FCC TEST REPORT

of

R/C Beetle

FCC ID： QW9016MHz

Brand Name： N/A

Model No.： 777-016

Report No.： FCC07-8002

Date： January 20, 2007

Prepared for

GOLD LIGHT TOYS FACTORY

Gangxia Road, Pumei, Chenghai City, GuangDong Province

Prepared by

ShenZhen Electronic Product Quality Testing Center

Electronic Testing Building, Shahe Road, Xili, Nanshan District, ShenZhen, 518055, P.R.China

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1 Test Report Certification

Product:	R/C Beetle
FCC ID:	QW9016MHz
Model No.:	777-016
Applicant:	GOLD LIGHT TOYS FACTORY
Applicant Address:	Gangxia Road, Pumei, Chenghai City, GuangDong Province
Manufacturer:	GOLD LIGHT TOYS FACTORY
Manufacturer Address:	Gangxia Road, Pumei, Chenghai City, GuangDong Province
Test Standards:	47 CFR Part 2 47 CFR Part 15, Subpart C
Test Result:	**PASS**

We, Shenzhen Electronic Product Quality Testing Center, hereby certify that the submitted samples of the above item, as detailed in chapter 2.1 of this report, has been tested in our facility. The test record, data evaluation and test configuration represented herein are true and accurate accounts of measurements of the sample's EMC characteristics under the conditions herein specified.

Tested by: Sheng Yongpan, Date: Jan. 20. 2007
Sheng Yongpan

Checked by: Smart Li, Date: Jan. 20. 2007
Smart Li

Approved by: Wu Li An, Date: Jan. 20. 2007
Wu Li An

2 General Information

2.1 Description of EUT

Description:	R/C Beetle
Model No.:	777-016
Type of Antenna:	Integral Antenna
Frequency Range:	26.96MHz – 27.28MHz
Power Supply:	DC 3.0V ("AA" size 1.5V battery)
Ports:	NONE

1. Refer to technical document for further information.
2. The EUT has A and B keys to generate different signals for two players. Both A and B are selected to test.

2.2 Objective

Perform EMC test according to FCC rules Part 2, Part 15 for FCC ID Certification.

2.3 Test Standards and Results

The EUT has been tested according to 47 CFR

- Part 2 Frequency Allocations and Radio Treaty Matters: General Rules and Regulations (10-1-05 Edition)
- Part 15 Radio Frequency Devices (10-1-05 Edition)

Test items and the results are as bellow:

?	FCC Rules	Test Type	Result	Test Date
1	§15.227	Operation in the band 26.96-27.28MHz	PASS	2007.01.04

2.4 List of Equipments Used

Description	Manufacturer	Model No.	Cal. Due Date	Serial No.
Test Receiver	Rohde & Schwarz	ESIB26	2007.06.05	A0304218
Loop Antenna	Rohde & Schwarz	HFH2-Z2	2007.06.05	A0304220
Ultra Broadband Ant.	Rohde & Schwarz	HL562	2007.06.05	A0304224
Shield Room	Nanbo Tech	Site 1	2008.01.10	A0304188
Anechoic Chamber	Albatross	EMC12.8× 6.8× 6.4m^3	2007.04.10	A0304210

2.5 Test Facility

Shenzhen Electronic Product Quality Testing Center (SET) is a third party testing organization accredited by China National Accreditation Board for Laboratories (CNAL) according to ISO/IEC 17025. The accreditation certificate number is **L1659**.

The EMC chamber site No.1 (EMC12.8× 6.8× 6.4(m)), and the radiated and conducted Emission test equipments of SET are constructed and calibrated to meet the FCC requirements ANSI C63.4:2001 and CISPR 22/EN 55022. The FCC Registration Number is **261302**.

The EMC chamber site No.1 (EMC12.8× 6.8× 6.4(m)) also complies with Canada standard RSS 212, and acceptable to Industry Canada for the performance of radiated measurements. The Industry Canada Registration Number is **IC 5915**.

2.6 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

- Temperature: 15-35ºC
- Humidity: 30-60 %
- Atmospheric pressure: 86-106 kPa

3 Radiated Emission Test

3.1 Limits of Radiated Emission

(a) According to FCC §15.227, the field strength of radiated emissions within this band shall not exceed 80 dBμV/m at 3 meters;

(b) According to FCC 47CFR15.35, the limit on the radio frequency emissions as measured using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit for the frequency being investigated unless a different peak emission limit is otherwise specified in the rules;

(c) According to FCC §15.227, the field strength of radiated emissions which appear outside of this band at a distance of 3 meters shall not exceed the following values:

Frequency of Emission (MHz)	Field Strength (μV/m)	Field Strength (dBμV/m)
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

NOTE:

1. Field Strength (dBμV/m) =20log Field Strength (μV/m).
2. In the emission tables above, the tighter limit applies at the band edges.

3.2 Test Procedure

a. The EUT was placed on the top of a ratable 0.8 meters above the ground at a semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

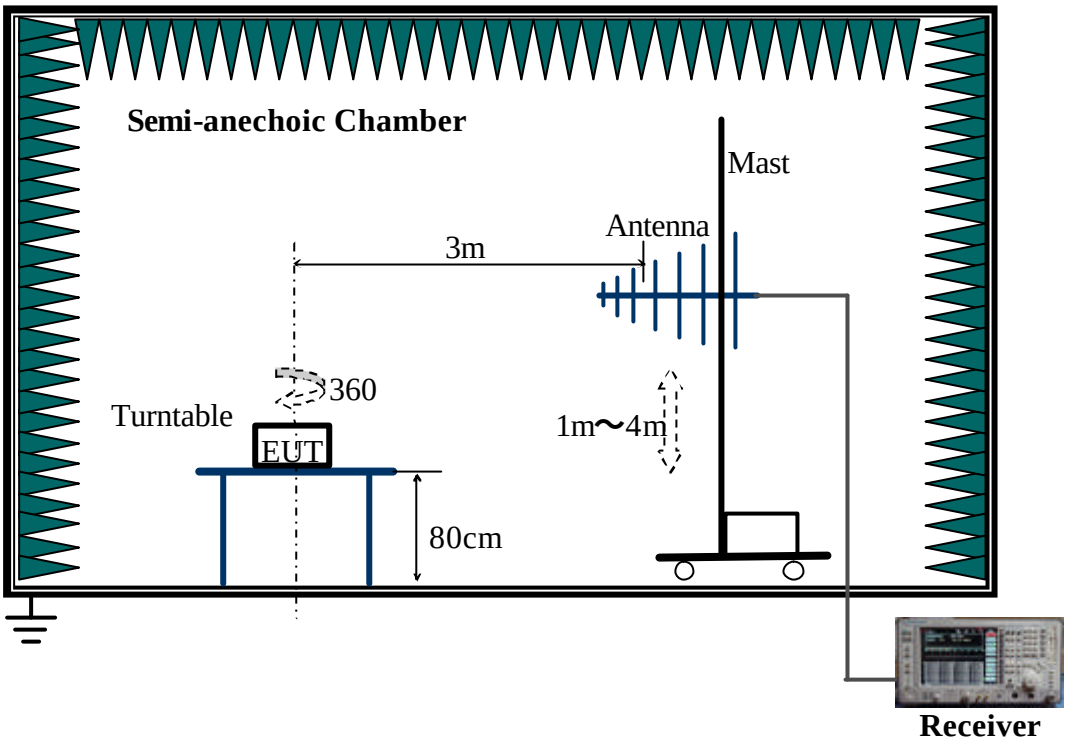
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. For the below 30MHz test, the antenna is a loop antenna. For the above 30MHz test, the antenna is a broadband antenna, and its height is varied from one meter to four meter 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.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to the heights from 1 to 4 meters and the ratable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detector Function and Specified Bandwidth with Maximum Hold Mode.

