FCC Report

Applicant:	FLYSKY RC MODEL TECHNOLOGY CO., LTD
Address of Applicant:	West building3, Huangjianyuan Ind, Park QIAOLI North Gate Changping Town Dongguan CN.
Equipment Under Test (EUT)	
Product Name:	2CH Gun Radio
Model No.:	BSD-GT2
FCC ID:	N4ZFBSDGT2
Applicable standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.247:2014
Date of sample receipt:	June 05, 2015
Date of Test:	June 05-16, 2015
Date of report issued:	June 16, 2015
Test Result :	PASS *

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Robinson Lo
Laboratory Manager

2 Version

Version No.	Date	Description
00	*June 16, 2015*	*Original*

Prepared By: Edward.Pan ***Date:*** *June 16, 2015*

Project Engineer

Check By: Hank.Yan ***Date:*** *June 16, 2015*

Reviewer

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4 Test Summary

Test Item	Section	Result
Antenna Requirement	15.203/15.247 (c)	Pass
AC Power Line Conducted Emission	15.207	N/A
Conducted Peak Output Power	15.247 (b)(1)	Pass
20dB Occupied Bandwidth	15.247 (a)(1)	Pass
Carrier Frequencies Separation	15.247 (a)(1)	Pass
Hopping Channel Number	15.247 (a)(1)	Pass
Dwell Time	15.247 (a)(1)	Pass
Pseudorandom Frequency Hopping Sequence	15.247(a)(1)	Pass
Radiated Emission	15.205/15.209	Pass
Band Edge	15.247(d)	Pass

Pass: The EUT complies with the essential requirements in the standard.

4.1 Measurement Uncertainty

Test Item	Frequency Range	Measurement Uncertainty	*Notes*
Radiated Emission	9kHz ~ 30MHz	± 4.34dB	*(1)*
Radiated Emission	30MHz ~ 1000MHz	± 4.24dB	*(1)*
Radiated Emission	1GHz ~ 26.5GHz	± 4.68dB	*(1)*
AC Power Line Conducted Emission	0.15MHz ~ 30MHz	± 3.45dB	*(1)*
Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.			

Remark: Test according to ANSI C63.4:2009 and ANSI C63.10:2009

5 General Information

5.1 Client Information

Applicant:	FLYSKY RC MODEL TECHNOLOGY CO., LTD
Address of Applicant:	West building3, Huangjianyuan Ind, Park QIAOLI North Gate Changping Town Dongguan CN.
Manufacturer:	FLYSKY RC MODEL TECHNOLOGY CO., LTD
Address of Manufacturer:	West building3, Huangjianyuan Ind, Park QIAOLI North Gate Changping Town Dongguan CN.
Factory:	FLYSKY RC MODEL TECHNOLOGY CO., LTD
Address of Factory:	West building3, Huangjianyuan Ind, Park QIAOLI North Gate Changping Town Dongguan CN.

5.2 General Description of EUT

Product Name:	2CH Gun Radio
Model No.:	BSD-GT2
Operation Frequency:	2404MHz~2476.5MHz
Channel numbers:	16
Modulation type:	GFSK
Antenna Type:	Integral
Antenna gain:	2dBi
Power supply:	DC 6.0V (4*1.5V “AA“ Size Battery)

Operation Frequency each of channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2404.0	5	2420.5	9	2440.0	13	2460.5
2	2405.5	6	2425.5	10	2445.5	14	2465.5
3	2410.5	7	2430.5	11	2450.5	15	2470.5
4	2415.5	8	2435.5	12	2455.5	16	2476.5

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency
The lowest channel	2404.0MHz
The middle channel	2440.0MHz
The Highest channel	2476.5MHz

5.3 Test mode

Transmitting mode	Keep the EUT in transmitting mode.
Remark: During the test, the new battery was used.	

5.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

● **CNAS —Registration No.: CNAS L5775**

CNAS has accredited Global United Technology Services Co., Ltd. To ISO/IEC 17025 General Requirements for the competence of testing and calibration laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

● **FCC —Registration No.: 600491**

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fuly described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Registration 600491, June 28, 2013.

● **Industry Canada (IC) —Registration No.: 9079A-2**

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A-2, June 26, 2013.

5.5 Test Location

All other tests were performed at:

Global United Technology Services Co., Ltd.
Address: Room 301-309, 3th Floor, Block A, Huafeng Jinyuan Business Building, No. 300 Laodong Industrial Zone,Xixiang Road, Baoan District, Shenzhen 518102
Tel: 0755-27798480
Fax: 0755-27798960

5.6 Other Information Requested by the Customer

None.

5.7 Description of Support Units

None.

