





ISO/IEC17025Accredited Lab.

Report No: FCC 1105238
File reference No: 2011-06-15

Applicant: Guangzhou Chiyuan Electronic Co.,Ltd.

Product: 6CH/4CH Radio Control

Model No: X-6

Trademark: N/A

Test Standards: FCC Part 15 Subpart C, Paragraph 15.247

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 15.247 regulations for the evaluation of

electromagnetic compatibility

Approved By

Jack Chung

Jack Chung Manager

Dated: June 15,2011

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

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

Tel (755) 83448688 Fax (755) 83442996

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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.: IC5205A-01

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.: 5205A-01.

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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: 5205A-01

For 3m & 10 m OATS

1.2 Applicant Details

Applicant: Guangzhou Chiyuan Electronic Co., Ltd

Address: 2/F, No.1Bled., 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: 6CH/4CH Radio Control

Manufacturer: Guangzhou Chiyuan Electronic Co., Ltd

Brand Name: N/A
Model Number: X-6
Additional Model Name X-4

Rating: DC4.8V (4 pcs AAA Batteries)

Power Supply: N/A
Type of Modulation GFSK

Frequency range 2403-2477MHz

Number of Channel 75

Air Data Rate 250kbps

Antenna type Dipole antenna

1.4 Submitted Sample: 1 Sample

1.5 Test Duration

2011-05-31 to 2011-06-15

The report refers only to the sample tested and does not apply to the bulk.

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1.6 Test Uncertainty

Conducted Emissions Uncertainty =3.6dB Radiated Emissions Uncertainty =4.7dB

1.7 Test Engineer &verify Engineer

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12,000	. 2

Test Engineer

The sample(s) tested by

Print Name: Brown Lu/ Engineer

Verify Engineer

The report verified by

Print Name: Terry Tang/ EMC Manager

2.0	Test Equipments					
Instrument Type	Manufacturer	Model	Serial No.	Date of Cal.	Due Date	
ESPI Test Receiver	ROHDE&SCHWARZ	ESPI 3	100379	2011-04-26	2012-04-25	
TWO Line-V-NETW	ROHDE&SCHWARZ	EZH3-Z5	100294	2011-04-26	2012-04-25	
TWO Line-V-NETW	ROHDE&SCHWARZ	EZH3-Z5	100253	2011-04-26	2012-04-25	
Ultra Broadband ANT	ROHDE&SCHWARZ	HL562	100157	2011-04-26	2012-04-25	
ESDV Test Receiver	ROHDE&SCHWARZ	ESDV	100008	2011-04-26	2012-04-25	
System Controller	CT	SC100	-	2011-04-26	2012-04-25	
Loop Antenna	EMCO	6502	00042960	2011-04-26	2012-04-25	
ESPI Test Receiver	ROHDE&SCHWARZ	ESI26	838786/013	2011-04-26	2012-04-25	
3m OATS			N/A	2011-04-26	2012-04-25	
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170265	2011-04-26	2012-04-25	
Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-631	2011-04-26	2012-04-25	
Power meter	Anritsu	ML2487A	6K00003613	2011-04-26	2012-04-25	
Power sensor	Anritsu	MA2491A	32263	2011-04-26	2012-04-25	
Bilog Antenna	Schwarebeck	VULB9163	9163/340	2011-04-26	2012-04-25	
LISN	AFJ	LS16C	10010947251	2011-04-26	2012-04-25	
LISN (Three Phase)	Schwarebeck	NSLK 8126	8126453	2011-04-26	2012-04-25	
9*6*6 Anechoic			N/A	2011-04-26	2012-04-25	

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3.0 Technical Details

3.1 Summary of test results

The EUT has been tested according to the following specifications	The EUT has	been tested	d according to	the following	specifications
---	-------------	-------------	----------------	---------------	----------------

Standard	Test Type	Result	Notes
FCC Part 15, Paragraph 15.107 & 15.207	Conducted Emission Test	PASS	N/A
FCC Part 15 Subpart C Paragraph 15.247(a)(2) Limit	Spectrum bandwidth of a Orthogonal Frequency Division Multiplex System Limit: 6dB bandwidth>500kHz	PASS	Complies
FCC Part 15, Paragraph 15.247(b)	Maximum peak output power Limit: max. 30dBm	PASS	Complies
FCC Part 15, Paragraph 15.109,15.205 & 15.209	Transmitter Radiated Emission Limit: Table 15.209	PASS	Complies
FCC Part 15, Paragraph 15.247(d)	Power Spectral Density Limit: max. 8dBm	PASS	Complies
FCC Part 15, Paragraph 15.247(c)	Out of Band Emission and Restricted Band Radiation Limit: 20dB less than peak value of fundamental frequency Restricted band limit: Table 15.209	PASS	Complies

Note: Model X-6 was selected to do the final tests

3.2 Test Standards

FCC Part 15 Subpart & Subpart C, Paragraph 15.247

4.0 EUT Modification

No modification by Shenzhen Timeway Technology Consulting Co.,Ltd

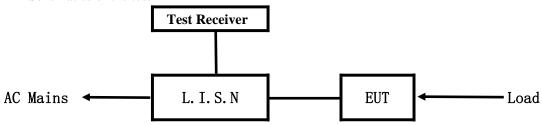
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5. Power Line Conducted Emission Test

5.1 Schematics of the test

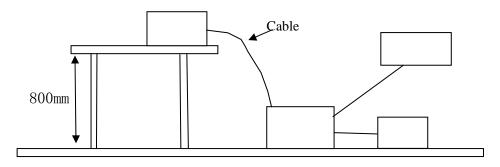


EUT: Equipment Under Test

5.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.4-2009. 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 –2009.

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.