3.3 Test Setup



For the actual test configuration, please refer to the related item-Photographs of the Test Configuration.

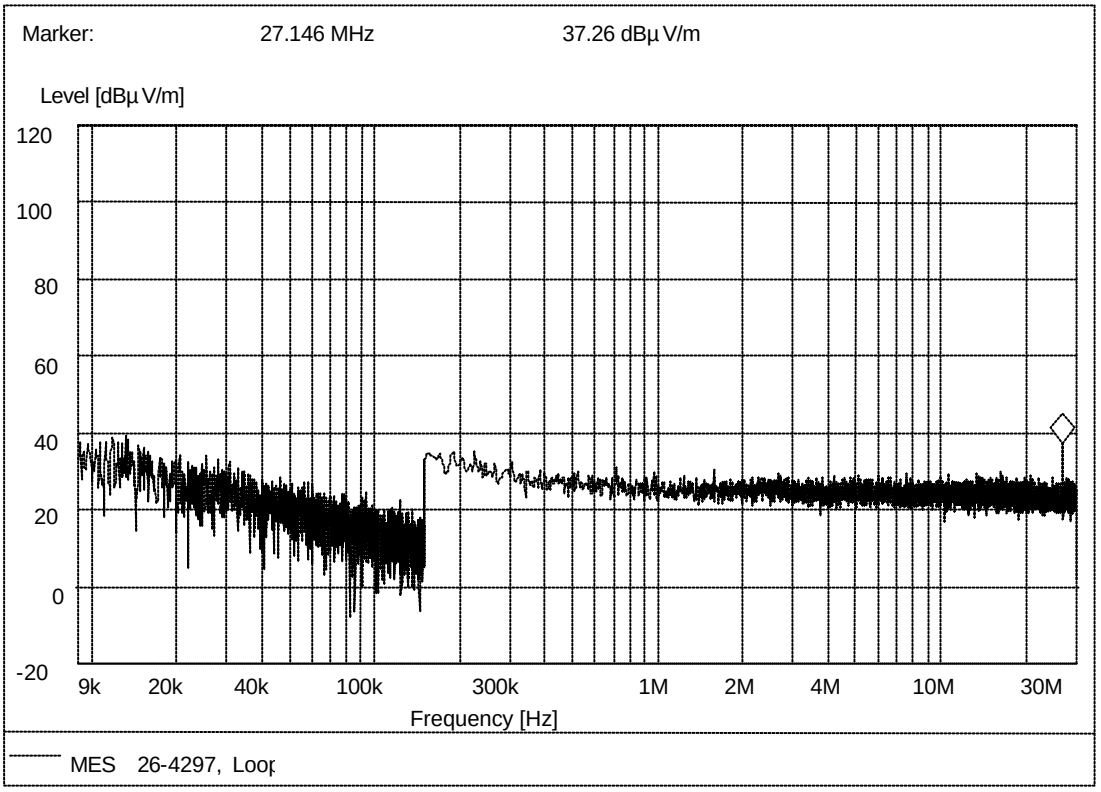
3.4 EUT Setup and Operating Conditions

The left and forward direction buttons of the EUT were pressed to produce the highest emission.

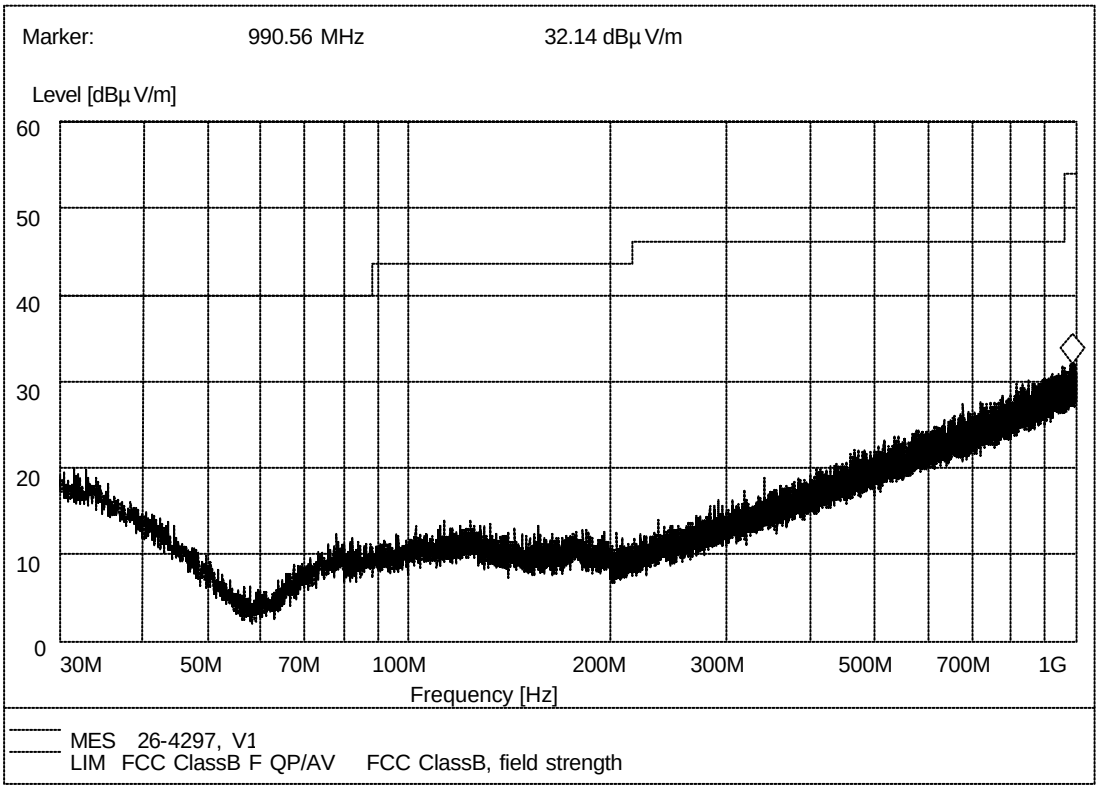
3.5 Test Results (Band: A)

No.	Frequency (MHz)	Antenna Polarization	Emission Detector	Emission Level (dBmV/m)	Limits (dBmV/m)	Margin
1	27.146	V	Average	43.97	80	35.15
2	27.146	V	Peak	50.21	100	48.45
3	54.3	V	QP	<30	40	>10
4	81.4	V	QP	<30	40	>10
5	108.6	V	QP	<30	40	>10
6	54.3	H	QP	<30	40	>10
7	81.4	H	QP	<30	40	>10
8	108.6	H	QP	<30	40	>10