5.8 Test Instruments list

Radiated Emission:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	Mar. 27 2015	Mar. 26 2016
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	Spectrum Analyzer	Agilent	E4440A	GTS533	Dec. 4 2014	Dec. 3 2015
4	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	July 01 2014	June 30 2015
5	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	July 01 2014	June 30 2015
6	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	9120D-829	GTS208	June 27 2014	June 26 2015
7	Horn Antenna	ETS-LINDGREN	3160	GTS217	Mar. 27 2015	Mar. 26 2016
8	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
9	Coaxial Cable	GTS	N/A	GTS213	Mar. 27 2015	Mar. 26 2016
10	Coaxial Cable	GTS	N/A	GTS211	Mar. 28 2015	Mar. 27 2016
11	Coaxial cable	GTS	N/A	GTS210	Mar. 28 2015	Mar. 27 2016
12	Coaxial Cable	GTS	N/A	GTS212	Mar. 28 2015	Mar. 27 2016
13	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	July 01 2014	June 30 2015
14	Amplifier(2GHz-20GHz)	HP	8349B	GTS206	July 01 2014	June 30 2015
15	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June 27 2014	June 26 2015
16	Band filter	Amindeon	82346	GTS219	Mar. 28 2015	Mar. 27 2016

General used equipment:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Barometer	ChangChun	DYM3	GTS257	July 08 2014	July 07 2015

6 Test results and Measurement Data

6.1 Antenna requirement:

Standard requirement:	FCC Part15 C Section 15.203 /247(c)

15.203 requirement:

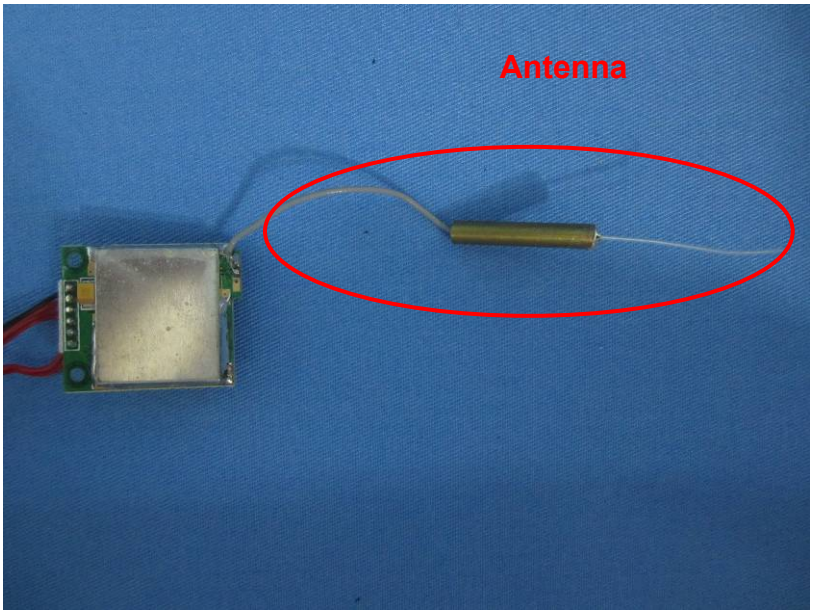
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.247(c) (1)(i) requirement:

(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

E.U.T Antenna:

The antenna is Integral Antenna, the best case gain of the antenna is 2dBi



6.2 Spurious Emission

6.2.1 Radiated Emission Method

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 C Section 15.209</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10: 2009</td></tr>
<tr><td>Test Frequency Range:</td><td>9kHz to 25GHz</td></tr>
<tr><td>Test site:</td><td>Measurement Distance: 3m</td></tr>
<tr><td>Receiver setup:</td><td>
<table>
<tr><th>Frequency</th><th>Detector</th><th>RBW</th><th>VBW</th><th>Value</th></tr>
<tr><td>9KHz-150KHz</td><td>Quasi-peak</td><td>200Hz</td><td>600Hz</td><td>Quasi-peak</td></tr>
<tr><td>150KHz-30MHz</td><td>Quasi-peak</td><td>9KHz</td><td>30KHz</td><td>Quasi-peak</td></tr>
<tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>100KHz</td><td>300KHz</td><td>Quasi-peak</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak</td></tr>
<tr><td>Peak</td><td>1MHz</td><td>10Hz</td><td>Average</td></tr>
</table>
</td></tr>
<tr><td>Limit:
(Spurious Emissions)</td><td>
<table>
<tr><th>Frequency</th><th>Limit (uV/m)</th><th>Value</th><th>Measurement Distance</th></tr>
<tr><td>0.009MHz-0.490MHz</td><td>2400/F(KHz)</td><td>QP</td><td>300m</td></tr>
<tr><td>0.490MHz-1.705MHz</td><td>24000/F(KHz)</td><td>QP</td><td>300m</td></tr>
<tr><td>1.705MHz-30MHz</td><td>30</td><td>QP</td><td>30m</td></tr>
<tr><td>30MHz-88MHz</td><td>100</td><td>QP</td><td rowspan="7">3m</td></tr>
<tr><td>88MHz-216MHz</td><td>150</td><td>QP</td></tr>
<tr><td>216MHz-960MHz</td><td>200</td><td>QP</td></tr>
<tr><td>960MHz-1GHz</td><td>500</td><td>QP</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>500</td><td>Average</td></tr>
<tr><td>5000</td><td>Peak</td></tr>
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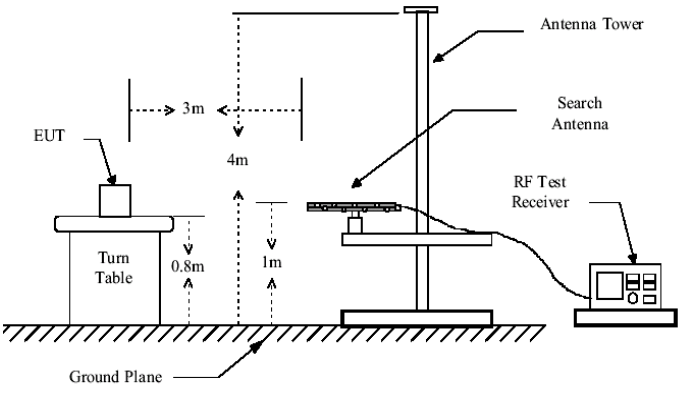
</td></tr>
<tr><td>Test setup:</td><td>Below 1GHz
 

