



# FCC PART 15C TEST REPORT

For

## AKUVOX (XIAMEN) NETWORKS CO., LTD.

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

FCC ID: 2AHCR-R20X

Report Type: **Product Name:** Original Report Door Phone **Report Number:** RXM180205050-00B **Report Date:** 2018-04-16 Jerry Zhang Jerry Zhang EMC Manager **Reviewed By:** Bay Area Compliance Laboratories Corp. (Dongguan) No.69 Pulongcun, Puxinhu Industry Area, **Test Laboratory:** Tangxia, Dongguan, Guangdong, China Tel: +86-769-86858888 Fax: +86-769-86858891 www.baclcorp.com.cn

Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Dongguan). This report must not be used by the customer to claim product certification, approval, or endorsement by A2LA\* or any agency of the Federal Government. \* 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)**

EUT Name:	Door Phone
EUT Model:	R20A
FCC ID:	2AHCR-R20X
Rated Input Voltage:	DC12V from DC pin or PoE port
External Dimension:	145mm(L)*90mm(W)*38mm(H)
Serial Number:	180205050
EUT Received Date:	2018.02.05

## **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 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 %
	9kHz~30MHz: 4.12dB
radiated Emissions	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.

§15.215(c)

#### **FCC Rules Description of Test** Result §15.203 Compliance Antenna Requirement AC Line Conducted Emission Compliance §15.207 §15.225 Radiated Emission Test Compliance §15.209 §15.205 Frequency Stability Compliance §15.225(e)

20 dB Emission Bandwidth

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Compliance

## **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**

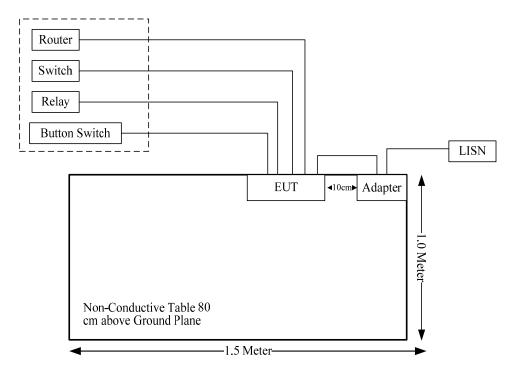
Manufacturer	Description	Model	Serial Number
L.T.E.	DC Adapter	G0548B-480-050	N/A
Fujia	PoE Adapter FJ-SW12010		N/A
RSD	Button Switch	KCD1	N/A
Schneider	Relay	RXM2LB2BD	N/A
TP-LINK	Switch	TL-SF1008P	114A297001782
Tenda	Wireless router	D301	N/A

## **Support Cable List and Details**

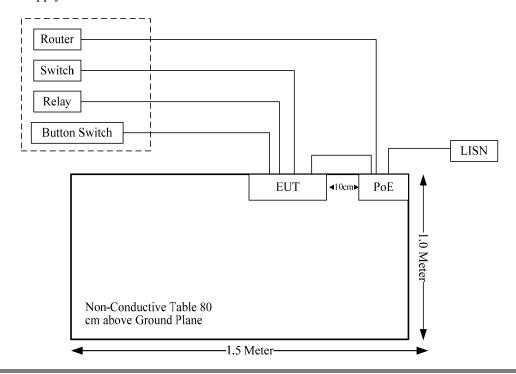
Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	То
RJ45 Cable	No	No	5	RJ45 Port of EUT	Wireless router
RS485 Cable	No	No	5	RS485 Port of EUT	Switch
Signal Cable	No	No	5	DOOR Port of EUT	Button Switch
Signal Cable	No	No	5	Relay Port of EUT	Relay
RJ45 Cable	No	No	1	RJ45 Port of EUT	PoE
RJ45 Cable	No	No	5	RJ45 Port of PoE	Wireless router
DC Cable	No	No	1.2	Adapter	EUT

