TECHNICAL REPORT

卓時檢測 TIMEWAY TESTING LABORATORY

N0.L2292

ISO/IEC17025 Accredited Lab.

Report No:	FCC1003281
File reference No:	2010-06-02
Applicant:	Guangzhou Chiyuan Electronic Co., Ltd
Product:	Radio control
Model No:	CY2S
Brand Name:	XINYI/GM/VENOM/JOYSWAY
Test Standards:	FCC Part 15 Subpart C, Paragraph 15.227
Test result:	It is herewith confirmed and found to comply with the requirements set up by ANSI C63.4&FCC Part 15 Subpart C, Paragraph 15.227 regulations for the evaluation of electromagnetic compatibility

Approved By

Jack Chung

Jack Chung
Manager

Dated: June 02,2010

Results appearing herein relate only to the sample tested
The technical reports is issued errors and omissions exempt and is subject to withdrawal at

SHENZHEN TIMEWAY TECHNOLOGY CONSULTING CO LTD

East 5/Block 4, Anhua Industrial Zone, No.8,Tairan Rd. CheGongMiao, FuTian District, Shenzhen, CHINA.

Tel (755) 83448688 Fax (755) 83442996

Special Statement:

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19.

The testing quality system of our laboratory meet with ISO/IEC-17025 requirements, which is approved by CNAL. This approval result is accepted by MRA of APLAC.

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

CNAL-LAB Code: L2292

The EMC Laboratory has been assessed and in compliance with CNAL/AC01:2002 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:1999 General Requirements) for the Competence of testing Laboratories.

FCC-Registration No.: 899988

The 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 our files. Registration No.: 899988.

IC- Registration No.: IC5205

The EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada. The acceptance letter from the IC is maintained in our files. Registration IC No.: 5205.

Test Report Conclusion

Content

1.0 **General Details**

1.1 Test Lab Details

Name : SHENZHEN TIMEWAY TECHNOLOGY CONSULTING CO LTD

Address: 5/F,Block 4, Anhua Industrial Zone.,No.8 TaiRan Rd.CheGongMiao,FuTian District, Shenzhen,CHINA.

Telephone: (755) 83448688

Fax: (755) 83442996

Site on File with the Federal Communications Commission – United Sates

Registration Number: 899988

For 3m & 10 m OATS

Site Listed with Industry Canada of Ottawa, Canada

Registration Number: IC: 5205

For 3m & 10 m OATS

1.2 Applicant Details

Applicant: Guangzhou Chiyuan Electronic Co., Ltd

Address: 2/F.,NO.1Bldg.,Boyi Industrial Garden,4th Gongye Rd.Zhicun Dashi Street,Panyu Dis., Guangzhou, China

Telephone: +86-20-34796226/34797226

Fax: +86-20-34796116

1.3 Description of EUT

Product:	Radio control
Manufacturer:	Guangzhou Chiyuan Electronic Co., Ltd
Brand Name:	XINYI
Model Number:	CY2S
Additional Model Name	N/A
Additional Trade Name	GM/VENOM/JOYSWAY
Rating:	DC7.2V
Operation Frequency	26.996MHz
Number of Channel	1
Antenna Designation	A permanent fixed diapole dipole antenna(telescopic type), designed as an indispensable part of the EUT.

1.4 Submitted Sample

1 Sample

1.5 Test Duration

2010-03-26 to 2010-05-04

1.6 Test Uncertainty

Conducted Emissions Uncertainty =±3.0dB

Radiated Emissions Uncertainty =±6.0dB

1.7 Test Engineer

The sample tested by Terry Tang

Print Name: Terry Tang

2.0	**Test Equipments**				
Instrument Type	Manufacturer	Model	Serial No.	Date of Cal.	Due Date
Ultra Broadband ANT	Schwarebeck	VULB9163	9163/340	2010-4-18	2011-4-17
ESDV Test Receiver	ROHDE&SCHWARZ	ESDV	100008	2010-03-29	2011-03-28
Loop Antenna	EMCO	6502	00042960	2010-02-17	2011-02-16
ESPI Test Receiver	ROHDE&SCHWARZ	ESI26	838786/013	2010-02-17	2011-02-16
966 Chamber	--	--	N/A	2010-02-17	2011-02-16

3.0 Technical Details

3.1 Summary of test results

The EUT has been tested according to the following specifications:

Standard	Test Type	Result	Notes
FCC Part 15, Paragraph 15.207	Conducted Emission Test	N/A	--
FCC Part 15 Subpart C Paragraph 15.227 Limit	Field Strength of Fundamental	PASS	Compiles
FCC Part 15, Paragraph 15.209	Radiated Emission Test	PASS	Compiles
Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the Radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).	Band Edge Test	PASS	Compiles

3.2 Test Standards

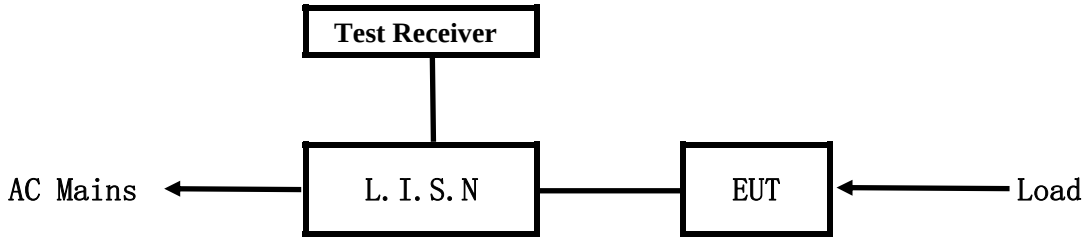
FCC Part 15 Subpart C, Paragraph 15.227

4.0 EUT Modification

No modification by Shenzhen Timeway Technology Consulting Co.,Ltd

5. Power Line Conducted Emission Test

5.1 Schematics of the test

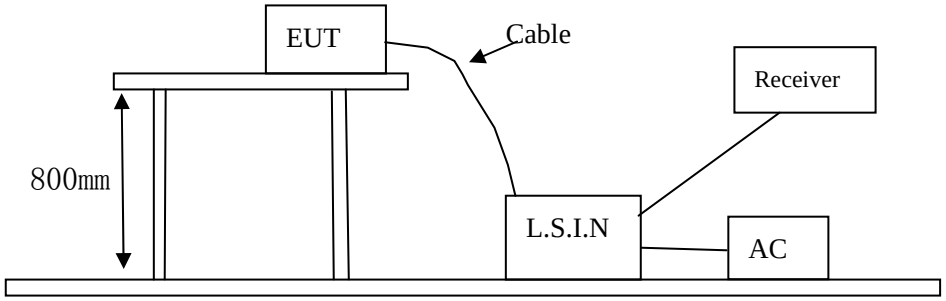


EUT: Equipment Under Test

5.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.4-2003.The Frequency spectrum From 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.4 –2003.

