FCC TEST REPORT

Applicant : PROFESSIONAL MOTOR (SHENZHEN) CO.,LTD.
Address : A55,FUSHING NGAU INDUSTRIAL ESTATE,PING HU ,LONG GANG,SHENZHEN CHINA

Equipment Under Test (EUT) :

Product description : Remote

Model No. : 1999
Operation Frequency : 433.92MHz
Standards : FCC 15 Subpart C Paragraph 15.231

Date of Test : August 27,2010

Test Engineer :

Reviewed By :

PERPARED BY:
Waltek Services (Shenzhen) Co., Ltd.
1/F, Fukangtai Building,West Baima Rd.,Songgang Street, Baoan District, Shenzhen 518105,China
Tel: +86-755-27553488
Fax: +86-755-27553868

2 Contents

3 Test Summary

Test items	Test Requirement	Test Method	Class / Severity	Result
Periodic operation	FCC PART 15: 2008	ANSI C63.4: 2003	**Note**	PASS
Band Edge	FCC PART 15: 2008	ANSI C63.4: 2003	**Note**	PASS
Radiated Emission (30MHz to 5GHz)	FCC PART 15: 2008	ANSI C63.4: 2003	N/A	PASS
Conducted Emission (150KHz to 30MHz)	FCC PART 15: 2008	ANSI C63.4: 2003	N/A	N/A

Note: denote that for more details, please refer to the section Periodic operation and Band Edge.

4 General Information

4.1 Client Information

Applicant:	PROFESSIONAL MOTOR (SHENZHEN) CO.,LTD.
Address:	A55,FUSHING NGAU INDUSTRIAL ESTATE,PING HU ,LONG GANG,SHENZHEN CHINA
Manufacturer:	PROFESSIONAL MOTOR (SHENZHEN) CO.,LTD.
Address:	A55,FUSHING NGAU INDUSTRIAL ESTATE,PING HU ,LONG GANG,SHENZHEN CHINA

4.2 General Description of E.U.T.

Product description:	Remote
Model No.:	1999

4.3 Details of E.U.T.

Power Supply:	Battery AAA 1.5V*2
Modulation :	ASK

4.4 Description of Support Units

The EUT has been tested as an independent unit.

4.5 Standards Applicable for Testing

The customer requested FCC tests for a Remote. The standards used were FCC 15 Paragraph 15.231, Paragraph 15.205, Paragraph 15.31,Paragraph 15.33, Paragraph 15.35.

4.6 Test Facility

The test facility has a test site registered with the following organizations:

- **IC – Registration No.: 7760A**

  Waltek Services(Shenzhen) Co., Ltd. has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files. Registration No.:7760A,August 3 2010.

- **FCC – Registration No.: 880581**

  Waltek Services(Shenzhen) Co., Ltd. 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 880581, June 24, 2008.

4.7 Test Location

All Emission tests were performed at:-

Waltek Services(Shenzhen) Co., Ltd. at 1/F, Fukangtai Building,West Baima Rd., Songgang Street, Baoan District, Shenzhen518105, China.

5 Equipment Used during Test

Equipment Name	Manufacturer Model	Equipment No	Internal No	Specification	Cal. Date	Due Date	Cert. No	Uncertainty
EMC Analyzer	Agilent/ E7405A	MY45114 943	W2008001	9k-26.5GHz	Aug-2010	Aug-2011	Wws200 81596	±1dB
Trilog Broadband Antenne 30-3000 MHz	SCHWARZBECK MESS-ELEKTROM/ VULB9163	336	W2008002	30-3000 MHz	Aug-2010	Aug-2011		±1dB
Broad-band Horn Antenna	SCHWARZBECK MESS-ELEKTROM/ VULB9163	667	W2008003	1-18GHz	Aug-2010	Aug-2011		f＜10 GHz：±1dB 10GHz＜f＜18 GHz：±1.5dB
Broadband Preamplifier	SCHWARZBECK MESS-ELEKTROM/ BBV 9718	9718-148	W2008004	0.5-18GHz	Aug-2010	Aug-2011		±1.2dB
10m Coaxial Cable with N-male Connectors usable up to 25GHz,	SCHWARZBECK MESS-ELEKTROM/ AK 9515 H	-	-	-	Aug-2010	Aug-2011		-
10m 50 Ohm Coaxial Cable with N-plug, individual length, usable up to 3(5)GHz, Connector	SCHWARZBECK MESS-ELEKTROM/ AK 9513				Aug-2010	Aug-2011		
Positioning Controller	C&C LAB/ CC-C-IF				N/A	N/A		
Color Monitor	SUNSPO/ SP-14C				N/A	N/A		
Test Receiver	ROHDE&SCHWARZ/ ESPI	101155	W2005001	9k-3GHz	Aug-2010	Aug-2011	Wws200 80942	±1dB
EMI Receiver	Beijingkehuan	KH3931		9k-1GHz	Aug-2010	Aug-2011		
Two-Line V-Network	ROHDE&SCHWARZ/ ENV216	100115	W2005002	50Ω/50μH	Aug-2010	Aug-2011	Wws200 80941	±10%

Equipment Name	Manufacturer Model	Equipment No	Internal No	Specification	Cal. Date	Due Date	Cert. No	Uncertainty
Absorbing Clamp	ROHDE&SCHWARZ/ MDS-21	100205	W2005003	impandance50 Ω loss ： 17 dB	Aug-2010	Aug-2011	Wws20080943	±1dB
10m 50 Ohm Coaxial Cable with N-plug, individual length, usable up to 3(5)GHz, Connectors	SCHWARZBECK MESS-ELEKTROM/ AK 9514				Aug-2010	Aug-2011		
Digital Power Analyzer	Em Test AG/Switzerland/ DPA 500	V0745103095	W2008012	Power：2000VA Vol-range：0-300V Freq_range：10-80Hz	Aug-2010	Aug-2011	Wwd20081185	Voltage distinguish:0.025% Power_freq distinguish:0.02Hz
Power Source	Em Test AG/Switzerland/ ACS 500	V0745103096	W2008013	Vol-range：0-300V Power_freq：10-80Hz				
Electrostatic Discharge Simulator	Em Test AG/Switzerland/DITO	V0745103094	W2008005	Contact discharge：500V-10KV Air diacharge：500V-16.5KV	Aug-2010	Aug-2011	Wwc20082400	7.5A current will be changed in V_m=1.5V
RF Generator	TESEQ GmbH/ NSG4070	25781	W2008008	Fraq-range：9K-1GHz RF voltage：-60 dBm-+10dBm	Aug-2010	Aug-2011	Wws20081890	Power_freq distinguish0.1Hz RFeletricity distinguish 0.1 B
CDN M-Type	TESEQ GmbH/ CDN M016	25112	W2008009	Voltage correct factor 9.5 dB	Aug-2010	Aug-2011	Wwc20082396	150K-80MHz：±1dB 80-230MHz:-2-+3dB
EM-Clamp	TESEQ GmbH/ KEMZ 801	25453	W2008010	Freq_range：0.15-1000 MHz	Aug-2010	Aug-2011	Wwc20082397	0.3-400 MHz：±4dB Other freq：±5dB
Attenuator 6dB	TESEQ GmbH/ ATN6050	25365			Aug-2010	Aug-2011	Wws20081597	

