

FCC PART 15C

TEST REPORT

For

AKUVOX (XIAMEN) NETWORKS CO., LTD.

10/F, No.56, Software Park II, Xiamen, China

FCC ID: 2AHCR-R29X

Report Type: Original Report	Product Name: Door Phone
Report Number: RXM180313068-00B	
Report Date: 2018-07-11	
Reviewed By:	Jerry Zhang EMC Manager <i>Jerry Zhang</i>
Test Laboratory:	Bay Area Compliance Laboratories Corp. (Dongguan) No.69 Pulongcun, Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, China Tel: +86-769-86858888 Fax: +86-769-86858891 www.baclcorp.com.cn

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GENERAL INFORMATION

Product Description for Equipment Under Test (EUT)

EUT Name:	Door Phone
EUT Model:	R29F
Multiple Models:	R29S
FCC ID:	2AHCR-R29X
Rated Input Voltage:	DC12V from DC port or PoE port
External Dimension:	324mm(L)*130mm(W)*27mm(H)
Serial Number:	180313068-1(Model:R29F), 180313068-2(Model:R29S)
EUT Received Date:	2018.03.19

Note: The series product, model R29F, R29S are electrically identical, we selected R29F for fully testing, the differences details was explained in the declaration letter.

Objective

This Type approval report is prepared on behalf of **AKUVOX (XIAMEN) NETWORKS CO., LTD.** in accordance with Part 2, Subpart J, and Part 15, Subparts A and C of the Federal Communications Commission's rules.

The objective is to determine the compliance of the EUT with FCC rules, sec 15.203, 15.205, 15.207, 15.209, 15.215 and 15.225.

Related Submittal(s)/Grant(s)

N/A

Test Methodology

All measurements detailed in this Test Report were performed in accordance with ANSI C63.10-2013 "American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices".

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

Measurement Uncertainty

Parameter	Measurement Uncertainty
Occupied Channel Bandwidth	±5 %
radiated Emissions	9kHz~30MHz: 4.12dB 30M~200MHz: 4.58 dB for Horizontal, 4.59 dB for Vertical 200M~1GHz: 4.83 dB for Horizontal, 5.85 dB for Vertical
Temperature	±1 °C
Humidity	±5%
DC and low frequency voltages	±0.4%
Duty Cycle	1%
AC Power Lines Conducted Emission	3.12 dB (150 kHz to 30 MHz)

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.69 Pulongcun, Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, 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. : 897218,the FCC Designation No. : CN1220.

The test site has been registered with ISED Canada under ISED Canada Registration Number 3062D.

SYSTEM TEST CONFIGURATION

Justification

The system was configured for testing in a test mode

The device operates simultaneously in 125 kHz and 13.56 MHz for RFID detection.

EUT Exercise Software

No software used in test.

Support Equipment List and Details

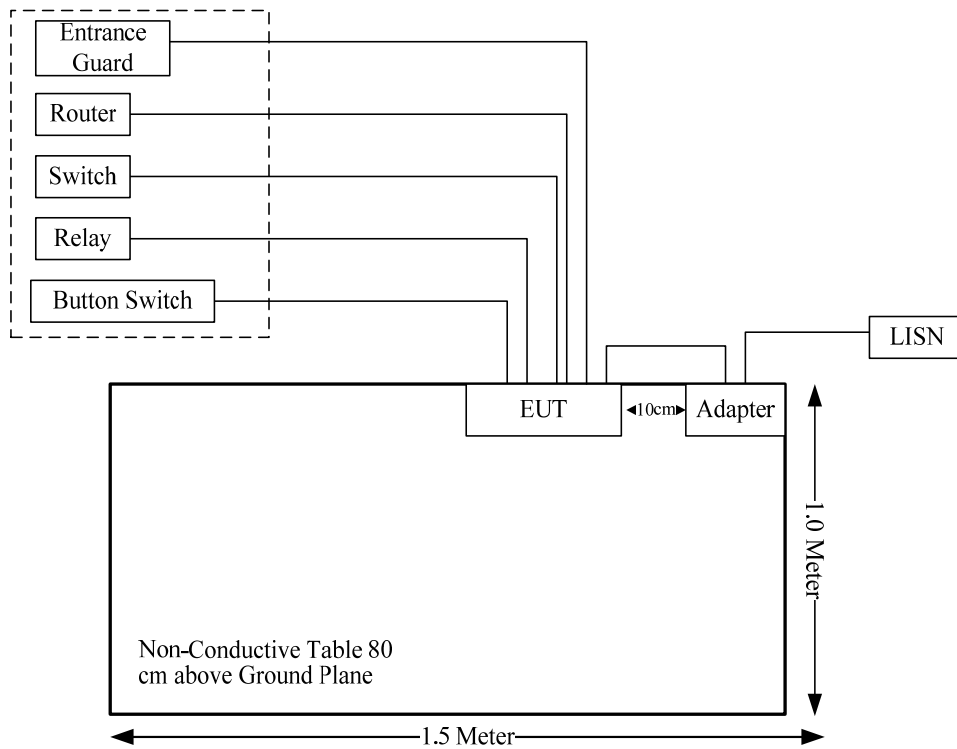
Manufacturer	Description	Model	Serial Number
L.T.E.	AC/DC Adapter	G0548B-480-050	N/A
HUAWEI	PoE Adapter	HW-120200U6W	N/A
RSD	Button Switch	KCD1	N/A
Lotus	Entrance guard	L8MF-W	N/A
Schneider	Relay	RXM2LB2BD	N/A
TP-LINK	Switch	TL-SF1008P	114A297001782
Tenda	router	D301	E3941017710003629