Above 1GHz</td></tr>
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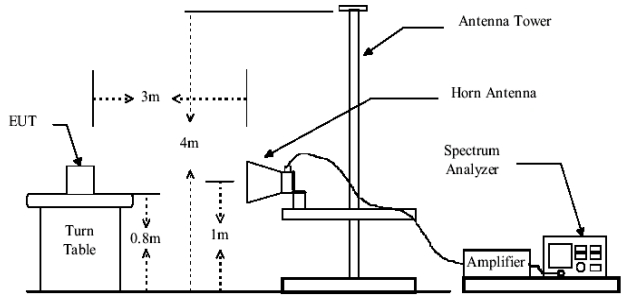
	
Test Procedure:	1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

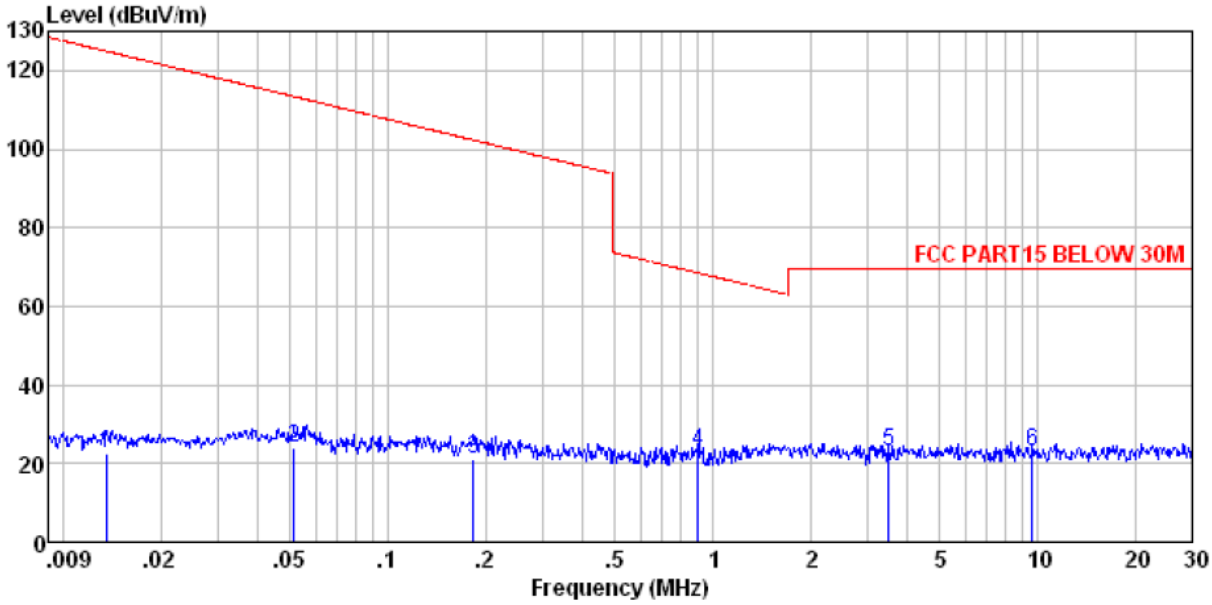
Remark:

1. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.

Measurement data:

■ **9KHz ~ 30MHz**

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)
0.014	11.53	20.63	0.03	9.71	22.48	124.92	-102.44
0.051	11.92	21.73	0.12	9.91	23.86	113.37	-89.51
0.184	8.96	22.40	0.21	10.40	21.17	102.31	-81.14
0.902	11.87	20.99	0.32	10.29	22.89	68.50	-45.61
3.496	11.50	21.56	0.41	10.34	23.13	69.54	-46.41
9.636	9.70	23.45	0.48	10.47	23.16	69.54	-46.38



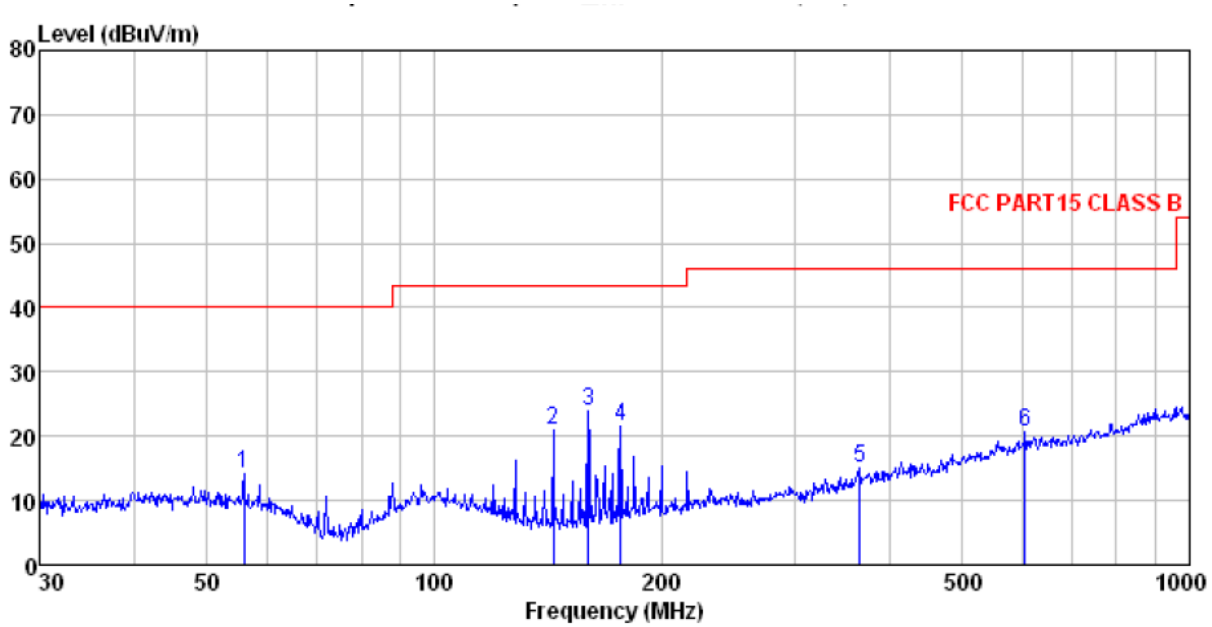
Site : 3m chamber
Condition : FCC PART15 BELOW 30M 3m LOOP ANTENNA
Job NO. : 1037RF
Test Mode : Operation mode
Test Engineer: Rong