Equipment Name	Manufacturer Model	Equipment No	Internal No	Specification	Cal. Date	Due Date	Cert. No	Uncertainty
All Modules Generator	SCHAFFNER /6150	34579	W2008006	voltage:200V-4.4KV Pulse current：100A-2.2KA	Aug-2010	Aug-2011	Wwc20082401	voltage: ±10% Pulse current：±10%
Capacitive Coupling Clamp	SCHAFFNER / CDN 8014	25311			Aug-2010	Aug-2011	Wwc20082398	-
Signal and Data Line Coupling Network	SCHAFFNER / CDN 117	25627	W2008011	1.2/50μS	Aug-2010	Aug-2011	Wwc20082399	-
AC Power Supply	TONGYUN/ DTDGC-4				Aug-2010	Aug-2011	Wws20080944	-
Exposure Level Tester ELT-400	Narda Safety TEST Solutions/2304/03	M-0155	w2008022	Test freq range：1—400kHz	Aug-2010	Aug-2011	Wwd20081191	Test uncertainly: 1—120kHz:±1.83%, 120 kHz-400 kHz: ±4.06%
Magnetic Field Probe 100cm^2	Narda Safety TEST Solutions/2300/90.10	M-1070	w2008021	Test freq range：1—400kHz				Test uncertainly: 1Hz-10Hz: ±16.2%, 10Hz - 120kHz:±2.2%, 120 kHz-400 kHz: ±4.7%
Active Loop Antenna Charger 10kHz-30MHz	Beijing Dazhi / ZN30900A	-	-	10kHz-30MHz	Aug-2010	Aug-2011		±1dB

6 Conducted Emission Test

Product Name:	Light sensor multiply objects finder
Test Requirement:	FCC Part15 Paragraph 15.207
Test Method:	Based on FCC Part15 Paragraph 15.207
Test Result:	N/A
Frequency Range:	150kHz to 30MHz
Class:	Class B
Detector:	Peak for pre-scan (9kHz Resolution Bandwidth) Quasi-Peak & Average if maximised peak within 6dB of Average Limit

6.1 Test Equipment

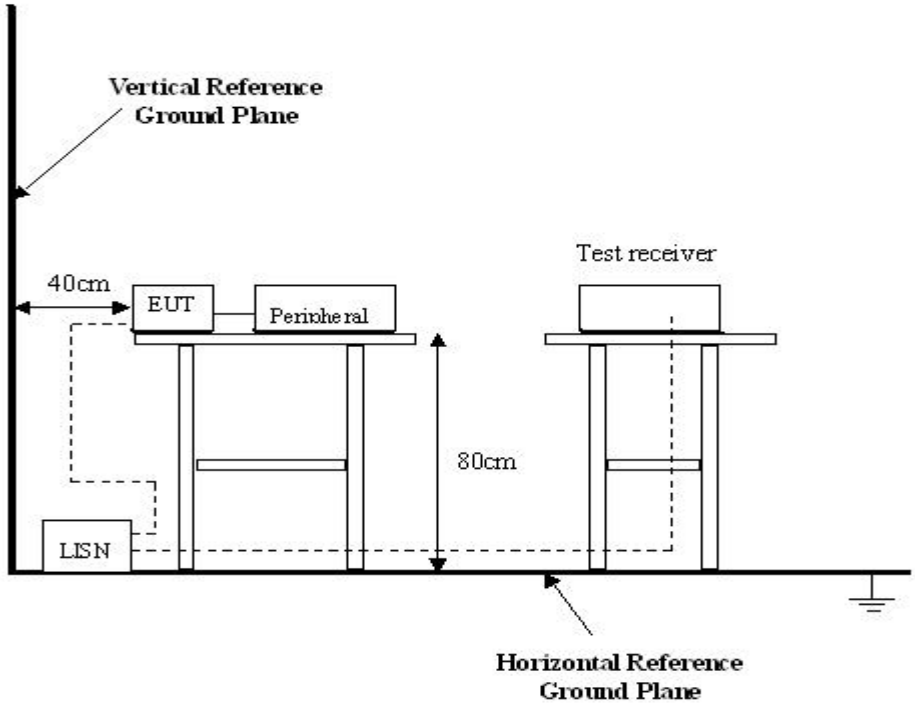
Please refer to Section 5 this report.

6.2 Test Procedure

1. The EUT was tested according to ANSI C63.4: 2003. The frequency spectrum from 150kHz to 30MHz was investigated.
2. The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.

6.3 Conducted Test Setup

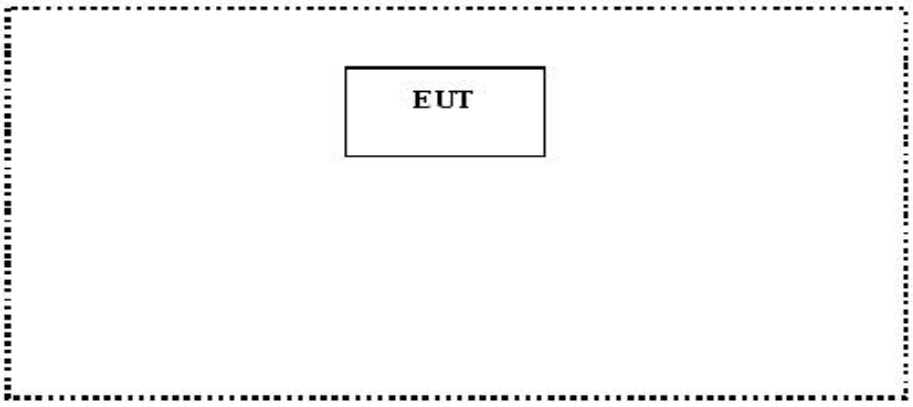
The conducted emission tests were performed using the setup accordance with the ANSI C63.4: 2003, The specification used in this report was the FCC Part15 Paragraph 15.207 limits.



6.4 EUT Operating Condition

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

A. Setup the EUT and simulators as shown on follow.
B. Enable RF signal and confirm EUT active.
C. Modulate output capacity of EUT up to specification.



6.5 Conducted Emission Limits

66-56 dBμV between 0.15MHz & 0.5MHz
56 dBμV between 0.5MHz & 5MHz
60 dBμV between 5MHz & 30MHz

Note: In the above limits, the tighter limit applies at the band edges.

6.6 Conducted Emission Test Data

Owing to the Batteries operation of EUT, this test is not performed.

7 Radiation Emission Test

Product Name:	Light sensor multiply objects finder
Test Requirement:	FCC Part15 Paragraph 15.231(e)
Test Method:	Based on FCC Part15 Paragraph 15.33
Test Result:	PASS
Frequency Range:	30MHz to 5GHz
Measurement Distance:	3m

7.1 Test Equipment

Please refer to Section 5 this report.