Support Cable List and Details

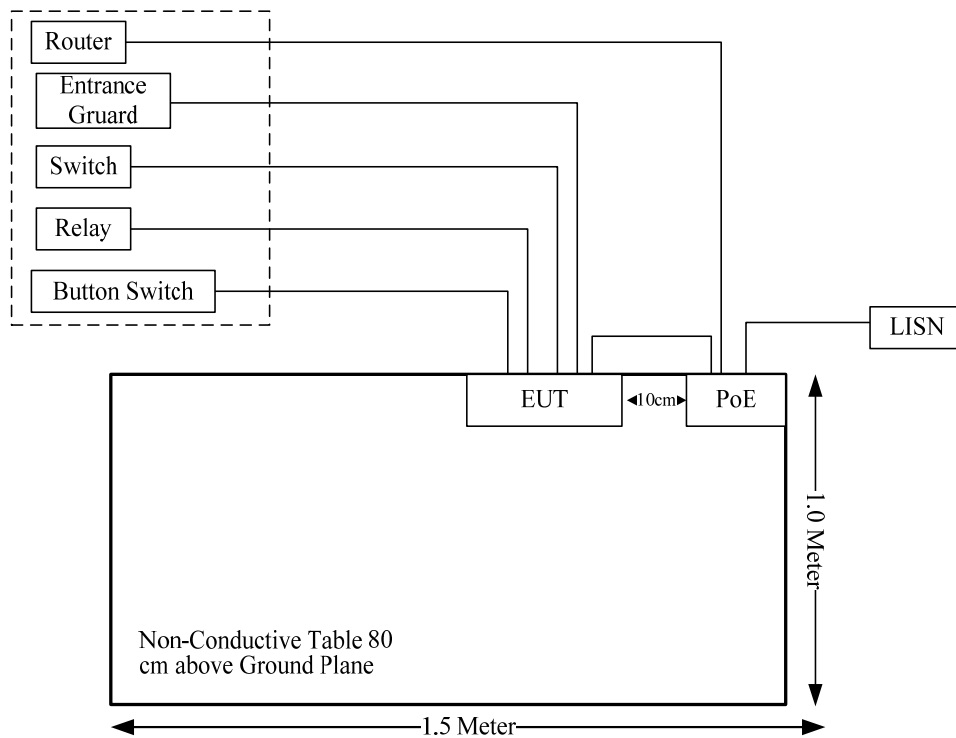
Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
RJ45 Cable	No	No	5	EUT or PoE	router
Signal Cable	No	No	5	EUT	Button Switch
Signal Cable	No	No	5	EUT	Entrance guard
RS485 Cable	No	No	5	EUT	Switch
Signal Cable	No	No	5	EUT	Relay
RJ45 Cable	No	No	1	EUT	PoE

Block Diagram of Test Setup

AC/DC Adapter supply



PoE supply



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.203	Antenna Requirement	Compliance
§15.207	AC Line Conducted Emission	Compliance
§15.225 §15.209 §15.205	Radiated Emission Test	Compliance
§15.225(e)	Frequency Stability	Compliance
§15.215(c)	20 dB Emission Bandwidth	Compliance

FCC§15.203 - ANTENNA REQUIREMENT

Applicable Standard

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

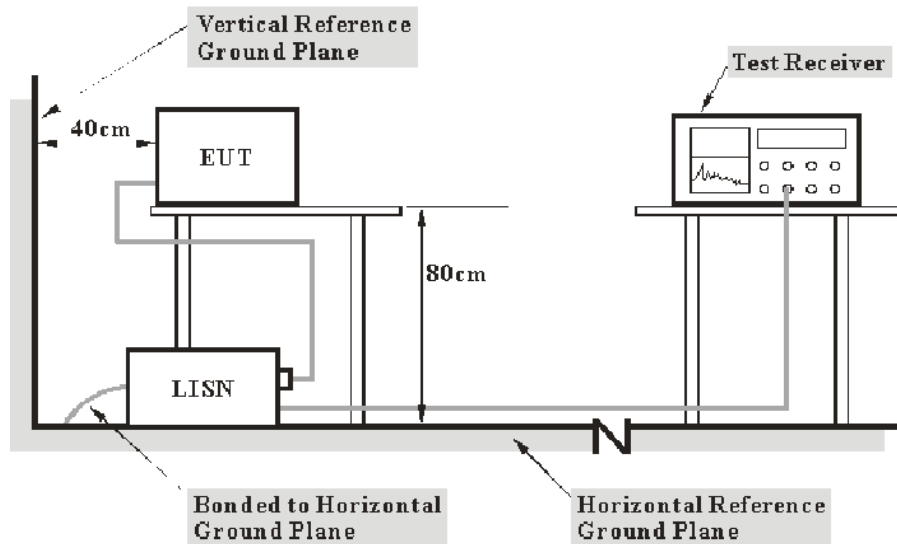
Antenna Connected Construction

The EUT has two integral antenna arrangement, one for 13.56MHz, one for 125kHz, which was permanently attached and fulfill the requirement of this section. Please refer to the EUT photos.

Result: Compliance.

FCC §15.207 – AC LINE CONDUCTED EMISSION

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 setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 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.

The adapter was connected to the main LISN with an AC 120V/60Hz power source.

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 Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCS 30	830245/006	2017-12-11	2018-12-11
R&S	Two-line V-network	ENV 216	101614	2017-12-08	2018-12-08
N/A	Coaxial Cable	C-NJNJ-50	C-0200-01	2017-09-05	2018-09-05
R&S	Test Software	EMC32	Version8.53.0	N/A	N/A

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

Test Procedure

During the conducted emission test, the adapter or POE was connected to the outlet of the LISN.

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

All data was recorded in the Quasi-peak and average detection mode.

According FCC publication number 174176, for a device with a permanent antenna operating at or below 30 MHz, the measurements done with a suitable dummy load, in lieu of the permanent antenna under the following conditions: (1) perform the AC line conducted tests with the permanent antenna to determine compliance with the Section 15.207 limits outside the transmitter's fundamental emission band; (2) retest with a dummy load in lieu of the permanent antenna to determine compliance with the Section 15.207 limits within the transmitter's fundamental emission band.

Corrected Amplitude & Margin Calculation

The basic equation is as follows:

$$V_C = V_R + A_C + VDF$$

Herein,

V_C : corrected voltage amplitude

V_R : reading voltage amplitude

A_C : attenuation caused by cable loss

VDF: voltage division factor of AMN or ISN

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

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

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 15.207.