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	0.014	11.53	20.63	0.03	9.71	22.48	124.92	-102.44	Average
2	0.051	11.92	21.73	0.12	9.91	23.86	113.37	-89.51	Average
3	0.184	8.96	22.40	0.21	10.40	21.17	102.31	-81.14	Average
4	0.902	11.87	20.99	0.32	10.29	22.89	68.50	-45.61	QP
5	3.496	11.50	21.56	0.41	10.34	23.13	69.54	-46.41	QP
6	9.636	9.70	23.45	0.48	10.47	23.16	69.54	-46.38	QP

■ **30MHz ~ 1GHz**

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
56.00	28.31	14.95	0.83	29.95	14.14	40.00	-25.86	Vertical
143.83	38.79	10.22	1.53	29.44	21.10	43.50	-22.40	Vertical
159.78	40.95	10.64	1.63	29.36	23.86	43.50	-19.64	Vertical
176.27	37.57	11.42	1.72	29.29	21.42	43.50	-22.08	Vertical
365.54	25.59	16.48	2.69	29.66	15.10	46.00	-30.90	Vertical
605.66	25.75	20.47	3.74	29.30	20.66	46.00	-25.34	Vertical
47.16	29.23	15.42	0.74	30.01	15.38	40.00	-24.62	Horizontal
88.03	30.33	13.32	1.09	29.76	14.98	43.50	-28.52	Horizontal
159.78	38.72	10.64	1.63	29.36	21.63	43.50	-21.87	Horizontal
216.02	28.10	13.07	1.93	29.36	13.74	46.00	-32.26	Horizontal
434.07	31.00	17.53	3.02	29.43	22.12	46.00	-23.88	Horizontal
576.64	28.36	20.03	3.63	29.30	22.72	46.00	-23.28	Horizontal

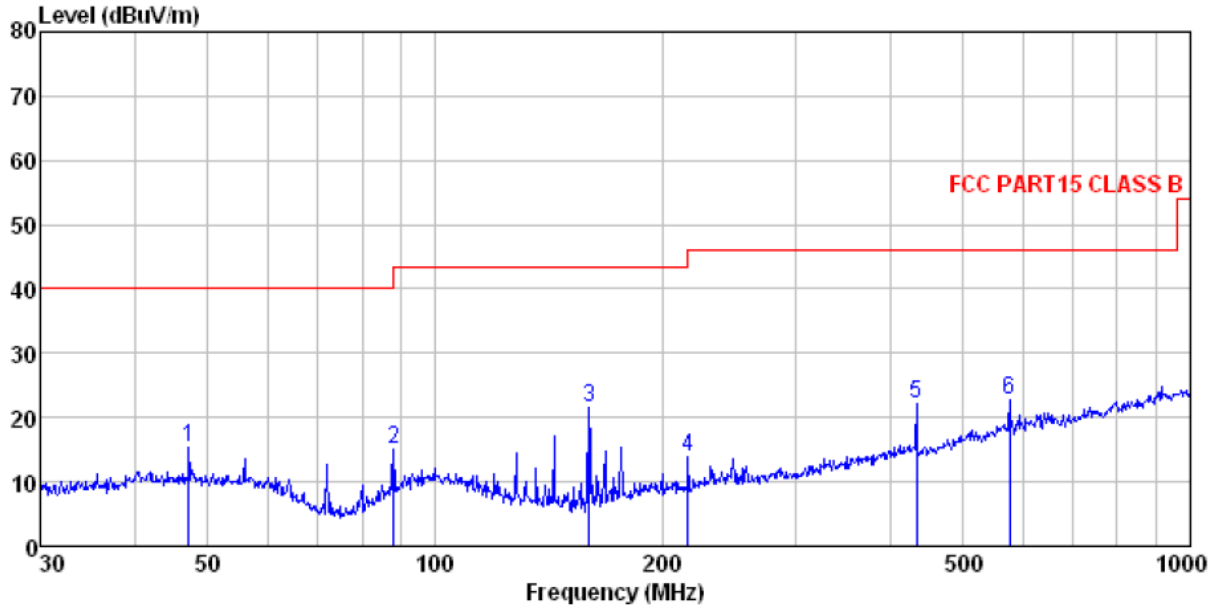
Vertical:



Site : 3m chamber
Condition : FCC PART15 CLASS B 3m VULB9163-2013M VERTICAL
Job No. : 1037RF
Test Mode : Operation mode
Test Engineer: Rong

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	56.001	28.31	14.95	0.83	29.95	14.14	40.00	-25.86	QP
2	143.830	38.79	10.22	1.53	29.44	21.10	43.50	-22.40	QP
3	159.784	40.95	10.64	1.63	29.36	23.86	43.50	-19.64	QP
4	176.269	37.57	11.42	1.72	29.29	21.42	43.50	-22.08	QP
5	365.539	25.59	16.48	2.69	29.66	15.10	46.00	-30.90	QP
6	605.659	25.75	20.47	3.74	29.30	20.66	46.00	-25.34	QP

Horizontal:

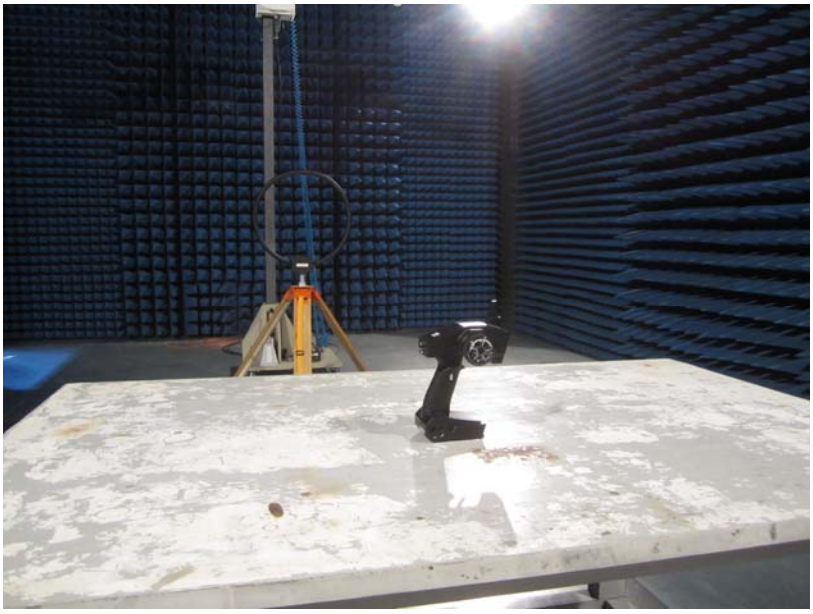


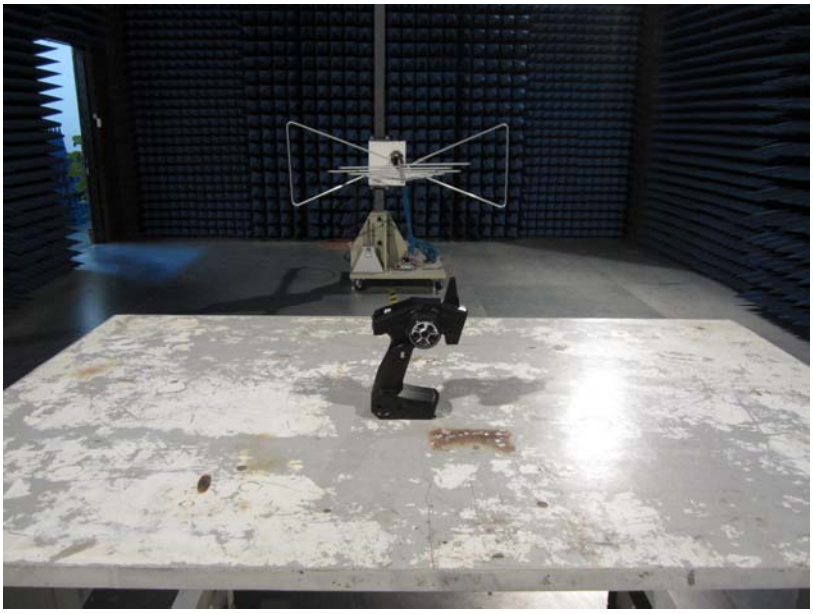
Site : 3m chamber
Condition : FCC PART15 CLASS B 3m VULB9163-2013M HORIZONTAL
Job No. : 1037RF
Test Mode : Operation mode
Test Engineer: Rong