7.2 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in the field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

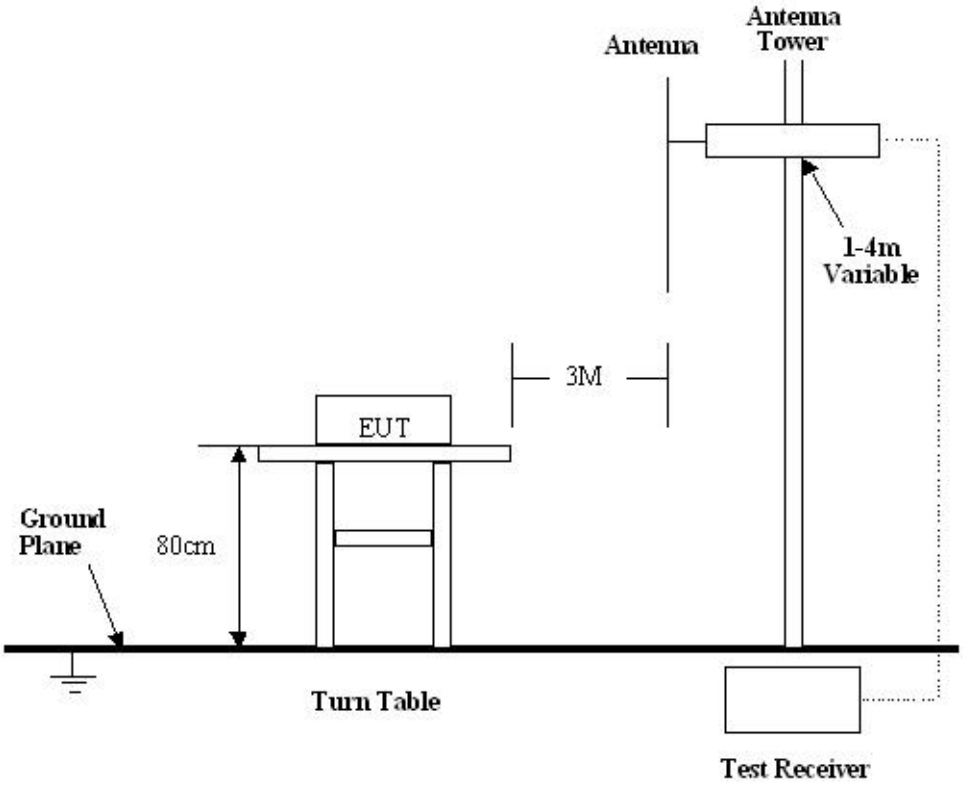
Based on NIS81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement at Waltek EMC Lab is ±5.03 dB.

7.3 Test Procedure

1. New battery were installed in the equipment under test for radiated emissions test.
2. This is a handhold device,The radiation emission should be tested under 3-axes position(lying,side and stand),After pre-test,It was found that the worse radiation emission was get at the lying position.
3. Maximizing procedure was performed on the six (6) highest emissions to ensure EUT is compliant with all installation combinations.
4. All data was recorded in the peak and average detection mode.
5. The EUT was under working mode during the final qualification test and the configuration was used to represent the worst case results.

7.4 Radiated Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.4: 2003, The specification used in this report was the FCC Part15 Paragraph 15.231, Paragraph 15.209 limits.



7.5 Spectrum Analyzer Setup

According to FCC Part15 Paragraph 15.231 Rules, the system was tested to 5000 MHz.

Below 1GHz

Start Frequency.....30 MHz
Stop Frequency .....1000 MHz
Sweep Speed Auto
IF Bandwidth .....120 kHz
Video Bandwidth .....100 kHz
Quasi-Peak Adapter Bandwidth .....120 kHz
Quasi-Peak Adapter Mode.....Normal
Resolution Bandwidth .....100 kHz

Above 1GHz

Start Frequency 1GHz
Stop Frequency 5GHz
Sweep Speed Auto
IF Bandwidth .....120 kHz
Video Bandwidth .....1 MHz
Quasi-Peak Adapter Bandwidth .....120 kHz
Quasi-Peak Adapter Mode.....Normal
Resolution Bandwidth 1MHz

7.6 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

Corr. Ampl. = Indicated Reading + Antenna Factor + Cable Factor - Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dBμV means the emission is 7dBμV below the maximum limit for Class B. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – Class B Limit

7.7 Summary of Test Results

According to the data in section 7.10, the EUT complied with the FCC Part15 Paragraph 15.231 standards.

7.8 EUT Operating Condition

Same as section 6.4 of this report.

7.9 Radiated Emissions Limit

Limits for automatically operated mode

Fundamental Frequency (MHz)	Field Strength of Fundamental (microvolts/meter)	Field Strength of Spurious Emission (microvolts/meter)
40.66 - 40.70	1,000	100
70 - 130	500	50
130 - 174	500 to 1,500 **	50 to 150 **
174 - 260	1,500	150
260 - 470	1,500 to 5,000 **	150 to 500 **
Above 470	5,000	500

** linear interpolations

[Where F is the frequency in MHz, the formulas for calculating the maximum permitted fundamental field strengths are as follows: for the band 130-174 MHz, μV/m at 3 meters = 22.72727(F) - 2454.545; for the band 260-470 MHz, μV/m at 3 meters = 16.6667(F) - 2833.3333. The maximum permitted unwanted emission level is 20 dB below the maximum permitted fundamental level.]

Limits for manually operated mode

Fundamental Frequency (MHz)	Field Strength of Fundamental (microvolts/meter)	Field Strength of Spurious Emissions (microvolts/meter)
40.66 - 40.70	2,250	225
70 - 130	1,250	125
130 - 174	1,250 to 3,750 **	125 to 375 **
174 - 260	3,750	375
260 - 470	3,750 to 12,500 **	375 to 1,250 **
Above 470	12,500	1,250

** linear interpolations

[Where F is the frequency in MHz, the formulas for calculating the maximum permitted fundamental field strengths are as follows: for the band 130-174 MHz, μV/m at 3 meters = 56.81818(F) - 6136.3636; for the band 260-470 MHz, μV/m at 3 meters = 41.6667(F) - 7083.3333. The maximum permitted unwanted emission level is 20 dB below the maximum permitted fundamental level.]

7.10 Radiated Emissions Test Result

Formula of conversion factors:the field strength at 3m was egtablished by adding
The meter reading of the spectrum analyer (which is set to read in units of dBuV)
To the antenna correction factor supplied by the antenna manufacturer. The antenna
Correction factors are stared in terms of dB.The gain of the pressletor was accounted
For in the spectrum analyser meter reading.

Example:

Freq(MHz)	Meter Reading +ACF=FS
33	20dBuV+10.36dB=30.36dBuV/m @3m

7.10.1 Radiated Emission Test Data

Temperature:	24 °C
Humidity:	52%RH
Test Result:	PASS

Note:

Peak = AV +20Log$_{10}$(1/duty cycle)

So the Radiated Emission Test Data in the table as follow. For more details of the calculation , please refer the section 9 of the Periodic operation .