Test Data**Environmental Conditions**

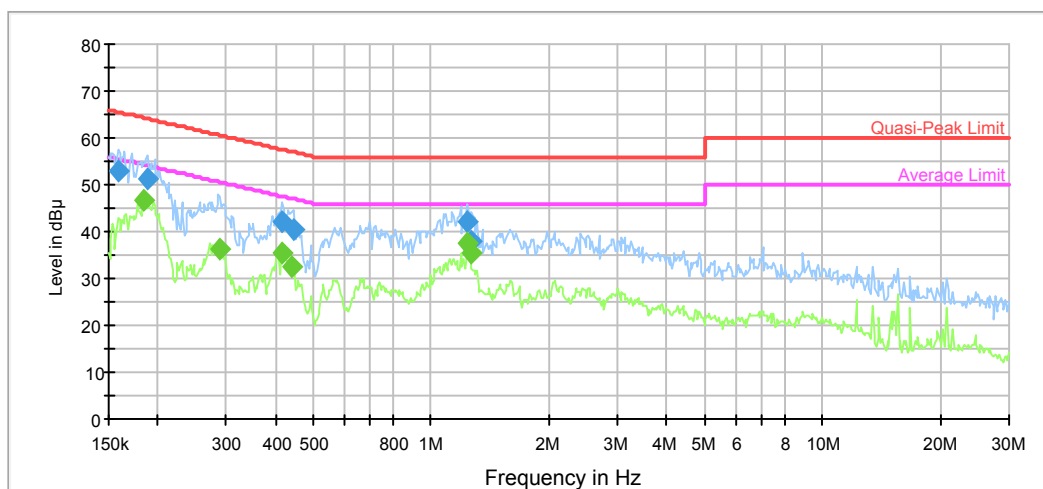
Temperature:	26.9 °C
Relative Humidity:	61 %
ATM Pressure:	101 kPa

The testing was performed by Sider Huang on 2018-05-02.

Test mode: Transmitting (R29F was the worst)

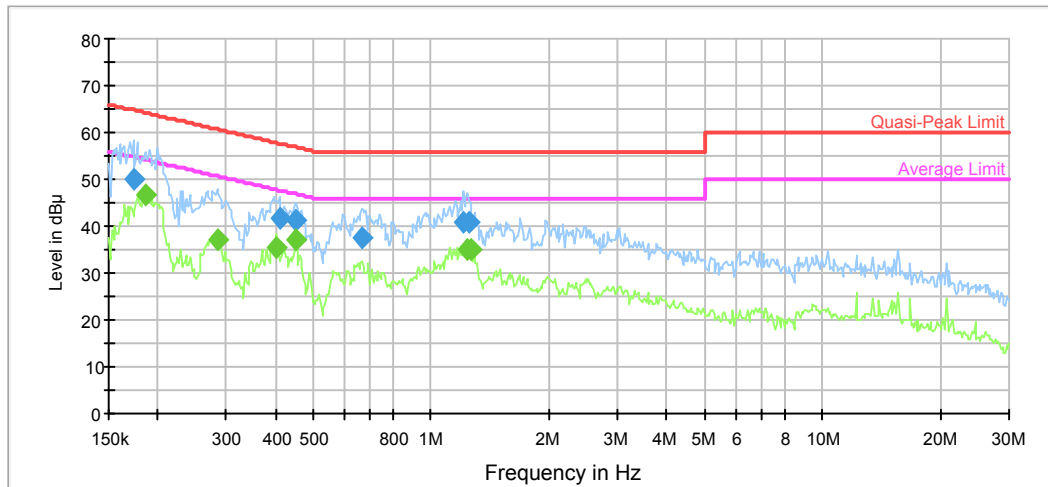
Test Mode: AC/DC Adapter supply

AC 120V, 60 Hz, Line:



Frequency (MHz)	Quasi Peak (dBμV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.158604	53.1	9.000	L1	11.1	12.4	65.5	Compliance
0.188994	51.1	9.000	L1	10.7	13.0	64.1	Compliance
0.415949	41.9	9.000	L1	10.0	15.6	57.5	Compliance
0.446873	40.5	9.000	L1	9.9	16.4	56.9	Compliance
1.239175	42.1	9.000	L1	9.8	13.9	56.0	Compliance
1.269154	37.8	9.000	L1	9.8	18.2	56.0	Compliance

Frequency (MHz)	Average (dBμV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.184529	46.8	9.000	L1	10.8	7.5	54.3	Compliance
0.288307	36.3	9.000	L1	10.2	14.3	50.6	Compliance
0.415949	35.5	9.000	L1	10.0	12.0	47.5	Compliance
0.443327	32.7	9.000	L1	9.9	14.3	47.0	Compliance
1.239175	37.3	9.000	L1	9.8	8.7	46.0	Compliance
1.259081	35.3	9.000	L1	9.8	10.7	46.0	Compliance

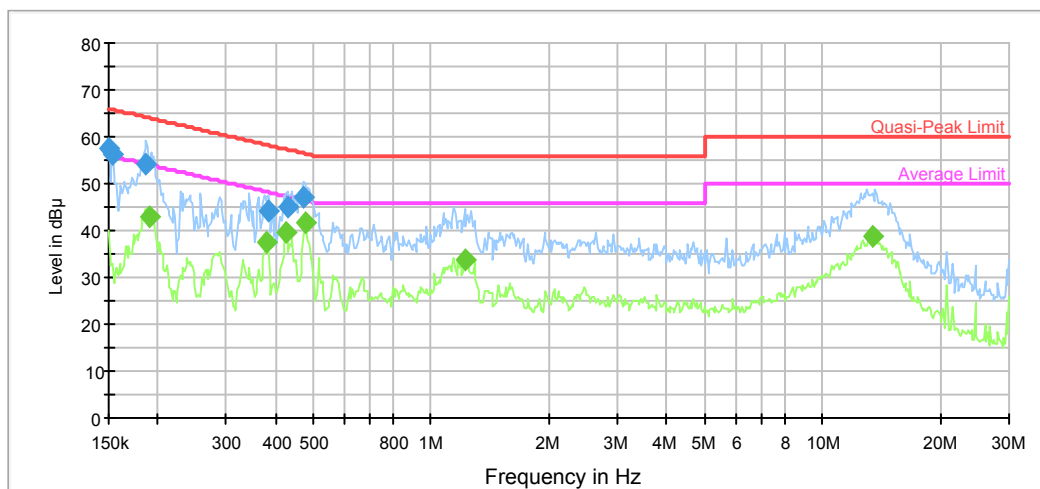
AC120 V, 60 Hz, Neutral:

Frequency (MHz)	Quasi Peak (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)	Comment
0.173134	50.1	9.000	N	10.9	14.7	64.8	Compliance
0.409372	41.8	9.000	N	10.0	15.9	57.7	Compliance
0.450448	41.3	9.000	N	9.9	15.6	56.9	Compliance
0.665597	37.7	9.000	N	9.8	18.3	56.0	Compliance
1.209904	41.0	9.000	N	9.8	15.0	56.0	Compliance
1.249088	40.8	9.000	N	9.8	15.2	56.0	Compliance

Frequency (MHz)	Average (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)	Comment
0.186006	46.5	9.000	N	10.7	7.7	54.2	Compliance
0.286019	37.2	9.000	N	10.2	13.4	50.6	Compliance
0.402900	35.2	9.000	N	10.0	12.6	47.8	Compliance
0.450448	37.0	9.000	N	9.9	9.9	46.9	Compliance
1.239175	35.2	9.000	N	9.8	10.8	46.0	Compliance
1.259081	35.1	9.000	N	9.8	10.9	46.0	Compliance

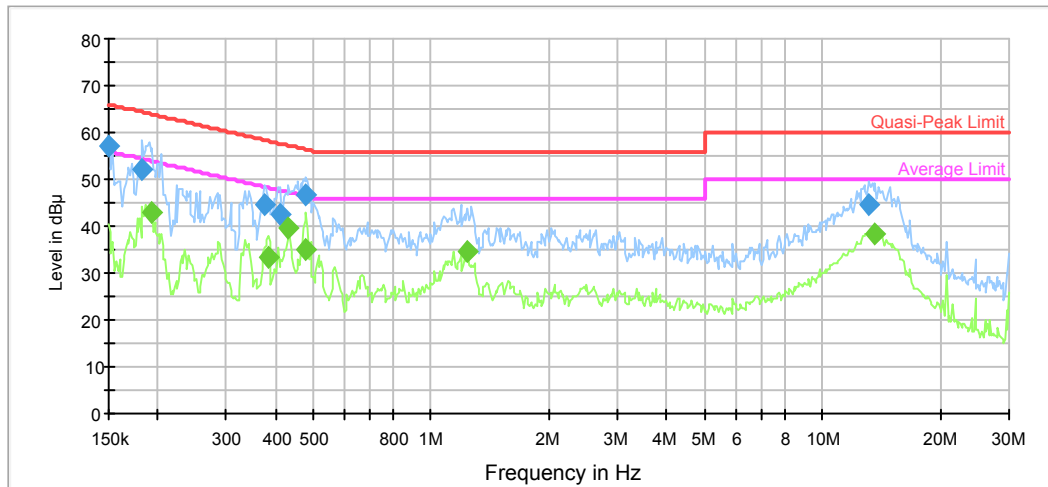
Test Mode: PoE Power supply

AC 120V, 60 Hz, Line:



Frequency (MHz)	Quasi Peak (dBμV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.150000	57.3	9.000	L1	11.2	8.7	66.0	Compliance
0.153629	56.1	9.000	L1	11.1	9.7	65.8	Compliance
0.187494	54.3	9.000	L1	10.7	9.8	64.1	Compliance
0.384091	44.0	9.000	L1	10.0	14.2	58.2	Compliance
0.429420	44.9	9.000	L1	9.9	12.4	57.3	Compliance
0.472507	47.0	9.000	L1	9.9	9.5	56.5	Compliance

Frequency (MHz)	Average (dBμV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.190505	43.0	9.000	L1	10.7	11.0	54.0	Compliance
0.381043	37.5	9.000	L1	10.0	10.8	48.3	Compliance
0.426011	39.5	9.000	L1	9.9	7.8	47.3	Compliance
0.476287	41.6	9.000	L1	9.9	4.8	46.4	Compliance
1.219583	33.8	9.000	L1	9.8	12.2	46.0	Compliance
13.422446	38.6	9.000	L1	9.9	11.4	50.0	Compliance

AC120 V, 60 Hz, Neutral:

Frequency (MHz)	Quasi Peak (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)	Comment
0.150000	57.1	9.000	N	11.2	8.9	66.0	Compliance
0.183065	52.1	9.000	N	10.8	12.2	64.3	Compliance
0.375019	44.6	9.000	N	10.0	13.8	58.4	Compliance
0.412647	42.7	9.000	N	10.0	14.9	57.6	Compliance
0.480097	46.5	9.000	N	9.9	9.8	56.3	Compliance
13.210237	44.4	9.000	N	9.9	15.6	60.0	Compliance

Frequency (MHz)	Average (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)	Comment
0.193566	42.8	9.000	N	10.7	11.1	53.9	Compliance
0.384091	33.2	9.000	N	10.0	15.0	48.2	Compliance
0.432855	39.4	9.000	N	9.9	7.8	47.2	Compliance
0.480097	35.0	9.000	N	9.9	11.3	46.3	Compliance
1.239175	34.7	9.000	N	9.8	11.3	46.0	Compliance
13.529825	38.2	9.000	N	9.9	11.8	50.0	Compliance

FCC§15.225, §15.205 & §15.209 - RADIATED EMISSIONS TEST

Applicable Standard

FCC Part 15.205, 15.209, 15.225

- (a) The field strength of any emissions within the band 13.553–13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.
- (b) Within the bands 13.410–13.553 MHz and 13.567–13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.
- (c) Within the bands 13.110–13.410 MHz and 13.710–14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.
- (d) The field strength of any emissions appearing outside of the 13.110–14.010 MHz band shall not exceed the general radiated emission limits in §15.209.