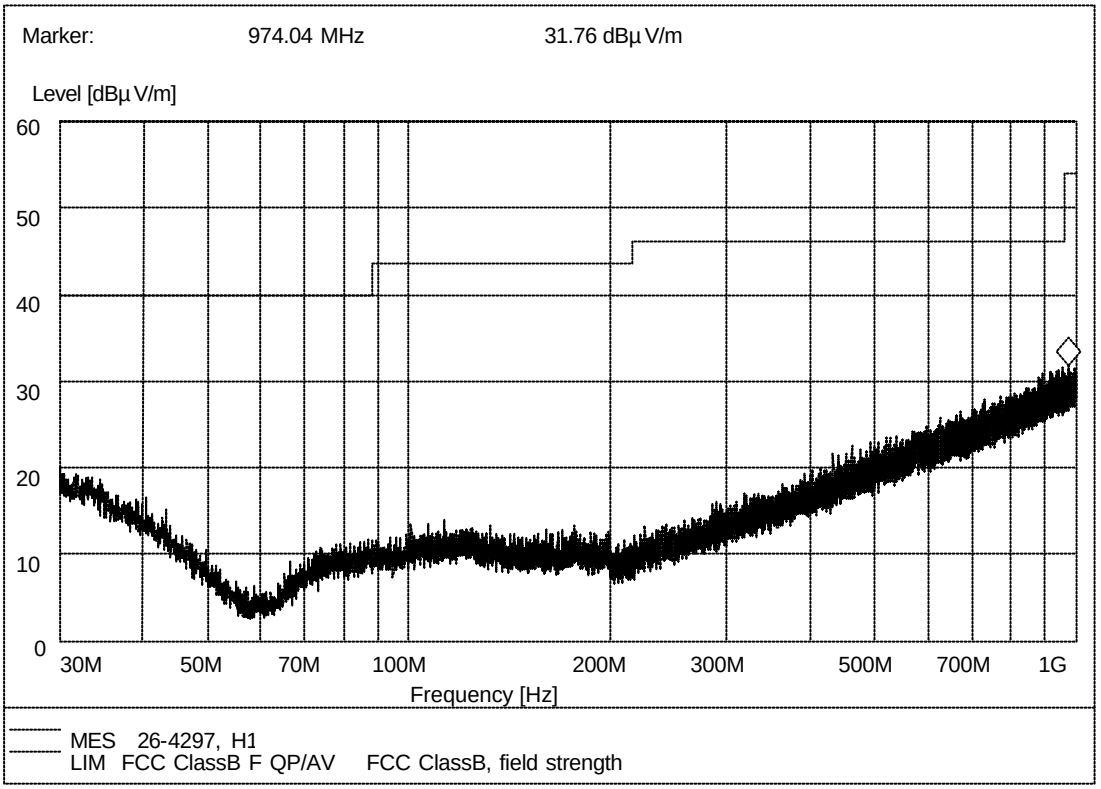
1. Radiation disturbances, maxpeak detector, 9kHz-30MHz, antenna polarization: Vertical



2. Radiation disturbances, maxpeak detector, 30MHz-1000MHz, antenna polarization: Vertical



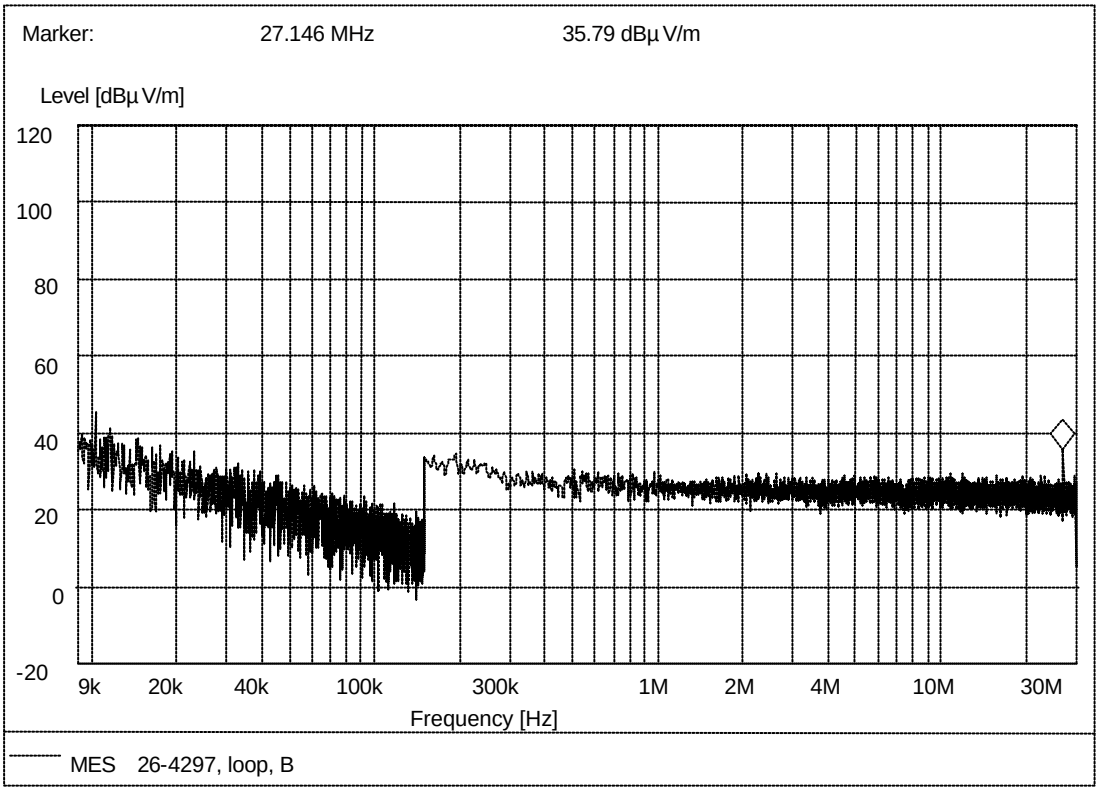
3. Radiation disturbances, maxpeak detector, 30MHz-1000MHz, antenna polarization: Horizontal



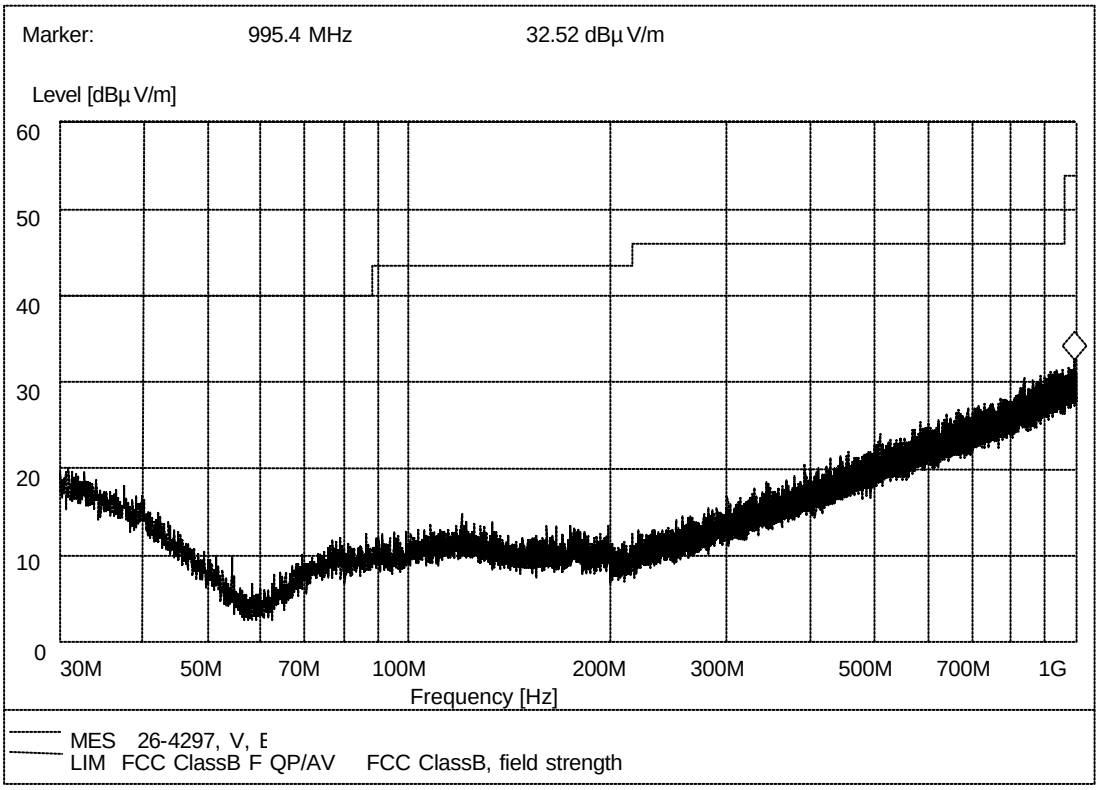
3.6 Test Results (Band: B)