## **Block Diagram of Test Setup**

## Adapter supply



## PoE supply



## 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.

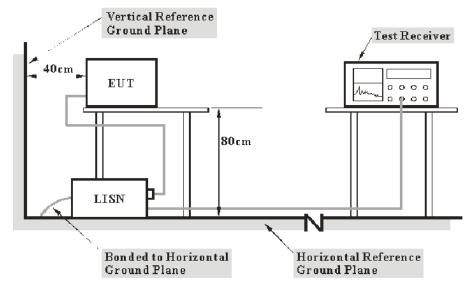
## **Antenna Connected Construction**

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	L.I.S.N	ESH2-Z5	892107/021	2017-09-01	2018-09-01
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

<sup>\*</sup> 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 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<sub>c</sub>: attenuation caused by cable loss

VDF: voltage division factor of AMN or ISN

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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:

Margin = Limit – 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**

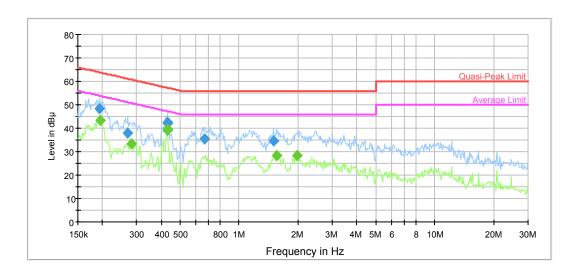
Temperature:	23.7 °C
Relative Humidity:	57 %
ATM Pressure:	101.4kPa

The testing was performed by Alex You on 2018-03-01

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Test Mode: Transmitting(AC/DC adapter)

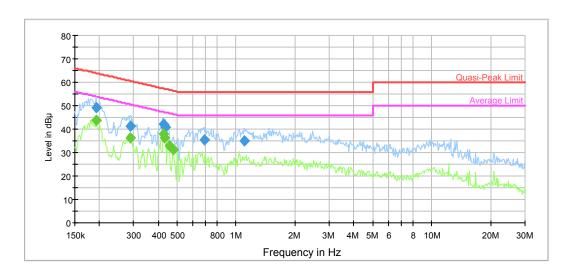
## AC 120V, 60 Hz, Line:



Frequency (MHz)	Quasi Peak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.193566	48.5	9.000	L1	10.7	15.4	63.9	Compliance
0.270502	38.0	9.000	L1	10.3	23.1	61.1	Compliance
0.429420	42.5	9.000	L1	9.9	14.8	57.3	Compliance
0.432855	42.1	9.000	L1	9.9	15.1	57.2	Compliance
0.665597	35.2	9.000	L1	9.8	20.8	56.0	Compliance
1.500325	34.5	9.000	L1	9.7	21.5	56.0	Compliance

Frequency (MHz)	Average (dBμV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.195114	43.3	9.000	L1	10.7	10.5	53.8	Compliance
0.281497	33.4	9.000	L1	10.2	17.4	50.8	Compliance
0.429420	39.3	9.000	L1	9.9	8.0	47.3	Compliance
0.432855	39.6	9.000	L1	9.9	7.6	47.2	Compliance
1.561306	28.3	9.000	L1	9.7	17.7	46.0	Compliance
1.982914	28.4	9.000	L1	9.7	17.6	46.0	Compliance

AC120 V, 60 Hz, Neutral:

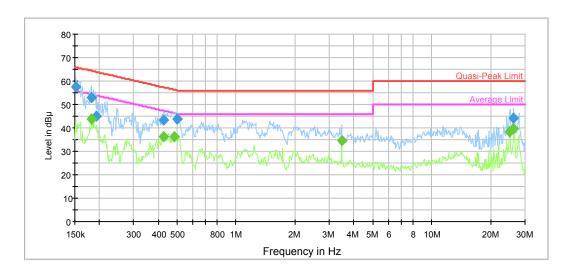


Frequency (MHz)	Quasi Peak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.192030	49.0	9.000	N	10.7	14.9	63.9	Compliance
0.288307	41.2	9.000	N	10.2	19.4	60.6	Compliance
0.426011	41.9	9.000	N	9.9	15.4	57.3	Compliance
0.436318	40.9	9.000	N	9.9	16.2	57.1	Compliance
0.687153	35.5	9.000	N	9.8	20.5	56.0	Compliance
1.099574	34.8	9.000	N	9.8	21.2	56.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.192030	43.8	9.000	N	10.7	10.1	53.9	Compliance
0.288307	36.3	9.000	N	10.2	14.3	50.6	Compliance
0.426011	38.1	9.000	N	9.9	9.2	47.3	Compliance
0.432855	36.4	9.000	N	9.9	10.8	47.2	Compliance
0.454052	33.1	9.000	N	9.9	13.7	46.8	Compliance
0.476287	31.3	9.000	N	9.9	15.1	46.4	Compliance