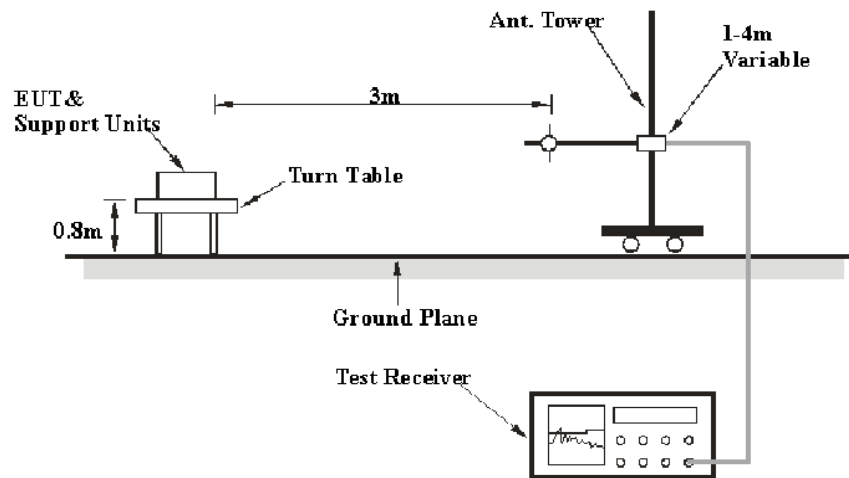
As per FCC Part 15.209

(a) Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100**	3
88-216	150**	3
216-960	200**	3
Above 960	500	3

**Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§15.231 and 15.241.

EUT Setup



The radiated emission tests were performed in the 3-meter chamber test site, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC Part Subpart C limits.

The spacing between the peripherals was 10 cm.

EMI Test Receiver Setup

The system was investigated from 9 kHz to 1 GHz.

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

Frequency Range	RBW	Video B/W	Measurement
9 kHz – 150 kHz	200 Hz	1 kHz	QP
150 kHz – 30 MHz	9 kHz	30 kHz	QP
30 MHz – 1000 MHz	120 kHz	300 kHz	QP

If the maximized peak measured value complies with the limit, then it is unnecessary to perform an QP/Average measurement

Corrected Amplitude & Margin Calculation

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

$$\text{Corr. Ampl.} = \text{Meter Reading} + \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain}$$

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

$$\text{Margin} = \text{Limit} - \text{Corr. Ampl.}$$

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sunol Sciences	Antenna	JB3	A060611-1	2017-11-10	2020-11-10
R&S	EMI Test Receiver	ESCI	100224	2017-12-11	2018-12-11
HP	Amplifier	8447D	2727A05902	2017-09-05	2018-09-05
EMCO	Passive Loop	6512	9706-1206	2017-03-05	2020-03-04
Unknown	Coaxial Cable	C-NJNJ-50	C-0400-01	2017-09-05	2018-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0075-01	2017-09-05	2018-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-1000-01	2017-09-05	2018-09-05
Farad	Test Software	EZ-EMC	V1.1.4.2	N/A	N/A

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

Test Results Summary

According to the data in the following table, the EUT complied with the FCC Part 15.209&15.225.