A. EUT

Device	Manufacturer	Model	FCC ID
6CH/4CH	Guangzhou Chiyuan Electronic Co., Ltd	X-6	V6KX-46
Radio Cont	ol		

B. Internal Device

Device	Manufacturer	Model	FCC ID/DOC
N/A			

C. Peripherals

Device	Manufacturer	Model	FCC ID/DOC	Cable
N/A				

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- 5.4 EUT Operating Condition
 - Operating condition is according to ANSI C63.4 -2009.
- 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	Class A Lim	its (dB µ V)	Class B Limits (dB \(\mu \)	
(MHz)	Quasi-peak Level	Average Level	Quasi-peak Level	Average Level
$0.15 \sim 0.50$	79.0	66.0	66.0~56.0*	56.0~46.0*
$0.50 \sim 5.00$	73.0	60.0	56.0	46.0
$5.00 \sim 30.00$	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: Owing to DC operation of EUT, this test item is not performed

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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 25 GHz was investigated. All readings from 30 MHz to 1 GHz are Quasi-peak values with a resolution bandwidth of 120 kHz. For measurement above 1GHz, peak values with RBW=VBW=1MHz and PK detector. detector. 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 Distance = 3m Computer Pre -Amplifier EUT Turn-table Receiver

- 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.

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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:

Frequencies in restricted band are complied to limit on Paragraph 15.209 and RSS-210

Frequency Range (MHz)	Distance (m)	Field strength (dB \mu V/m)
0.009-0.490	300	2400/F(KHz)
0.490-1.705	30	24000/F(KHz)
1.705-30	30	30
30-88	3	100
88-216	3	150
216-960	3	200
Above 960	3	500

Note:

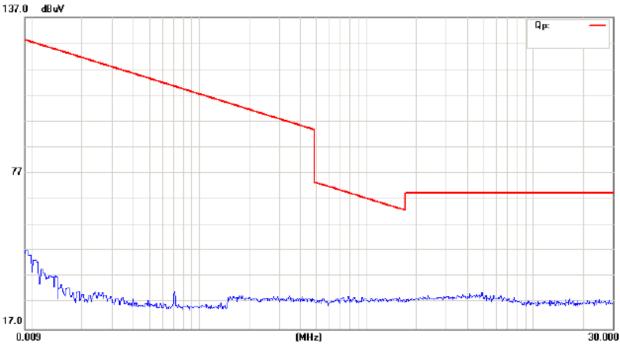
- 1. RF Voltage $(dBuV) = 20 \log RF \text{ Voltage } (uV)$
- 2. In the Above Table, the higher limit applies at the band edges.
- 3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT
- 4. This is a handhold device. The radiated emissions should be tested under 3-axes position (Lying, Side, and Stand), After pre-test. It was found that the worse radiated emission was get at the lying position.
- 5. All scanning using PK detector. And the final emission level was get using QP detector for frequency range from 30-1000MHz.As to 1G-25G, the final emission level got using PK detector. And Average = peak(dBuV/m) duty cycle(dB)
- 6. New batteries were installed in the equipment under test for radiated emission testing.

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Low Channel



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Test result

General Radiated Emission Data and Harmonics Radiated Emission Data

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

EUT set Condition: Tx under transmitting mode

Results: Pass

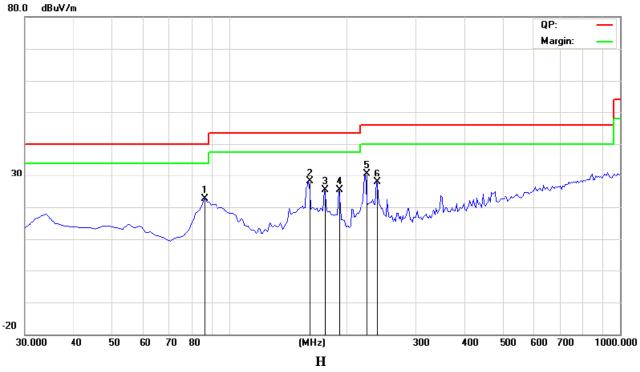
Model: Low Channel

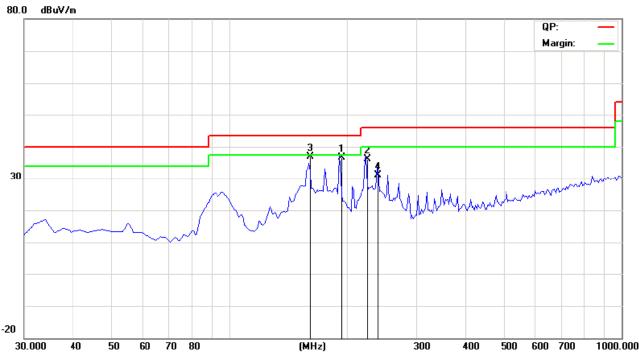
Frequency (MHz)	Level@3m (dB \u03b4 V/m)	Antenna Polarity	Limit@3m (dB \(\mu \)V/m)
86.3726	22.52	V	40.00
160.2405	28.02	V	43.50
175.7916	25.43	V	43.50
191.3427	25.42	V	43.50
224.3888	30.75	V	46.00
239.9400	27.77	V	46.00
191.9860	36.61	Н	43.50
223.9854	36.18	Н	43.50
159.9834	37.00	Н	43.50
239.9920	31.23	Н	46.00

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Test Figure: transmitting mode





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

EUT set Condition: Tx under transmitting mode

Results:

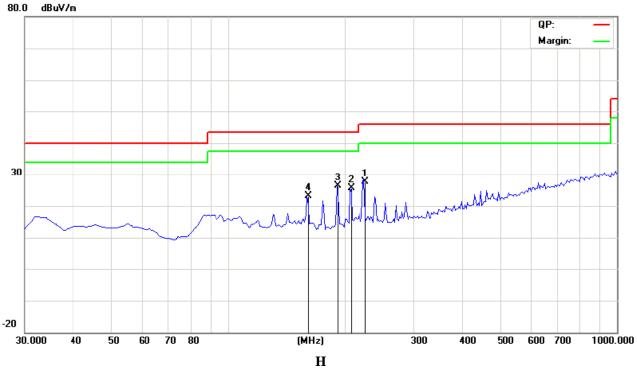
Model: **High Channel**

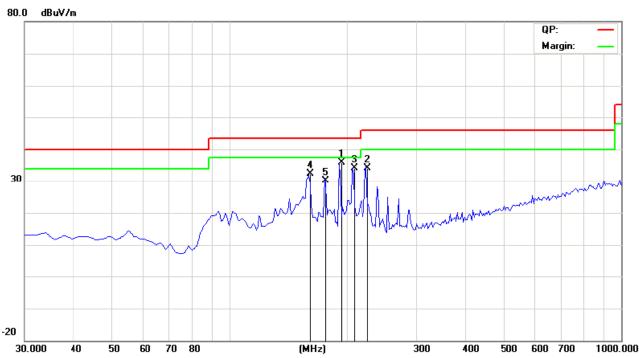
Frequency (MHz)	Level@3m (dB \mu V/m)	Antenna Polarity	Limit@3m (dB \mu V/m)
192.0026	35.95	Н	43.50
223.9700	34.02	Н	46.00
207.9700	34.03	Н	43.50
159.9841	32.47	Н	43.50
175.9716	30.09	Н	43.50
223.9715	27.72	V	46.00
206.8937	25.59	V	43.50
191.3427	26.29	V	43.50
160.2404	23.23	V	43.50