*Test Mode: Transmitting(POE adapter)* 

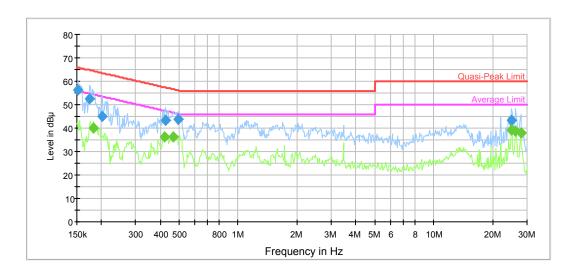
## AC 120V, 60 Hz, Line:



Frequency (MHz)	Quasi Peak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.152410	57.3	9.000	L1	11.2	8.6	65.9	Compliance
0.181612	52.9	9.000	L1	10.8	11.5	64.4	Compliance
0.193566	45.0	9.000	L1	10.7	18.9	63.9	Compliance
0.426011	43.5	9.000	L1	9.9	13.8	57.3	Compliance
0.499611	43.7	9.000	L1	9.9	12.3	56.0	Compliance
26.212978	44.2	9.000	L1	10.1	15.8	60.0	Compliance

Frequency (MHz)	Average (dBμV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.183065	43.7	9.000	L1	10.8	10.6	54.3	Compliance
0.426011	36.1	9.000	L1	9.9	11.2	47.3	Compliance
0.483938	36.2	9.000	L1	9.9	10.1	46.3	Compliance
3.463707	34.7	9.000	L1	9.8	11.3	46.0	Compliance
24.989247	38.4	9.000	L1	10.1	11.6	50.0	Compliance
26.212978	39.4	9.000	L1	10.1	10.6	50.0	Compliance

## AC120 V, 60 Hz, Neutral:



Frequency (MHz)	Quasi Peak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.152410	56.4	9.000	N	11.1	9.5	65.9	Compliance
0.174519	52.6	9.000	N	10.9	12.1	64.7	Compliance
0.203045	45.0	9.000	N	10.6	18.5	63.5	Compliance
0.426011	43.2	9.000	N	9.9	14.1	57.3	Compliance
0.495646	43.6	9.000	N	9.9	12.5	56.1	Compliance
24.989247	43.5	9.000	N	10.1	16.5	60.0	Compliance

Frequency (MHz)	Average (dBμV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.183065	39.8	9.000	N	10.8	14.5	54.3	Compliance
0.422630	36.3	9.000	N	9.9	11.1	47.4	Compliance
0.465037	36.2	9.000	N	9.9	10.4	46.6	Compliance
24.989247	39.3	9.000	N	10.1	10.7	50.0	Compliance
26.212978	38.6	9.000	N	10.1	11.4	50.0	Compliance
27.938341	38.1	9.000	N	10.2	11.9	50.0	Compliance

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

## **Applicable Standard**

As per FCC Part 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

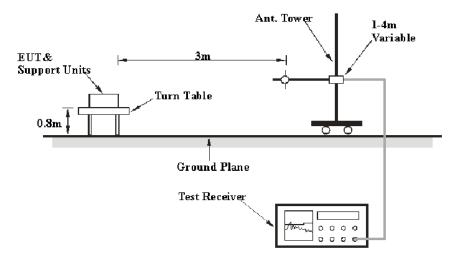
(a) Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

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

<sup>\*\*</sup>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.

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## **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	Detector
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:

Corr. Ampl. = Meter Reading + Antenna Factor + Cable Loss - 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:

Margin = Limit - Corr. Ampl.