No.	Frequency (MHz)	Antenna Polarization	Emission Detector	Emission Level (dBmV/m)	Limits (dBmV/m)	Margin
1	27.146	V	Average	43.97	80	37.28
2	27.146	V	Peak	50.21	100	48.63
3	54.3	V	QP	<30	40	>10
4	81.4	V	QP	<30	40	>10
5	108.6	V	QP	<30	40	>10
6	54.3	H	QP	<30	40	>10
7	81.4	H	QP	<30	40	>10
8	108.6	H	QP	<30	40	>10

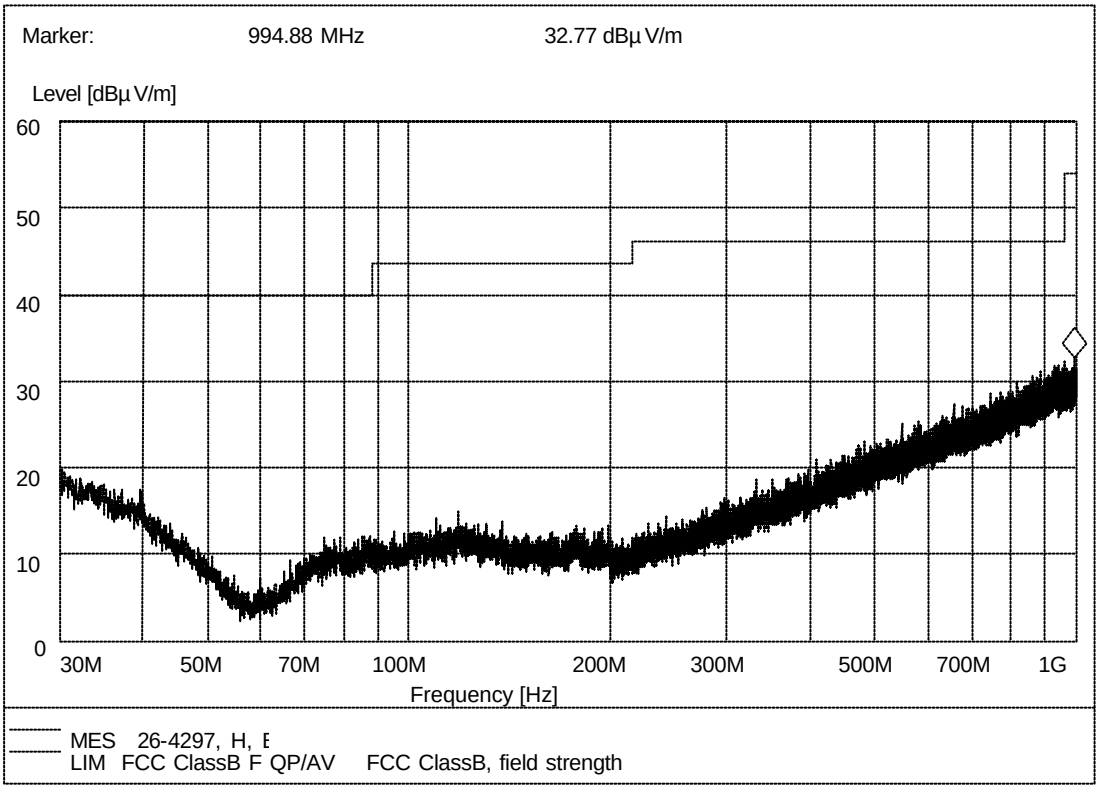
1. Radiation disturbances, maxpeak detector, 9kHz-30MHz, antenna polarization: Vertical



2. Radiation disturbances, maxpeak detector, 30MHz-1000MHz, antenna polarization: Vertical



3. Radiation disturbances, maxpeak detector, 30MHz-1000MHz, antenna polarization: Horizontal



4 Occupied Bandwidth Test

4.1 Limits of Occupied Bandwidth

(a) According to FCC §15.227, the EUT must be operated within the band 26.96-27.28MHz.

4.2 Test Procedure

a. The EUT was placed on the top of a ratable 0.8 meters above the ground at a semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna is a loop antenna. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to the heights from 1 to 4 meters and the ratable table was turned from 0 degrees to 360 degrees to find the maximum reading.

d. The test-receiver system was set to Peak Detector Function and Specified Bandwidth with Maximum Hold Mode. RBW= VBW=1kHz

4.3 Test Setup

Same as 3.3

4.4 EUT Setup and Operating Conditions

Same as 3.4

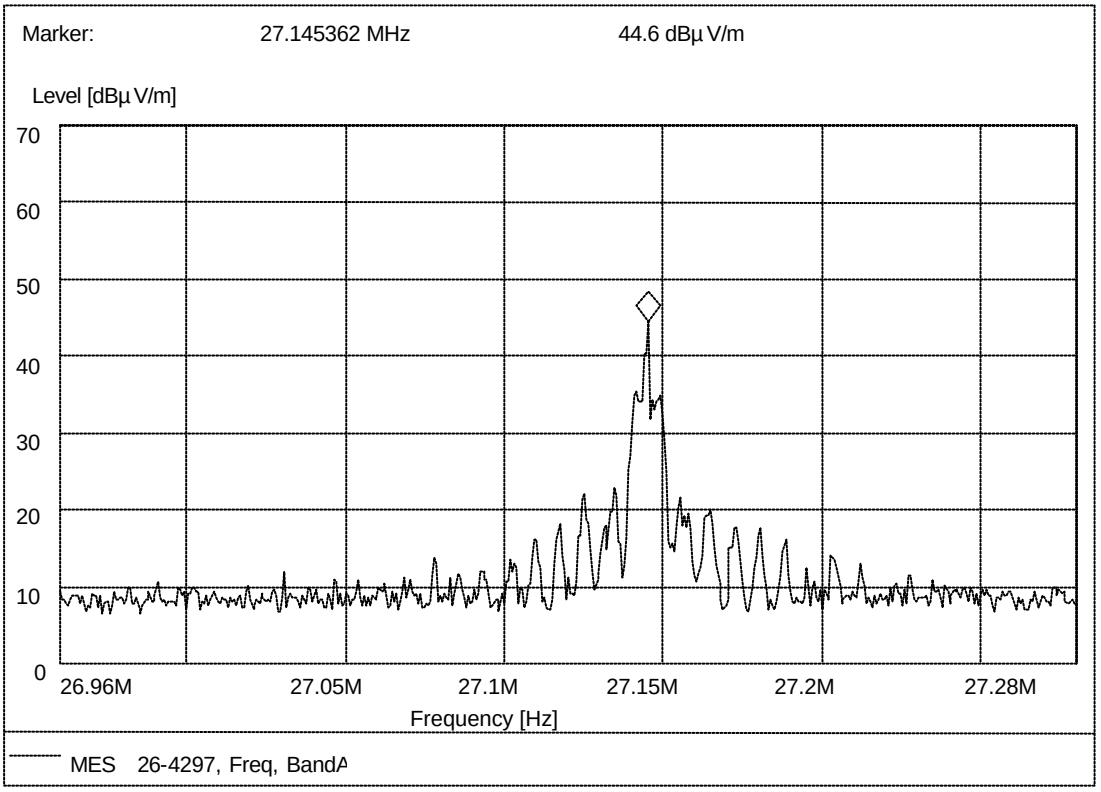
4.5 Test Results (Band: A)