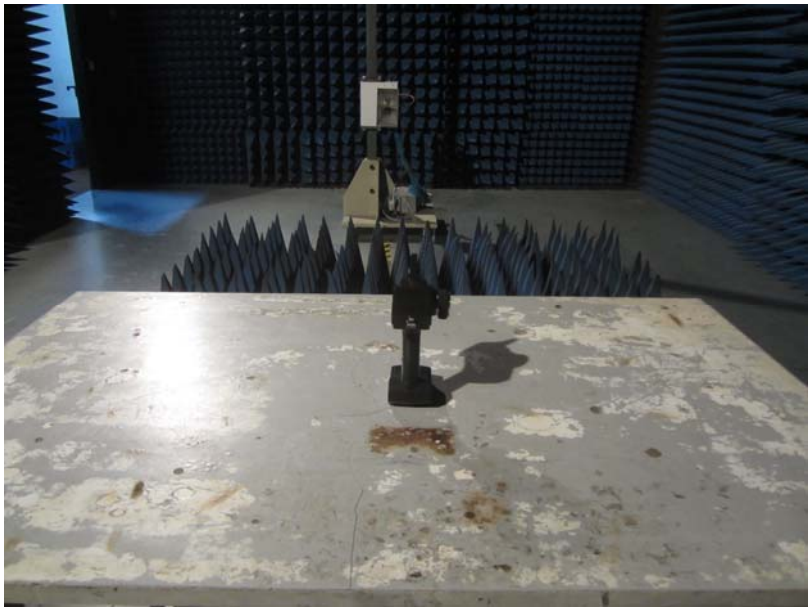
	Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	47.160	29.23	15.42	0.74	30.01	15.38	40.00	-24.62	QP
2	88.033	30.33	13.32	1.09	29.76	14.98	43.50	-28.52	QP
3	159.784	38.72	10.64	1.63	29.36	21.63	43.50	-21.87	QP
4	216.024	28.10	13.07	1.93	29.36	13.74	46.00	-32.26	QP
5	434.065	31.00	17.53	3.02	29.43	22.12	46.00	-23.88	QP
6	576.644	28.36	20.03	3.63	29.30	22.72	46.00	-23.28	QP

