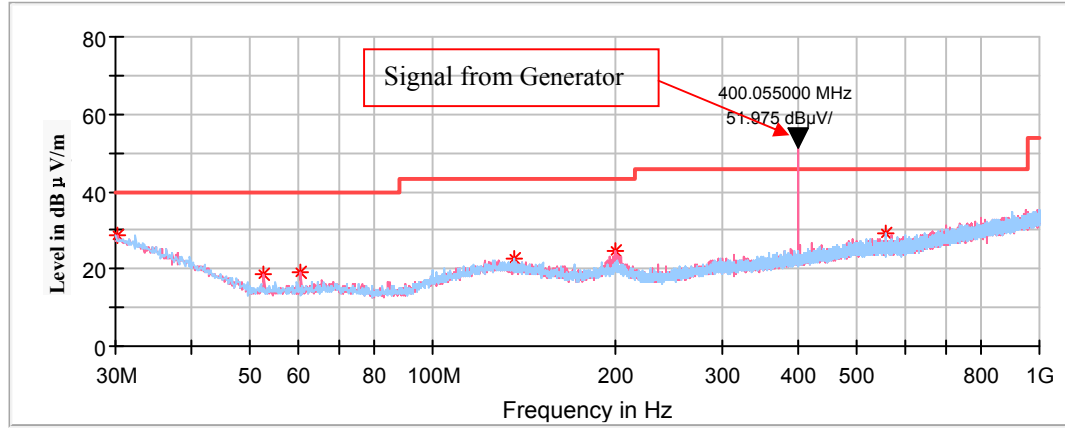
Full Spectrum



Frequency (MHz)	Corrected Amplitude		Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
	Max Peak (dBµV/m)	Average (dBµV/m)						
1070.000000	---	23.71	54.00	30.29	200.0	V	1.0	-18.7
1070.000000	32.46	---	74.00	41.54	200.0	V	1.0	-18.7
1335.100000	---	22.58	54.00	31.42	200.0	H	359.0	-17.3
1335.100000	33.05	---	74.00	40.95	200.0	H	359.0	-17.3
1542.100000	---	23.67	54.00	30.33	200.0	H	177.0	-16.2
1542.100000	32.44	---	74.00	41.56	200.0	H	177.0	-16.2
1741.300000	---	29.39	54.00	24.61	100.0	H	80.0	-15.4
1741.300000	46.22	---	74.00	27.78	100.0	H	80.0	-15.4
1856.000000	---	23.66	54.00	30.34	200.0	H	143.0	-15.0
1856.000000	35.48	---	74.00	38.52	200.0	H	143.0	-15.0
1986.400000	---	24.54	54.00	29.46	100.0	V	97.0	-14.5
1986.400000	34.40	---	74.00	39.60	100.0	V	97.0	-14.5

Test mode 3: Receiving at low channel (worst case)

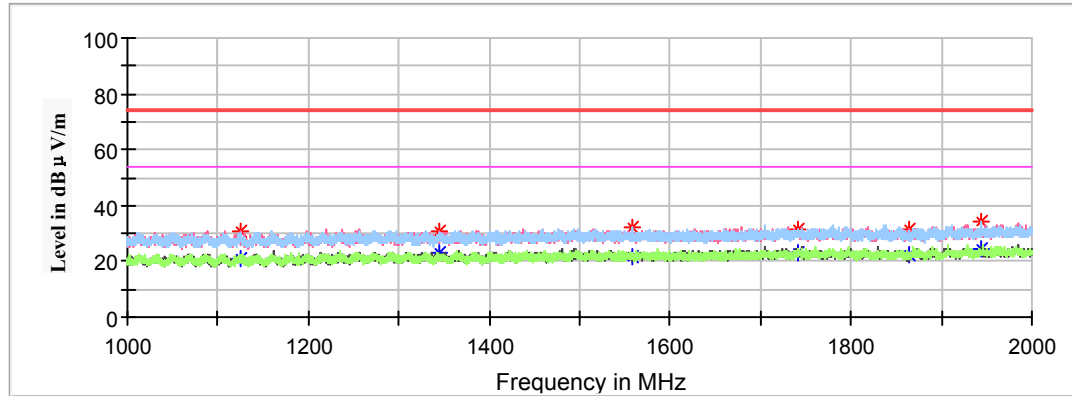
1) 30MHz ~ 1GHz



Frequency (MHz)	Corrected Amplitude	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
	MaxPeak (dBμV/m)						
30.242500	28.87	40.00	11.13	100.0	H	117.0	-4.7
52.673750	18.68	40.00	21.32	100.0	V	219.0	-18.0
60.676250	19.08	40.00	20.92	200.0	H	219.0	-17.9
135.972500	22.73	43.50	20.77	200.0	V	251.0	-11.7
200.113750	24.41	43.50	19.09	200.0	V	3.0	-11.5
556.588750	29.13	46.00	16.87	200.0	V	179.0	-5.7