Block diagram of Test setup



5.3 Configuration of The EUT

The EUT was configured according to ANSI C63.4-2003. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below.

One channels are provided to the EUT

A. EUT

Device	Manufacturer	Model	FCC ID
Radio control	Guangzhou Chiyuan Electronic Co., Ltd	CY2S	V6KCY2S

B. Internal Device

Device	Manufacturer	Model	FCC ID/DOC
N/A			

C. Peripherals

Device	Manufacturer	Model	FCC ID/DOC	Cable
N/A				

5.4 EUT Operating Condition

Operating condition is according to ANSI C63.4 -2003.

A Setup the EUT and simulators as shown on follow

B Enable AF signal and confirm EUT active to normal condition

5.5 Power line conducted Emission Limit according to Paragraph 15.207

Frequency(MHz)	Class A Limits (dB μ V)		Class B Limits (dB μ V)	
	Quasi-peak Level	Average Level	Quasi-peak Level	Average Level
0.15 ～ 0.50	79.0	66.0	66.0～56.0*	56.0～46.0*
0.50 ～ 5.00	73.0	60.0	56.0	46.0
5.00 ～ 30.00	73.0	60.0	60.0	50.0

Notes: 1. *Decreasing linearly with logarithm of frequency.

2. The tighter limit shall apply at the transition frequencies

5.6 Test Results

The frequency spectrum from 0.15MHz to 30MHz was investigated. All reading are quasi-peak values with a resolution bandwidth of 9kHz.

Note: EUT powered by batteries, this test item not applicant

6 Radiated Emission Test

6.1 Test Method and test Procedure:

(1) The EUT was tested according to ANSI C63.4 –2003. The radiated test was performed at Timeway Laboratory. This site is on file with the FCC laboratory division, Registration No.899988

(2) The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high 0.8 m. All set up is according to ANSI C63.4-2003.

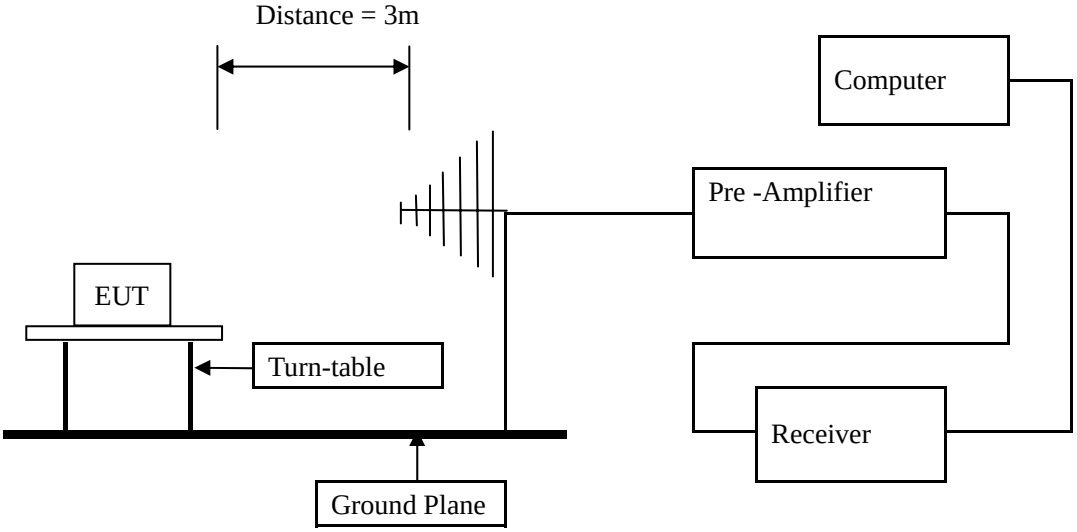
(3) The frequency spectrum from 30 MHz to 1 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 kHz. All readings are above 1 GHz, peak values with a resolution bandwidth of 1 MHz . Measurements were made at 3 meters.

(4) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.

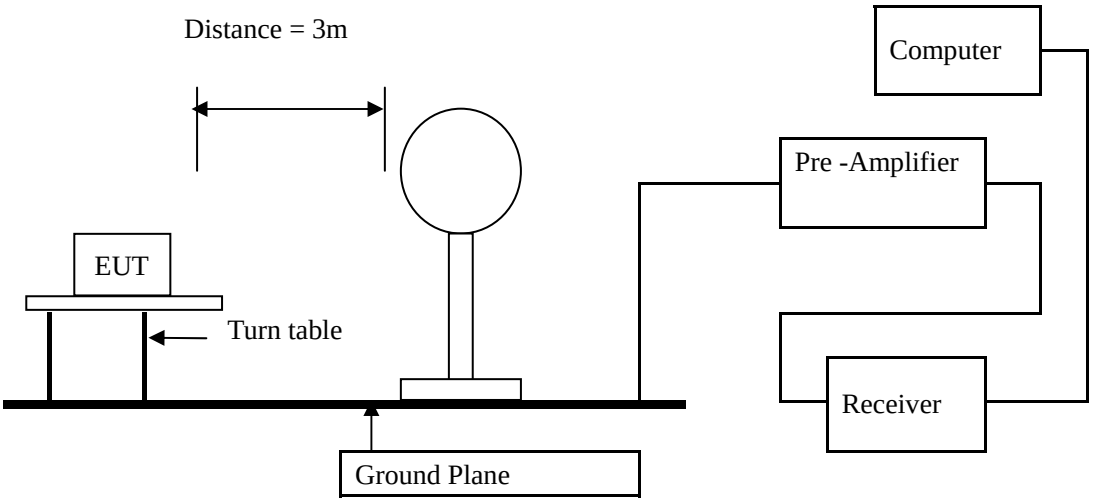
(5) Maximizing procedure was performed on the six (6) highest emissions to ensure EUT compliance is with all installation combinations. All data was recorded in the peak detection mode. Quasi-peak readings was performed only when an emission was found to be marginal (within -4 dB of specification limit), and are distinguished with a "**QP**" in the data table.

(6) The antenna polarization : Vertical polarization and Horizontal polarization.

Block diagram of Test setup for frequency 30-1000MHz



Block diagram of Test setup for frequency below 30MHz



6.2 Configuration of The EUT

Same as section 5.3 of this report

6.3 EUT Operating Condition

Same as section 5.4 of this report.