For automatically operated mode

Frequency (MHz)	Detector	Antenna Polarization	Emission Level (dBuV/m)	FCC 15 Subpart C Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Turntable Angle (°)
433.92	AV	Vertical	55.31	72.87	17.56	1.0	0
433.92	AV	Horizontal	63.85	72.87	9.02	1.0	45
867.84	AV	Vertical	40.69	52.87	12.18	1.0	60
1301.76	AV	Vertical	35.70	54.00	18.30	1.0	100
1735.58	AV	Vertical	34.12	54.00	19.88	1.5	100
2169.60	AV	Vertical	32.44	54.00	21.56	1.5	110
2603.52	AV	Vertical	30.44	54.00	23.56	1.0	90
3037.44	AV	Vertical	29.75	54.00	24.25	1.4	90
3471.36	AV	Vertical	29.44	54.00	24.56	1.6	90
3905.28	AV	Vertical	28.39	54.00	25.61	1.5	60
4339.20	AV	Vertical	27.44	54.00	26.56	1.0	60
867.831	AV	Horizontal	39.26	52.87	13.61	1.5	90
1301.76	AV	Horizontal	37.98	54.00	16.02	1.0	60
1735.58	AV	Horizontal	36.44	54.00	17.56	1.5	45
2169.60	AV	Horizontal	35.64	54.00	18.36	1.5	100
2603.52	AV	Horizontal	33.44	54.00	20.56	1.1	80
3037.44	AV	Horizontal	32.44	54.00	21.56	1.5	120
3471.36	AV	Horizontal	26.44	54.00	27.56	1.5	120
3905.28	AV	Horizontal	24.56	54.00	29.44	1.1	100
4339.20	AV	Horizontal	23.44	54.00	30.56	1.1	20

Where F is the frequency in MHz,The formulas for calculating the maximum permitted fundamental field strengths are as follows:

(1). For the band 130-174MHz,uV/m at 3 meters=22.72727(F)-2454.545;

(2). For the band 260-470MHz,uV/m at 3 meters=16.6667(F)-2833.3333.

Sample calculation of limit @ 433.92MHz

16.6667 (433.92)- 2833.333=4893.68V/m

20log(4893.68)=72.8664 dBuV/m limit @ 433.92MHz

And the maximum permitted unwanted emission level is 20 dB below the maximum permitted fundamental level.

For manually operated mode

Frequency (MHz)	Detector	Antenna Polarization	Emission Level (dBuV/m)	FCC 15 Subpart C Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Turntable Angle (°)
433.92	Peak	Vertical	73.85	100.82	26.97	1.6	90
433.92	Peak	Horizontal	75.94	100.82	24.88	1.4	60
867.831	Peak	Vertical	52.00	80.82	28.82	1.5	60
1301.76	Peak	Vertical	37.96	74.00	36.01	2.0	120
1735.58	Peak	Vertical	32.75	74.00	41.25	1.6	60
2169.60	Peak	Vertical	30.07	74.00	43.93	1.5	140
2603.52	Peak	Vertical	31.00	74.00	43.00	1.3	60
3037.44	Peak	Vertical	31.55	74.00	42.45	1.4	45
3471.36	Peak	Vertical	32.71	74.00	41.29	1.5	60
3905.28	Peak	Vertical	32.65	74.00	41.35	1.5	45
4339.20	Peak	Vertical	31.08	74.00	43.92	1.6	110
867.831	Peak	Horizontal	51.95	74.00	29.77	1.3	120
1301.76	Peak	Horizontal	39.22	80.82	24.78	1.4	45
1735.58	Peak	Horizontal	34.80	74.00	39.20	1.5	90
2169.60	Peak	Horizontal	33.66	74.00	40.34	1.0	130
2603.52	Peak	Horizontal	33.82	74.00	40.18	2.0	40
3037.44	Peak	Horizontal	32.01	74.00	41.99	1.3	60
3471.36	Peak	Horizontal	33.72	74.00	40.28	1.5	110
3905.28	Peak	Horizontal	28.45	74.00	45.55	1.3	140
4339.20	Peak	Horizontal	30.35	74.00	43.65	2.0	90
433.92	AV	Vertical	70.21	80.82	10.61	1.6	90
433.92	AV	Horizontal	72.30	80.82	8.52	1.4	60
867.831	AV	Vertical	48.36	60.82	12.46	1.5	60
1301.76	AV	Vertical	34.32	54.00	19.68	2.0	120
1735.58	AV	Vertical	29.13	54.00	24.87	1.6	60
2169.60	AV	Vertical	26.43	54.00	27.57	1.5	140
2603.52	AV	Vertical	27.36	54.00	26.64	1.3	60
3037.44	AV	Vertical	28.91	54.00	25.09	1.4	45
3471.36	AV	Vertical	29.07	54.00	24.93	1.5	60
3905.28	AV	Vertical	28.61	54.00	25.39	1.5	45

4339.20	AV	Vertical	27.44	54.00	26.56	1.6	110
867.831	AV	Horizontal	48.31	80.82	12.51	1.3	120
1301.76	AV	Horizontal	35.58	54.00	18.42	1.4	45
1735.58	AV	Horizontal	31.16	54.00	22.84	1.5	90
2169.60	AV	Horizontal	33.02	54.00	20.98	1.0	130
2603.52	AV	Horizontal	30.18	54.00	23.82	2.0	40
3037.44	AV	Horizontal	28.37	54.00	25.63	1.3	60
3471.36	AV	Horizontal	30.08	54.00	23.92	1.5	110
3905.28	AV	Horizontal	24.81	54.00	29.19	1.3	140
4339.20	AV	Horizontal	26.71	54.00	27.29	2.0	90

Where F is the frequency in MHz,The formulas for calculating the maximum permitted fundamental field strengths are as follows:

(1). For the band 130-174MHz,uV/m at 3 meters=56.81818(F)-6136.3636;

(2). For the band 260-470MHz,uV/m at 3 meters=41.6667(F)-7083.3333.