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Test Figure: transmitting mode





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Test result

General Radiated Emission Data and Harmonics Radiated Emission Data

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

EUT set Condition: Tx under transmitting mode

Results: Pass

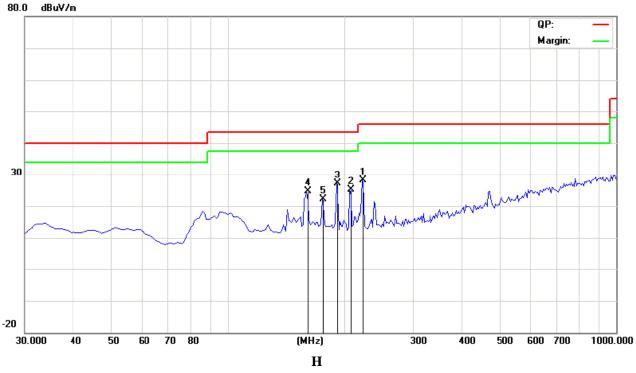
Model: Middle Channel

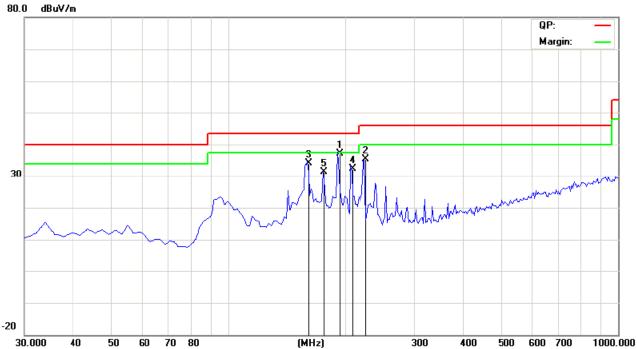
Frequency (MHz)	Level@3m (dB \u03b4 V/m)	Antenna Polarity	Limit@3m (dB \(\mu \)V/m)
222.4450	28.19	V	46.00
206.8938	25.04	V	43.50
191.3427	27.04	V	43.50
160.2405	24.58	V	43.50
175.7916	22.09	V	43.50
191.9737	37.01	Н	43.50
223.9993	35.39	Н	43.50
159.9720	34.23	Н	43.50
207.9645	32.48	Н	46.00
175.9837	31.38	Н	46.00

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Test Figure: transmitting mode





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Operation Mode: Transmitting under Low Channel

Operation Mode. Transmitting under Low Chamber							
Frequency (MHz)	Level@3m (dB \u03b4 V/m)	Antenna Polarity	Limit@3m (dB \mu V/m)				
2403	85.86 (PK) /60.20 (AV)	Н	Even do montol Even aven ave				
2403	93.09 (PK) /67.43 (AV)	V	Fundamental Frequency				
4806	47.44 (PK)	Н	74(Peak)/ 54(AV)				
4806	52.23(PK) /26.57 (AV)	V	74(Peak)/ 54(AV)				
7209	44.12 (PK)	Н	74(Peak)/ 54(AV)				
7209	47.76 (PK)	V	74(Peak)/ 54(AV)				
9612		H/V	74(Peak)/ 54(AV)				
12015		H/V	74(Peak)/ 54(AV)				
14418		H/V	74(Peak)/ 54(AV)				
16821		H/V	74(Peak)/ 54(AV)				
19224		H/V	74(Peak)/ 54(AV)				
21627		H/V	74(Peak)/ 54(AV)				
24030		H/V	74(Peak)/ 54(AV)				

Operation Mode: Transmitting under CH Mid

	_		
Frequency (MHz)	Level@3m (dB \u03b4 V/m)	Antenna Polarity	Limit@3m (dB \mu V/m)
2440	88.78 (PK) /63.12 (AV)	Н	Fundamental Frequency
2440	94.53 (PK) /68.78 (AV)	V	Fundamental Frequency
4880		Н	74(Peak)/ 54(AV)
4880	54.55 (PK) /28.89 (AV))	V	74(Peak)/ 54(AV)
7320		Н	74(Peak)/ 54(AV)
7320	49.76 (PK) /24.10 (AV)	V	74(Peak)/ 54(AV)
9760		H/V	74(Peak)/ 54(AV)
12200		H/V	74(Peak)/ 54(AV)
14640		H/V	74(Peak)/ 54(AV)
17080		H/V	74(Peak)/ 54(AV)
19520		H/V	74(Peak)/ 54(AV)
21960		H/V	74(Peak)/ 54(AV)
24400		H/V	74(Peak)/ 54(AV)

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Operation Mode: Transmitting under CH High						
Frequency (MHz)	Level@3m (dB \(\mu \) V/m) Antenna Polarity		Limit@3m (dB \(\mu \)V/m)			
2477	82.09 (PK) /56.43 (AV)	Н	Eundomontal Engagonay			
2477	91.98 (PK) /66.32 (AV)	V	Fundamental Frequency			
4854	53.90 (PK) /28.24AV)	Н	74(Peak)/ 54(AV)			
4854	55.77 (PK) / 30.11(AV)	V	74(Peak)/ 54(AV)			
7431		Н	74(Peak)/ 54(AV)			
7431	43.52 (PK)	V	74(Peak)/ 54(AV)			
9908		H/V	74(Peak)/ 54(AV)			
12385		H/V	74(Peak)/ 54(AV)			
14862		H/V	74(Peak)/ 54(AV)			
17339		H/V	74(Peak)/ 54(AV)			
19816		H/V	74(Peak)/ 54(AV)			
22293		H/V	74(Peak)/ 54(AV)			
24770		H/V	74(Peak)/ 54(AV)			

Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

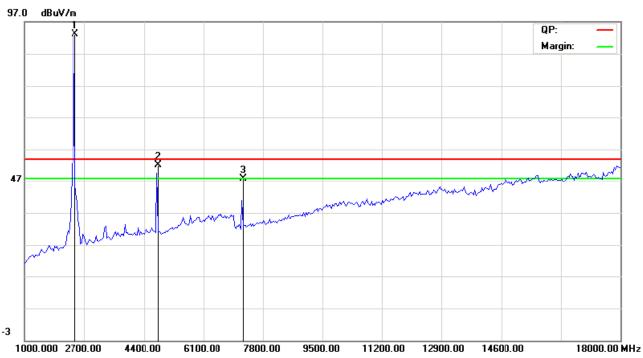
- 2. Remark "---" means that the emissions level is too low to be measured
- 3. Margin=Emission-Limits
- 4. According to section 15.35(b), the peak limit is 20dB higher than the average limit
- 5. Note: Average = peak(dBuV/m) duty cycle(dB)
- 6. For radiated emission from 18GHz to 25GHz, it is the floor noise

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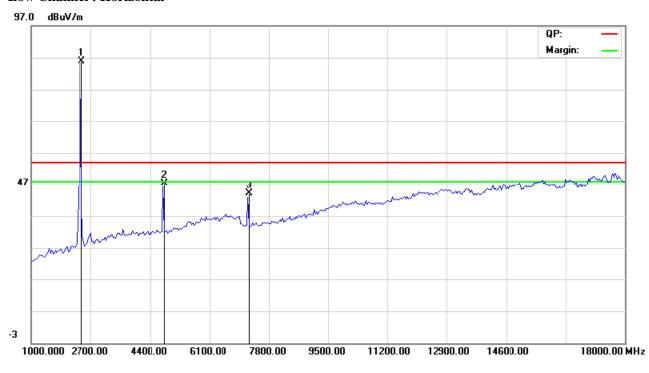


Please refer to the following test plots for details

Low Channel: Vertical



Low Channel: Horizontal



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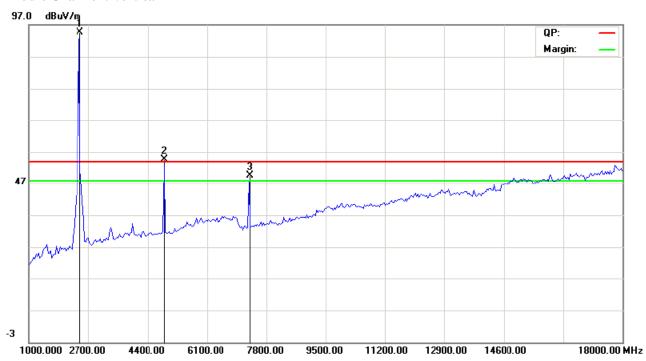


Middle Channel: Horizontal





Middle Channel: Vertical



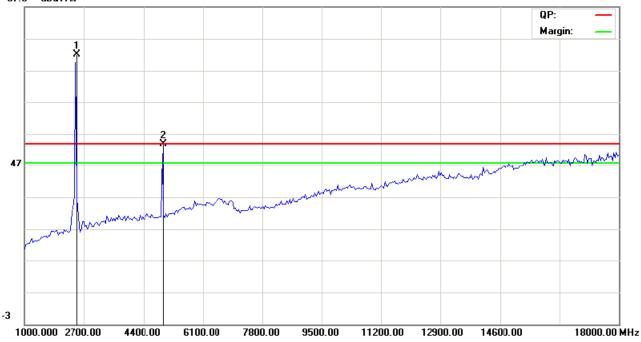
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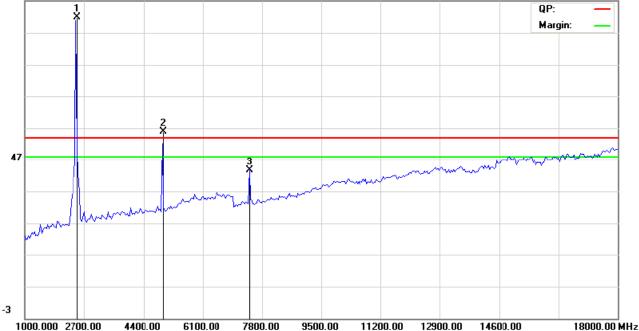
High Channel: Horizontal





High Channel: Vertical





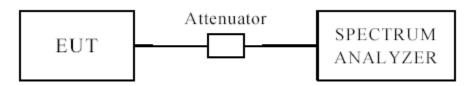
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7.0 6dB Bandwidth Measurement

7.1 Test Setup



7.2 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is >500KHz

7.3 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator.

The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100 KHz RBW and 100 KHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

7.4 Test Result

EUT		6CH/CH Radio Control Mode			lel	X-6	5
Mode		Keep '	Transmitting	Input Vo	Input Voltage		8V
Temperat	ure	24	4 deg. C,	Humidity		56% RH	
Channel		el Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)		Pass/ Fail
Low		2403 0.559				0.5	Pass
Mid		2440	0.547			0.5	Pass
High		2477	0.559			0.5	Pass

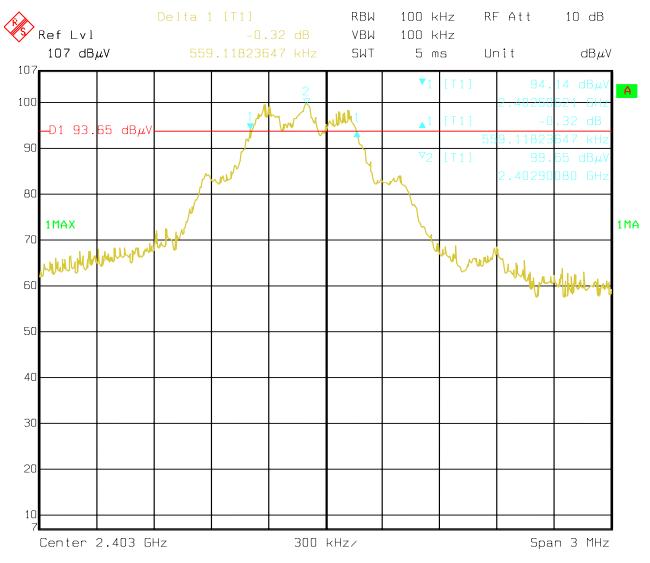
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Test Plots:

1. CH Low



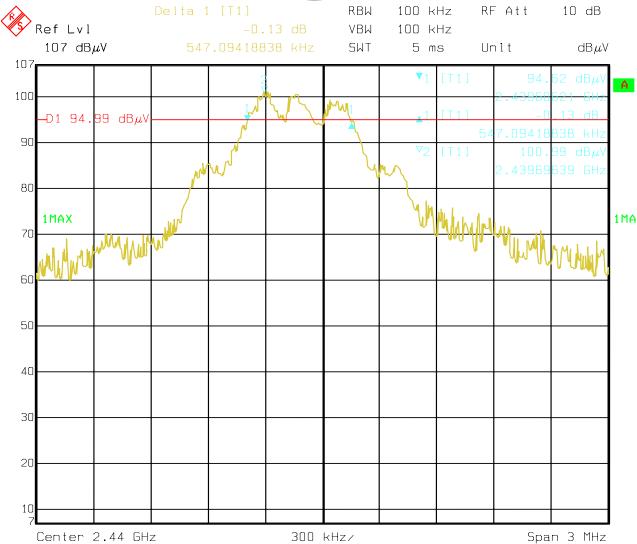
Date: 08.JUN.2011 13:29:09

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2. CH Mid



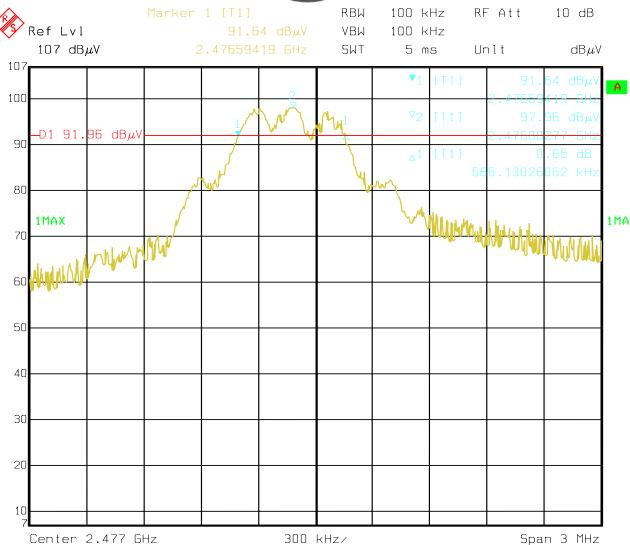
Date: 08.JUN.2011 13:25:53

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3. CH High



Date: 08.JUN.2011 13:21:25

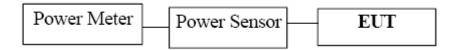
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8. Maximum Peak Output Power

8.1 Test Setup



8.2 Limits of Maximum Peak Output Power

The Maximum Peak Output Power Measurement is 30dBm.

8.3 Test Procedure

The RF power output was measured with a Power meter connected to the RF Antenna connector (conducted measurement) while EUT was operating in transmit mode at the appropriate centre frequency.

8.4Test Results

EUT	6CH/4CH Radio Control Mo		odel		X-6								
Mode		Keep Tran	smitting Input Vo		smitting Input Voltage		Ceep Transmitting Input Voltage		Keep Transmitting Input Voltage DC 4.		Input Voltage		C 4.8V
Temperature	e	24 deg	g. C, Humidity 5		Humidity		5% RH						
Channel	Ch	annel Frequency (MHz)	Peak Power Output (dBm)		Peak F Lin (dB	nit	Pass/ Fail						
Low		2403	18.90		30		Pass						
Mid		2440	17.28		30		Pass						
High		2477	18.57		30)	Pass						

Note: 1. At finial test to get the worst-case emission for CH Low, CH Mid and CH High

2. The result basic equation calculation as follow:

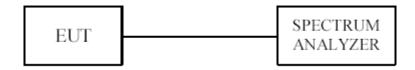
Peak Power Output = Peak Power Reading + Cable loss + Attenuator

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9. Power Spectral Density Measurement

9.1 Test Setup



9.2 Limits of Power Spectral Density Measurement

The Maximum Power Spectral Density Measurement is 8dBm.

9.3 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using 3KHz RBW and 10kHz VBW, set sweep time=500s

The power spectral density was measured and recorded.

The sweep time is allowed to be longer than span / 3KHz for a full response of the mixer in the spectrum analyzer.

9.4Test Result

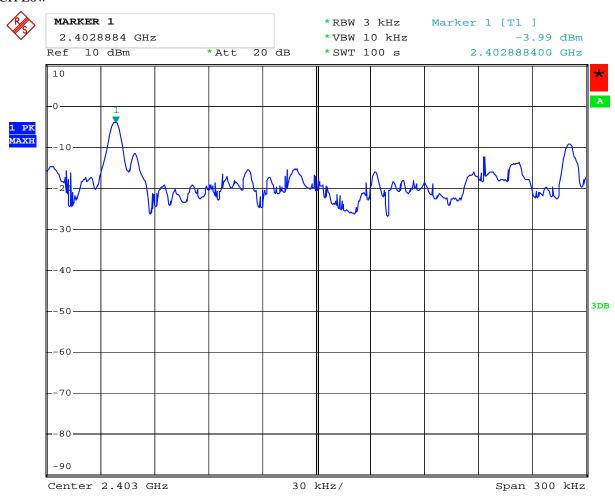
EUT		6CH/4CH Ra	dio Control	Model		Iodel							
Mode		Keep Tran	smitting Input Voltage D		nsmitting Input		smitting Input Voltage		Keep Transmitting Input Voltage D		Input Voltage		C4.8V
Temperature	e	24 deg	leg. C, Humidity		Humidity		C, Humidity 56		5% RH				
Channel	Ch	annel Frequency (MHz)	Final RF Power Level in 3kHz BW (dBm)		Maximum Limit (dBm)		Pass/ Fail						
Low		2403	-3.99		8		Pass						
Mid		2440	-1.09		9 8		Pass						
High		2477	-5.81		8		Pass						