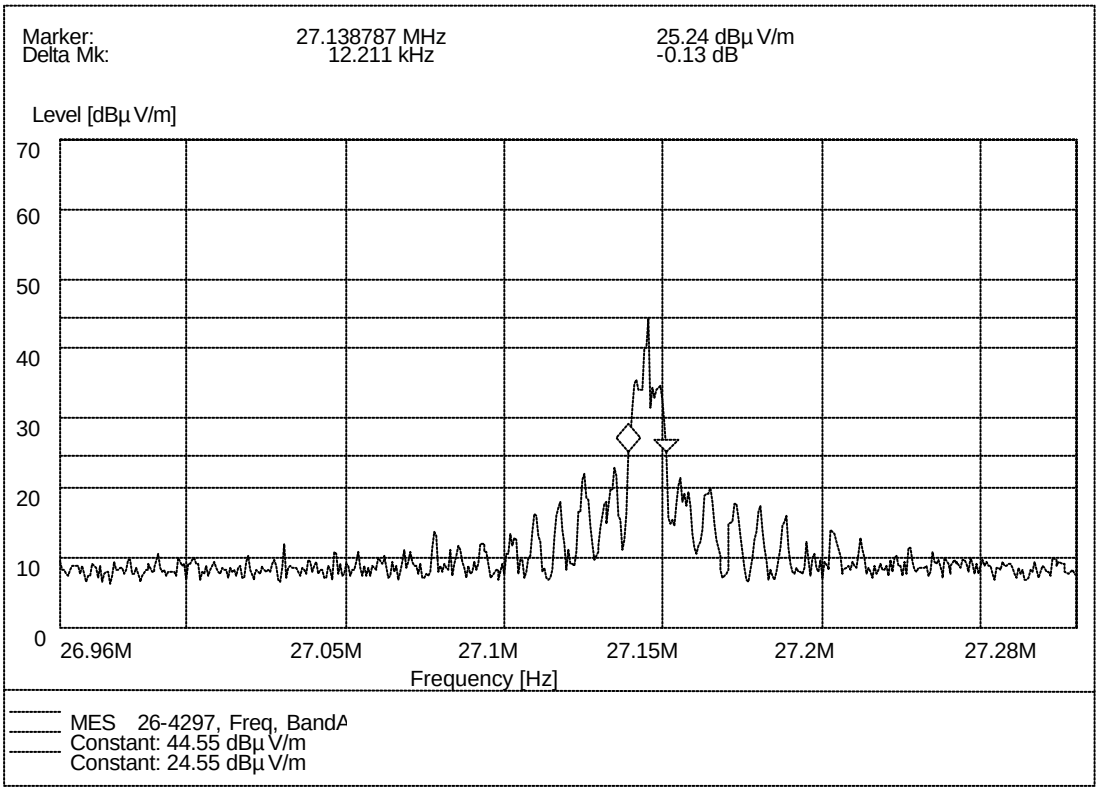
	Test Results (MHz)	**Limit (MHz)**
Lowest Frequency	27.139	26.96
Highest Frequency	27.151	27.28
Measurement uncertainty	±50kHz	

4.6 Test Results (Band: B)

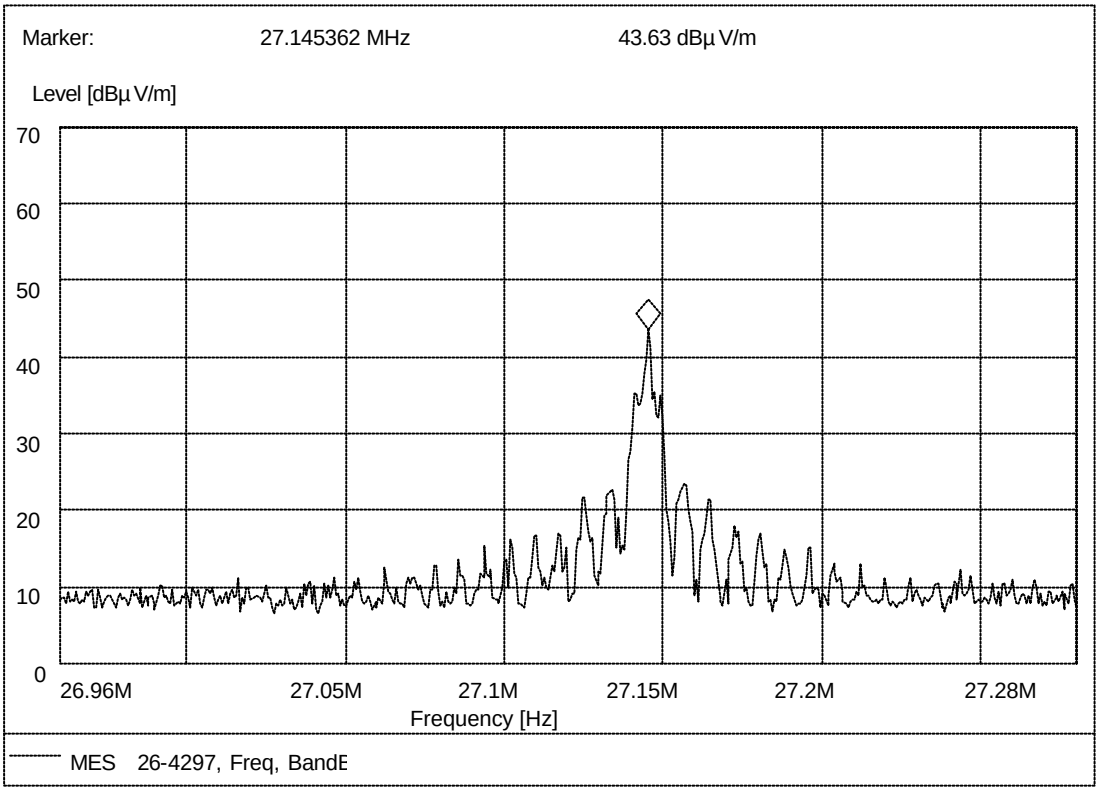
	Test Results (MHz)	**Limit (MHz)**
Lowest Frequency	27.139	26.96
Highest Frequency	27.151	27.28
Measurement uncertainty	±50kHz	