Sample calculation of limit @ 433.92MHz

41.6667 (433.92)- 7083.3333=10996.681uV/m

20log(10996.681)=80.82 dBuV/m(AV) limit @ 433.92MHz

And

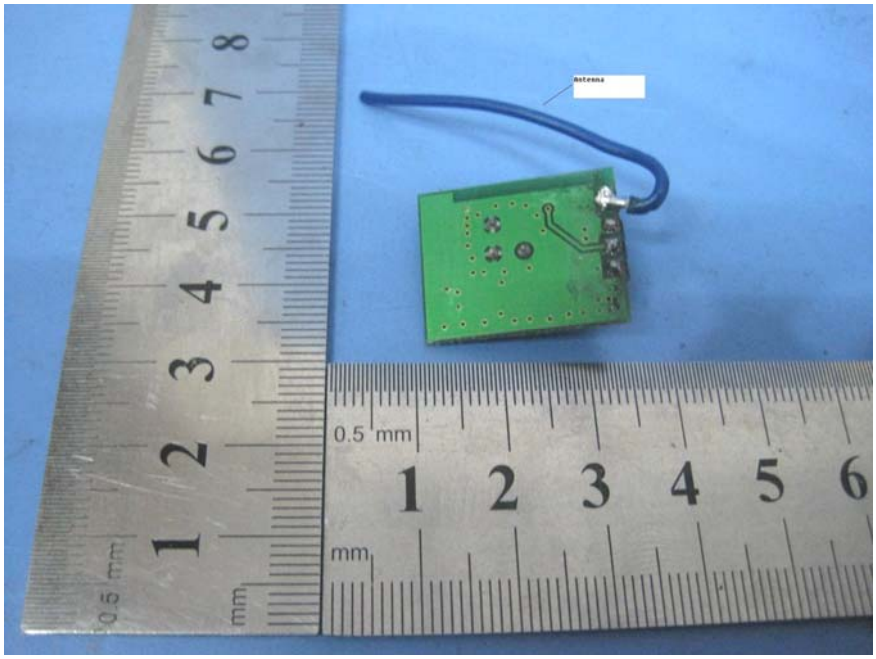
The maximum permitted unwanted emission level is 20 dB below the maximum permitted fundamental level.

AV = Peak +20Log$_{10}$(duty cycle)

8 Antenna Requirement.

According to the FCC Part 15 Paragraph 15.203, 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 to the intentional radiator shall be considered sufficient to comply with the provisions of this section. This product has a permanent antenna, fulfill the requirement of this section

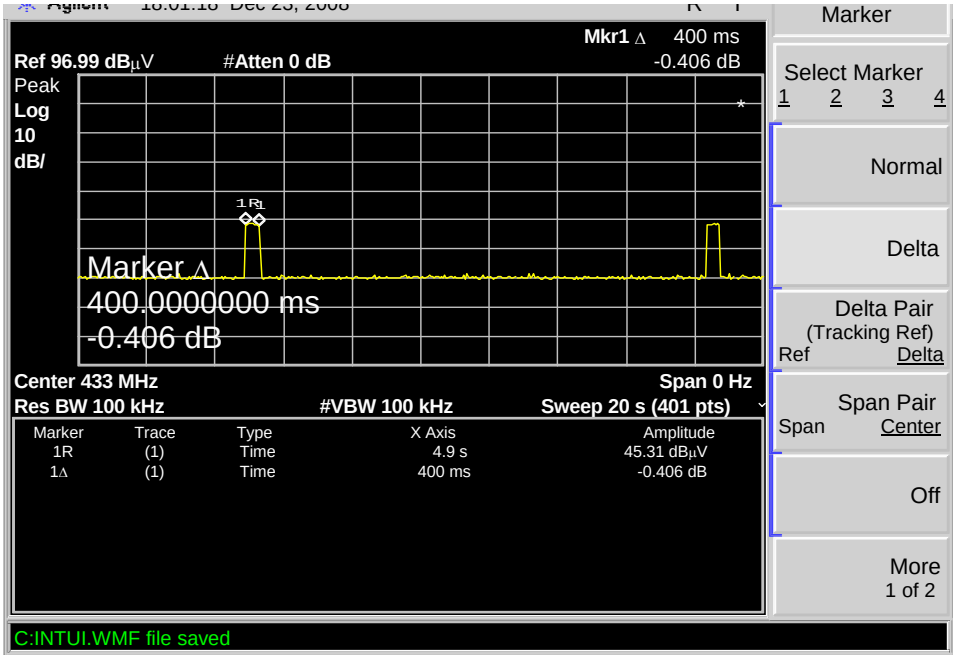
Antenna Position

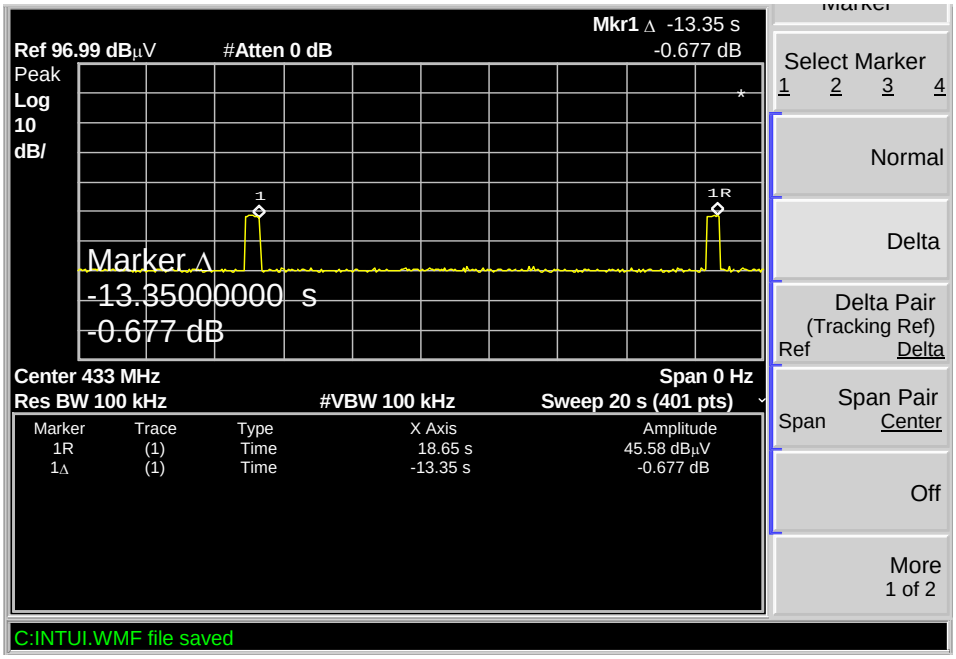


9 Periodic Operation

For automatically operated mode:

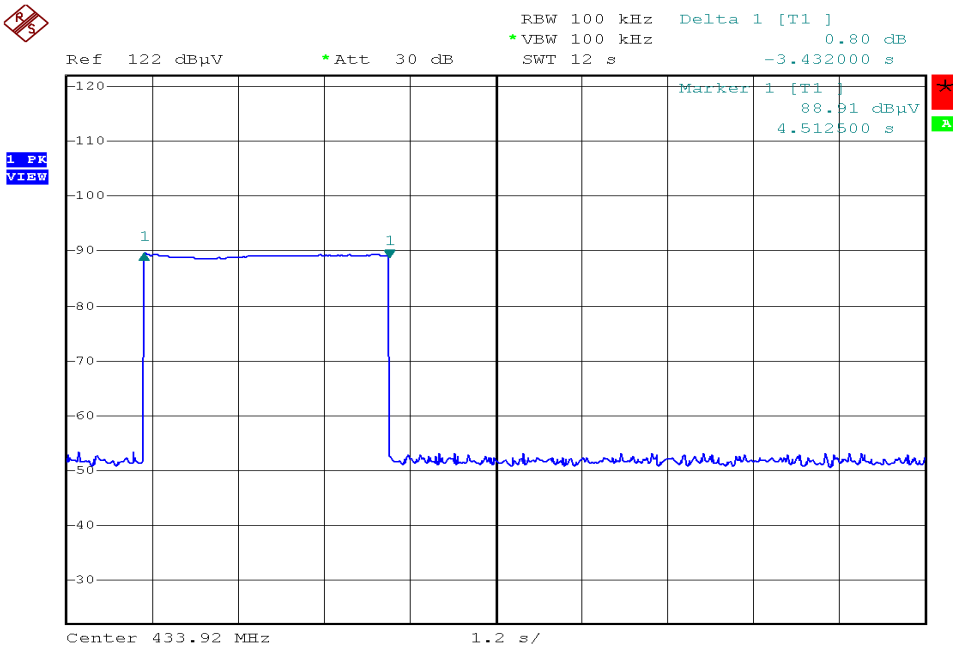
Refer to the plot (as below),We find each the duration transmission for the device is about 0.400seconds and silent period between transmissions is about 13.35seconds, greater than 10seconds,This device does meet the FCC requirement.





