FCC TEST REPORT

FCC ID: 2AHCFRS-20

Product Name:	Pepper spray alarm
Trademark:	N/A
Model Number:	RS-20 RS-20A, RS-20B, RS-20C, RS-20D, RS-20E, RS-20F, RS-20G
Prepared For:	ANVOX (HK) CO., LIMITED
Address:	UNIT 1001 FOURSEAS BUILDING 208-212 NATHAN ROAD KL, HongKong, China.
Prepared By:	Shenzhen BCTC Technology Co., Ltd.
Address:	NO.101, Yousong Road, Longhua New District, Shenzhen, Guangdong, P.R.China
Report No.:	BCTC-151216072

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Shenzhen BCTC Technology Co., Ltd.

Applicant	:	ANVOX (HK) CO., LIMITED
Address	:	UNIT 1001 FOURSEAS BUILDING 208-212 NATHAN ROAD KL, HongKong, China.
Manufacturer	:	SHENZHEN ANVOX ALARM SYSTEMS CO., LTD
Address	:	5th Floor West, B3 Building, Yasheng Industrial District,Guangming District, Shenzhen 518107, China
EUT	:	Pepper spray alarm
Model Number	:	RS-20 RS-20A, RS-20B, RS-20C, RS-20D, RS-20E, RS-20F, RS-20G
Trademark:	:	N/A
Test Date	:	Jan. 20 - Jan.21, 2015
Date of Report	:	Jan. 22, 2016
Test Result:	:	The equipment under test was found to be compliance with the requirements of the standards applied.

Test Procedure Used:

FCC Part 15 B: 2014

ANSI C63.4:2014

Prepared by(Engineer): Alyssa Jiu

Reviewer(Supervisor): Jade Yang

Approved & Authorized Signer(Manager): Carson.Zhang

SHENZHEN BCTC TECHNOLOGY CO., LTD. APPROVED

This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of Shenzhen BCTC Technology Co., Ltd.

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT	:	Pepper spray alarm
Model Number	:	RS-20 RS-20A, RS-20B, RS-20C, RS-20D, RS-20E, RS-20F, RS-20G
Trademark	:	N/A
Model Difference	:	The product is different for model number and outlook color.
Power Supply	:	DC 9V(1.5V AA battery*6)
Work Frequency	:	433.92MHz
Antenna Gain	:	2.0dBi

1.2. Tested System Details

TX Part:
Manufacturer: ANVOX (HK) CO., LIMITED
Model: WS01

1.3. Test Uncertainty

Conducted Emission Uncertainty	:	±2.66dB
Radiated Emission Uncertainty	:	±4.26dB

1.4. Independent Operation Modes

Test Mode	Description
Mode 1	RX Mode(433.92MHz)

This product for 433.92MHz is receiver only.

1.5. Test Facility

Site Description

Name of Firm	:	Shenzhen BCTC Technology Co., Ltd.
Site Location	:	NO.101, Yousong Road, Longhua New District, Shenzhen, Guangdong, P.R.China
Lab Qualifications	:	Certificated by Industry Canada Registration No.: 12655A Date of registration: January 19, 2015 Certificated by FCC, USA Registration No.: 187086 Date of registration: November 28, 2014 Certificated by CNAS China Registration No.: CNAS L6046 Date of registration: February 3, 2013

