



Shenzhen EBO Technology Co., Ltd.

1-4F, Huafeng Science Park, Xin'an Sixth Road, 82th District,
Bao'an, Shenzhen, China.
Telephone: +86-755-29451282,
Fax: +86-755-22639141

Report No.: EBO1512079-E305

Page: 1 of 27

FCC REPORT

Applicant: SHENZHEN GUAV INTELLIGENT TECHNOLOGIES
CO., LTD.

Address of Applicant: 4F, Comprehensive Building Of West Coast Garden, Haoer
Community, Shajing Street, Baoan District, Shenzhen City,
China

Equipment Under Test (EUT)

Product Name: CROSS COPTER

Trade Mark: GUAV

Model No.: 280CF, 280CW, 180X, 130X

FCC ID: 2AFPS-280CF

Applicable standards: FCC CFR Title 47 Part 15 Subpart C Section 15.249:2014

Date of sample receipt: December 21, 2015

Date of Test: December 21, 2015 To December 31, 2015

Date of report issued: December 31, 2015

Test Result : PASS *

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

Authorized Signature:

Kevin Yu
Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the EBO product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of EBO International Electrical Approvals or testing done by EBO International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by EBO International Electrical Approvals in writing.

This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only



2 Version

Version No.	Date	Description
00	December 31, 2015	Original

Prepared By:

Date:

December 31, 2015

Project Engineer

Check By:

Date:

December 31, 2015

Reviewer

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.eботek.cn> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.eботek.cn>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."



3 Contents

	Page
1 COVER PAGE.....	1
2 VERSION	2
3 CONTENTS	3
4 TEST SUMMARY	4
5 GENERAL INFORMATION	5
5.1 CLIENT INFORMATION	5
5.2 GENERAL DESCRIPTION OF EUT	5
5.3 TEST MODE	7
5.4 DESCRIPTION OF SUPPORT UNITS	7
5.5 TEST FACILITY.....	7
5.6 TEST LOCATION	7
5.7 OTHER INFORMATION REQUESTED BY THE CUSTOMER.....	7
6 TEST INSTRUMENTS LIST	8
7 TEST RESULTS AND MEASUREMENT DATA.....	9
7.1 ANTENNA REQUIREMENT:.....	9
7.2 RADIATED EMISSION METHOD	10
7.2.1 Field Strength of The Fundamental Signal	12
7.2.2 Spurious emissions.....	13
7.2.3 Bandedge emissions.....	17
7.3 20dB OCCUPY BANDWIDTH	18
8 TEST SETUP PHOTO	20
9 EUT CONSTRUCTIONAL DETAILS	21



4 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203	Pass
AC Power Line Conducted Emission	15.207	N/A
Field strength of the fundamental signal	15.249 (a)	Pass
Spurious emissions	15.249 (a) (d)/15.209	Pass
Band edge	15.249 (d)/15.205	Pass
20dB Occupied Bandwidth	15.215 (c)	Pass

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

N/A: not applicable.



5 General Information

5.1 Client Information

Applicant:	SHENZHEN GUAV INTELLIGENT TECHNOLOGIES CO.,LTD.
Address of Applicant:	4F, Comprehensive building of West Coast Garden, Haoer Community, Shajing Street, Baoan District, Shenzhen City, China
Manufacturer/Factory:	SHENZHEN GUAV INTELLIGENT TECHNOLOGIES CO.,LTD.
Address of Manufacturer/Factory:	4F, Comprehensive building of West Coast Garden, Haoer Community, Shajing Street, Baoan District, Shenzhen City, China

5.2 General Description of EUT

Product Name:	CROSS COPTER
Trade Mark:	GUAV
Model No.:	280CF, 280CW,180X,130X
Test Mode No.:	280CF
Operation Frequency:	2403MHz~2472MHz
Channel numbers:	70
Channel separation:	1MHz
Modulation type:	GFSK
Antenna Type:	Integral Antenna
Antenna gain:	2dBi (declare by Applicant)
Power supply:	TX:DC 6.0V(4*1.5V AA Battery)



Channel list							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2403MHz	19	2421MHz	37	2439MHz	55	2457MHz
2	2404MHz	20	2422MHz	38	2440MHz	56	2458MHz
...
17	2419MHz	35	2437MHz	53	2455MHz	70	2472MHz
18	2420MHz	36	2438MHz	54	2456MHz		

Note:

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	2403MHz
The middle channel	2437MHz
The Highest channel	2472MHz



5.3 Test mode

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

Per-test mode.

We have verified the construction and function in typical operation, The EUT was placed on three different polar directions; i.e. X axis, Y axis, Z axis. which was shown in this test report and defined as follows:

Axis	X	Y	Z
Field Strength(dBuV/m)	97.46	102.87	99.25

Final Test Mode:

According to ANSI C63.10 standards, the test results is the data of the “worst setup”:

Y axis (see the test setup photo)

5.4 Description of Support Units

None.

5.5 Test Facility

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

- **FCC —Registration No.: 600491**

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully 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.

5.6 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.

Address: 2nd Floor, Block No.2, Laodong Industrial Zone, Xixiang Road Baoan District, Shenzhen, China

5.7 Other Information Requested by the Customer

None.



6 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. 29 2015	Mar. 28 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	July 08 2015	July 07 2016
4	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	July 08 2015	July 07 2016
5	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	July 08 2015	July 07 2016
6	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	9120D-829	GTS208	July 08 2015	July 07 2016
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. 27 2015	Mar. 26 2016
11	Coaxial Cable	GTS	N/A	GTS210	Mar. 27 2015	Mar. 26 2016
12	Coaxial Cable	GTS	N/A	GTS212	Mar. 27 2015	Mar. 26 2016
13	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	July 08 2015	July 07 2016
14	Amplifier(2GHz-20GHz)	HP	8349B	GTS206	July 08 2015	July 07 2016
15	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	July 08 2015	July 07 2016
16	Band filter	Amindeon	82346	GTS219	Mar. 27 2015	Mar. 26 2016
17	Power Meter	Anritsu	ML2495A	GTS540	July 08 2015	July 07 2016
18	Power Sensor	Anritsu	MA2411B	GTS541	July 08 2015	July 07 2016

Conducted Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Shielding Room	ZhongYu Electron	7.0(L)x3.0(W)x3.0(H)	GTS264	July 08 2015	July 07 2016
2	EMI Test Receiver	Rohde & Schwarz	ESCS30	GTS223	July 08 2015	July 07 2016
3	10dB Pulse Limita	Rohde & Schwarz	N/A	GTS224	July 08 2015	July 07 2016
4	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	July 08 2015	July 07 2016
5	LISN	SCHWARZBECK MESS-ELEKTRONIK	NSLK 8127	GTS226	July 08 2015	July 07 2016
6	Coaxial Cable	GTS	N/A	GTS227	July 08 2015	July 07 2016
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A

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 2015	July 07 2016

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.ebotek.cn> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.ebotek.cn>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."