## **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
Sunol Sciences	Antenna	JB3	A060611-1	2017-11-10	2020-11-10
HP	Amplifier	8447D	2727A05902	2017-09-05	2018-09-05
EMCO	Passive Loop	6512	9706-1206	2017-03-05	2020-03-04
N/A	Coaxial Cable	C-NJNJ-50	C-0400-01	2017-09-05	2018-09-05
N/A	Coaxial Cable	C-NJNJ-50	C-0075-01	2017-09-05	2018-09-05
N/A	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

<sup>\*</sup> 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**

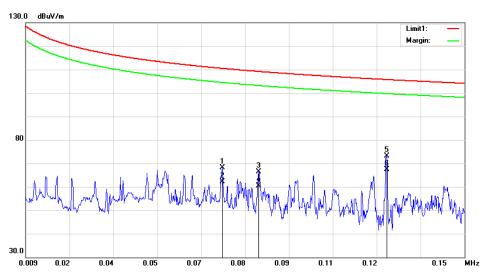
Temperature:	26.1 °C
Relative Humidity:	46 %
ATM Pressure:	101.4 kPa

<sup>\*</sup> The testing was performed by Eric Xiao on 2018-04-15.

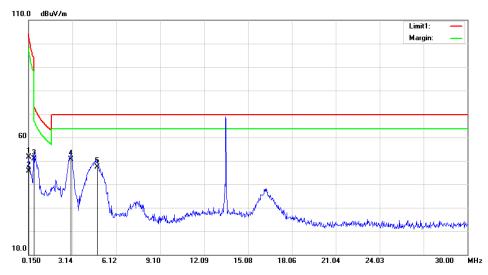
Test mode: Transmitting(AC/DC adapter was the worst)

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## 1) 9 kHz~30 MHz:

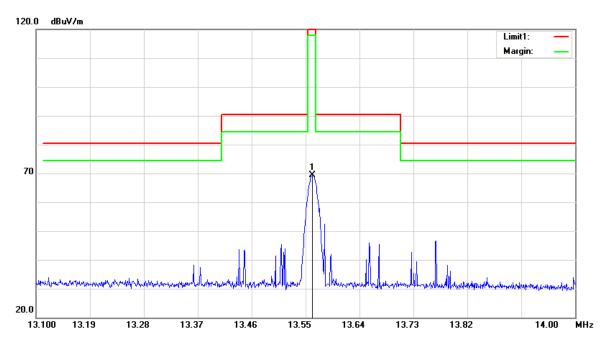


Frequen (MHz)	- Regaino	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBμV/m)	Margin (dB)
0.0722	23.11	peak	44.99	68.10	110.43	42.33
0.0840	22.93	peak	43.57	66.50	109.12	42.62
0.1250	32.74	peak	40.46	73.20	105.66	32.46



Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
0.1500	12.92	peak	38.68	51.60	104.08	52.48
0.5081	23.58	peak	27.22	50.80	73.48	22.68
3.0455	37.47	peak	13.23	50.70	69.54	18.84
4.8066	36.53	peak	10.77	47.30	69.54	22.24

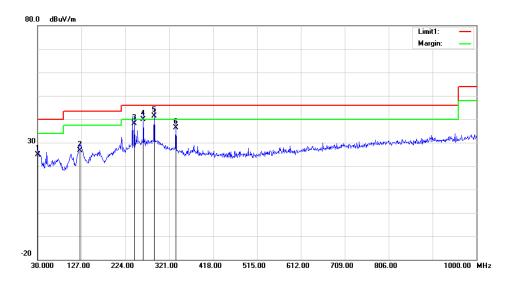
## Fundamental:



Frequency	Reading	Detector	Corrected	Result	Limit	Margin
(MHz)	(dBuV)		dB/m	(dBuV/m)	(dBuV/m)	(dB)
13.5617	58.08	peak	11.34	69.42	124.00	54.58