For manually operated mode:

Refer to the plot (as below),We find a manually operated transmitter shall employ a switch that will automatically deactivate the transmitteri is 3.432 seconds, within not more than 5 seconds of being released.



Duty cycle:

The duty cycle was determined by the following equation:

To calculate the actual field intensity,The duty cycle correction factor in decibel is needed for later use and can be obtained from following conversion

The EUT is auto. operation for transmitter，it is declared by the manufacturer as a duty cycle ratio of less than 100%.

The EUT ‘s work time : T_{on} =1.18*9+0.4*16=17.02ms

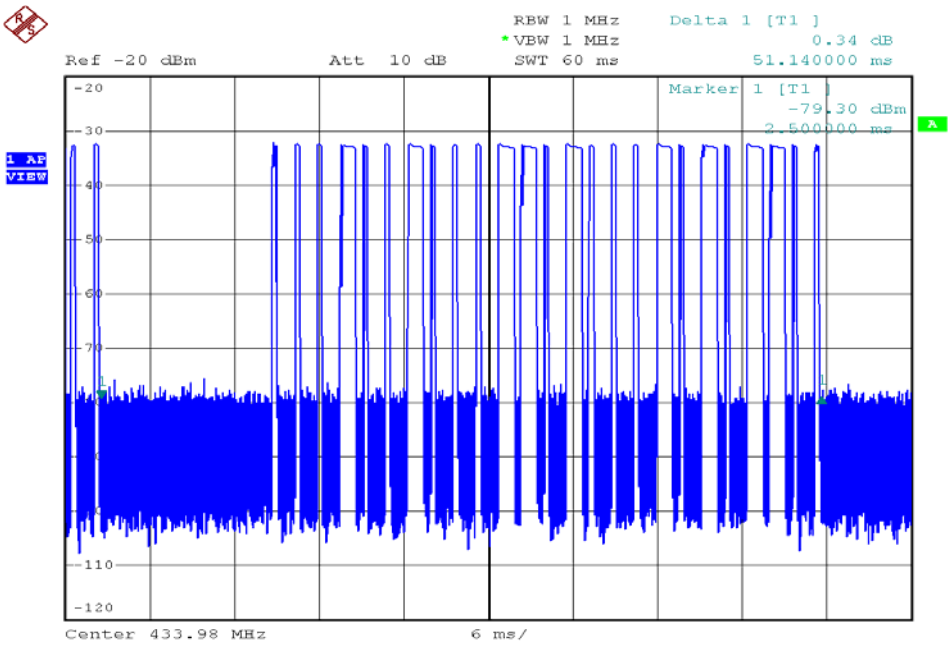
The EUT’s work period :T=T_{ON}+T_{OFF}=51.14ms

The EUT’s duty cycle : D = T_{on} /T = 17.02/51.14*100% =33.28%

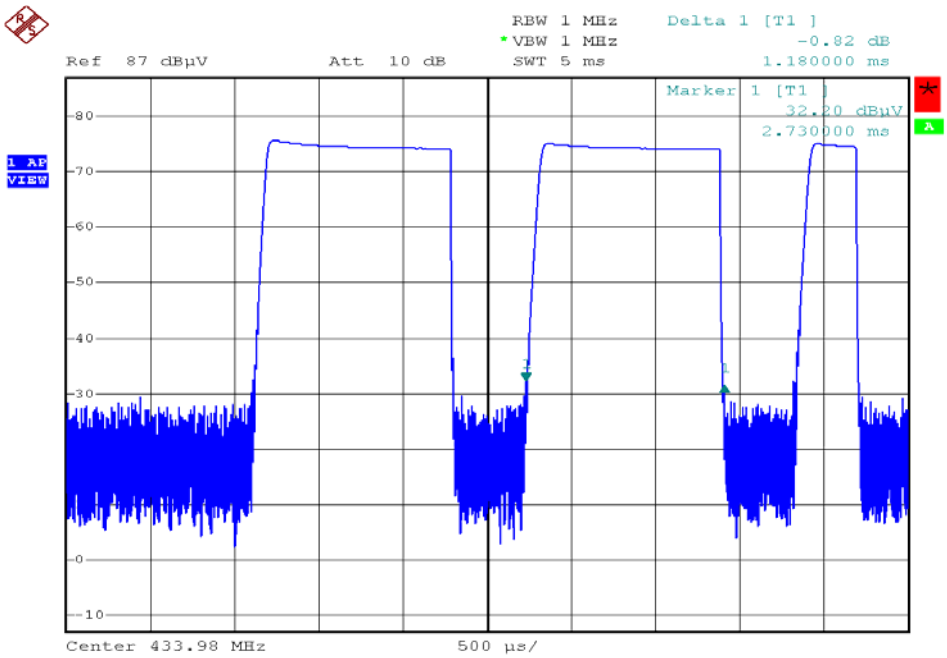
Duty Cycle Correction Factor(dB)=20 * Log10(Duty Cycle(%))=20* Log1033.28% =9.56