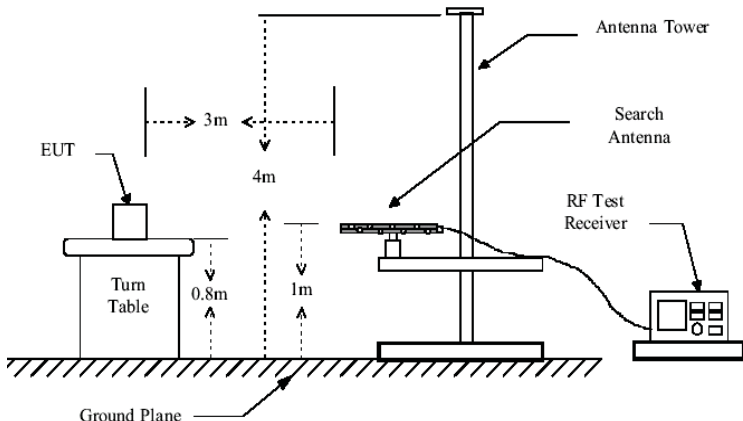


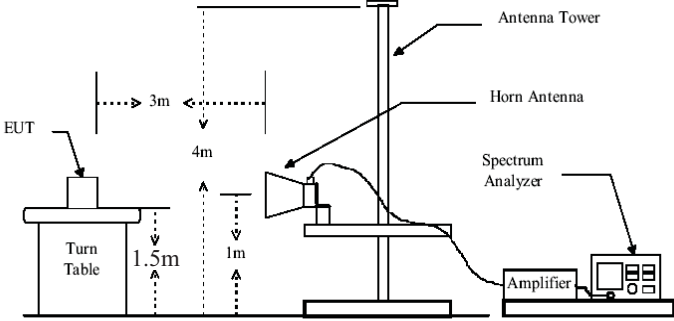
7 Test results and Measurement Data

7.1 Antenna requirement:

Standard requirement:	FCC Part15 C Section 15.203
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.	
E.U.T Antenna:	
<i>The antenna is Integral antenna, the best case gain of the antenna is 2dBi</i>	

7.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209				
Test Method:	ANSI C63.4:2014				
Test Frequency Range:	30MHz to 25GHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		Peak	1MHz	10Hz	Average Value
Limit: (Field strength of the fundamental signal)	Frequency		Limit (dBuV/m @3m)		Remark
	2400MHz-2483.5MHz		94.00		Average Value
			114.00		Peak Value
Remark : For fundamental frequency , the RBW and VBW were set to 3MHz and 10MHz. Peak detector for peak value, RMS detector for average value.					
Limit: (Spurious Emissions)	Frequency		Limit (dBuV/m @3m)		Remark
	30MHz-88MHz		40.00		Quasi-peak Value
	88MHz-216MHz		43.50		Quasi-peak Value
	216MHz-960MHz		46.00		Quasi-peak Value
	960MHz-1GHz		54.00		Quasi-peak Value
	Above 1GHz		54.00		Average Value
			74.00		Peak Value
Limit: (band edge)	Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.				
Test setup:	Below 1GHz 				

	<p>Above 1GHz</p> 
<p>Test Procedure:</p>	<ol style="list-style-type: none"> 1. The EUT was placed on the top of a rotating table 0.8 m(<1GHz) or 1.5m (>1GHz) 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. 7. The radiation measurements are performed in X, Y, Z axis positioning. And found the Y axis positioning which it is worse case, only the test worst case mode is recorded in the report.
<p>Test Instruments:</p>	<p>Refer to section 6.0 for details</p>
<p>Test mode:</p>	<p>Refer to section 5.3 for details</p>
<p>Test results:</p>	<p>Pass</p>

Measurement data:

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.ebotech.cn> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.ebotech.cn>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."



7.2.1 Field Strength of The Fundamental Signal

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2403.00	100.08	27.58	5.39	30.18	102.87	114.00	-11.13	Vertical
2403.00	95.96	27.58	5.39	30.18	98.75	114.00	-15.25	Horizontal
2437.00	98.60	27.55	5.43	30.06	101.52	114.00	-12.48	Vertical
2437.00	94.41	27.55	5.43	30.06	97.33	114.00	-16.67	Horizontal
2472.00	98.72	27.52	5.47	29.93	101.78	114.00	-12.22	Vertical
2472.00	95.01	27.52	5.47	29.93	98.07	114.00	-15.93	Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2403.00	87.27	27.58	5.39	30.18	90.06	94.00	-3.94	Vertical
2403.00	84.29	27.58	5.39	30.18	87.08	94.00	-6.92	Horizontal
2437.00	85.44	27.55	5.43	30.06	88.36	94.00	-5.64	Vertical
2437.00	82.33	27.55	5.43	30.06	85.25	94.00	-8.75	Horizontal
2472.00	84.08	27.52	5.47	29.93	87.14	94.00	-6.86	Vertical
2472.00	82.09	27.52	5.47	29.93	85.15	94.00	-8.85	Horizontal



7.2.2 Spurious emissions

■ Below 1GHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
52.95	32.49	15.11	0.80	20.50	27.90	40.00	-12.10	Vertical
104.17	34.57	14.78	1.23	20.56	30.02	43.50	-13.48	Vertical
204.96	34.30	12.74	1.87	21.48	27.43	43.50	-16.07	Vertical
300.37	30.53	15.06	2.36	21.22	26.73	46.00	-19.27	Vertical
724.26	23.17	21.10	4.18	20.60	27.85	46.00	-18.15	Vertical
952.09	26.66	23.43	5.04	20.41	34.72	46.00	-11.28	Vertical
46.83	24.31	15.44	0.74	20.50	19.99	40.00	-20.01	Horizontal
68.63	30.08	11.20	0.93	20.50	21.71	40.00	-18.29	Horizontal
145.86	37.17	10.23	1.54	21.04	27.90	43.50	-15.60	Horizontal
258.33	34.16	14.05	2.16	21.32	29.05	46.00	-16.95	Horizontal
390.72	32.17	16.87	2.81	21.04	30.81	46.00	-15.19	Horizontal
935.55	28.90	23.34	4.99	20.43	36.80	46.00	-9.20	Horizontal

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.ebotech.cn> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.ebotech.cn>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."