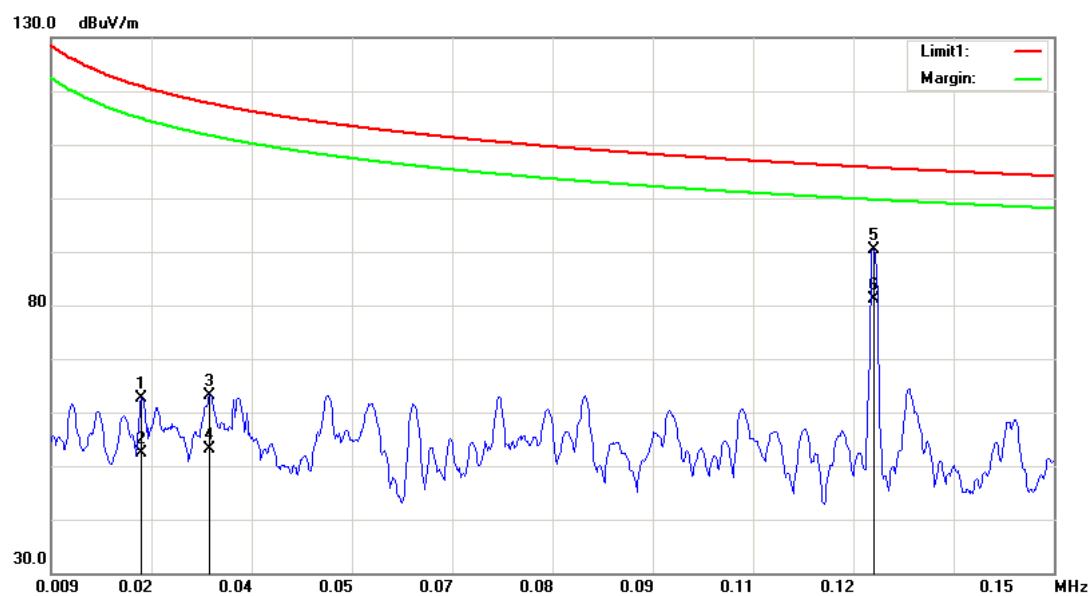
Test Data**Environmental Conditions**

Temperature:	27~29.6 °C
Relative Humidity:	35~38 %
ATM Pressure:	101.3~102 kPa

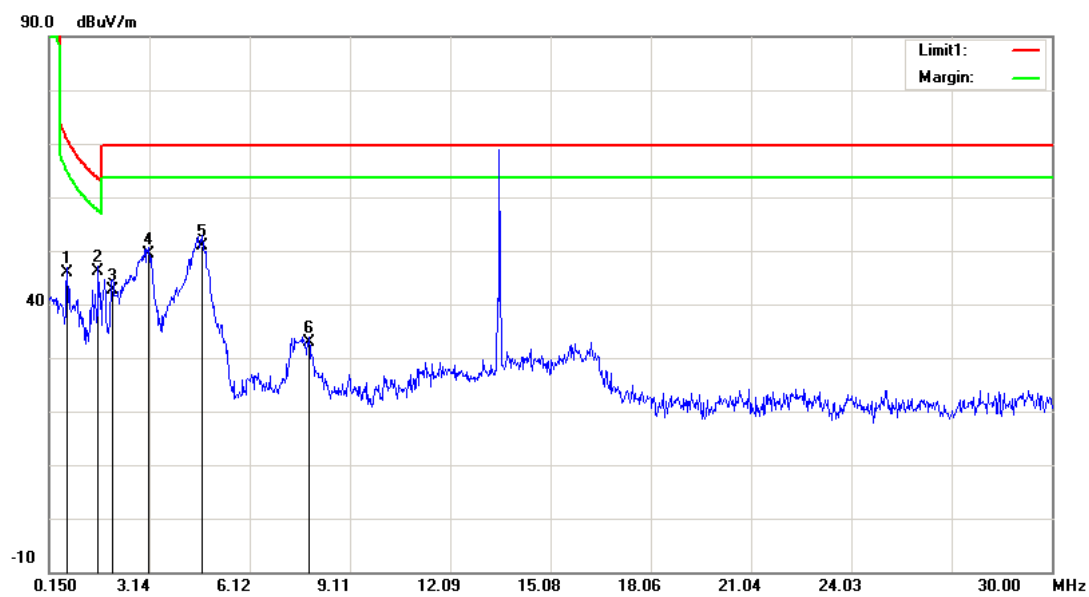
* The testing was performed by Blake Yang from 2018-04-28 to 2018-05-31.

Test mode: Transmitting(AC/DC adapter R29F was the worst)

1) 9 kHz~30MHz:

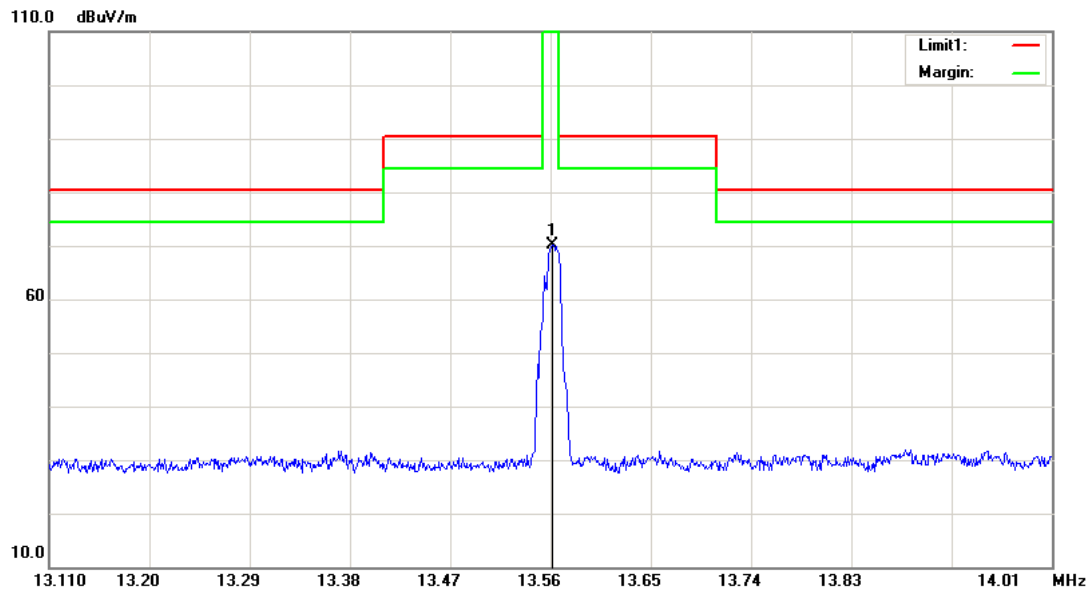


Frequency (MHz)	Receiver Reading (dBμV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBμV/m)	Limit (dBμV/m)	Margin (dB)
0.0217	7.35	peak	55.25	62.60	120.87	58.27
0.0313	10.98	peak	52.18	63.16	117.69	54.53
0.1246	49.98	peak	40.49	90.47	105.69	15.22



Frequency (MHz)	Receiver Reading (dBμV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBμV/m)	Limit (dBμV/m)	Margin (dB)
0.6873	20.94	peak	24.86	45.80	70.86	25.06
1.6127	27.72	peak	18.38	46.10	63.44	17.34
2.0306	26.62	peak	16.08	42.70	69.54	26.84
3.1051	36.16	peak	13.14	49.30	69.54	20.24
4.7171	40.01	peak	10.89	50.90	69.54	18.64
7.8810	23.15	peak	9.65	32.80	69.54	36.74

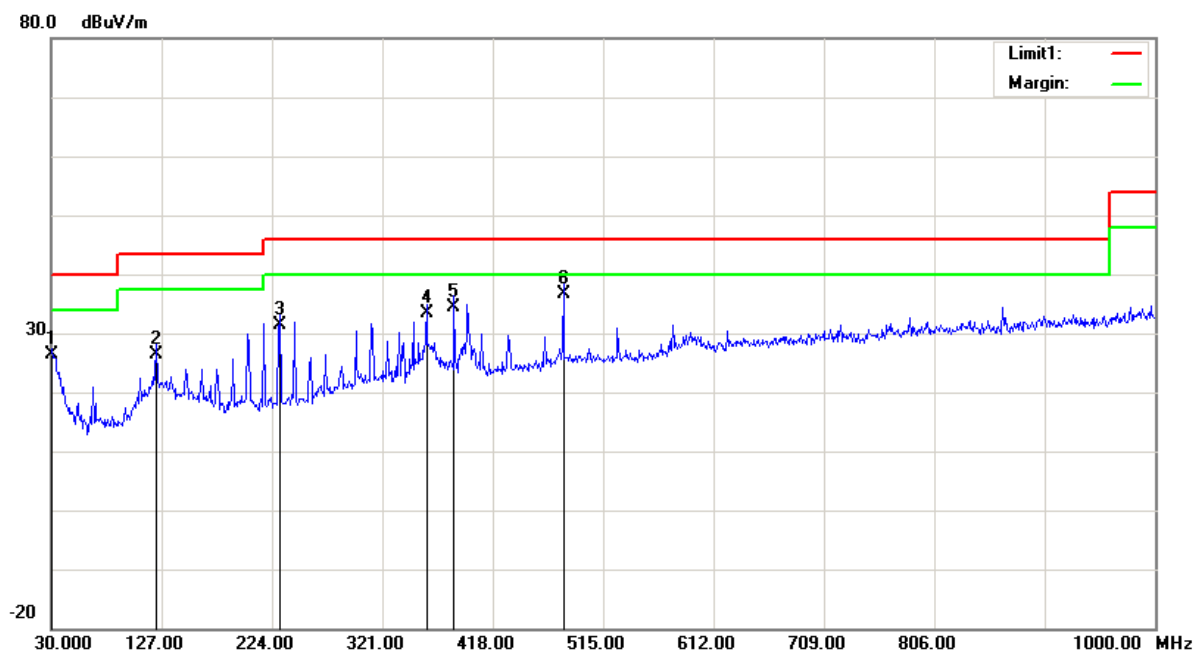
Fundamental:



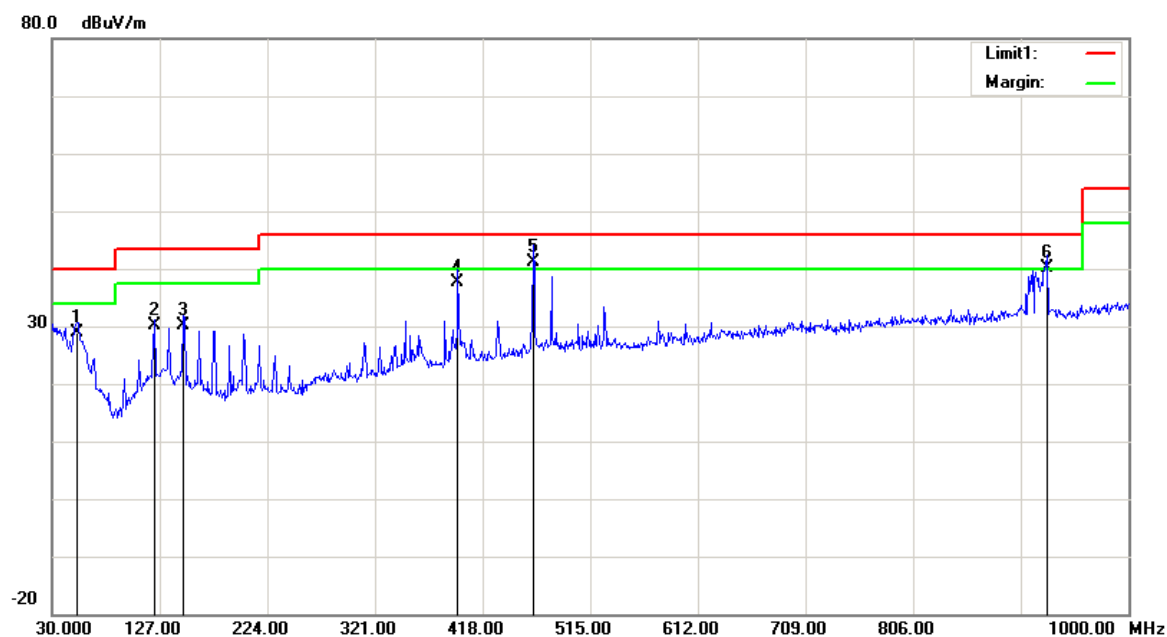
Frequency (MHz)	Receiver Reading (dBμV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBμV/m)	Limit (dBμV/m)	Margin (dB)
13.5617	60.93	peak	9.29	70.22	124.00	53.78

2) Above 30 MHz

Horizontal



Frequency (MHz)	Receiver Reading (dBμV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBμV/m)	Limit (dBμV/m)	Margin (dB)
30.0000	24.86	QP	1.54	26.40	40.00	13.60
122.1500	31.12	QP	-4.82	26.30	43.50	17.20
230.7900	38.02	QP	-6.52	31.50	46.00	14.50
359.8000	36.35	QP	-2.85	33.50	46.00	12.50
384.0500	36.97	QP	-2.47	34.50	46.00	11.50
480.0800	37.04	QP	-0.34	36.70	46.00	9.30

Vertical

No.	Frequency (MHz)	Receiver Reading (dB μ V)	Detector	Correction Factor (dB/m)	Cord. Amp. (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
1	52.3100	40.69	QP	-11.89	28.80	40.00	11.20
2	122.1500	35.02	QP	-4.82	30.20	43.50	13.30
3	148.3400	36.24	QP	-6.04	30.20	43.50	13.30
4	395.6900	39.72	QP	-2.12	37.60	46.00	8.40
5	463.5900	41.90	QP	-0.70	41.20	46.00	4.80
6	926.2800	33.50	QP	6.60	40.10	46.00	5.90

FCC§15.225(e) - FREQUENCY STABILITY

Applicable Standard

The frequency tolerance of the carrier signal shall be maintained within $\pm 0.01\%$ of the operating frequency over a temperature variation of -20 degrees to $+50$ degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

Test Procedure

Frequency Stability vs. Temperature: The equipment under test was connected to an external DC power.

The EUT was placed inside the temperature chamber.

After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from the Spectrum Analyzer.

Frequency Stability vs. Voltage: An external variable DC power supply Source. The voltage was set to the end point of the battery. The output frequency was recorded for each voltage.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCI	100224	2017-12-11	2018-12-11
HP	Amplifier	8447D	2727A05902	2017-09-05	2018-09-05
EMCO	Passive Loop	6512	9706-1206	2017-03-05	2020-03-04
Unknown	Coaxial Cable	C-NJNJ-50	C-0400-01	2017-09-05	2018-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0075-01	2017-09-05	2018-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-1000-01	2017-09-05	2018-09-05
UNI-T	Multimeter	UT39A	M130199938	2018-05-09	2019-05-09
Dongzhixu	High Temperature Test Chamber	DP1000	201105083-4	2017-08-28	2018-08-28
Schneider	AC Power Supply	YF6005	005	N/A	N/A

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

Test Data

Environmental Conditions

Temperature:	27 °C
Relative Humidity:	35 %
ATM Pressure:	101.3 kPa

* The testing was performed by Blake Yang on 2018-05-31.