Above 1 GHz:

Full Spectrum



Frequency (MHz)	Corrected Amplitude		Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
	Max Peak (dBμV/m)	Average (dBμV/m)						
1124.500000	---	20.88	54.00	33.12	200.0	H	334.0	-18.4
1124.500000	30.89	---	74.00	43.11	200.0	H	334.0	-18.4
1344.700000	---	22.93	54.00	31.07	100.0	V	320.0	-17.2
1344.700000	30.79	---	74.00	43.21	100.0	V	320.0	-17.2
1557.600000	---	21.41	54.00	32.59	200.0	H	118.0	-16.1
1557.600000	31.92	---	74.00	42.08	200.0	H	118.0	-16.1
1741.900000	---	23.28	54.00	30.72	100.0	H	352.0	-15.4
1741.900000	31.66	---	74.00	42.34	100.0	H	352.0	-15.4
1864.600000	---	22.14	54.00	31.86	200.0	V	0.0	-15.0
1864.600000	31.69	---	74.00	42.31	200.0	V	0.0	-15.0
1943.100000	---	24.49	54.00	29.51	100.0	V	101.0	-14.7
1943.100000	34.60	---	74.00	39.40	100.0	V	101.0	-14.7

FCC §15.111 - ANTENNA CONDUCTED POWER FOR RECEIVERS**Applicable Standard**

FCC §15.111

Limit

The antenna conducted power of the receiver as defined in §15.111 shall not exceed the values given in the following tables

Frequency Range	Limit
9 kHz to 2 GHz	2.0 nW (-57 dBm)

EUT Setup**Test Procedure**

1. The receiver antenna terminal connected to a spectrum analyzer.
2. The test data of the worst case condition (mode 1) was reported on the following Data page.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Signal Analyzer	FSV40	101116	2020-08-05	2021-08-04
Narda	Attenuator	10dB	010	2020-08-15	2021-08-14
Wouxun	RF Cable	Wouxun C01	C01	Each Time	/

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

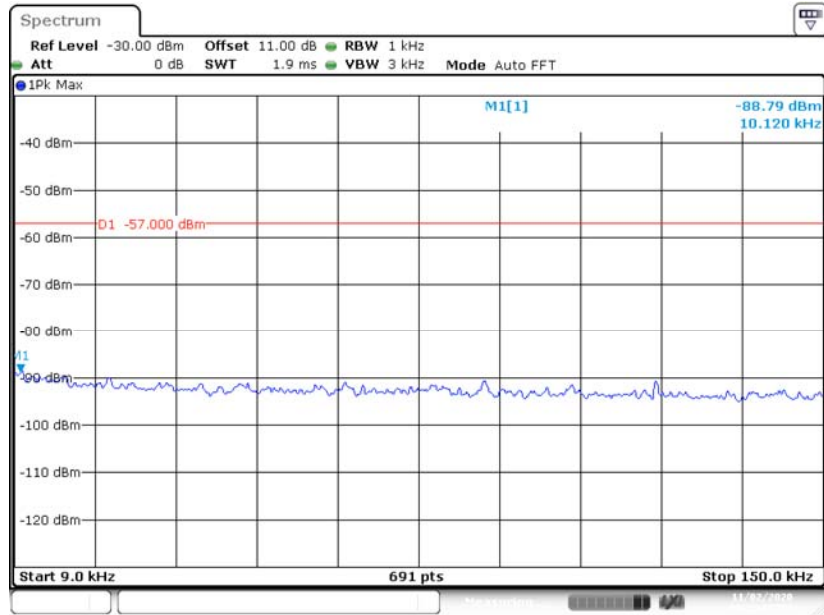
Test Data**Environmental Conditions**

Temperature:	25.2 °C
Relative Humidity:	51 %
ATM Pressure:	101.5 kPa

The testing was performed by Jett Zhao on 2020-11-02.