■ Above 1GHz

Test channel:	Lowest
---------------	--------

Peak value:

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
4806.00	45.62	31.78	8.60	32.09	53.91	74.00	-20.09	Vertical
7209.00	32.63	36.15	11.65	32.00	48.43	74.00	-25.57	Vertical
9612.00	32.18	37.95	14.14	31.62	52.65	74.00	-21.35	Vertical
12015.00	*					74.00		Vertical
14418.00	*					74.00		Vertical
4806.00	48.16	31.78	8.60	32.09	56.45	74.00	-17.55	Horizontal
7209.00	34.49	36.15	11.65	32.00	50.29	74.00	-23.71	Horizontal
9612.00	31.72	37.95	14.14	31.62	52.19	74.00	-21.81	Horizontal
12015.00	*					74.00		Horizontal
14418.00	*					74.00		Horizontal

Average value:

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
4806.00	34.02	31.78	8.60	32.09	42.31	54.00	-11.69	Vertical
7209.00	21.18	36.15	11.65	32.00	36.98	54.00	-17.02	Vertical
9612.00	20.18	37.95	14.14	31.62	40.65	54.00	-13.35	Vertical
12015.00	*					54.00		Vertical
14418.00	*					54.00		Vertical
4806.00	36.52	31.78	8.60	32.09	44.81	54.00	-9.19	Horizontal
7209.00	23.43	36.15	11.65	32.00	39.23	54.00	-14.77	Horizontal
9612.00	20.01	37.95	14.14	31.62	40.48	54.00	-13.52	Horizontal
12015.00	*					54.00		Horizontal
14418.00	*					54.00		Horizontal

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *“*” , means this data is the too weak instrument of signal is unable to test.*



Test channel:	Middle
---------------	--------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	42.68	31.85	8.67	32.12	51.08	74.00	-22.92	Vertical
7311.00	30.68	36.37	11.72	31.89	46.88	74.00	-27.12	Vertical
9748.00	30.45	38.35	14.25	31.62	51.43	74.00	-22.57	Vertical
12185.00	*					74.00		Vertical
14622.00	*					74.00		Vertical
4874.00	44.62	31.85	8.67	32.12	53.02	74.00	-20.98	Horizontal
7311.00	32.28	36.37	11.72	31.89	48.48	74.00	-25.52	Horizontal
9748.00	29.70	38.35	14.25	31.62	50.68	74.00	-23.32	Horizontal
12185.00	*					74.00		Horizontal
14622.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	31.64	31.85	8.67	32.12	40.04	54.00	-13.96	Vertical
7311.00	19.57	36.37	11.72	31.89	35.77	54.00	-18.23	Vertical
9748.00	18.75	38.35	14.25	31.62	39.73	54.00	-14.27	Vertical
12185.00	*					54.00		Vertical
14622.00	*					54.00		Vertical
4874.00	33.82	31.85	8.67	32.12	42.22	54.00	-11.78	Horizontal
7311.00	21.63	36.37	11.72	31.89	37.83	54.00	-16.17	Horizontal
9748.00	18.34	38.35	14.25	31.62	39.32	54.00	-14.68	Horizontal
12185.00	*					54.00		Horizontal
14622.00	*					54.00		Horizontal

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *"*", means this data is the too weak instrument of signal is unable to test.*



Test channel:	Highest
---------------	---------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4944.00	43.57	31.93	8.73	32.16	52.07	74.00	-21.93	Vertical
7416.00	31.27	36.59	11.79	31.78	47.87	74.00	-26.13	Vertical
9888.00	30.97	38.81	14.38	31.88	52.28	74.00	-21.72	Vertical
12360.00	*					74.00		Vertical
14832.00	*					74.00		Vertical
4944.00	45.70	31.93	8.73	32.16	54.20	74.00	-19.80	Horizontal
7416.00	32.95	36.59	11.79	31.78	49.55	74.00	-24.45	Horizontal
9888.00	30.32	38.81	14.38	31.88	51.63	74.00	-22.37	Horizontal
12360.00	*					74.00		Horizontal
14832.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4944.00	32.42	31.93	8.73	32.16	40.92	54.00	-13.08	Vertical
7416.00	20.10	36.59	11.79	31.78	36.70	54.00	-17.30	Vertical
9888.00	19.22	38.81	14.38	31.88	40.53	54.00	-13.47	Vertical
12360.00	*					54.00		Vertical
14832.00	*					54.00		Vertical
4944.00	34.70	31.93	8.73	32.16	43.20	54.00	-10.80	Horizontal
7416.00	22.22	36.59	11.79	31.78	38.82	54.00	-15.18	Horizontal
9888.00	18.89	38.81	14.38	31.88	40.20	54.00	-13.80	Horizontal
12360.00	*					54.00		Horizontal
14832.00	*					54.00		Horizontal

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*
3. *“*” , means this data is the too weak instrument of signal is unable to test.*

**7.2.3 Bandedge emissions**

All of the restriction bands were tested, and only the data of worst case was exhibited.

Test channel:	Lowest channel
---------------	----------------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	47.61	27.59	5.38	30.18	50.40	74.00	-23.60	Horizontal
2400.00	60.08	27.58	5.39	30.18	62.87	74.00	-11.13	Horizontal
2390.00	48.61	27.59	5.38	30.18	51.40	74.00	-22.60	Vertical
2400.00	62.62	27.58	5.39	30.18	65.41	74.00	-8.59	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	37.09	27.59	5.38	30.18	39.88	54.00	-14.12	Horizontal
2400.00	43.61	27.58	5.39	30.18	46.40	54.00	-7.60	Horizontal
2390.00	37.37	27.59	5.38	30.18	40.16	54.00	-13.84	Vertical
2400.00	45.71	27.58	5.39	30.18	48.50	54.00	-5.50	Vertical

Test channel:	Highest
---------------	---------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	50.28	27.53	5.47	29.93	53.35	74.00	-20.65	Vertical
2500.00	48.55	27.55	5.49	29.93	51.66	74.00	-22.34	Vertical
2483.50	51.91	27.53	5.47	29.93	54.98	74.00	-19.02	Horizontal
2500.00	50.00	27.55	5.49	29.93	53.11	74.00	-20.89	Horizontal