Note: At finial test to get the worst-case emission for CH Low, CH Mid and CH High

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9.5Photo of Power Spectral Density Measurement

1.CH Low



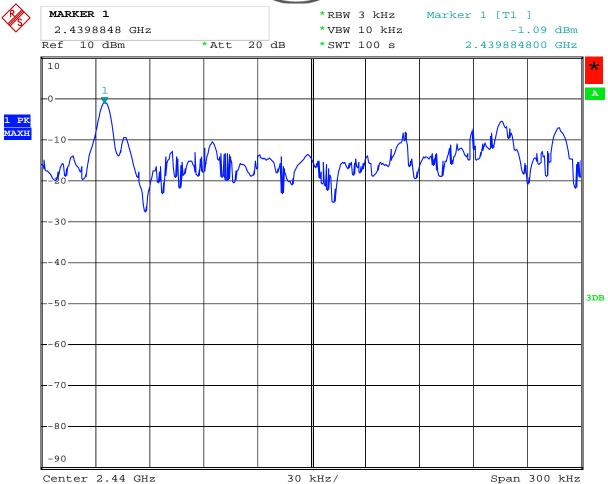
Date: 14.JUN.2011 09:10:25

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2. CH Mid



Date: 14.JUN.2011 08:58:18

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3. CH High



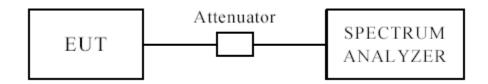
Date: 14.JUN.2011 09:05:34

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10 Out of Band Measurement 10.1 Test Setup



he restricted band requirement based on radiated emission test; please see the clause 6 for the test setup

10.2 Limits of Out of Band Emissions Measurement

- 1. Below –20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).
- 2. Fall in the restricted bands listed in section 15.205. The maximum permitted average field strength is listed in section 15.209

10.3 Test Procedure

For signals in the restricted bands above and below the 2.4-2.483GHz allocated band a measurement was made of radiated emission test.(Peak values with RBW=VBW=1MHz and PK detector. AV value with RBW=1MHz, VBW=10Hz and PK detector)

For bandage test, the spectrum set as follows: RBW=VBW=100 kHz. A conducted measurement used

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10.4Test Result

CH Low

10.4 Out of Band Test Result

EUT	6CH/4CH Radio Control		Model	X-6
Mode	Keep Tran	nsmitting	Input Voltage	DC4.8V
Temperature	24 de	g. C,	Humidity	56% RH
Test Result:	Pass		Detector	PK
The Max. FS in	PK (dBµV/m)	71.74		$74(dB\mu V/m)$
Restrict Band (2400MHz)	$AV(dB\mu V/m)$	46.08	Limit	54(dBμV/m)
The Max. FS in	PK (dBμV/m)	57.80	Limit	$74(dB\mu V/m)$
Restrict Band (2390MHz)	$AV(dB\mu V/m)$	32.14		54(dBμV/m)

Test Figure: Vertical

97.0 dBuV/m



 $Average = peak(dBuV/m) - duty \ cycle(dB)$

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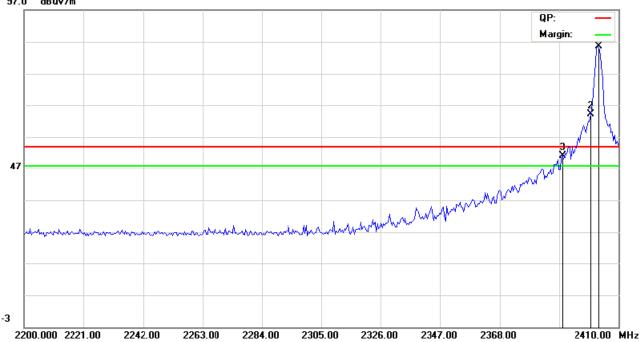
CH Low

10.4 Out of Band Test Result

EUT	6CH/4CH Radio Control		Model	X-6
Mode	Keep Trar	nsmitting	Input Voltage	DC4.8V
Temperature	24 de	g. C,	Humidity	56% RH
Test Result:	Pass		Detector	PK
The Max. FS in	PK (dBµV/m)	64.15		$74(dB\mu V/m)$
Restrict Band (2400MHz)	$AV(dB\mu V/m)$	38.49	Limit	54(dBμV/m)
The Max. FS in	PK (dBμV/m)	51.04		$74(dB\mu V/m)$
Restrict Band (2390MHz)	AV(dBμV/m)	25.38		54(dBμV/m)

Test Figure: Horizontal

97.0 dBuV/m



Average = peak(dBuV/m) - duty cycle(dB)

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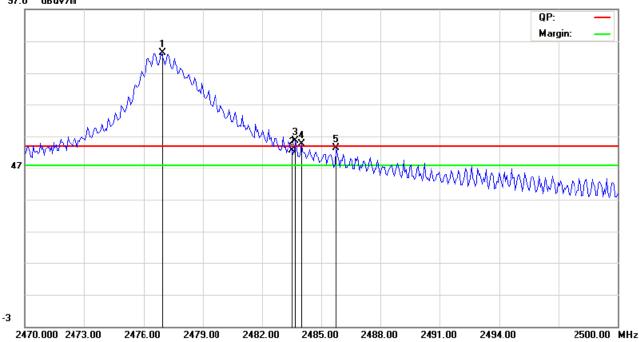
CH High

10.4 Out of Band Test Result

EUT	6CH/4CH Ra	dio Control	Model	X-6
Mode	Keep Tran	smitting	Input Voltage	DC4.8V
Temperature	24 deg	g. C,	Humidity	56% RH
Test Result:	Pas	SS	Detector	PK
The Max. FS in	PK (dBμV/m)	52.75		74(dBμV/m)
Restrict Band (2483.500MHz)	$AV(dB\mu V/m)$	27.09		54(dBμV/m)
The Max. FS in	PK (dBμV/m)	55.69		$74(dB\mu V/m)$
Restrict Band (2483.707MHz)	AV(dBμV/m)	30.03	T	54(dBµV/m)
The Max. FS in Restrict Band	PK (dBμV/m)	54.54	Limit —	$74(dB\mu V/m)$
(2484.008MHz)	$AV(dB\mu V/m)$	28.88		54(dBμV/m)
The Max. FS in	PK (dBμV/m)	53.32		$74(dB\mu V/m)$
Restrict Band (2485.751MHz)	AV(dBμV/m)	27.66		54(dBµV/m)