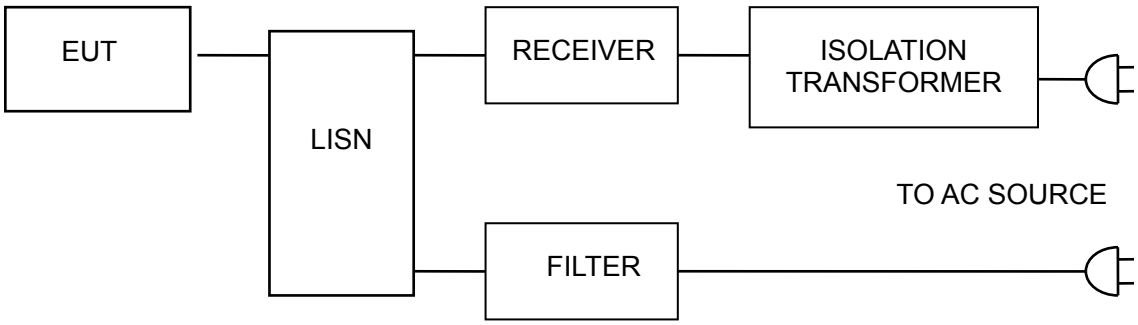
2. TEST INSTRUMENT USED

For Radiated Emission Test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Test Receiver	R&S	ESPI	101318	2015.06.07	2016.06.06
System Simulator	Agilent	E5515C	GB43130252	2015.06.07	2016.06.06
Power Splitter	Weinschel	1506A	NW534	2015.06.07	2016.06.06
Bilog Antenna	TESEQ	CBL6111D	31216	2015.07.06	2016.07.05
Loop antenna	ARA	PLA-1030/B	1029	2015.06.07	2016.06.06
Spectrum Analyzer	Agilent	E4411B	MY4511235	2015.07.06	2016.07.05
Signal Amplifier	SONOMA	313	187022	2015.07.06	2016.07.05
Signal Amplifier	Agilent	8449B	3008A00213	2015.07.06	2016.07.05
RF Cable	R&S	R203	R20X	2015.07.06	2016.07.05
MULTI-DEVICE Controller	ETS-LINDGREEN	31250	126821	N/A	N/A
Horn Antenna	EM	EM-AH-10180	2011071402	2015.07.06	2016.07.05
Horn Antenna	Schwarzbeck	BBHA 9170	9170-181	2015.07.06	2016.07.05
Spectrum Analyzer	Agilent	8593E	3911A03928	2015.07.06	2016.07.05
Spectrum Analyzer	Agilent	E4407B	MY45108040	2015.07.06	2016.07.05
Signal Amplifier	DAZE	ZN3380B	11235	2015.08.25	2016.08.24
High Pass filter	KANGMAI	WHKX1.0/1.5G-10SS	40	2015.08.25	2016.08.24
Filter	COM-MW	ZBSF-C836.5-25-X	BCTC042	2015.08.25	2016.08.24
Filter	COM-MW	ZBSF-C1747.5-75-X2	BCTC045	2015.08.25	2016.08.24
Filter	COM-MW	ZBSF-C1880-60-X2	BCTC047	2015.08.25	2016.08.24
DC Power Supply	LongWei	PS-305D	010965682	2015.07.06	2016.07.05
Constant temperature and humidity box	GF	GTH-800-40-2P	MAA9906-012	2015.06.07	2016.06.06
Universal radio communication tester	R&S	CMU200	115295	2015.08.25	2016.08.24
Splitter	Agilent	11435B	1125162	2015.07.06	2016.07.05

3. CONDUCTED EMISSION AT THE MAINS TERMINALS TEST

3.1. Block Diagram Of Test Setup



3.2. Test Standard

FCC PART 15 B

3.3. Power Line Conducted Emission Limit

Frequency MHz	Limits dB(μV)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes: 1. *Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

3.4. EUT Configuration on Test

The following equipments are installed on conducted emission test to meet FCC PART 15 B requirement and operating in a manner which tends to maximize its emission characteristics in a normal application.

3.5. Operating Condition of EUT

3.5.1 Setup the EUT and simulators as shown in Section 3.1.
3.5.2 Turn on the power of all equipments.
3.5.3 Let the EUT work in test modes and test it.

3.6. Test Procedure

The EUT is put on the ground and connected to the AC mains through a Artificial Mains Network (AMN). This provided a 50ohm coupling impedance for the tested equipments. Both sides of AC line are checked to find out the maximum conducted emission levels according to the **FCC PART 15 B** regulations during conducted emission test.

The bandwidth of the test receiver (R&S Test Receiver ESCI) is set at 10KHz.

The frequency range from 150 KHz to 30 MHz is investigated.