6.4 Radiated Emission Limit

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below:

A FCC Part 15 Subpart C Paragraph 15.227 Limit

Fundamental Frequency (MHz)	Field Strength of Fundamental (3m)	
	uV/m	**dBuV/m**
26.96-27.28	10000	80

Note: 1. RF Field Strength (dBuV) = 20 log RF Voltage (uV)

2.Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

3. The emission limit in this paragraph is based on measurement instrumentation employing an average detector.

B. Frequencies in restricted band are complied to limit on Paragraph 15.209.

Frequency Range (MHz)	Distance (m)	Field strength (dB μ V/m)
0.009 – 0.490	3	20log 2400/F (kHz) + 80
0.490 – 1.705	3	20log 24000/F (kHz) + 40
1.705 – 30.00	3	20log 30 + 40
30-88	3	40.0
88-216	3	43.5
216-960	3	46.0
Above 960	3	54.0

Note: 1. RF Voltage (dBuV) = 20 log RF Voltage (uV)

2. In the Above Table, the tighter limit applies at the band edges.

3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT

4. If measurement is made at 3m distance, then F.S Limitation at 3m distance is adjusted by using the formula $Ld1 = Ld2 * (d2/d1)^2$

5. New batteries were installed in the equipment under test for radiated emission testing.

6.5 Test result

A Fundamental Radiated Emission Data

Product:	Radio control	Test Mode:	Keep Tx transmitting
Test Item:	Fundamental Radiated Emission Data	Temperature:	25℃
Test Voltage:	7.2VDC	Humidity:	56%
Test Result:	Pass		

Frequency (MHz)	Emission PK/AV (dBuV/m)	Horiz / Vert	Limits PK/AV (dBuV/m)	Margin (dB)
26.998	53.4/52.1	Horizontal	100/80	-46.6 /-47.9
26.998	75.0/74.2	Vertical	100/80	-25.0/-25.8

Note: (1) PK= Peak, AV= Average

(2) Emission Level = Reading Level + Probe Factor + Cable Loss.

(3)Margin=Emission-Limits

(4)According to section 15.35(b), the peak limit is 20dB higher than the average limit

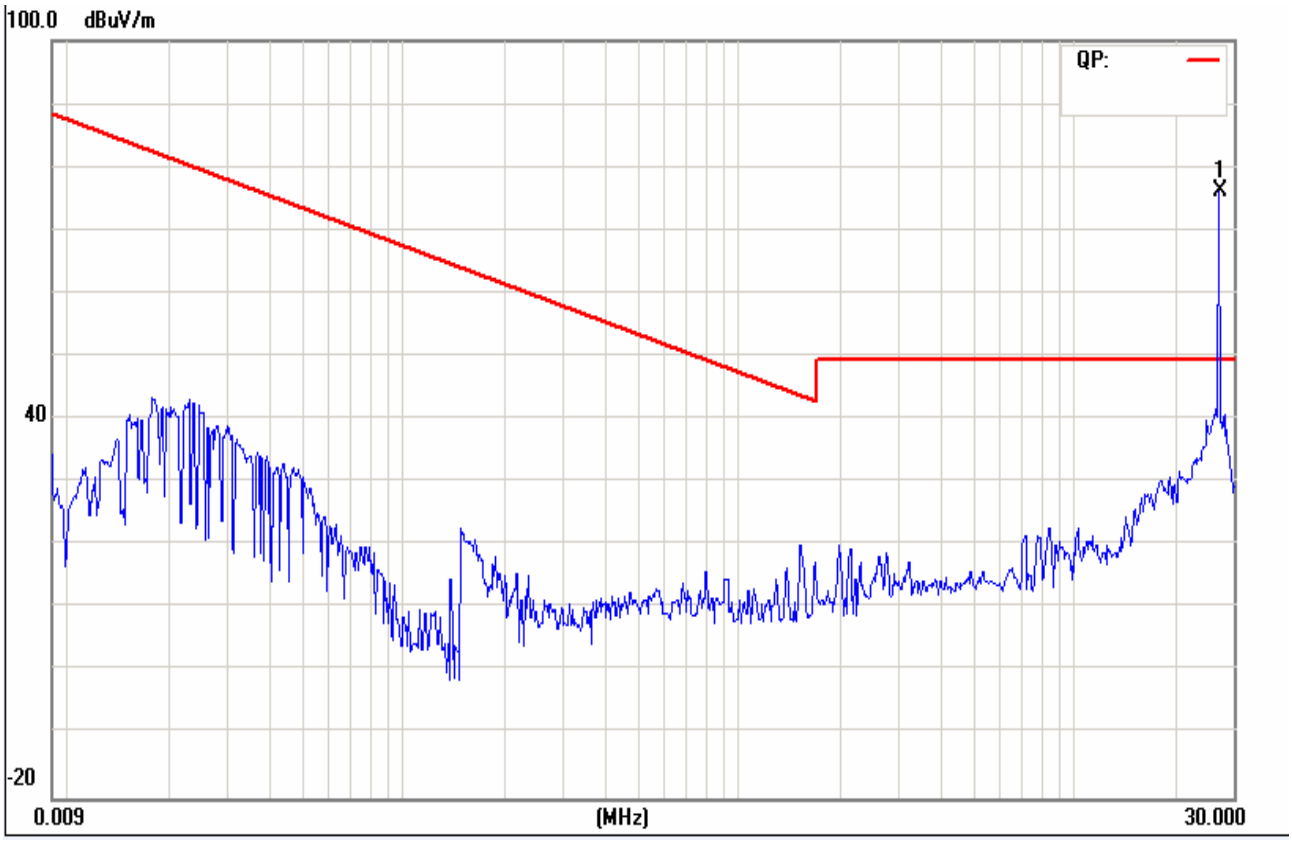
A. **General Radiated Emission Data and Harmonics Radiated Emission Data**

Radiated Emission In Horizontal (0.009MHz----30MHz)