Average value:

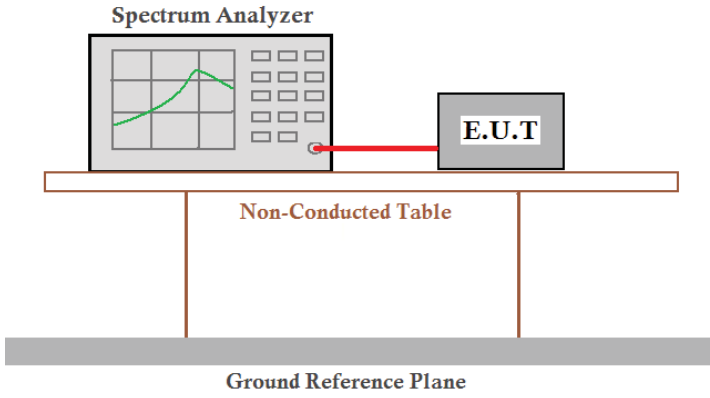
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	39.97	27.53	5.47	29.93	43.04	54.00	-10.96	Vertical
2500.00	37.30	27.55	5.49	29.93	40.41	54.00	-13.59	Vertical
2483.50	41.58	27.53	5.47	29.93	44.65	54.00	-9.35	Horizontal
2500.00	37.62	27.55	5.49	29.93	40.73	54.00	-13.27	Horizontal

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.ebotek.cn> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.ebotek.cn>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."

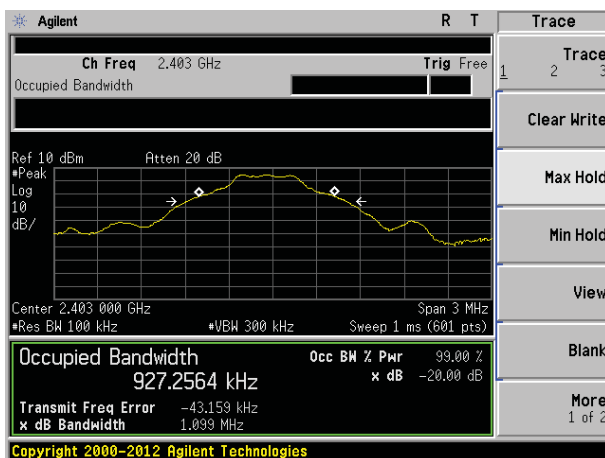
7.3 20dB Occupy Bandwidth

Test Requirement:	FCC Part15 C Section 15.249/15.215
Test Method:	ANSI C63.10:2013
Limit:	Operation Frequency range 2400MHz~2483.5MHz
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

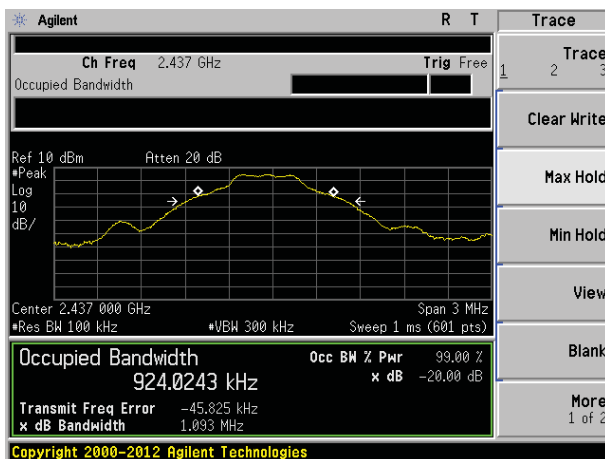
Measurement Data

Test channel	20dB bandwidth(MHz)	Result
Lowest	1.099	Pass
Middle	1.093	Pass
Highest	1.099	Pass

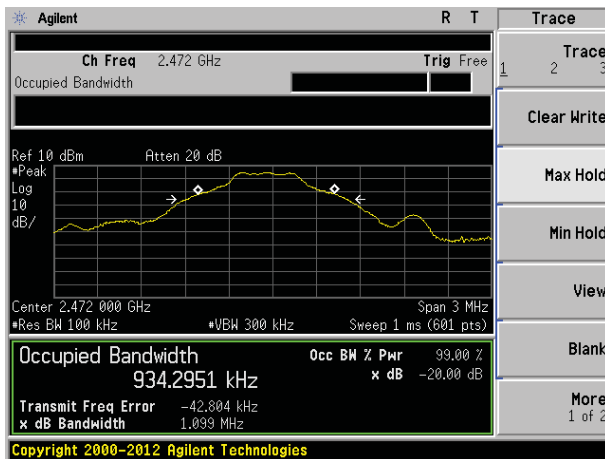
Test plot as follows:



Lowest channel



Middle channel

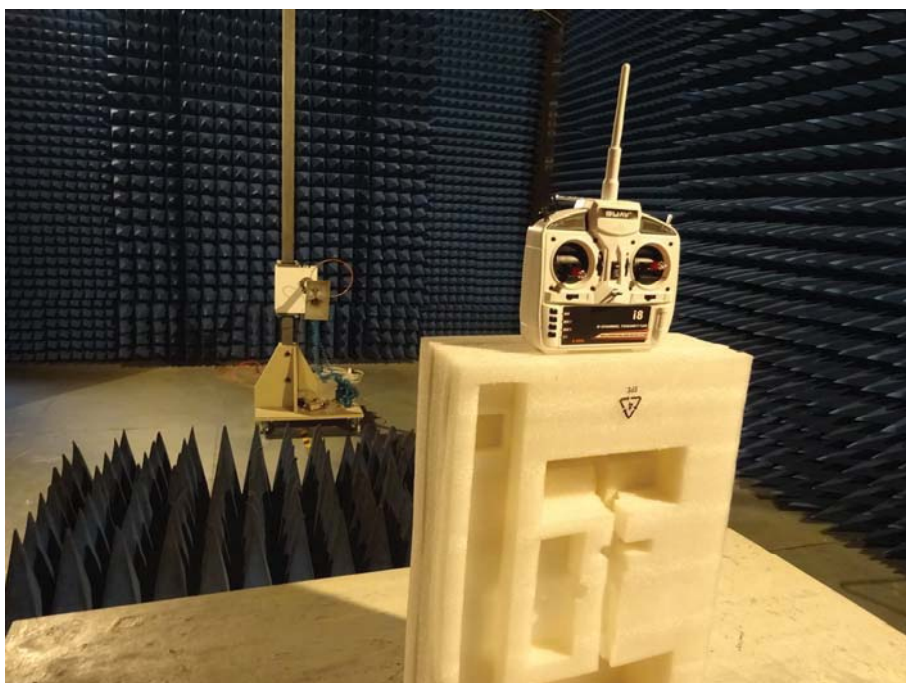
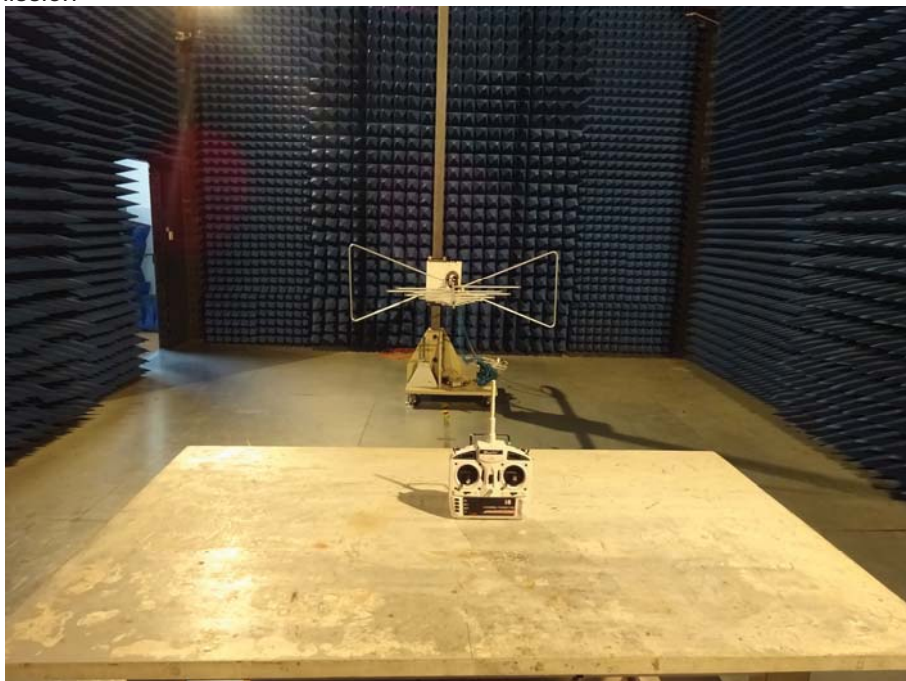


Highest channel

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.ebotech.cn> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.ebotech.cn>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."

8 Test Setup Photo

Radiated Emission



This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.ebotech.cn> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.ebotech.cn>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."

9 EUT Constructional Details

Fig.1



Fig.2

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.ebotech.cn> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.ebotech.cn>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."

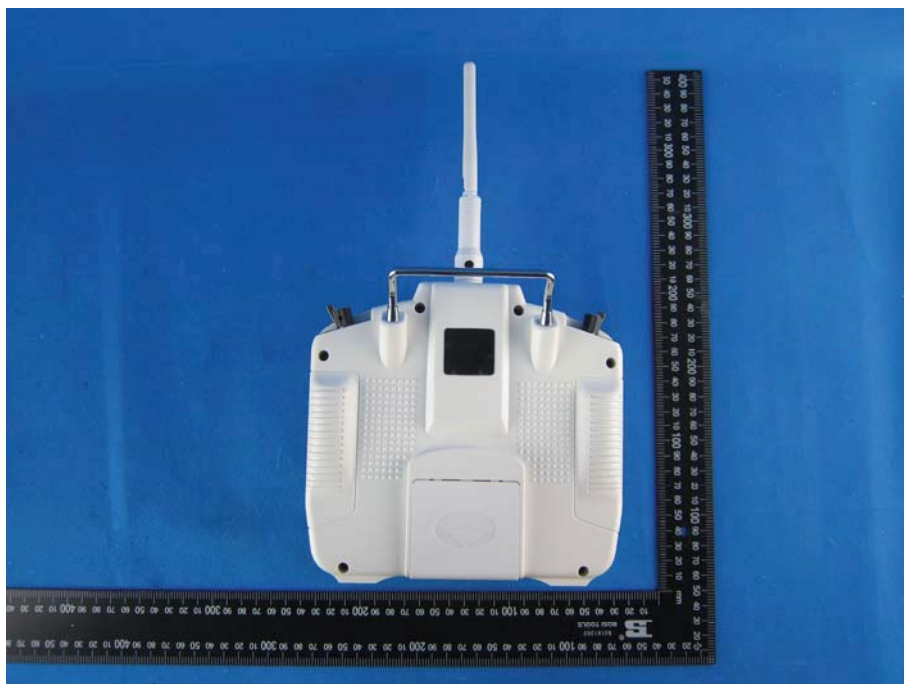


Fig.3

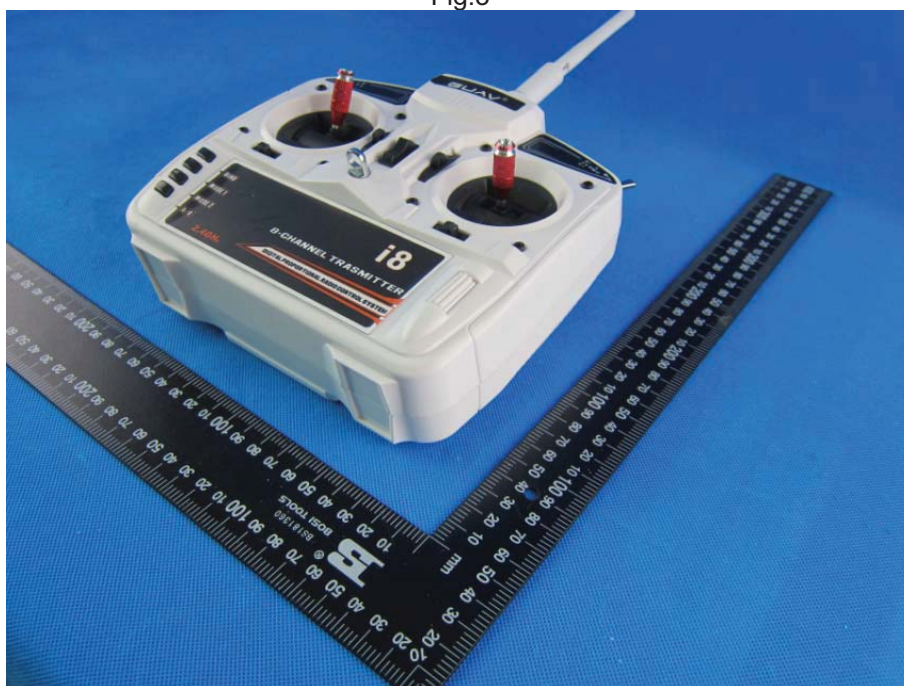


Fig.4

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.ebotech.cn> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.ebotech.cn>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."