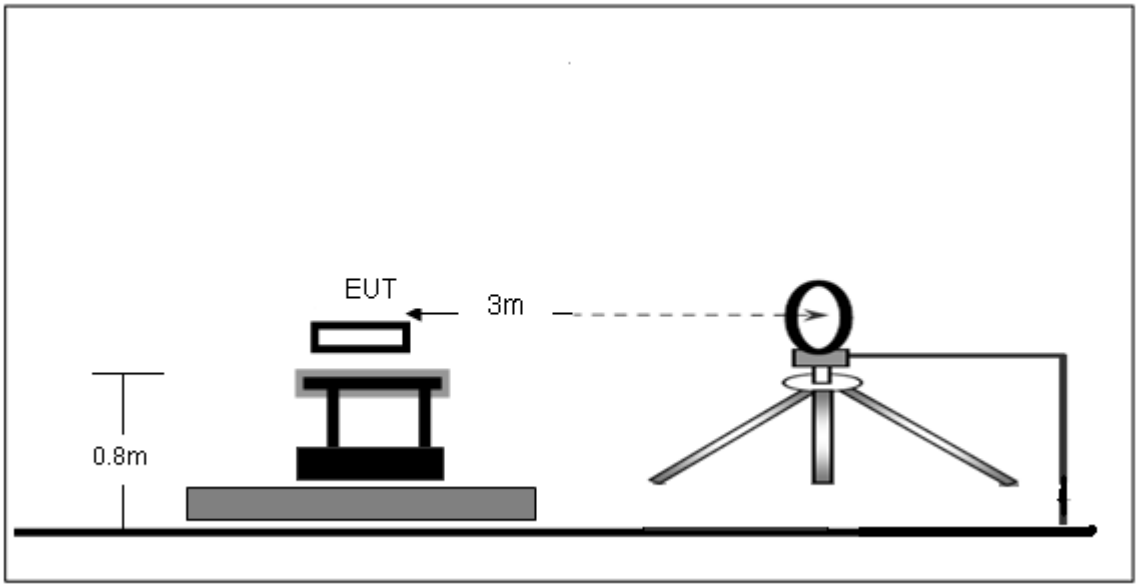
3.7. Test Result

The product's power provide by batter, no requirement for this item.