EUT set Condition: Keep Tx transmitting

Results: Pass

Please refer to following diagram for individual



Frequency (MHz)	Level@3m (dB μ V/m)	Limit@3m (dB μ V/m)
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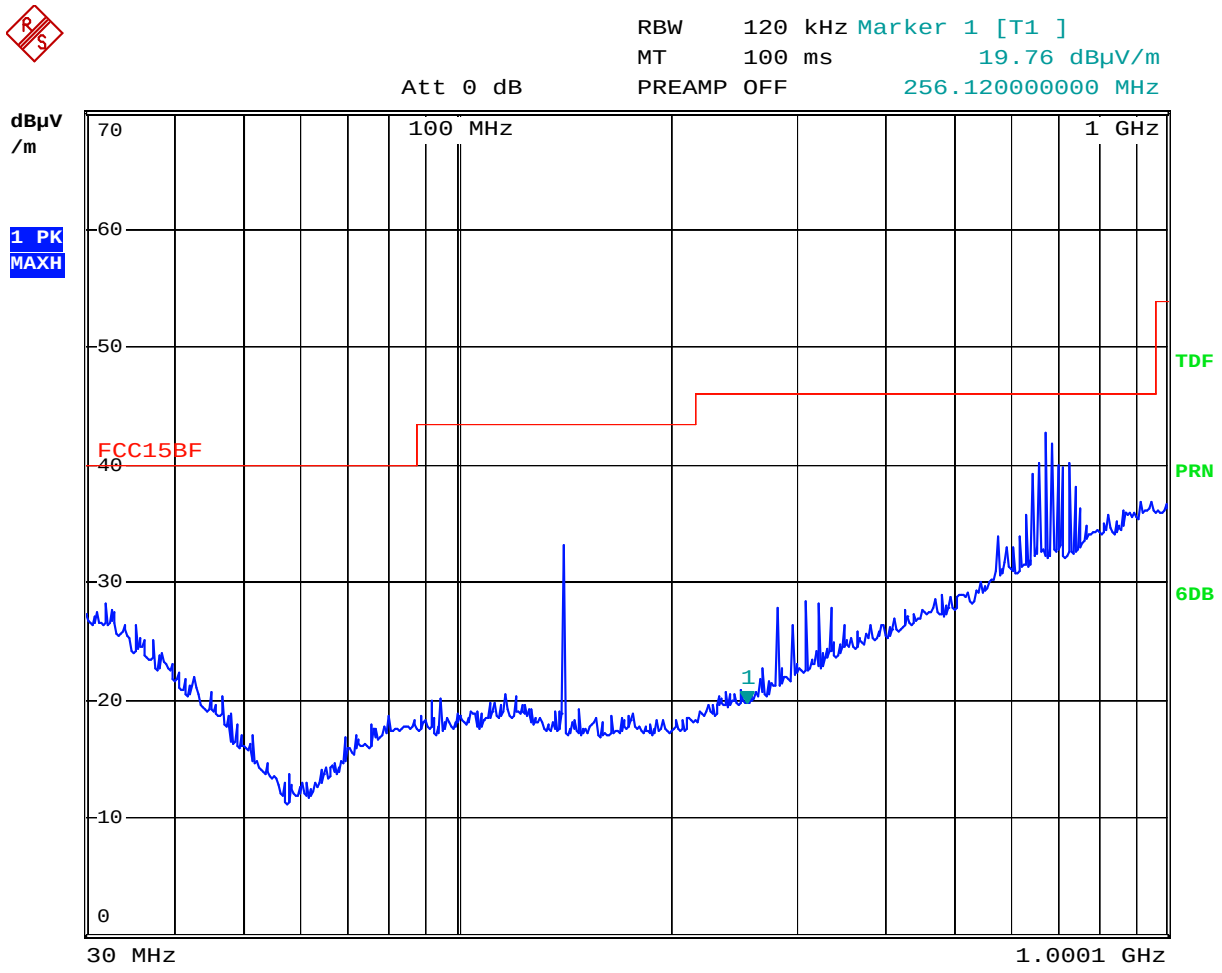
B. **General Radiated Emission Data and Harmonics Radiated Emission Data**

Radiated Emission In Horizontal (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

Results: Pass

Please refer to following diagram for individual



Date: 23.APR.2010 15:01:49

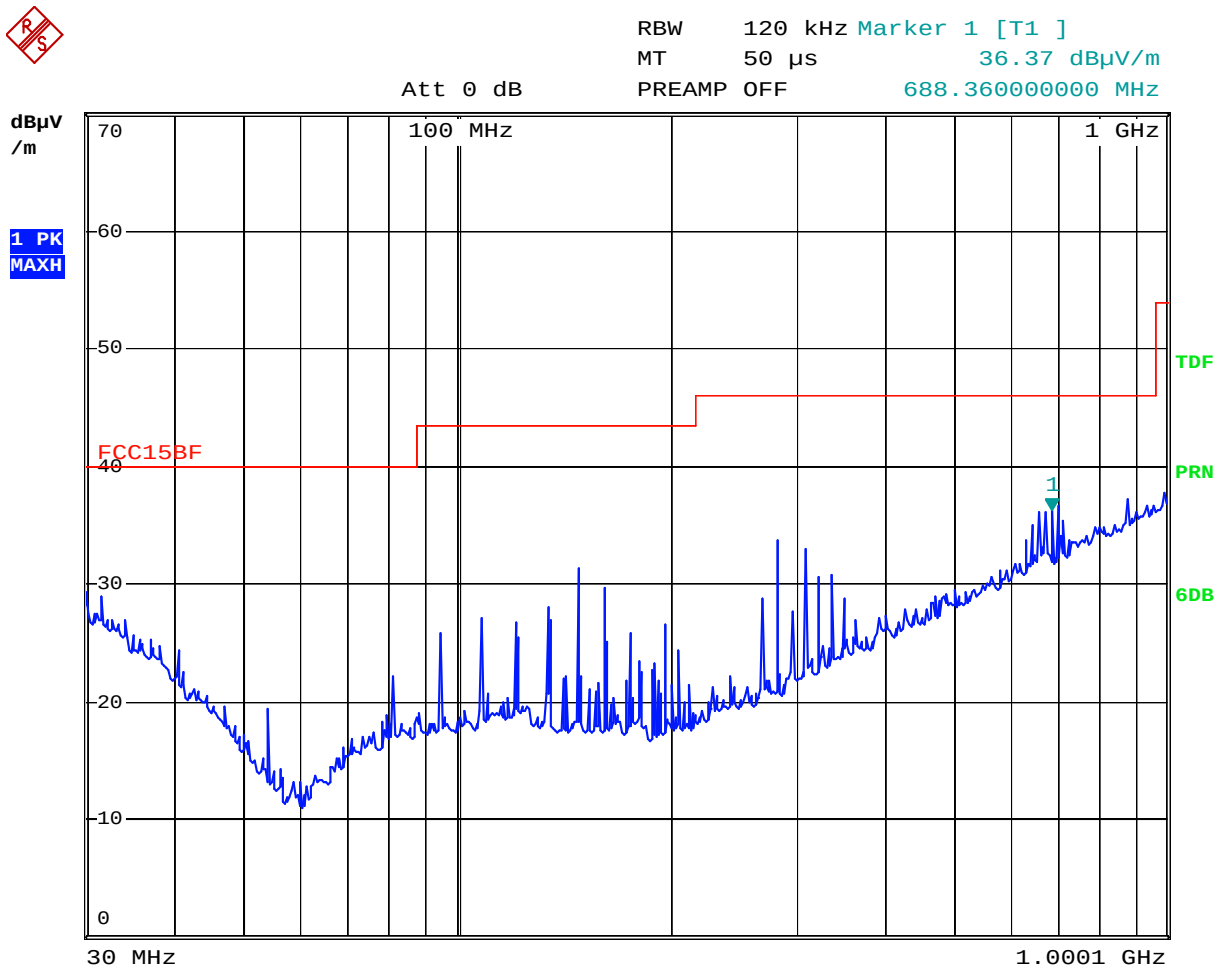
Frequency (MHz)	Level@3m (dB µ V/m)	Antenna Polarity	Limit@3m (dB µ V/m)
141.28	34.55	H	43.50
688.64	43.56	H	46.00
674.80	42.43	H	46.00