7 Test Setup Photo

Radiated Emission

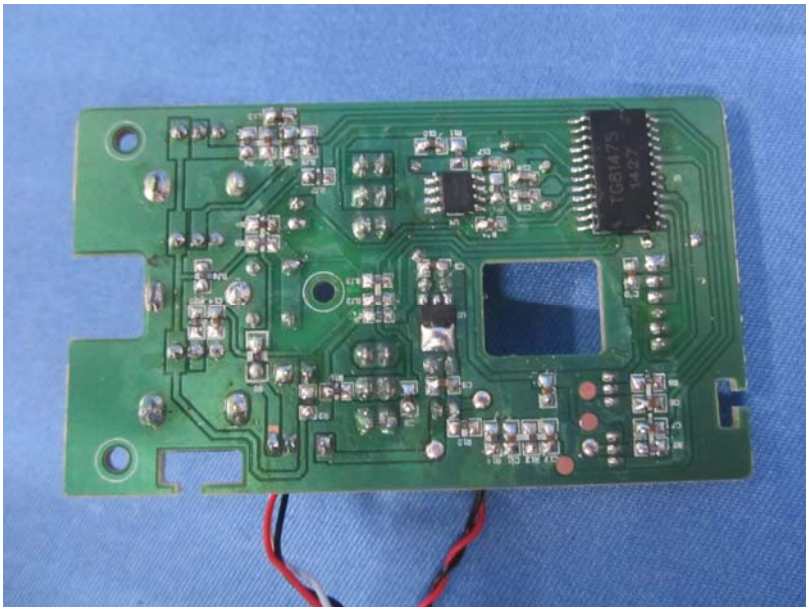


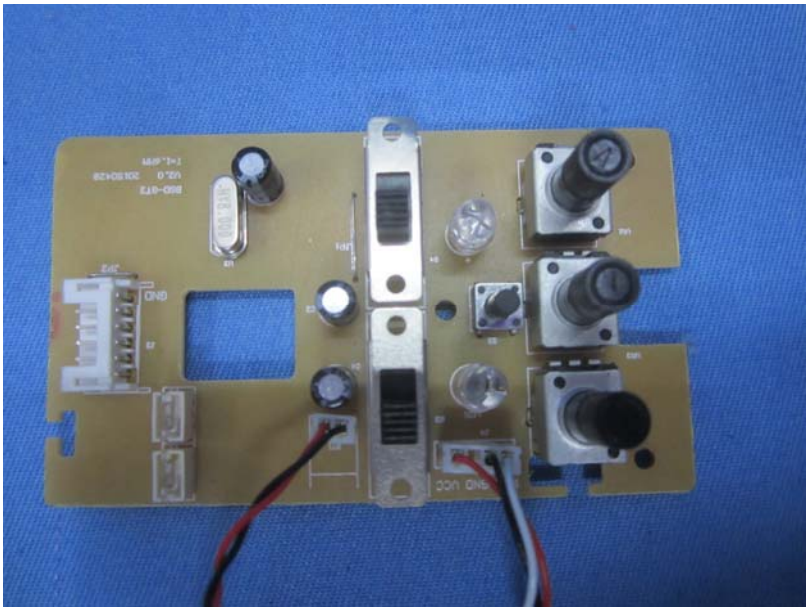


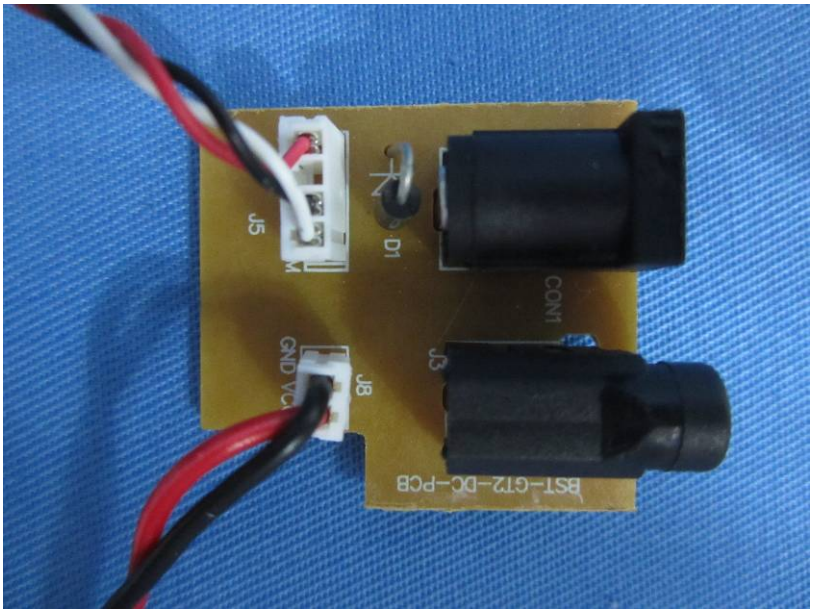


8 EUT Constructional Details


Made in China



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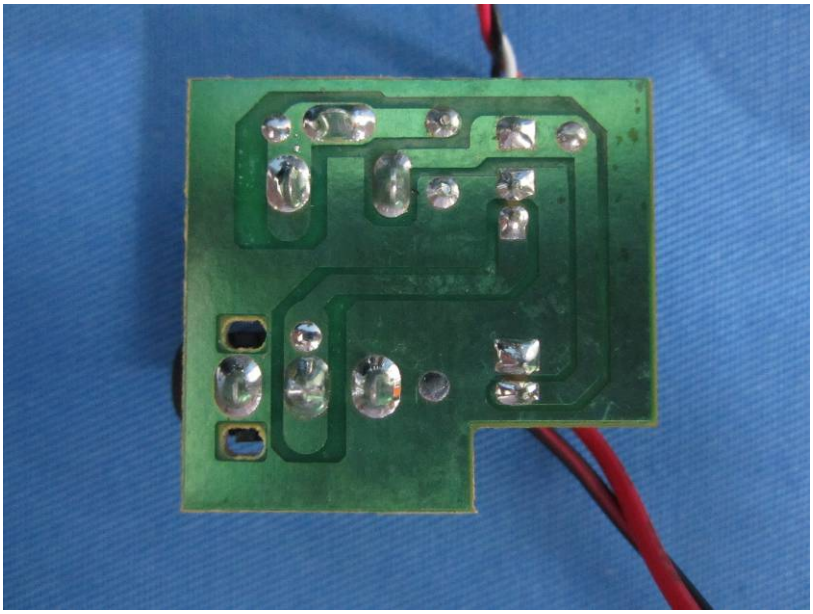
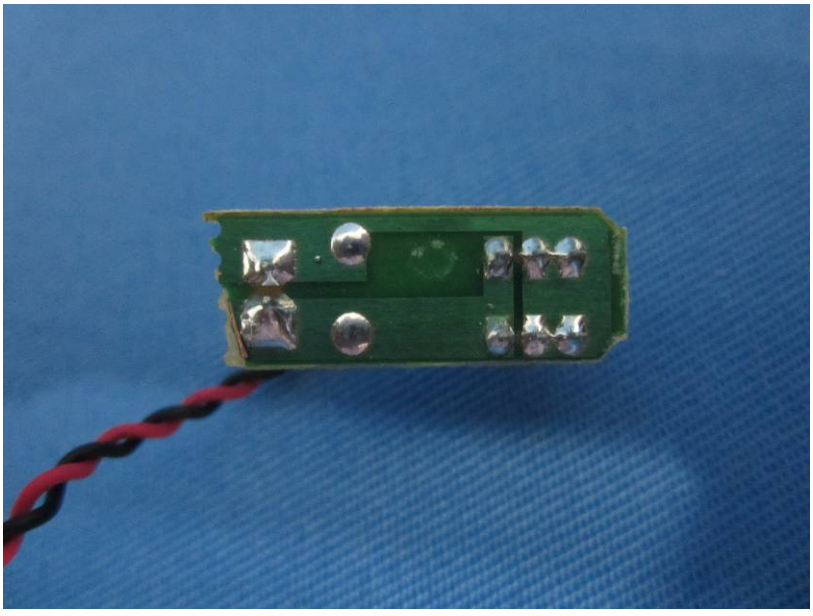
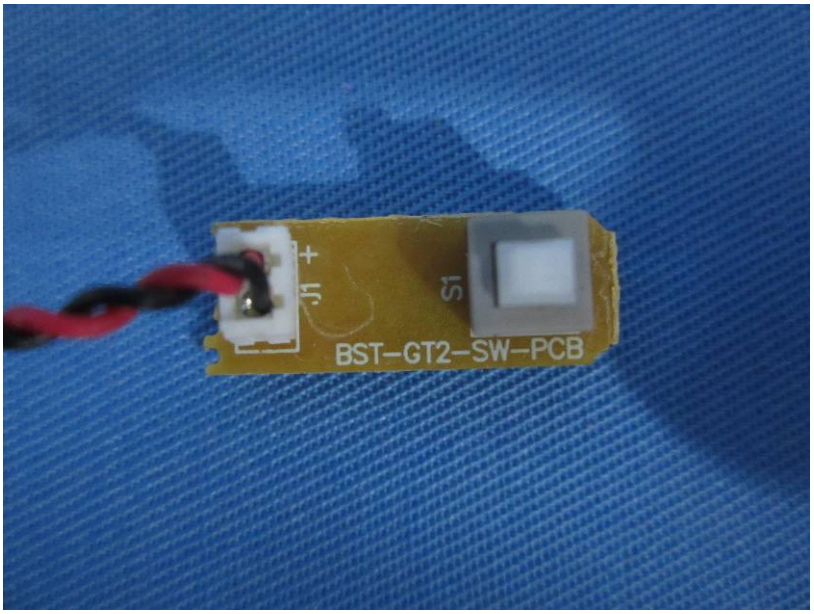
J3
J8
BST-GT2-DC-PCB