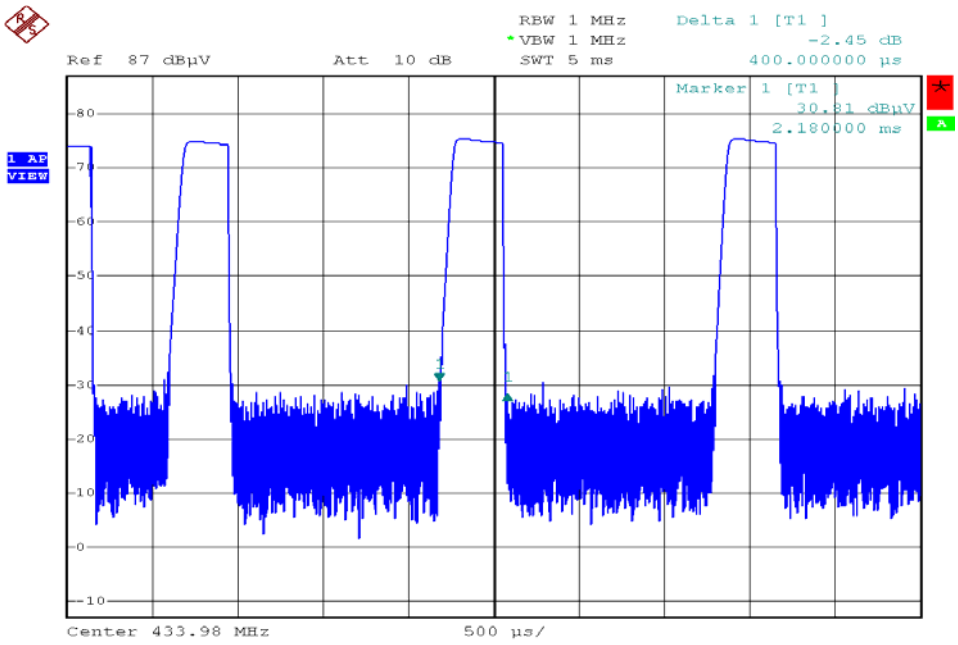
Plot(s) is presented hereinafter as reference:

The EUT’s work period：



The EUT‘s work time :





10 Bandwidth

Test Requirement: FCC Part15 C
Test Method: Based on FCC Part15 Paragraph 15.231
Test Result: PASS
Test mode: TX On
Temperature: 24 °C
Humidity: 52%RH

10.1 Test Procedure

1. The transmitter output (antenna port) was connected to the spectrum analyzer.EUT and its simulators are placed on a table, let EUT working in test mode,then test it.
2. The bandwidth of the fundamental frequency was measure by spectrum analyser with 100KHz RBW and 100KHz VBW.The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power 20dB.

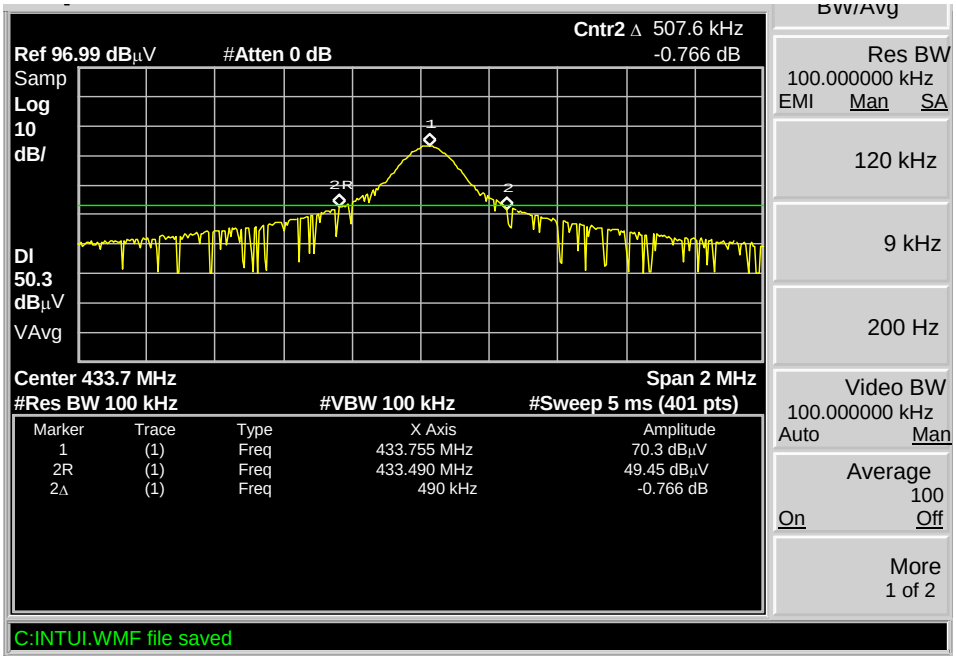
10.2 Bandwidth Requirement

Requirements: The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.

Frequency (MHz)	Bandwidth Emission (KHz)	Limit (KHz)	Result
433.92	490	1084.8	Pass