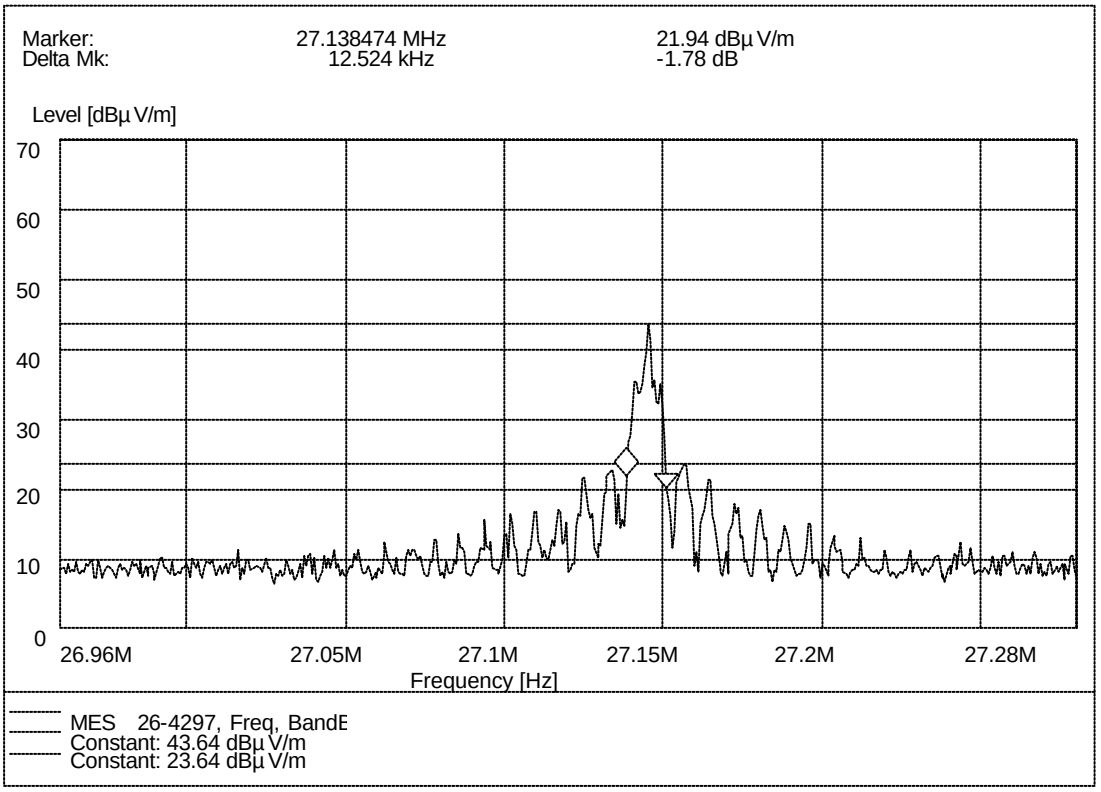
Test plots of Occupied Bandwidth (Band: A)





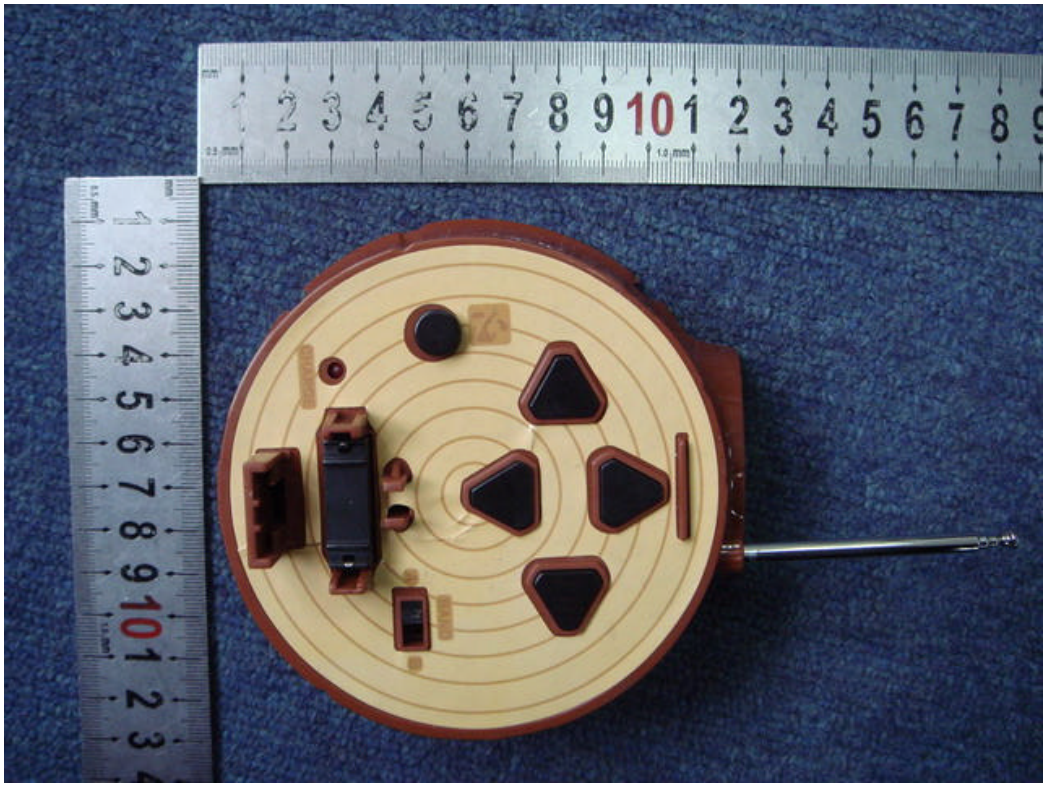
Test plots of Occupied Bandwidth (Band: B)