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S1
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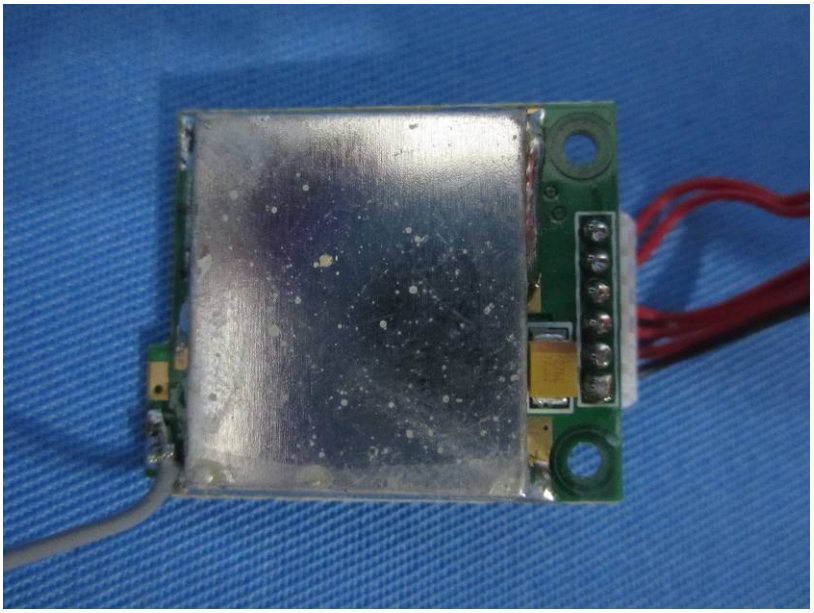

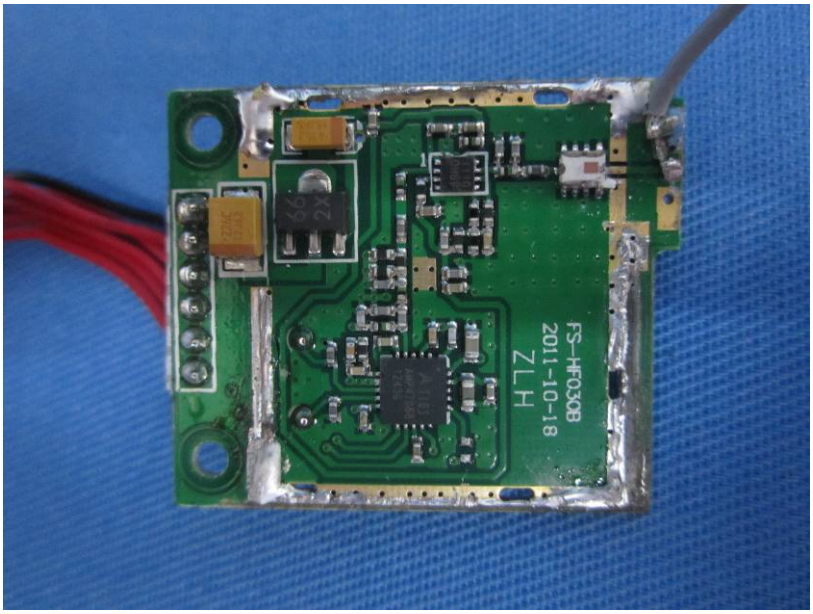

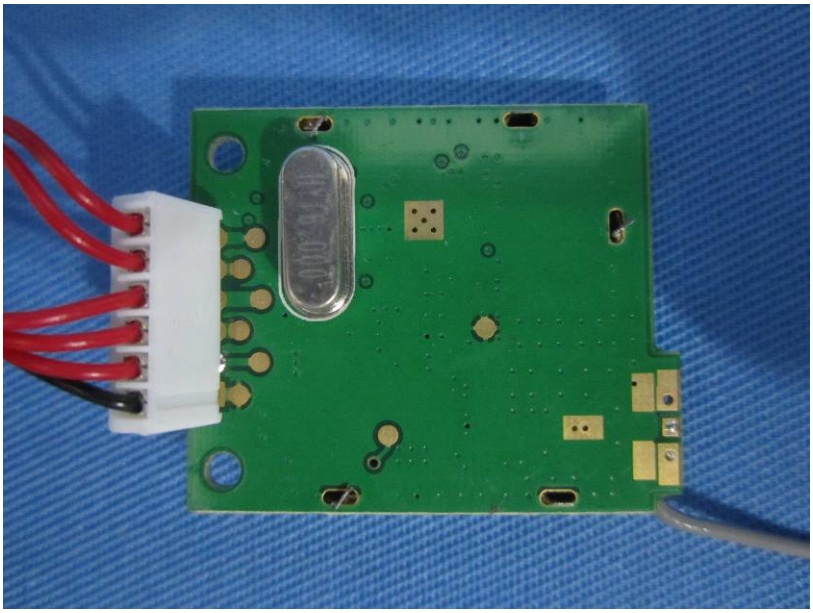

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