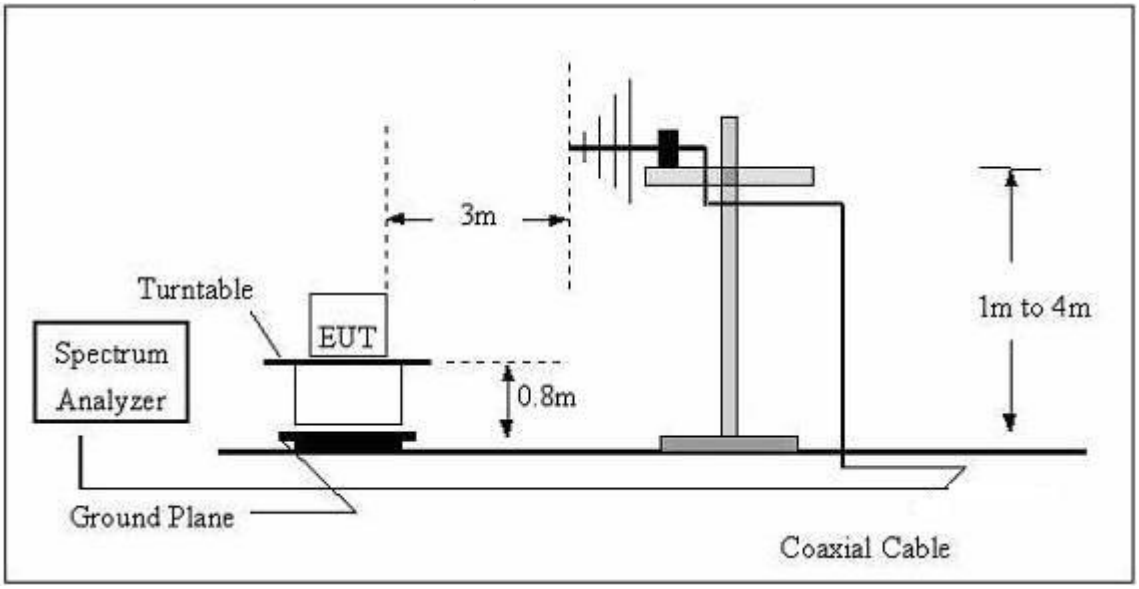
4. RADIATION EMISSION TEST

4.1. Block Diagram of Test Setup

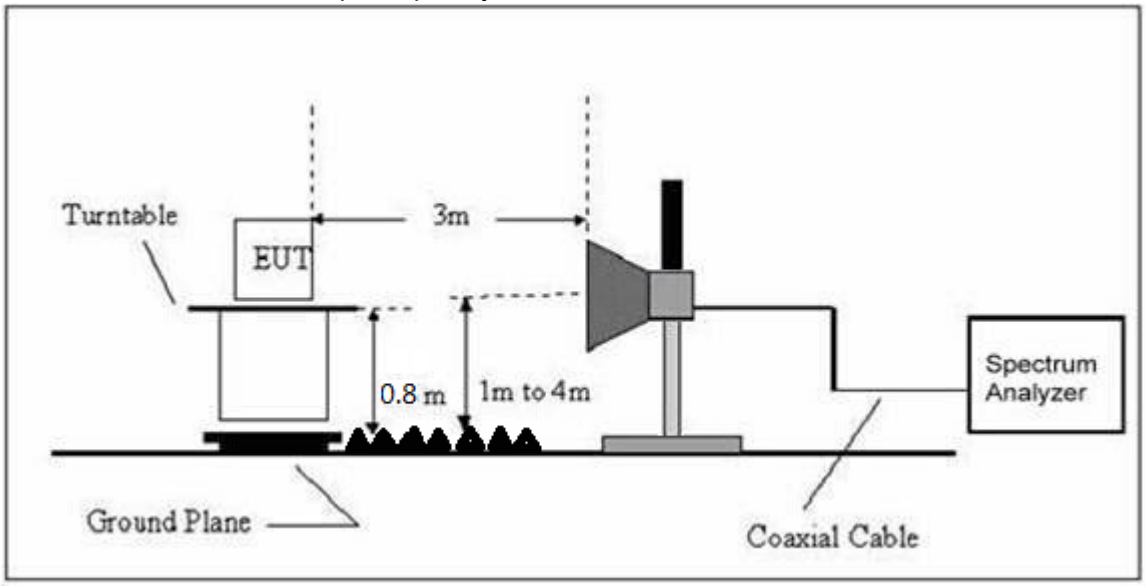
（A）Radiated Emission Test-Up Frequency Below 30MHz



（B）Radiated Emission Test-Up Frequency 30MHz~1GHz



（C）Radiated Emission Test-Up Frequency Above 1GHz



4.2. Test Standard

FCC PART 15 B

4.3. Radiation Limit

FREQUENCY (MHz)	DISTANCE (Meters)	FIELD STRENGTHS LIMITS (dBμV/m)
30 ~ 88	3	40.0
88 ~ 216	3	43.5
216 ~ 960	3	46.0
960 ~ 1000	3	54.0

4.4. EUT Configuration on Test

The FCC PART 15 B regulations test method must be used to find the maximum emission during radiated emission test.
The configuration of EUT is the same as used in conducted emission test. Please refer to Section 2.2.

4.5. Operating Condition of EUT

Same as conducted emission test, which is listed in Section 2.2 except the test set up replaced as Section 4.1.

4.6. Test Procedure

The EUT and its simulators are placed on a turned table that is 0.8 meter above the ground. The turned table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from

the receiving antenna that is mounted on the antenna tower. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated biconical and log periodical antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on test. In order to find the maximum emission levels, the interface cable must be manipulated according to FCC PART 15 B on radiated emission test.
The bandwidth setting on the field strength meter (R&S Test Receiver ESCI) is set at 120KHz below 1GHz, set at 1MHz above 1GHz
The frequency range from 30MHz to 1000MHz is checked.

The highest frequency of the internal sources of the EUT was 433MHz, so the measurement was only made up to 6GHz.

4.7. Test Result

PASS

Please refer to the following page.

Radiated Spurious Emission (Below 30MHz)