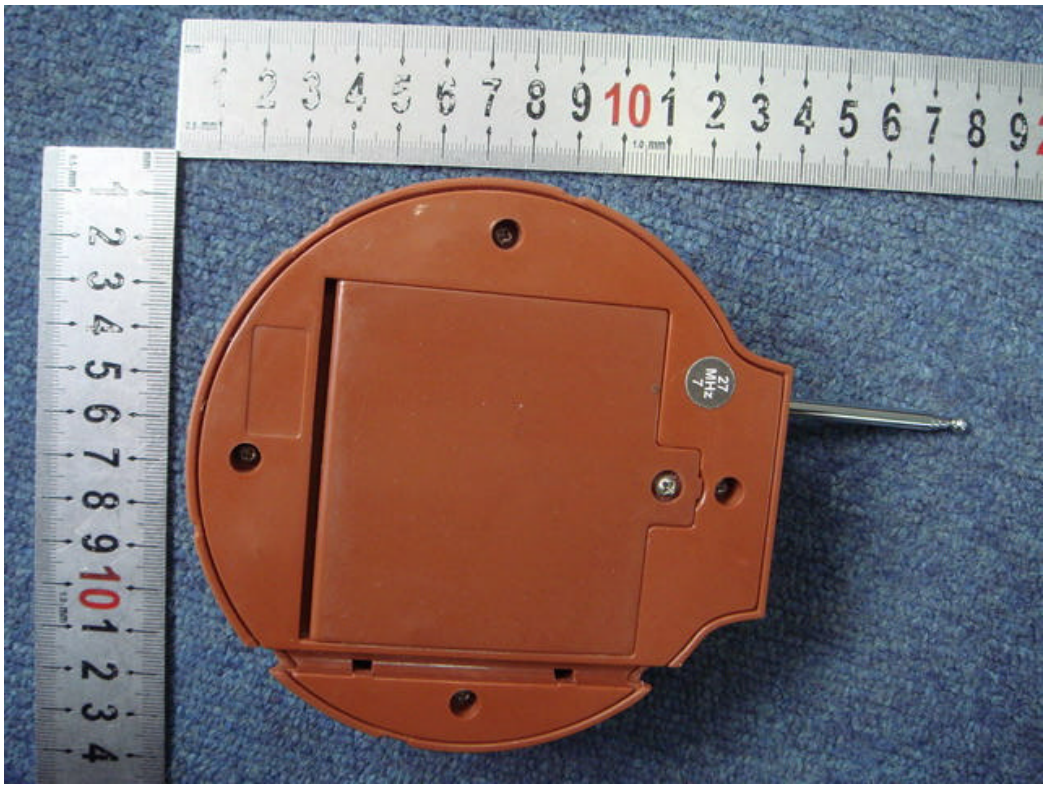


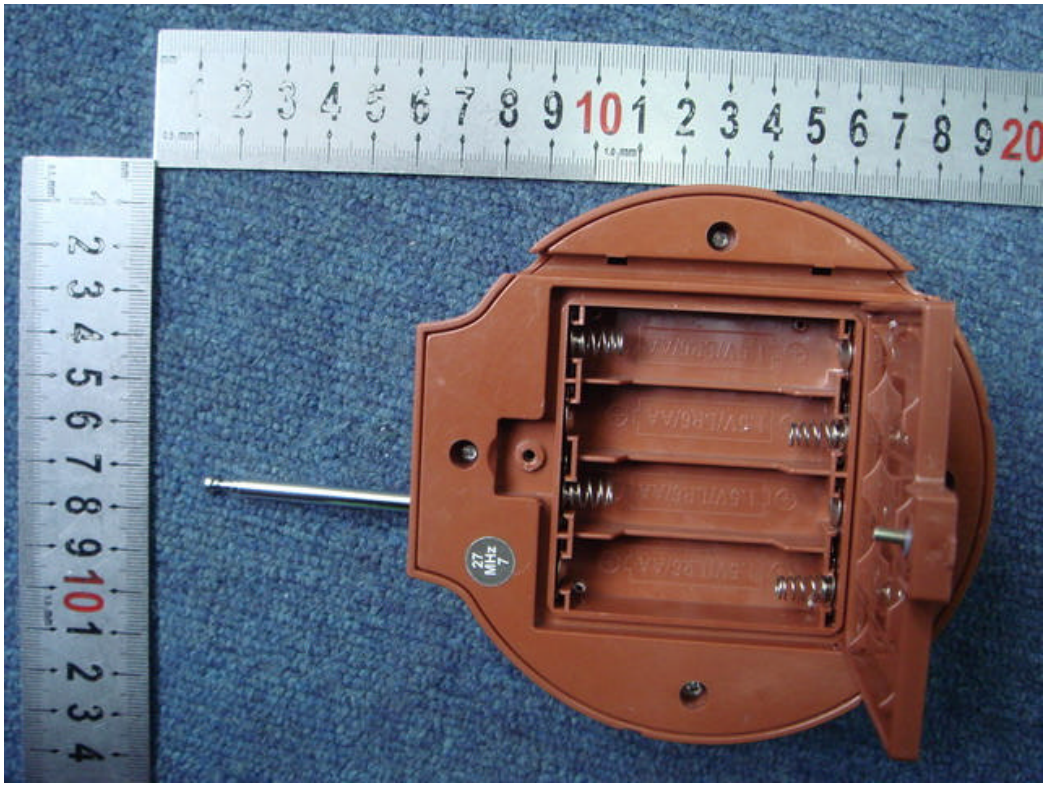


Appendix I：Photographs of the EUT

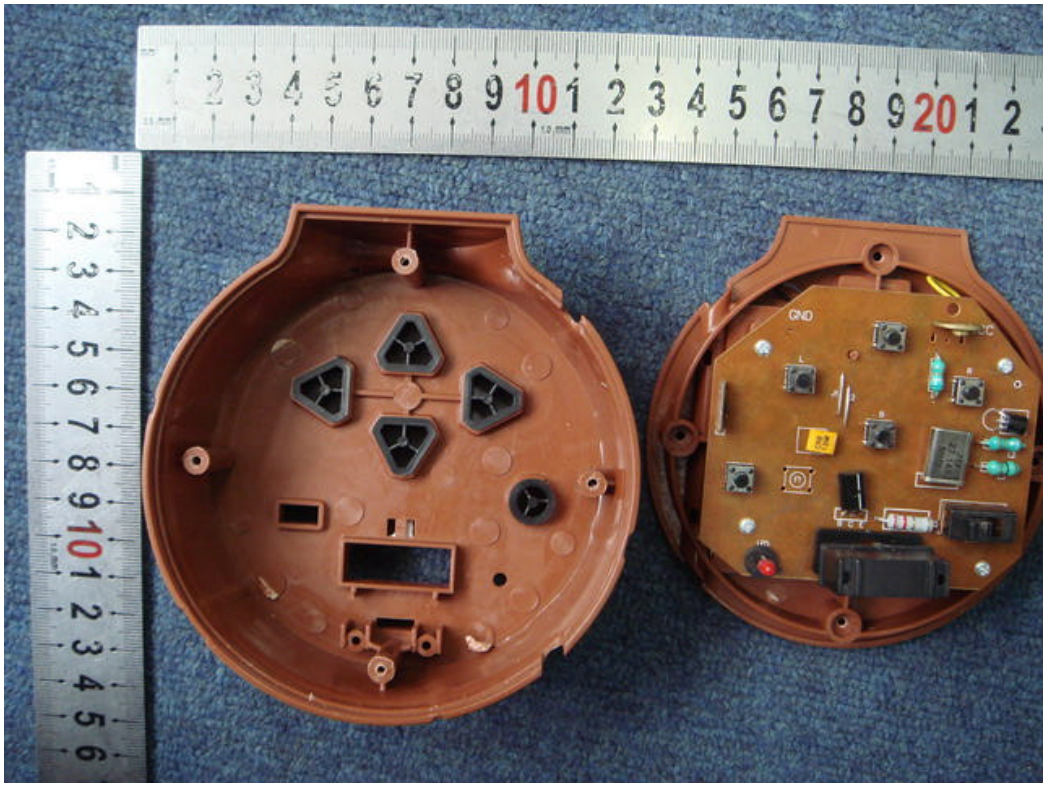
1. Appearance

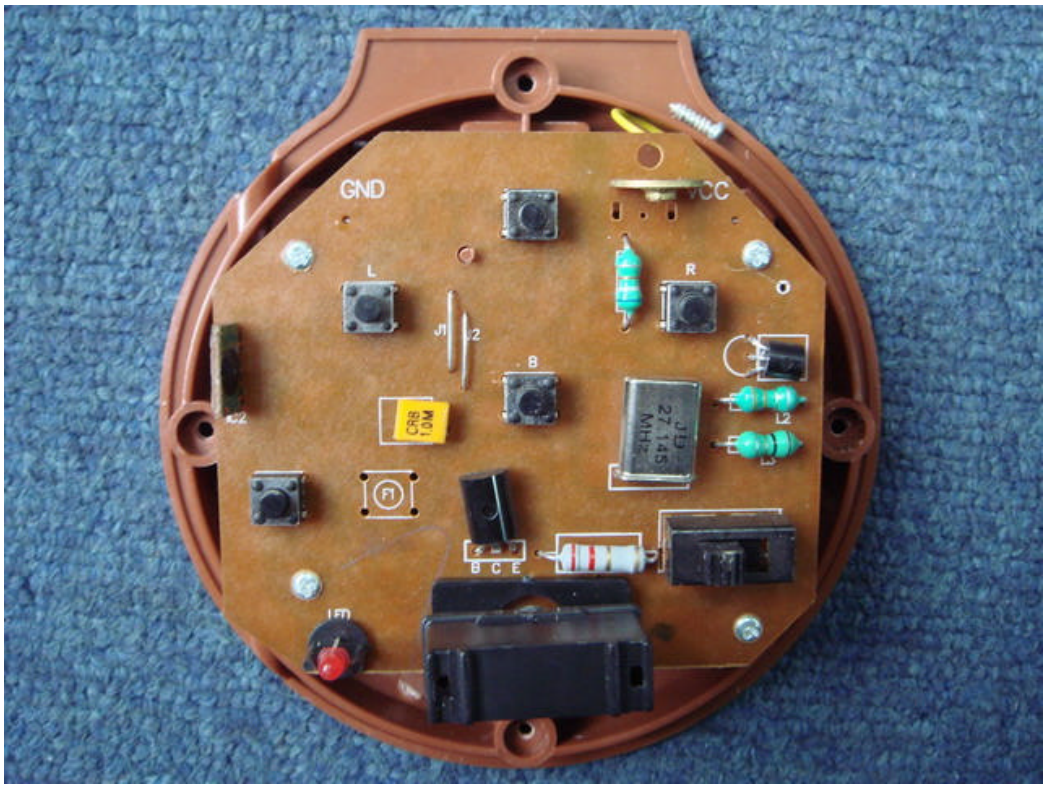


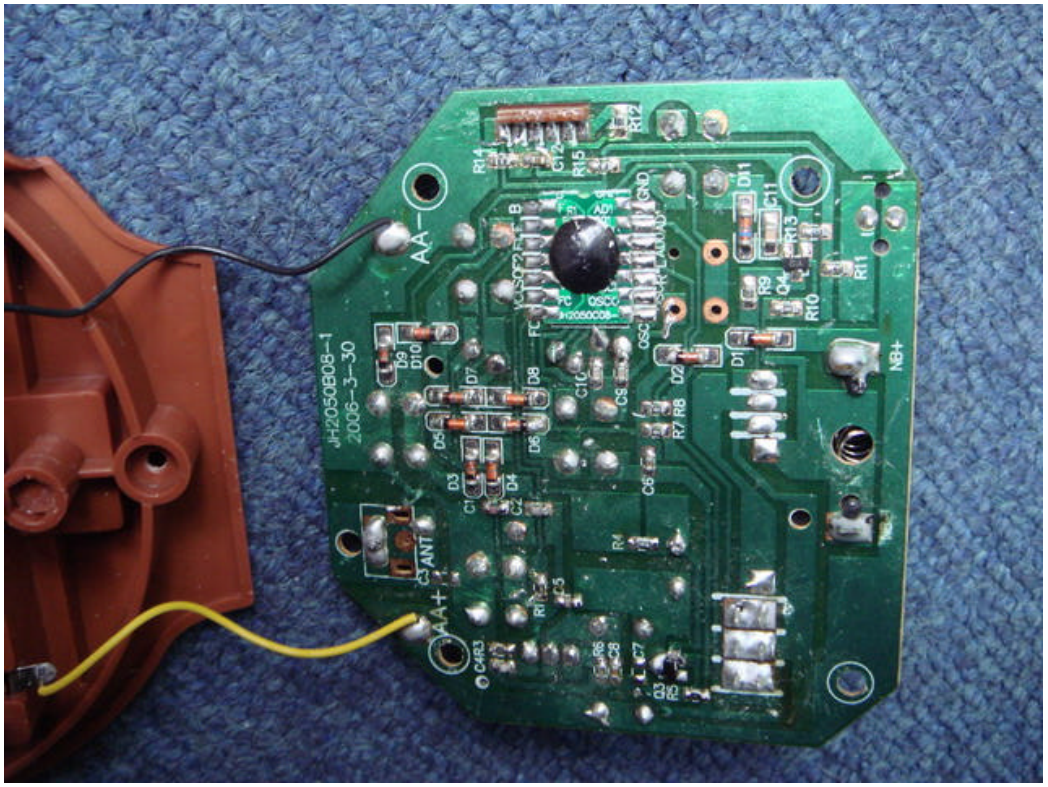