Fig.5

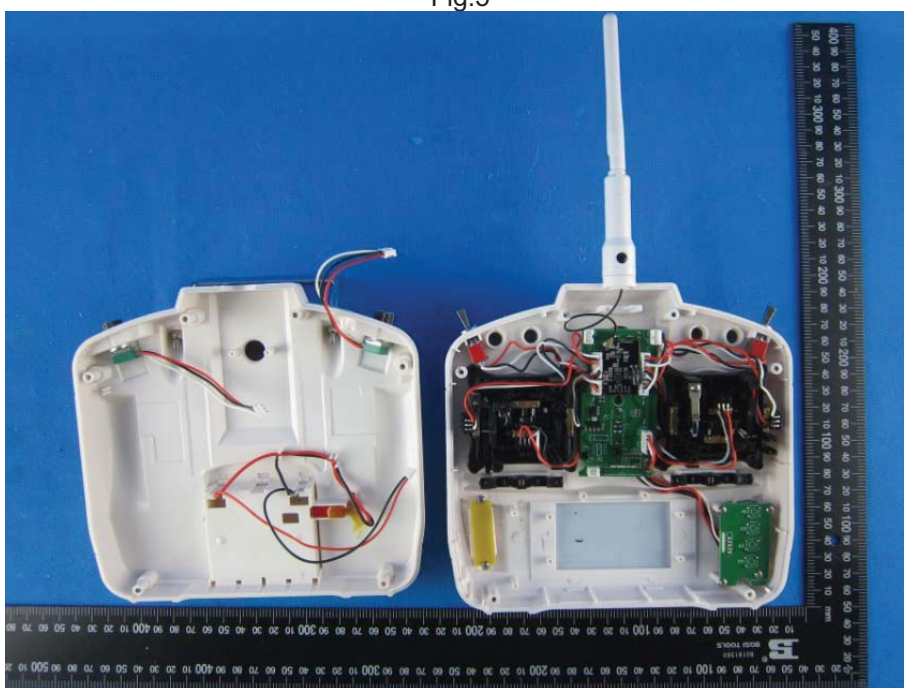


Fig.6

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.ebotech.cn> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.ebotech.cn>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."