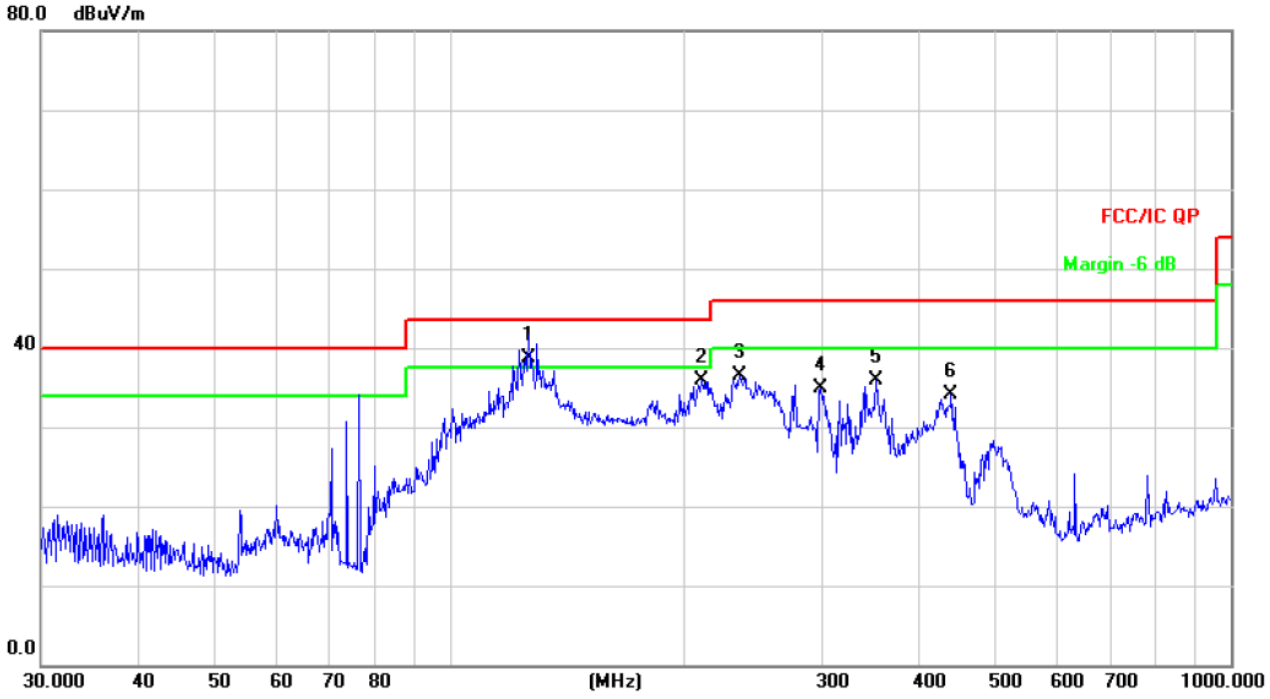
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Polarization :	---
Test Voltage ：	DC 5V		
Test Mode ：	RX Mode		

Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
--	--	--	--	PASS
--	--	--	--	PASS

NOTE:
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.
Distance extrapolation factor =40 log (specific distance/test distance)(dB);
Limit line = specific limits(dBuv) + distance extrapolation factor.

Below 1GHz

Radiation Emission Test Data			
Temperature:	24.5 ℃	Relative Humidity:	54%
Pressure:	1009hPa	Phase :	Horizontal
Test Voltage :	DC 9V	Test Mode:	RX Mode



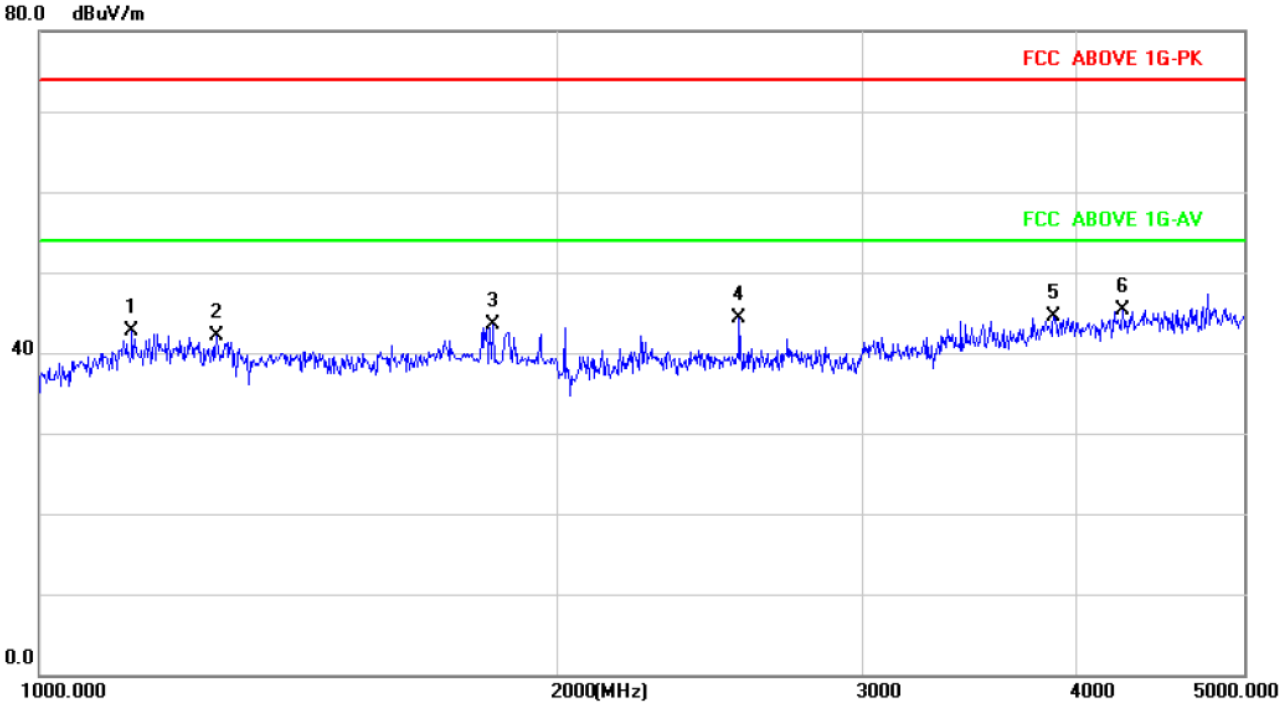
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	126.3285	53.02	-14.33	38.69	43.50	-4.81	QP			
2		210.0482	51.78	-15.91	35.87	43.50	-7.63	QP			
3		234.9909	51.26	-14.77	36.49	46.00	-9.51	QP			
4		298.2681	47.56	-12.63	34.93	46.00	-11.07	QP			
5		351.7078	47.19	-11.36	35.83	46.00	-10.17	QP			
6		438.6553	43.32	-9.23	34.09	46.00	-11.91	QP			