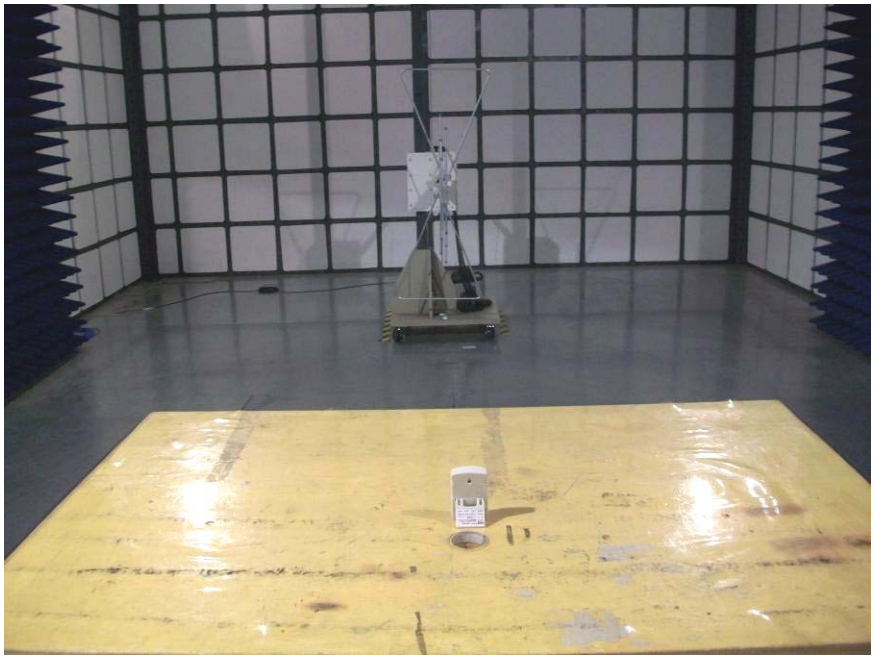
10.3 Bandwidth Test Result

433.92MHz TX

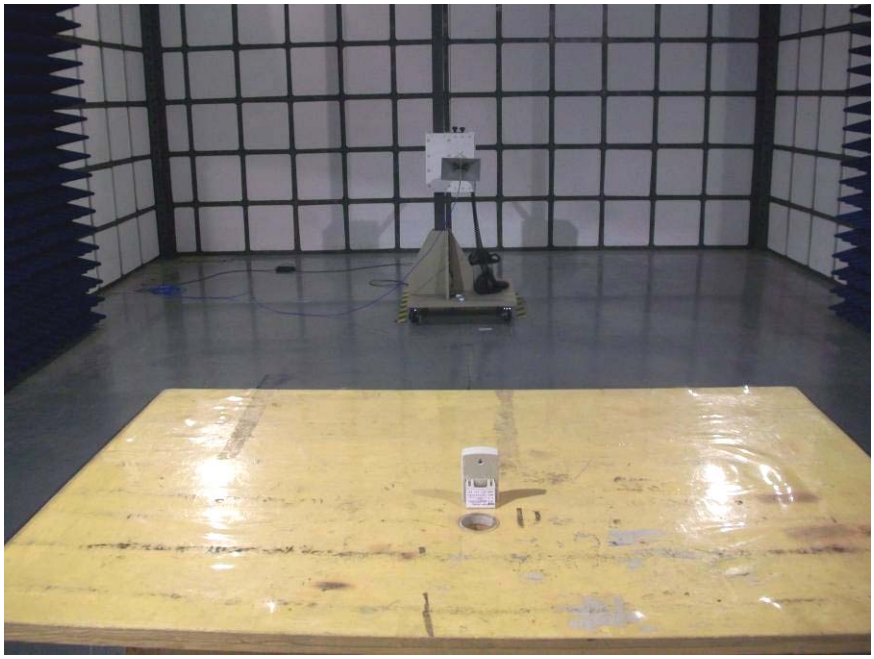


11 Photographs of Testing

11.1 Radiation Emission Test View For 30MHz-1000MHz



11.2 Radiation Emission Test View For 1GHz-5GHz

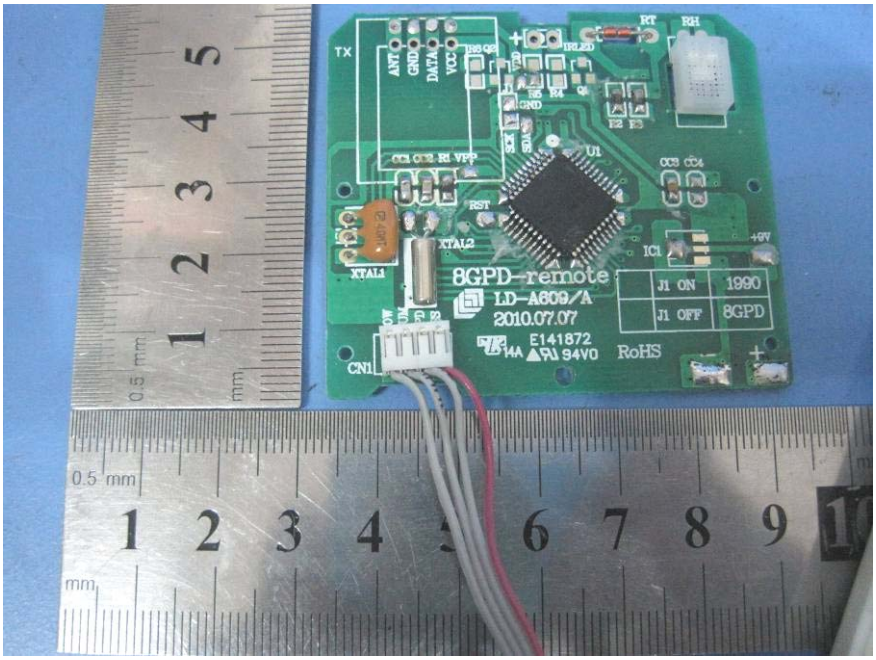


12 Photographs - Constructional Details

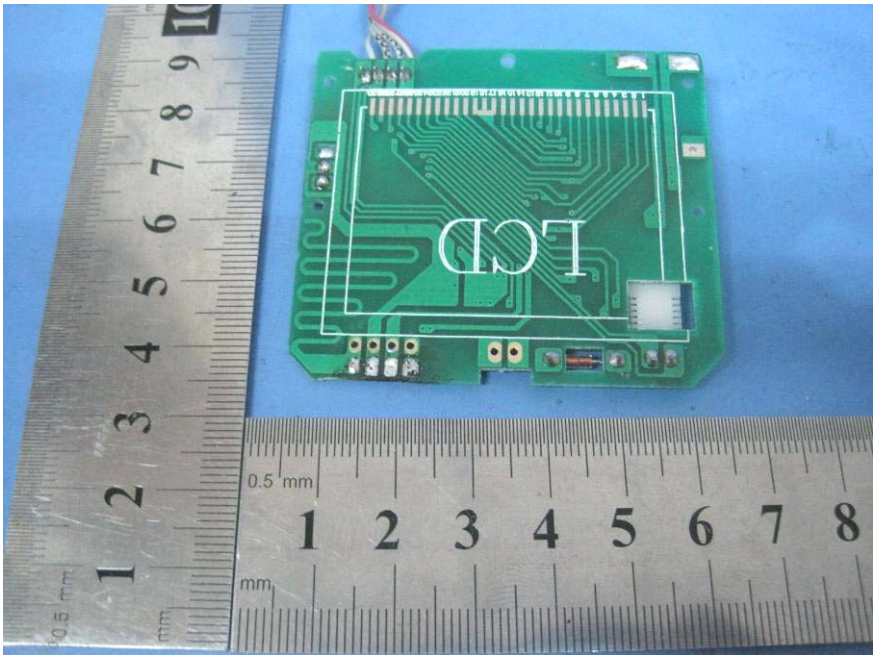
12.1 EUT-Front View for TX

12.2 EUT-Back View for TX

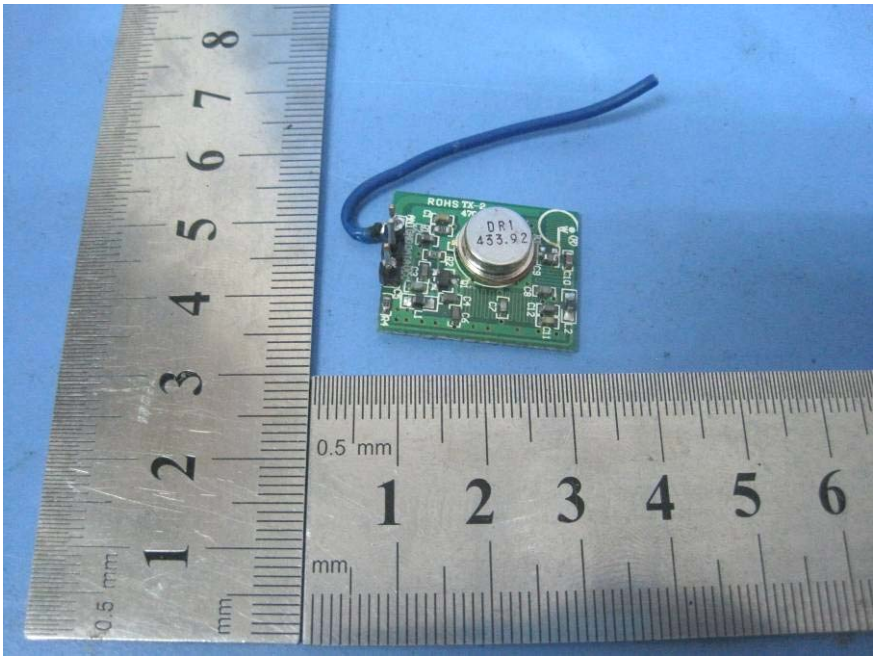
12.3 TX PCB1-Front View



12.4 TX PCB1-Back View



12.5 TX PCB2-Front View



12.6 TX PCB2-Back View