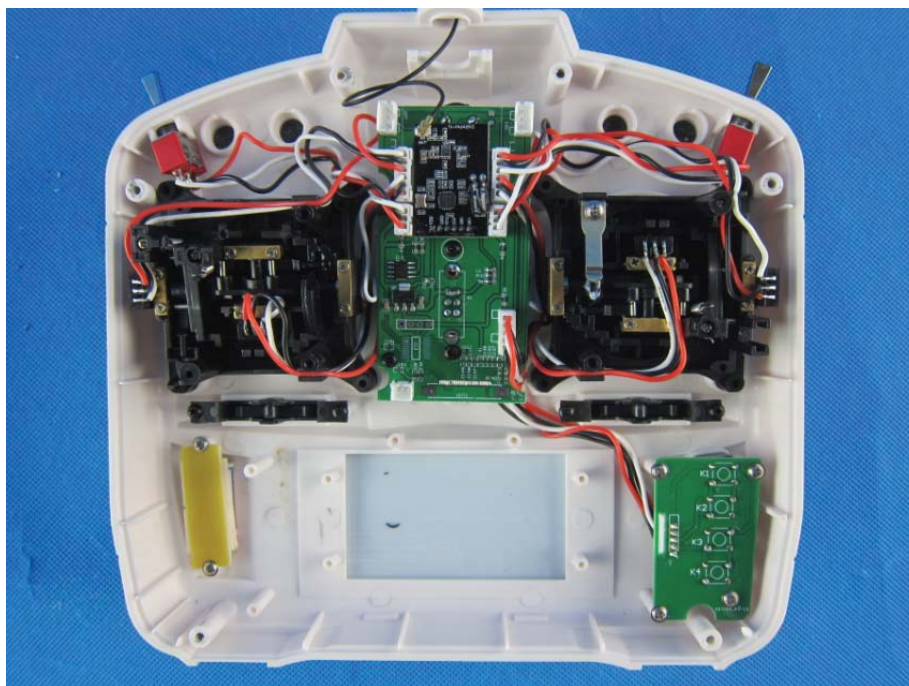


Fig.7

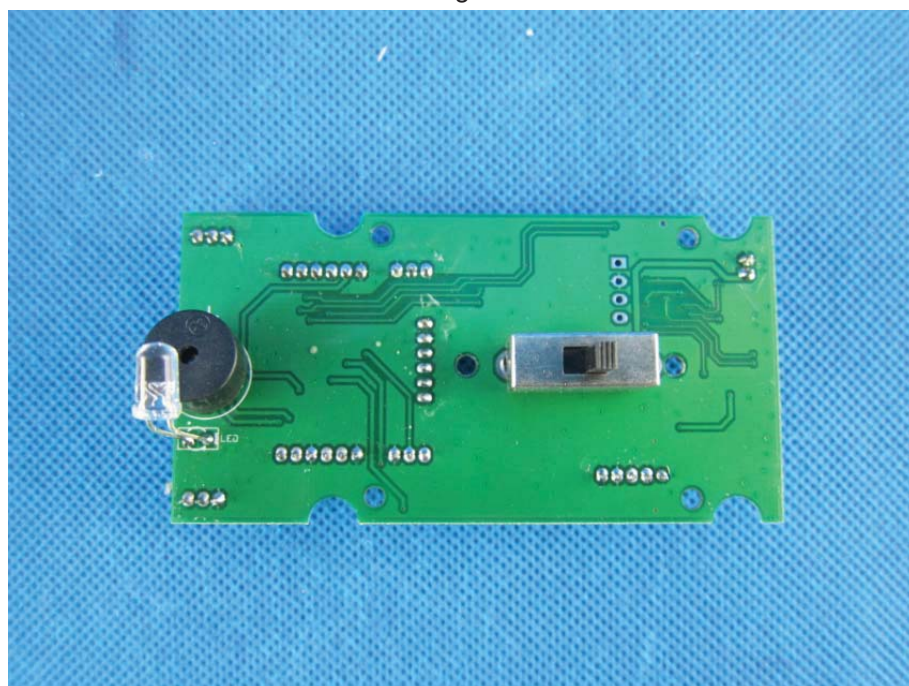


Fig.8

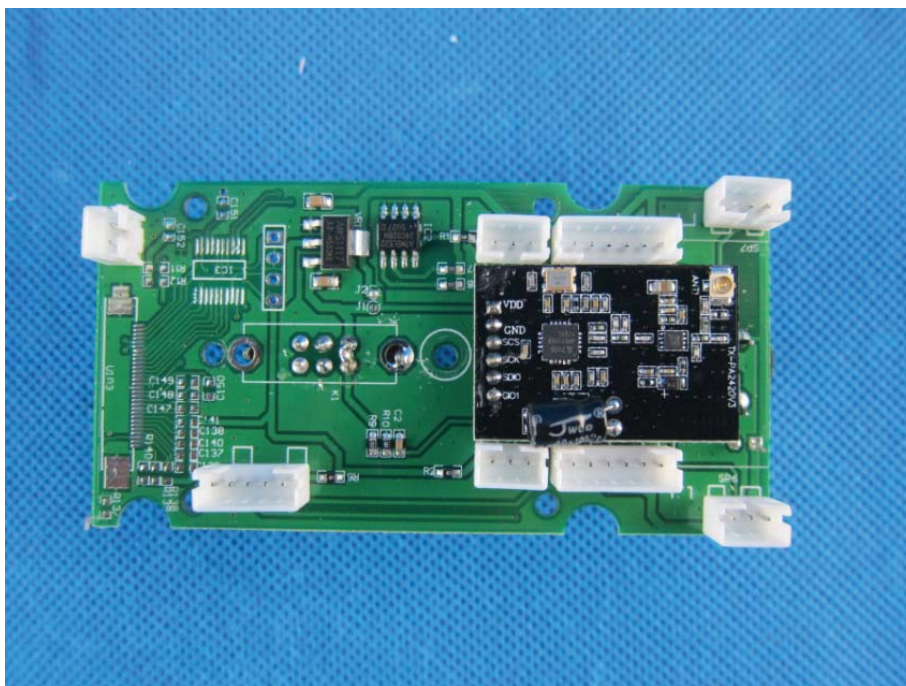


Fig.9

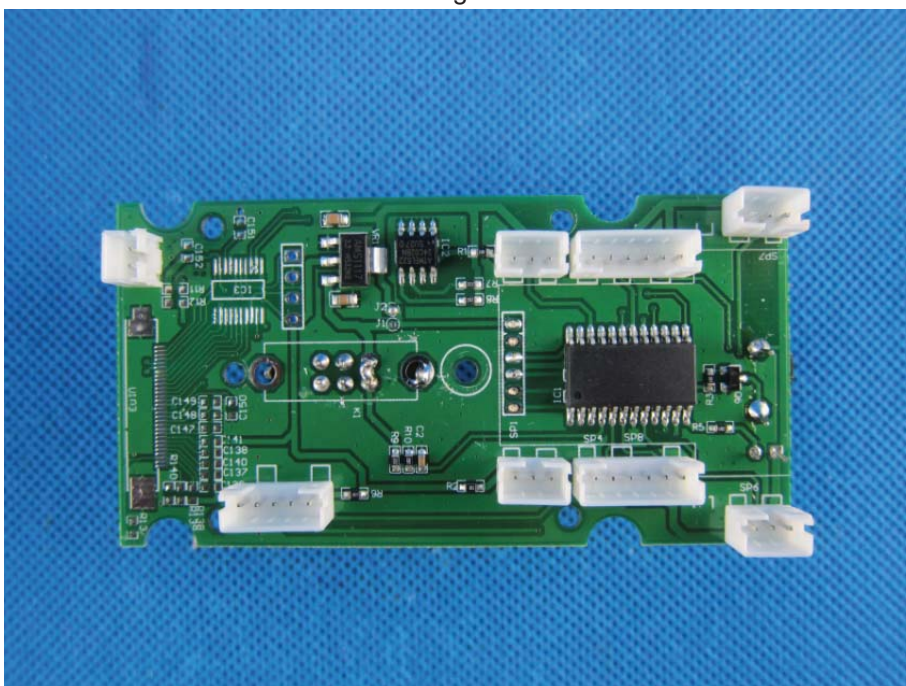


Fig.10