C Radiated Emission In Horizontal (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

Results: Pass

Please refer to following diagram for individual



Date: 23.APR.2010 15:04:31

Frequency (MHz)	Level@3m (dB µ V/m)	Antenna Polarity	Limit@3m (dB µ V/m)
162.24	30.82	V	43.50
148.48	31.39	V	43.50
272.72	34.80	V	46.00

7. Band Edge

7.1 Test Method and test Procedure:

(1) The EUT was tested according to ANSI C63.4 –2003. The radiated test was performed at Timeway Laboratory. This site is on file with the FCC laboratory division, Registration No.899988

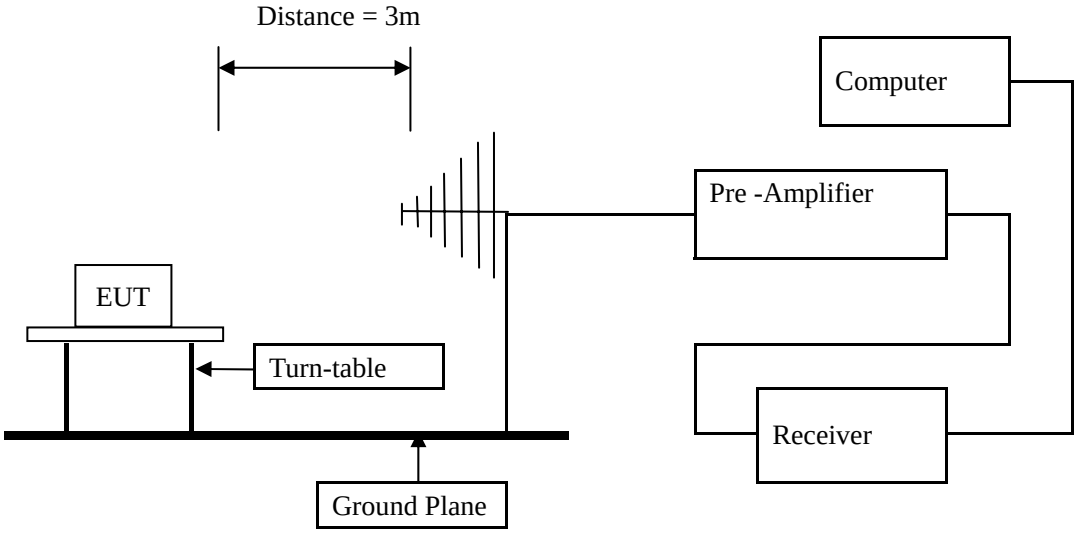
(2) The frequency spectrum from 30 MHz to 1 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 kHz. All readings are above 1 GHz , peak values with a resolution bandwidth of 1 MHz . Measurements were made at 3 meters.

(3) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.

(4) Maximizing procedure was performed on the six (6) highest emissions to ensure EUT compliance is with all installation combinations. All data was recorded in the peak detection mode. Quasi-peak readings was performed only when an emission was found to be marginal (within -4 dB of specification limit), and are distinguished with a "**QP**" in the data table.

(5) The antenna polarization : Vertical polarization and Horizontal polarization.

7. 2 Radiated Test Setup



For the actual test configuration , please refer to the related items – Photos of Testing

7.3 Configuration of The EUT

Same as section 5.3 of this report

7.4 EUT Operating Condition

Same as section 5.3 of this report.