Radiation Emission Test Data			
Temperature:	24.5 ℃	Relative Humidity:	54%
Pressure:	1009hPa	Phase :	Vertical
Test Voltage :	DC 9V	Test Mode:	RX Mode

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	!	109.7960	53.98	-15.67	38.31	43.50	-5.19	QP			
2	!	122.8340	53.23	-14.54	38.69	43.50	-4.81	QP			
3	*	127.2176	53.52	-14.28	39.24	43.50	-4.26	QP			
4		241.6760	43.95	-14.44	29.51	46.00	-16.49	QP			
5		271.3245	43.64	-13.45	30.19	46.00	-15.81	QP			
6		428.0192	38.47	-9.53	28.94	46.00	-17.06	QP			

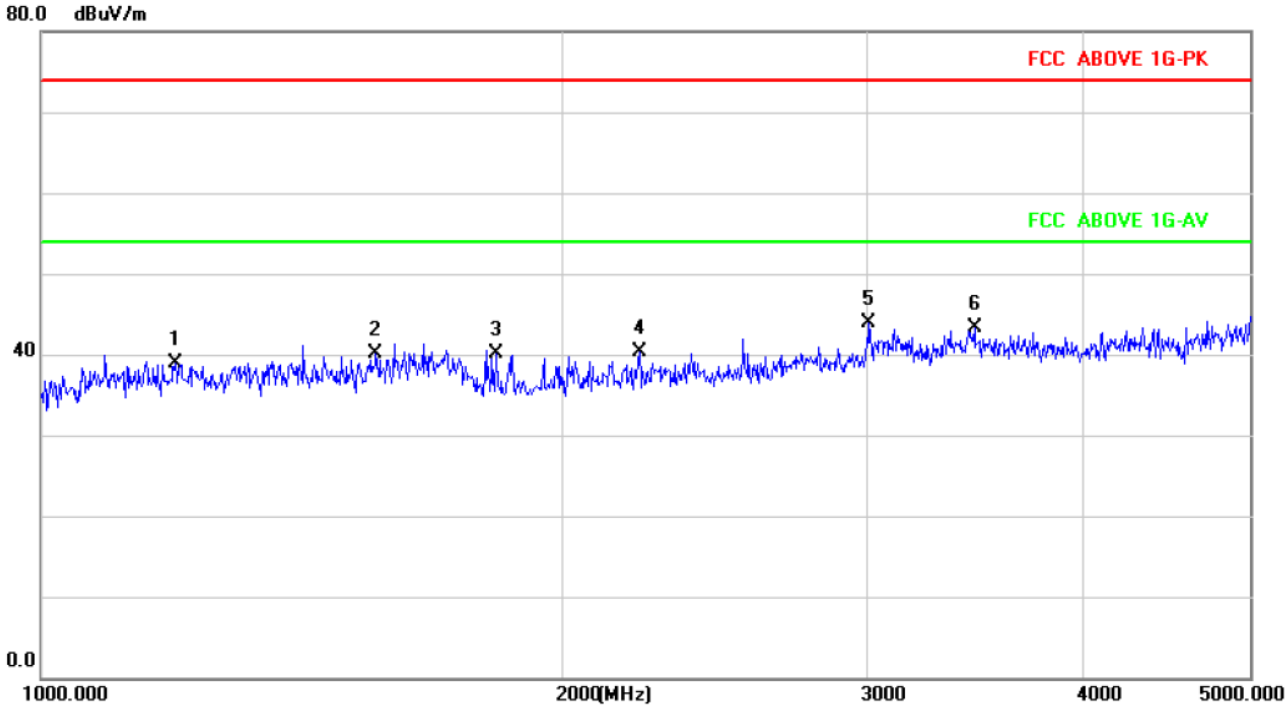
Above1GHz

Radiation Emission Test Data			
Temperature:	24.5 ℃	Relative Humidity:	54%
Pressure:	1009hPa	Phase :	Horizontal
Test Voltage :	DC 9V	Test Mode:	ON Mode



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		1131.933	30.38	12.32	42.70	74.00	-31.30	peak			