2. Inside

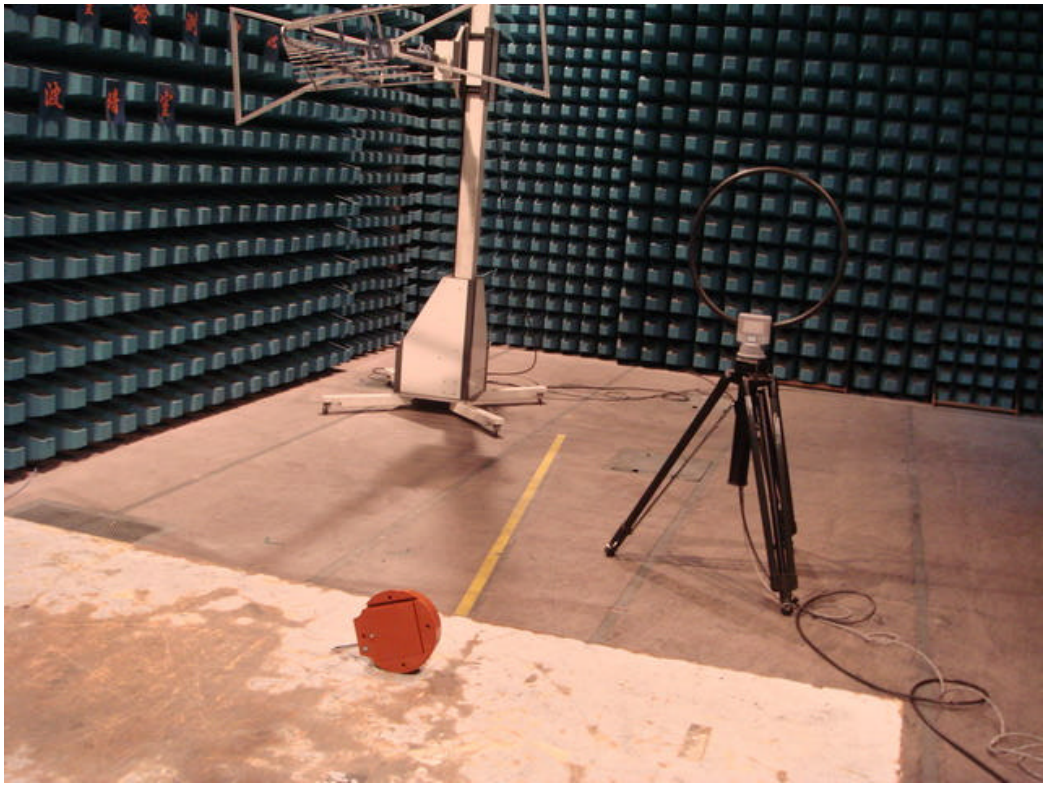





AA−
AA+
ANT
NB+
JH2050B08−1
2006−3−30

Appendix II：Photographs of the Test Configuration

1. Radiated Emission Test (9kHz~30MHz)



2. Radiated Emission Test (30MHz~1000MHz)