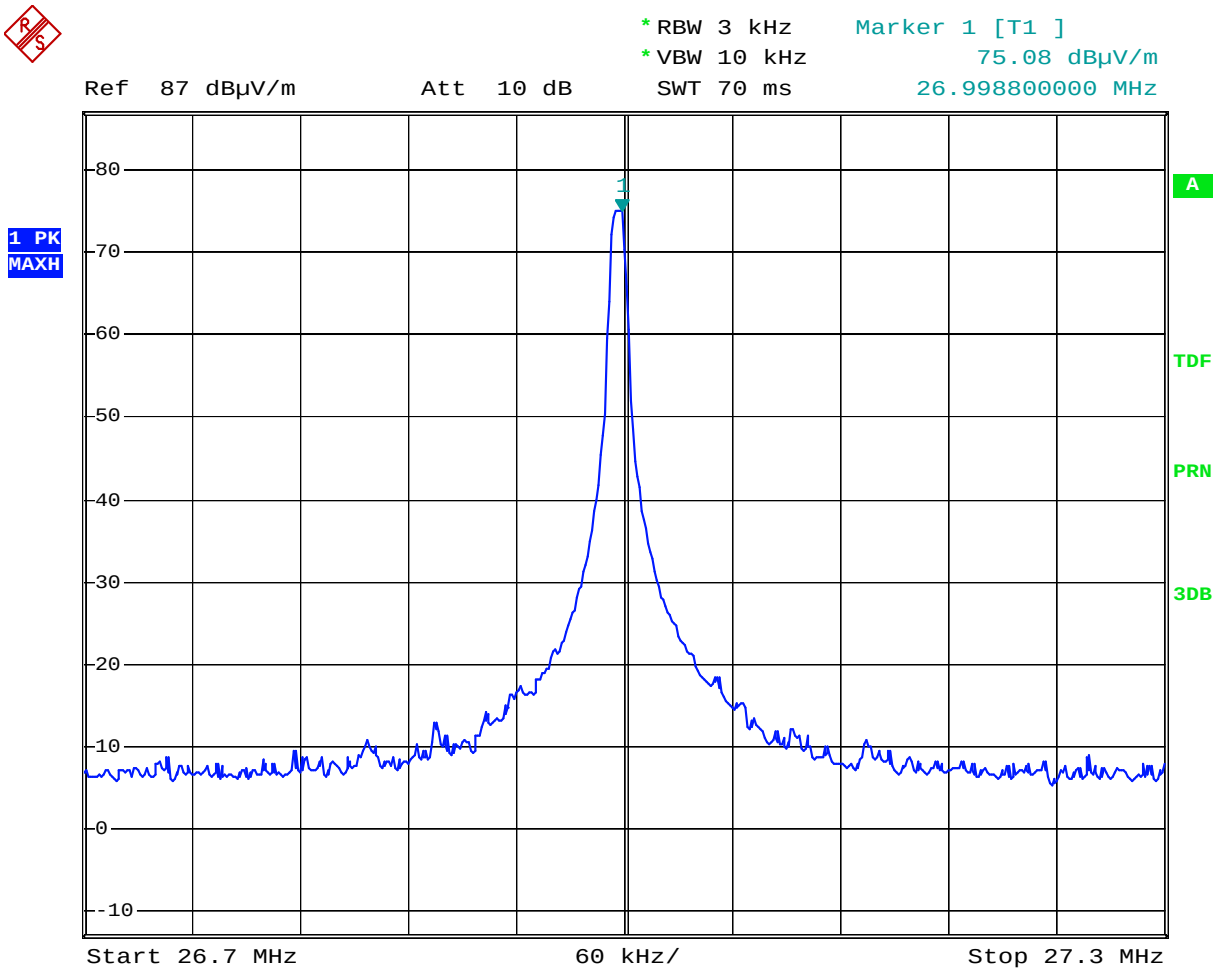
7.5 Band Edge Limit

The field strength of any emissions which appear outside of this band shall not exceed the general radiated emission limits in Section 15.209.

7.6 Band Edge Test Result

Product:	Radio control speed boat	Test Mode:	Keep Tx transmitting
Test Item:	Fundamental Radiated Emission Data	Temperature:	25℃
Test Voltage:	7.2V DC	Humidity:	56%
Test Result:	Pass		

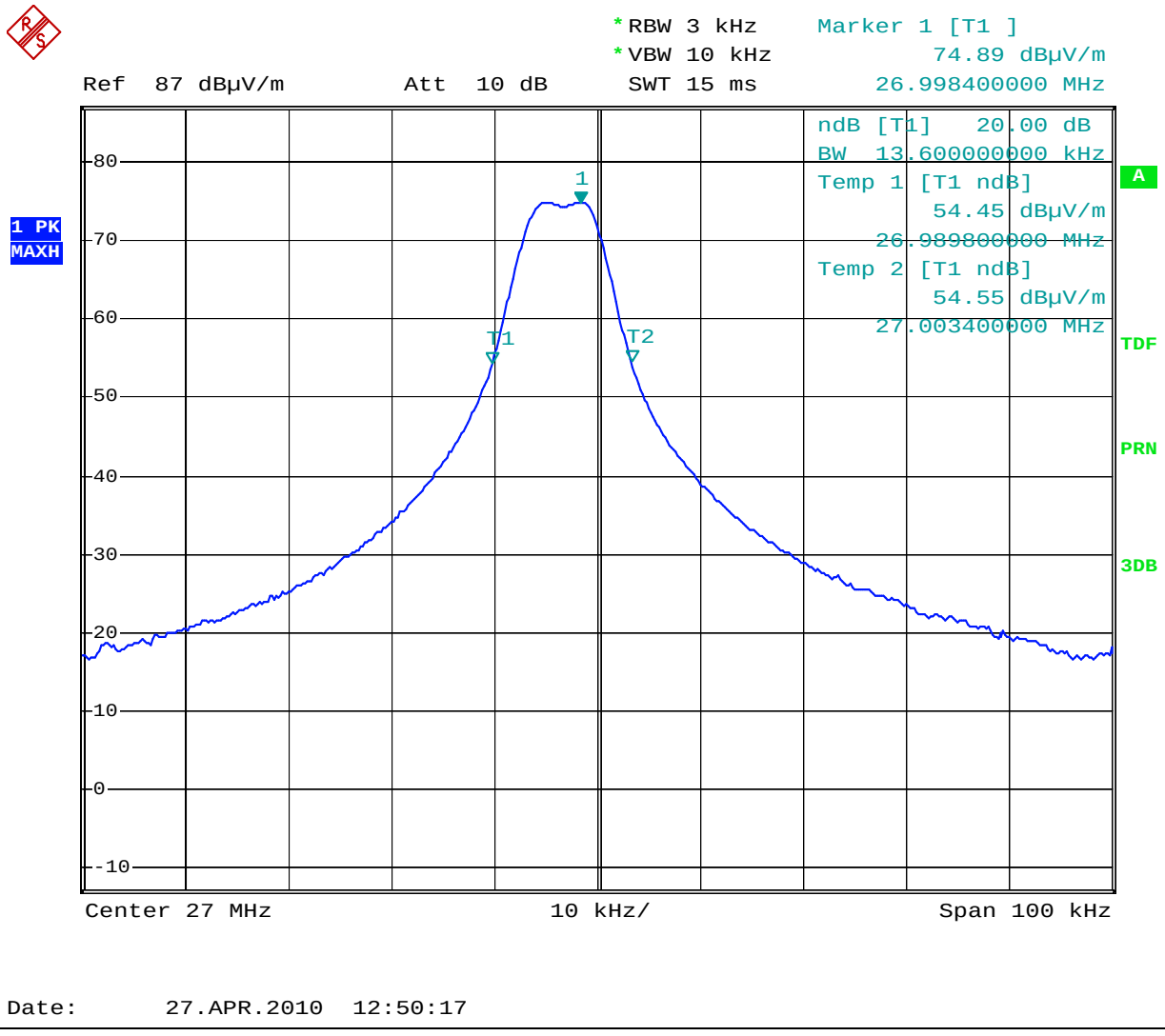
Test Figure:



Date: 27.APR.2010 13:01:09

8.0 20dB Bandwidth Measurement

Product:	Radio control speed boat	Test Mode:	Keeping Transmitting
Detector	PK	Test Voltage	DC7.2V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	20dB Bandwidth	13.600kHz