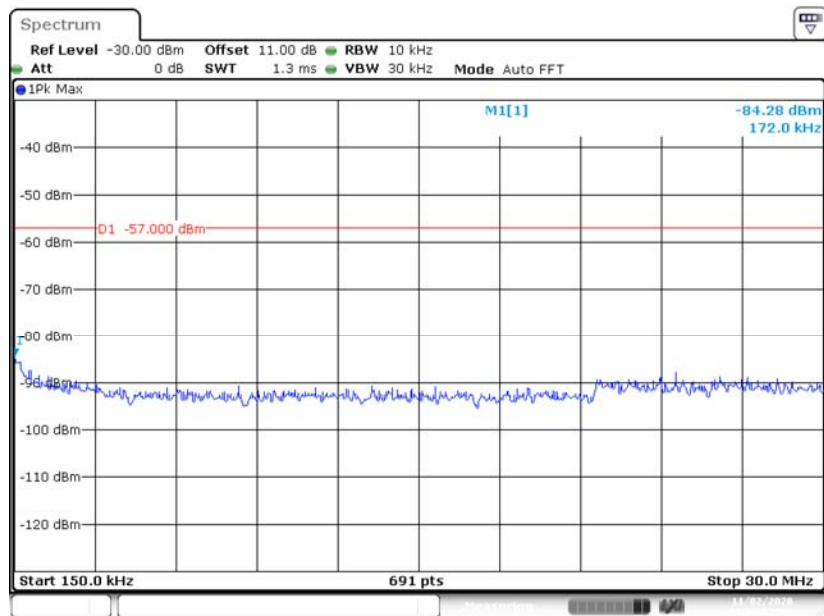
Test mode: Scan receiver mode

Conducted Measurement (9 kHz to 150 kHz)



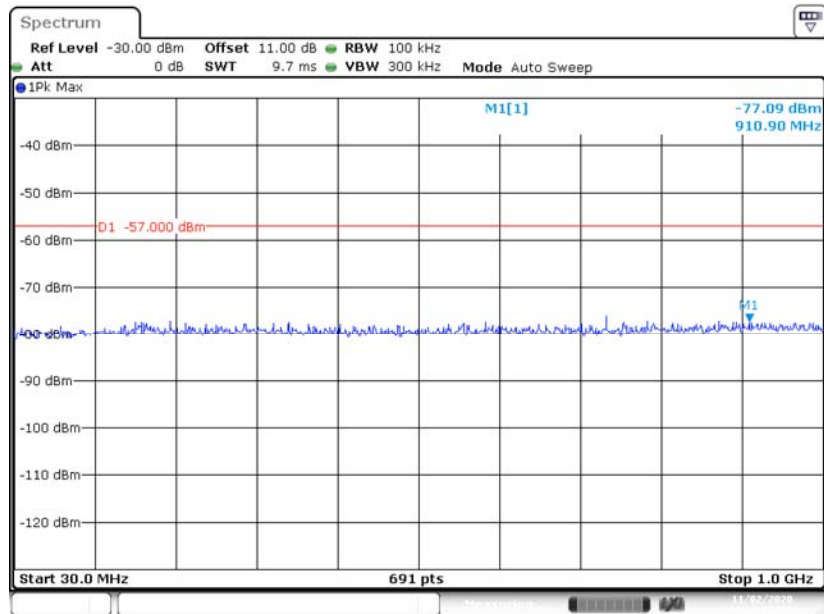
Date: 2.NOV.2020 21:25:08

Conducted Measurement (150 kHz to 30MHz)