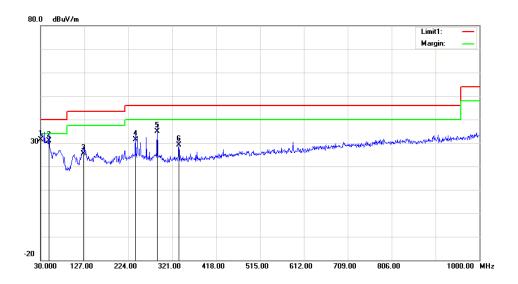
## 30MHz-1GHz(AC/DC adapter was the worst)

## Horizontal



No.	Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBμV/m)	Margin (dB)
1	30.0000	23.26	QP	1.54	24.80	40.00	15.20
2	124.0900	31.46	QP	-4.76	26.70	43.50	16.80
3	243.4000	44.22	QP	-6.12	38.10	46.00	7.90
4	263.7700	44.51	QP	-4.61	39.90	46.00	6.10
5	288.0200	45.60	QP	-4.10	41.50	46.00	4.50
6	335.5500	39.78	QP	-3.38	36.40	46.00	9.60

## Vertical



No.	Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
1	30.9700	30.49	QP	0.81	31.30	40.00	8.70
2	48.4300	41.80	QP	-10.80	31.00	40.00	9.00
3	125.0600	30.07	QP	-4.77	25.30	43.50	18.20
4	239.5200	37.60	QP	-6.10	31.50	46.00	14.50
5	288.0200	39.10	QP	-4.10	35.00	46.00	11.00
6	335.5500	32.58	QP	-3.38	29.20	46.00	16.80

## 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
N/A	Coaxial Cable	C-NJNJ-50	C-0400-01	2017-09-05	2018-09-05
N/A	Coaxial Cable	C-NJNJ-50	C-1000-01	2017-09-05	2018-09-05
Dongzhixu	High Temperature Test Chamber	DP1000	201105083-4	2017-08-28	2018-08-28
UNI-T	Multimeter	UT39A	M130199938	2017-05-09	2018-05-09
Pro instrument	DC Power Supply	pps3300	N/A	N/A	N/A

<sup>\*</sup> 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:	23.5 °C
Relative Humidity:	45 %
ATM Pressure:	101.4 kPa

<sup>\*</sup> The testing was performed by Eric Xiao on 2018-03-01.

Test Mode: Transmitting

Test Result: Pass

$f_0 = 13.56 \text{ MHz}$					
Temperature	Voltage	Measured frequency	Frequency Error Limit		
င	V <sub>DC</sub>	MHz	Hz	Hz	
-20		13.5607	700	±1356	
-10		13.5601	100	±1356	
0		13.5609	900	±1356	
10		13.5602	200	±1356	
20	12.0	13.5608	800	±1356	
25		13.5603	300	±1356	
30		13.5604	400	±1356	
40		13.5601	100	±1356	
50		13.5601	100	±1356	
25	11.0	13.5601	100	±1356	
25	13.0	13.5609	900	±1356	

Note: the operation power supply voltage range is declared by manufacturer.

## 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
N/A	Coaxial Cable	C-NJNJ-50	C-0400-01	2017-09-05	2018-09-05
N/A	Coaxial Cable	C-NJNJ-50	C-1000-01	2017-09-05	2018-09-05

<sup>\*</sup> 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).

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## **Test Data**

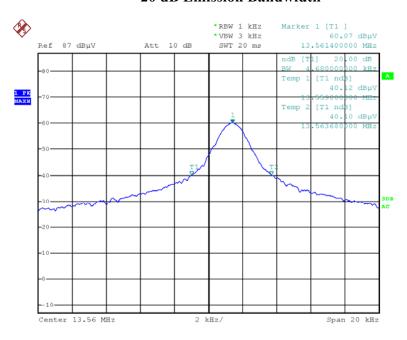
#### **Environmental Conditions**

Temperature:	23.5 °C
Relative Humidity:	45 %
ATM Pressure:	101.4 kPa

<sup>\*</sup> The testing was performed by Eric Xiao on 2018-03-01.

Test Mode: Transmitting

## 20 dB Emission Bandwidth



Date: 1.MAR.2018 21:49:38

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