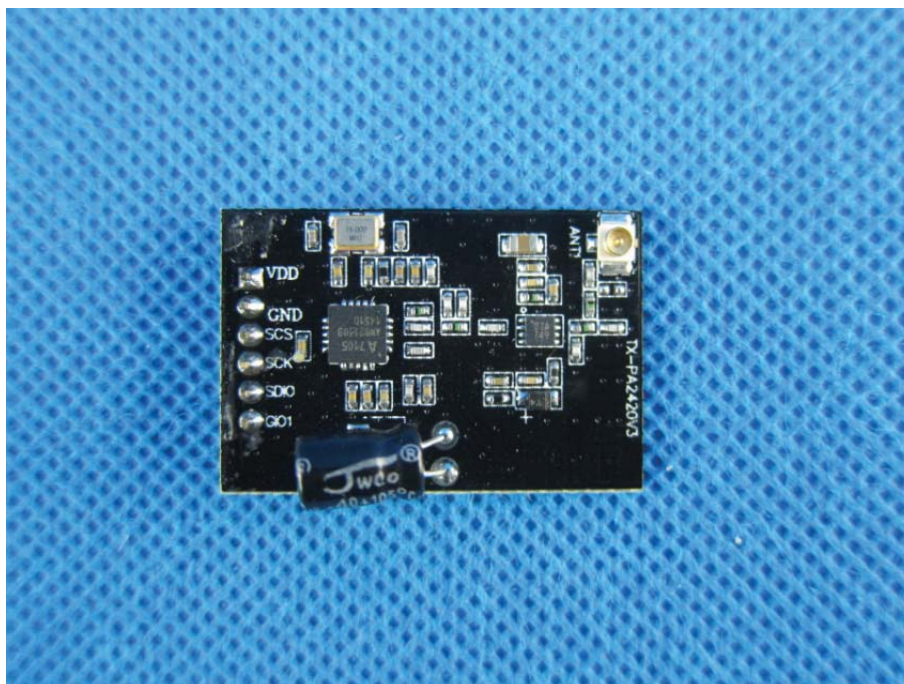


Fig.11

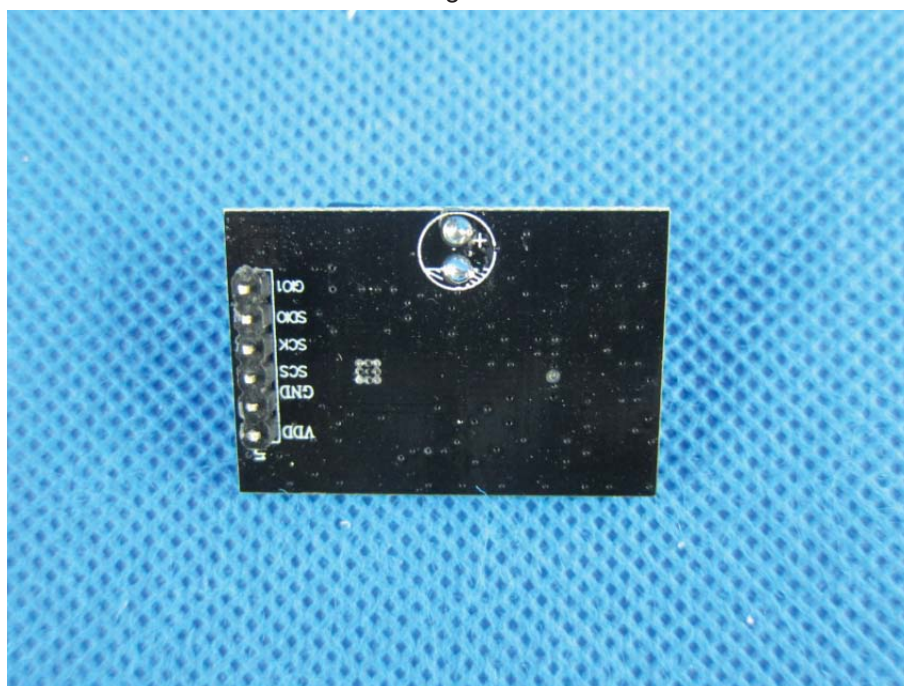


Fig.12

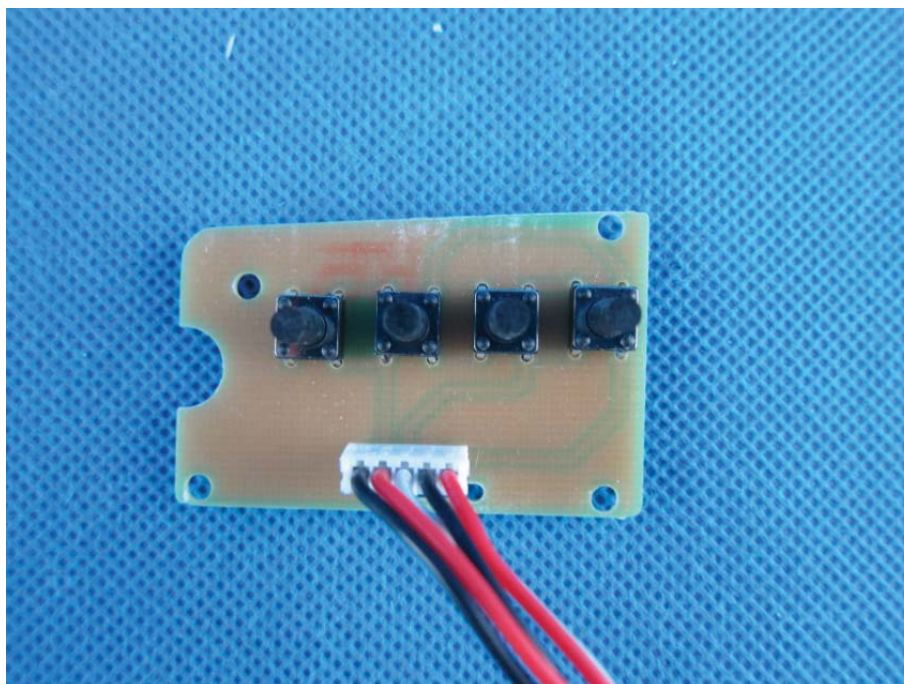


Fig.13

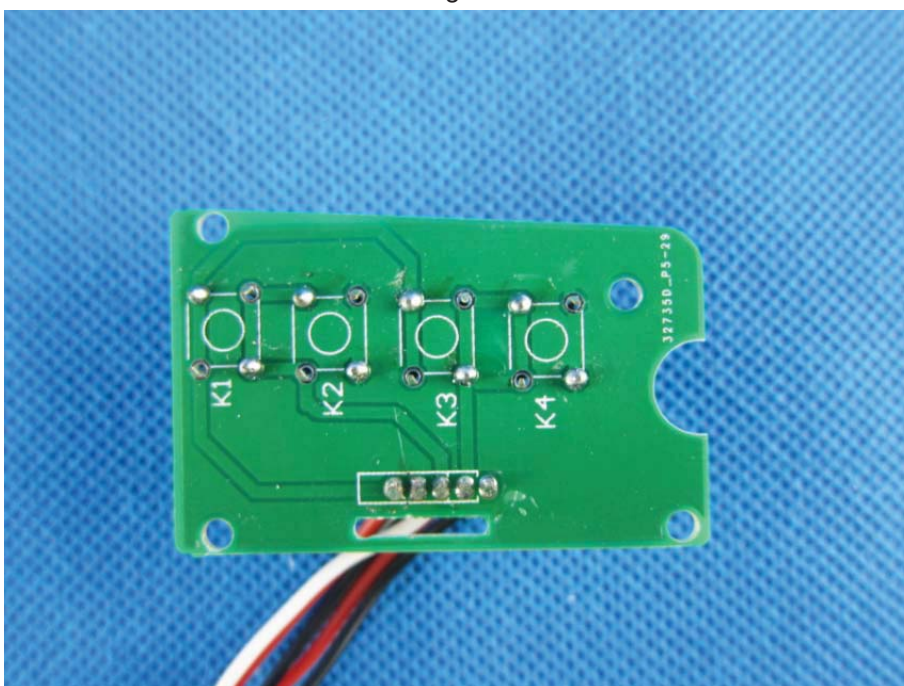


Fig.14

-----End-----