Test Mode: Transmitting

Test Result: Pass

AC/DC adapter:

$f_o = 13.56 \text{ MHz}$				
Temperature	Voltage	Measured frequency	Frequency Error	Limit
°C	V _{AC}	MHz	Hz	Hz
-20	120 V	13.56119	1190	±1356
-10		13.56114	1140	±1356
0		13.56118	1180	±1356
10		13.56117	1170	±1356
20		13.56115	1150	±1356
25		13.56117	1170	±1356
30		13.56118	1180	±1356
40		13.56121	1210	±1356
50		13.56118	1180	±1356
25	102V	13.56115	1150	±1356
25	138V	13.56117	1170	±1356

POE adapter:

$f_o = 13.56 \text{ MHz}$				
Temperature	Voltage	Measured frequency	Frequency Error	Limit
°C	V _{AC}	MHz	Hz	Hz
-20	120 V	13.56123	1230	±1356
-10		13.56112	1120	±1356
0		13.56115	1150	±1356
10		13.56112	1120	±1356
20		13.56112	1120	±1356
25		13.56111	1110	±1356
30		13.56113	1130	±1356
40		13.56112	1120	±1356
50		13.56121	1210	±1356
25	102V	13.56114	1140	±1356
25	138V	13.56112	1120	±1356

FCC §15.215(c) – 20 dB EMISSION BANDWIDTH**Applicable Standard**

Per FCC §15.215 (c) Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §15.217 through § 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

Test Procedure

Measure the frequency difference of two frequencies that were attenuated 20 dB from the reference level. Record the frequency difference as the emission bandwidth.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCI	100224	2017-12-11	2018-12-11
HP	Amplifier	8447D	2727A05902	2017-09-05	2018-09-05
EMCO	Passive Loop	6512	9706-1206	2017-03-05	2020-03-04
Unknown	Coaxial Cable	C-NJNJ-50	C-0400-01	2017-09-05	2018-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0075-01	2017-09-05	2018-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-1000-01	2017-09-05	2018-09-05

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

Test Data**Environmental Conditions**

Temperature:	25.4~26.1 °C
Relative Humidity:	25~57 %
ATM Pressure:	100.1~100.6 kPa

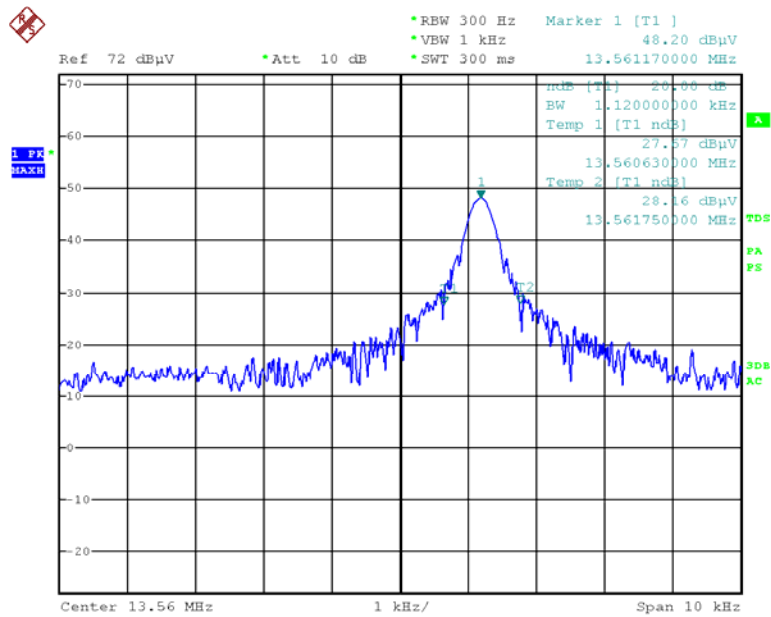
** The testing was performed by David Huang on 2018-04-27&2018-07-11.*

Test Result: Compliance.

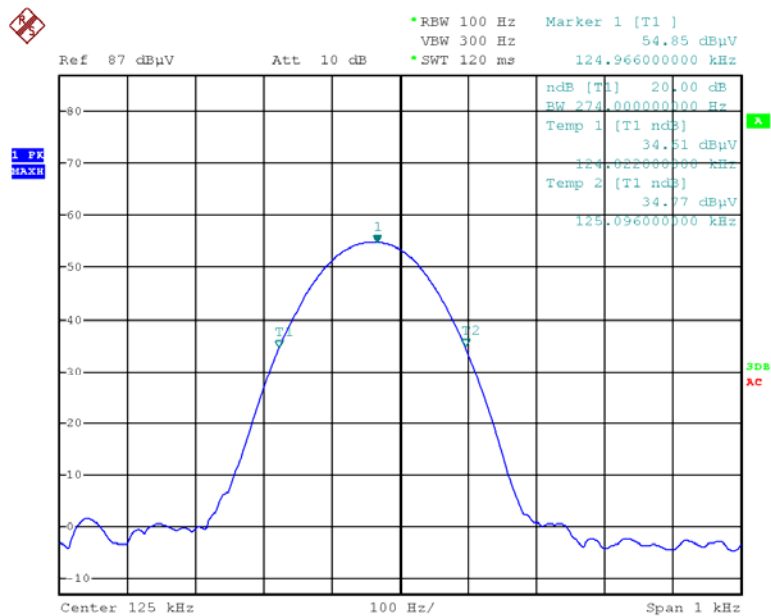
Please refer to following tables and plots

Test Frequency (MHz)	20 dB Bandwidth (kHz)
13.56	1.12
0.125	0.274

Test Mode: Transmitting

20 dB Emission Bandwidth

Date: 27.APR.2018 17:21:44



Date: 11.JUL.2018 16:44:14

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