2		1266.918	29.60	12.43	42.03	74.00	-31.97	peak			
3		1831.524	30.56	12.88	43.44	74.00	-30.56	peak			
4		2547.426	30.11	14.16	44.27	74.00	-29.73	peak			
5		3877.330	26.52	18.01	44.53	74.00	-29.47	peak			
6	*	4249.854	26.56	18.70	45.26	74.00	-28.74	peak			

Radiation Emission Test Data			
Temperature:	24.5 ℃	Relative Humidity:	54%
Pressure:	1009hPa	Phase :	Vertical
Test Voltage :	DC 9V	Test Mode:	ON Mode

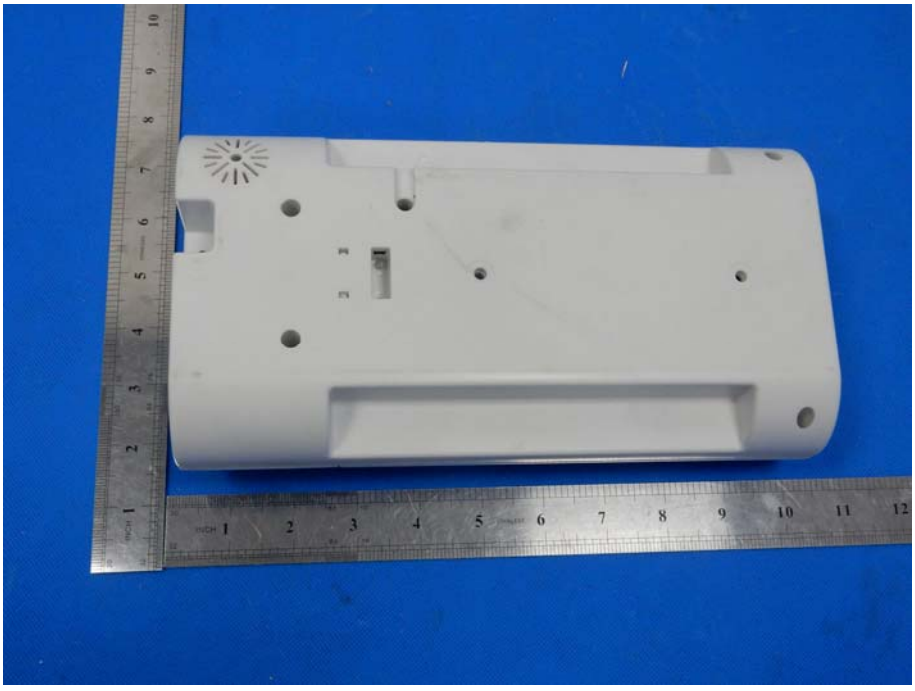


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		1195.599	26.52	12.37	38.89	74.00	-35.11	peak			
2		1561.761	27.37	12.65	40.02	74.00	-33.98	peak			
3		1831.524	27.23	12.88	40.11	74.00	-33.89	peak			
4		2218.146	26.80	13.48	40.28	74.00	-33.72	peak			
5	*	3011.580	28.81	15.15	43.96	74.00	-30.04	peak			
6		3464.215	26.67	16.64	43.31	74.00	-30.69	peak			