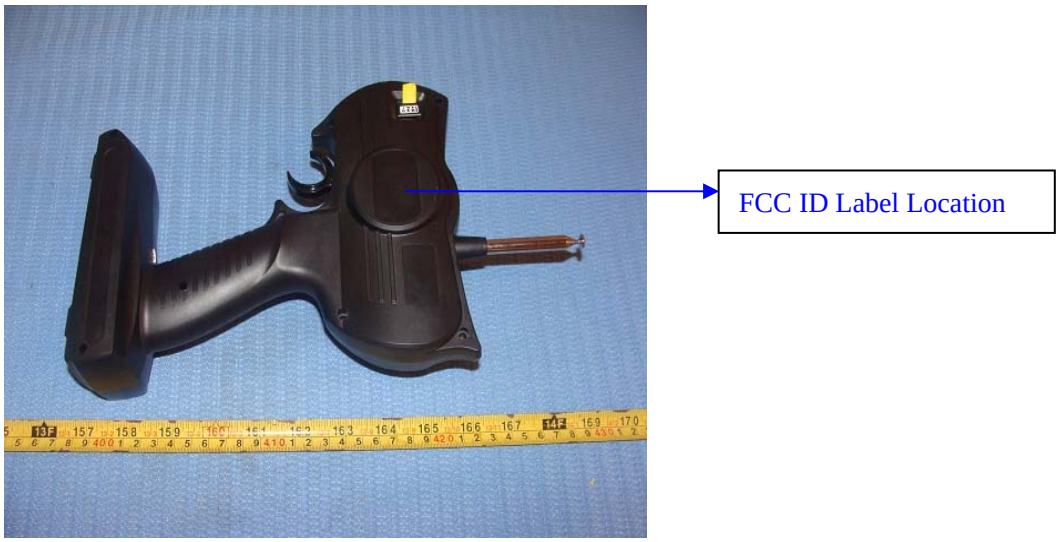
9.0 FCC ID Label

FCC ID: V6KCY2S

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

Mark Location:



10.0 Photo of testing

10.1 Conducted test View--

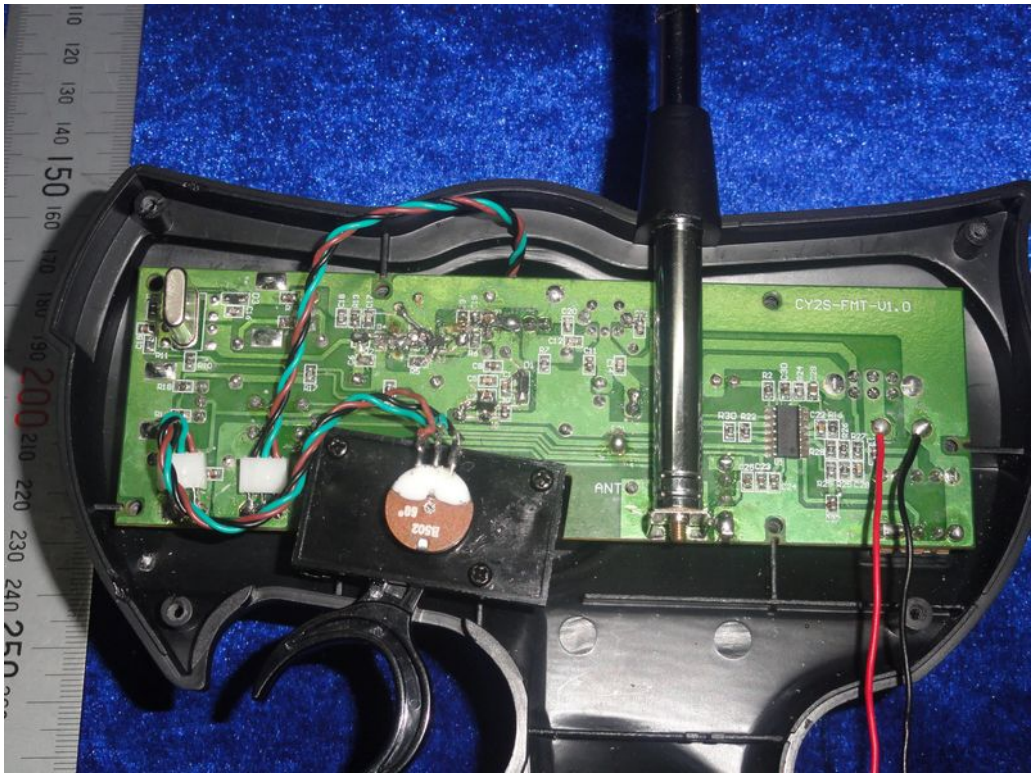
N/A

10.2 Radiated emission test view

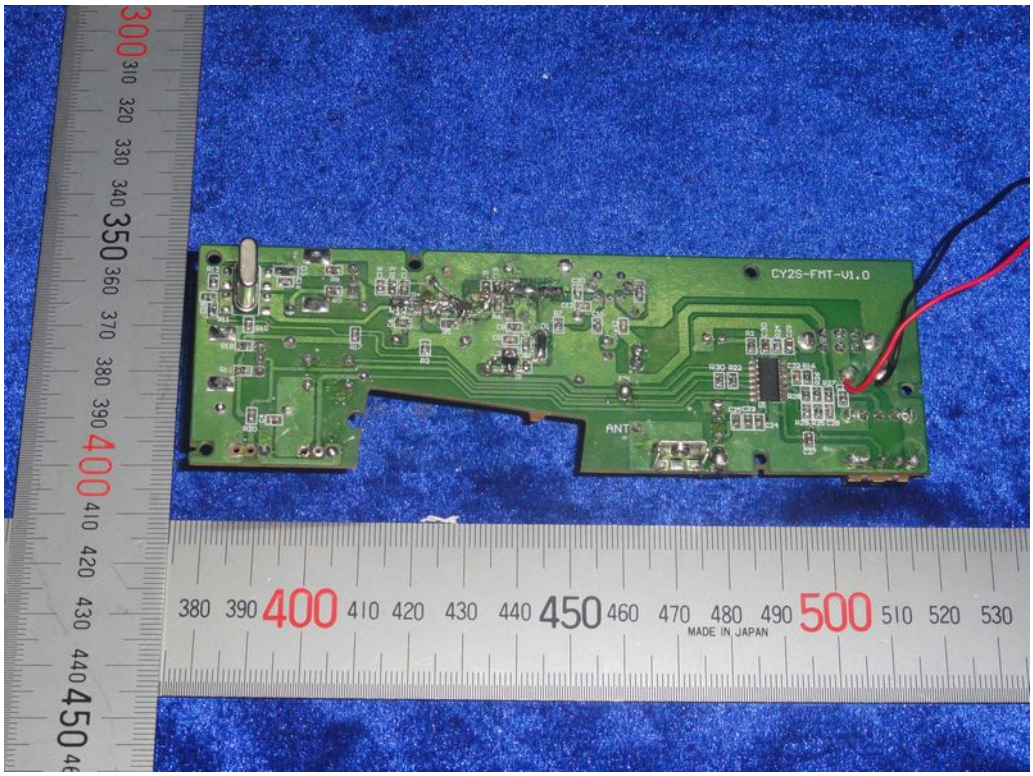
Outside View

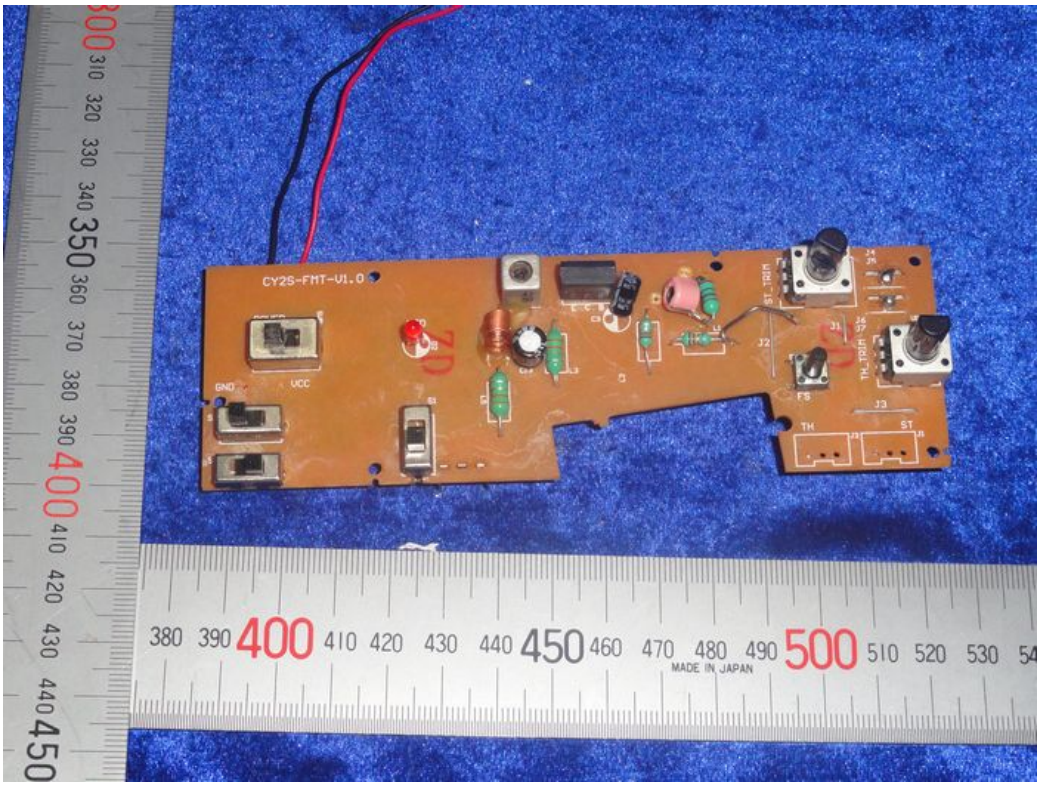
Outside View

Interior View

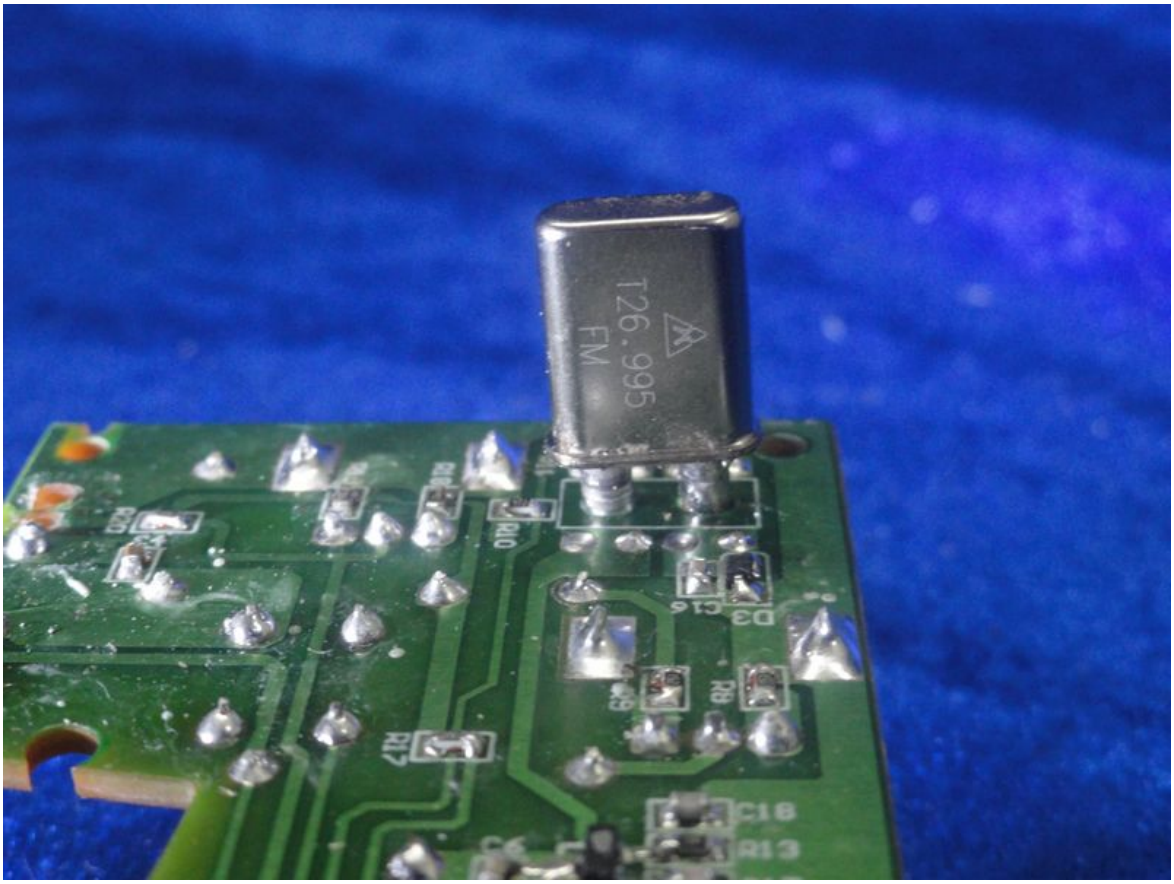


Interior View





Interior View



Note: Crystal is soldered on the PWB

-End of the report-