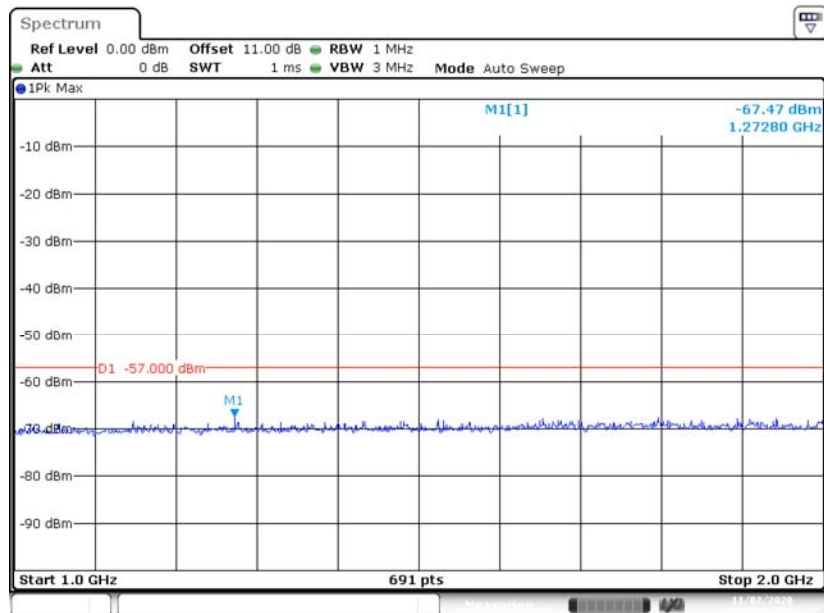
Date: 2.NOV.2020 21:26:02

Conducted Measurement (30MHz to 1GHz)



Date: 2.NOV.2020 21:26:56

Conducted Measurement (1GHz to 2GHz)



Date: 2.NOV.2020 21:27:44

FCC §15.121(b) - SCANNING RECEIVERS AND FREQUENCY CONVERTERS USED WITH SCANNING RECEIVERS

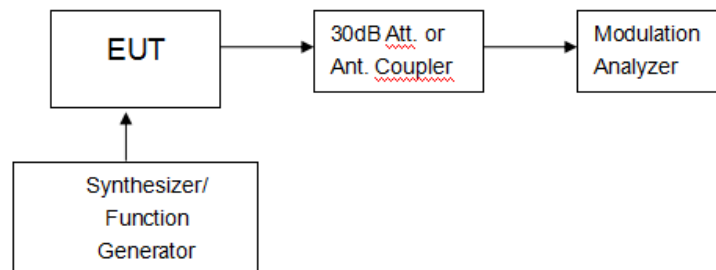
Applicable Standard

FCC §15.121(b)

Limit

Except as provided in paragraph (c) of this section, scanning receivers shall reject any signals from the Cellular Radiotelephone Service frequency bands that are 38 dB or lower based upon a 12 dB SINAD measurement, which is considered the threshold where a signal can be clearly discerned from any interference that may be present.

EUT Setup



Test Procedure

- 1) Connected the EUT as shown in the above block diagram.
- 2) Apply a RF signal to the receiver input port at lowest, middle and highest channel frequencies of receiver operation band.
- 3) Adjust the audio output level of the receiver to it's rated value with the distortion less than 10%.
- 4) Adjust the RF Signal Generator Output Power to produce 12 dB SINAD without the audio output power dropping by more than 3 dB. This output level of the RF SG at each channel frequency is the sensitivity of the receiver.
- 5) Select the lowest or worse-case sensitivity level for all of the bands as the reference sensitivity.
- 6) Adjust the RF Signal Generator output to a level of +60 dB above the reference sensitivity obtained in step 5) and its frequency to the frequency points in the cellular band.
- 7) Set the Receiver squelch to threshold, the signal required to open the squelch must be lower than the reference sensitivity level.
- 8) Set the receiver in a scanning mode and allow it to scan through it's complete receiving range.
- 9) If the receiver unsquelched or stopped on any frequency, receiving at this frequency, then adjust the signal generator output level until 12 dB SINAD is produced, this level is the spurious value and the difference between the reference sensitivity and the spurious value is the rejection ratio and must be at least 38dB.
- 10) Repeat above procedure at the frequencies 824, 836.0, and 849 MHz for the mobile band, and 869, 881.5, and 894 MHz for the cellular base band.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Narda	Attenuator	30dB	030	2020-08-15	2021-08-14
Rohde & Schwarz	SMBV100A Vector Signal Generator	SMBV100A	261558	2020-07-28	2021-07-27
HP	RF communication test SET.	8920B	079	2020-04-01	2021-03-31
Wouxun	RF Cable	Wouxun C01	C01	Each Time	/

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

Test Data**Environmental Conditions**

Temperature:	25.2 °C
Relative Humidity:	51 %
ATM Pressure:	101.5 kPa

The testing was performed by Jett Zhao on 2020-10-30.

Test mode: Scanning receiver

EUT's Scanning Frequency Range (MHz)	Test Frequencies of Cellular Band (MHz)	Measurement Result (dB)	Limit (dB)
400-480	824, 836.0, 849, 869, 881.5, 894	48	>38

Note: Only the worst test result was recorded.

Declarations

1: BACL is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with an asterisk '*'. Customer model name, addresses, names, trademarks etc. are not considered data.

2: Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

3: Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

4: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

5: This report cannot be reproduced except in full, without prior written approval of the Company.

6: This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.

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