5. EUT PHOTOGRAPHS

EUT Photo 1

EUT Photo 2

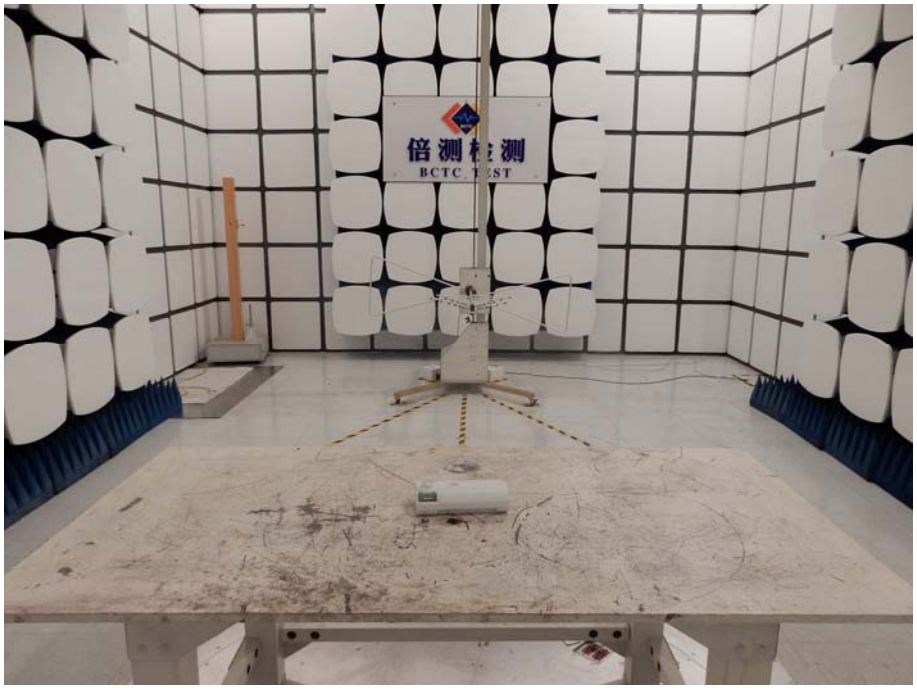


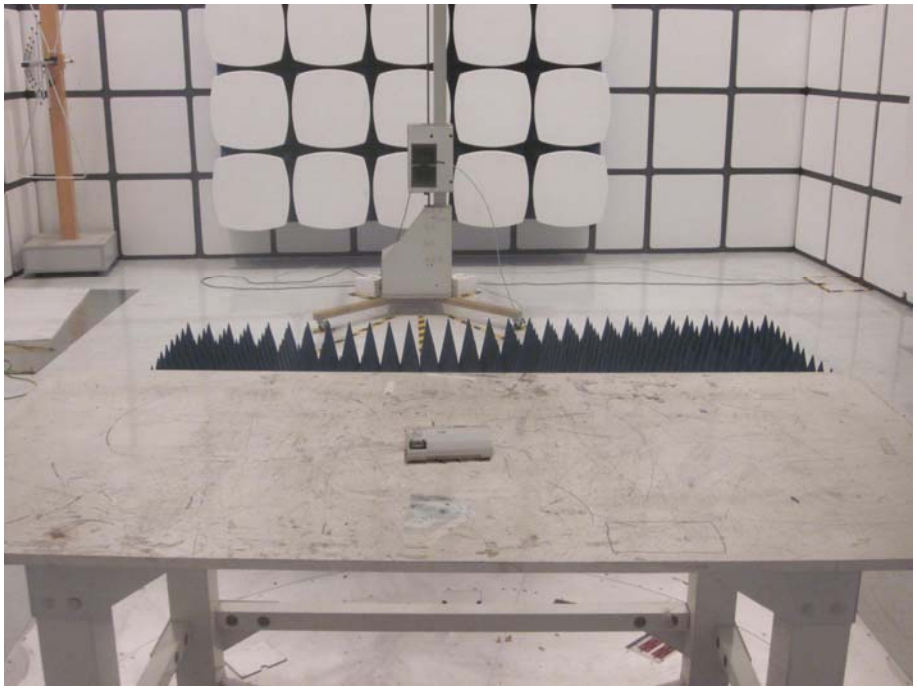
EUT Photo 3

EUT Photo 4

6. EUT TEST PHOTOGRAPHS

RE





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