Test Figure: Horizontal

97.0 dBuV/m



 $Average = peak(dBuV/m) - duty \ cycle(dB)$

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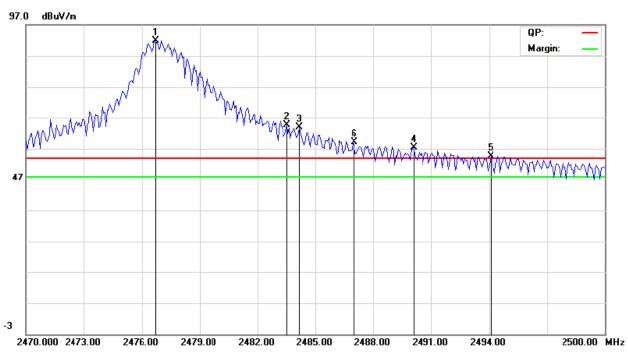


CH High

10.4 Out of Band Test Result

EUT	6CH/4CH Radio Control		Model	X-6
Mode	Keep Tran	smitting	Input Voltage	DC4.8V
Temperature	24 deg	g. C,	Humidity	56% RH
Test Result:	Pas	SS	Detector	PK
The Max. FS in	PK (dBμV/m)	64.55		$74(dB\mu V/m)$
Restrict Band (2483.500MHz)	AV(dBμV/m)	38.89		$54(dB\mu V/m)$
The Max. FS in	PK (dBμV/m)	63.94		$74(dB\mu V/m)$
Restrict Band				
(2484.188MHz)	$AV(dB\mu V/m)$	38.28		$54(dB\mu V/m)$
The Max. FS in	PK (dBμV/m)	57.29		$74(dB\mu V/m)$
Restrict Band			Limit	
(2490.080MHz)	$AV(dB\mu V/m)$	31.63		$54(dB\mu V/m)$
The Max. FS in	PK (dBμV/m)	54.61		$74(dB\mu V/m)$
Restrict Band				
(2494.108MHz)	$AV(dB\mu V/m)$	28.95		$54(dB\mu V/m)$
The Max. FS in	PK (dBμV/m)	59.12		$74(dB\mu V/m)$
Restrict Band			_	
(2486.954MHz)	$AV(dB\mu V/m)$	33.46		$54(dB\mu V/m)$

Test Figure: Vertical



Average = peak(dBuV/m) - duty cycle(dB)

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11.0 Antenna Requirement 11.1 Standard Applicable

For intentional device, according to FCC 47 CFR Section 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.

And according to FCC 47 CFR Section 15.247 (b), if transmitter antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the mount in dB that the directional gain of the antenna exceeds 6 dBi.

11.2 Antenna Connected construction

The antenna is Dipole antenna. The maximum Gain of this antenna is 2.5dBi

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12.0 Maximum Permissible Exposure

Applicable Standard

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2m normally can be maintained between the user and the device.

(a) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Times E 2 , H 2 or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100000			5	6

(b) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Times E 2 , H 2 or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100000			1.0	30

Note: f=frequency in MHz; *Plane-wave equivalent power density

MPE Calculation Method

 $E (V/m) = (30*P*G)^{0.5}/d$ Power Density: Pd $(W/m^2) = E^2/377$

 $\mathbf{E} = \text{Electric Field (V/m)}$

 \mathbf{P} = Peak RF output Power (W)

G = EUT Antenna numeric gain (numeric)

 \mathbf{d} = Separation distance between radiator and human body (m)

The formula can be changed to

 $Pd = (30*P*G) / (377*d^2)$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained.

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Calculated Result and Limit

Antenna Gain (Numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm²)	Limit of Power Density (S) (mW/cm²)	Test Result
1.778	18.90	77.625	0.02746	1	Compiles

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13.0 Duty Cycle

13.1 Limit

Nil (No dedicated limit specified in the Rules).

13.2 Test Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 3. Set center frequency of spectrum analyzer=operating frequency.
- 4. Set the spectrum analyzer as RBW, VBW=1MHz, Span=0Hz, Adjust Sweep=100ms.
- 5. Repeat above procedures until all frequency measured were complete.

13.3 Test Data

Tp = 100 ms

 $Ton_1 = 0.4008*13 = 5.2104$ (ms)

Factor = $20 * \log (Ton / Tp) = 20 * \log (5.2104/100) = -25.66dB$

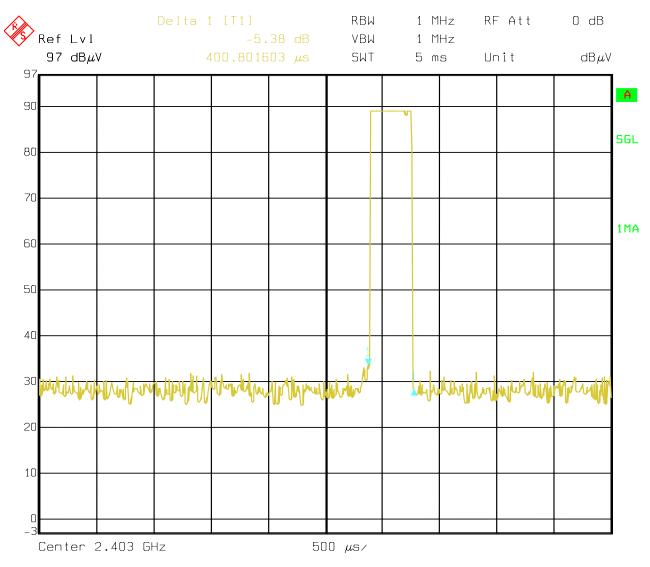
Refer to attached plots for details:

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Low CH



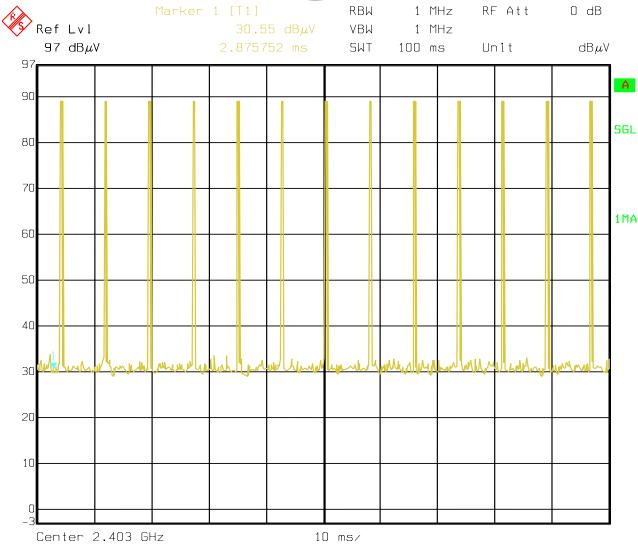
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Low CH



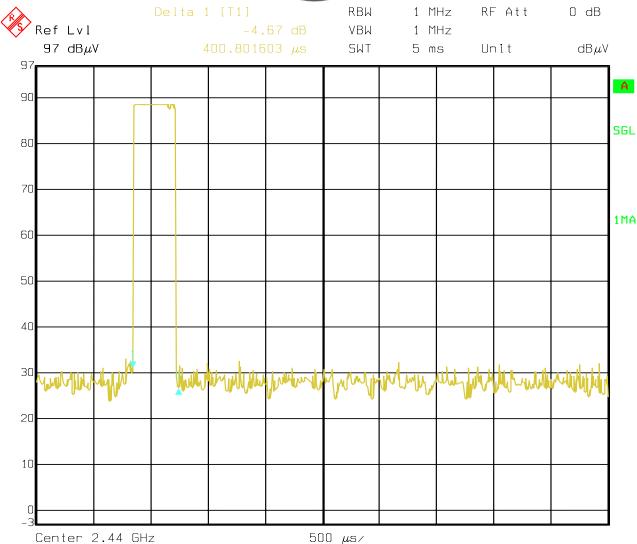
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Middle CH



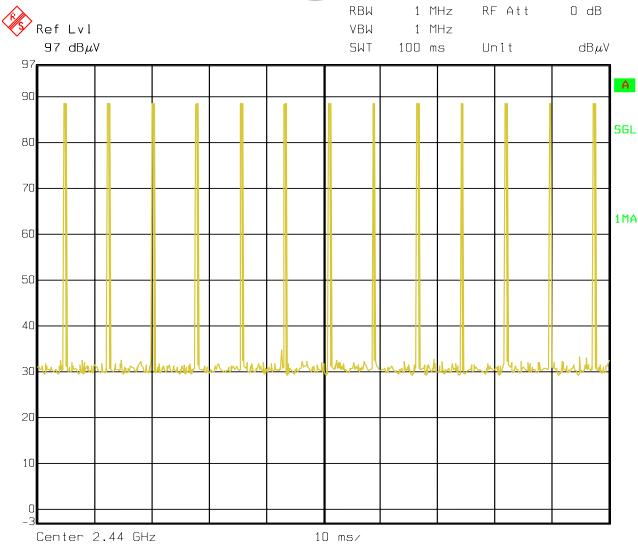
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Middle CH



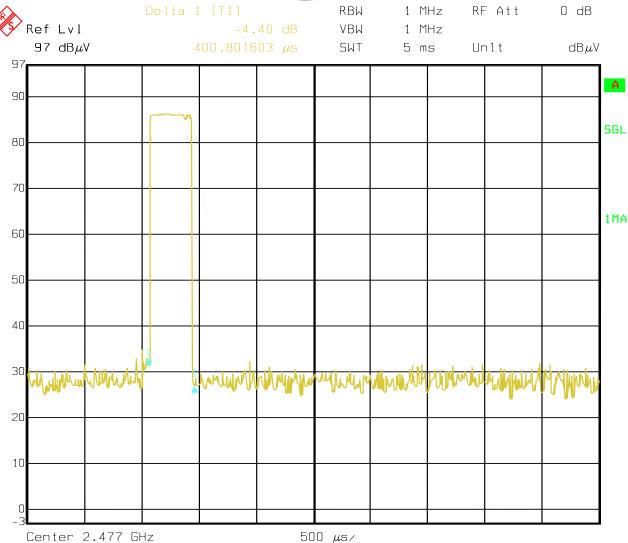
Date: 08.JUN.2011 13:06:13

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High CH



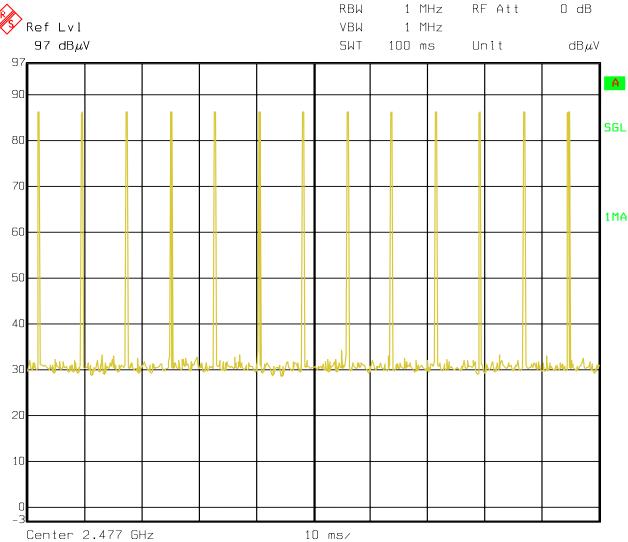
Date: 08.JUN.2011 13:11:00

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High CH



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Date: 2011-06-15

FCC ID Label

14.0

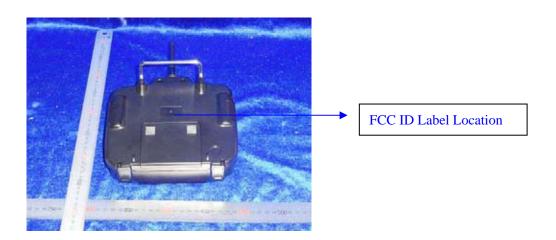


FCC ID: V6KX-46

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:



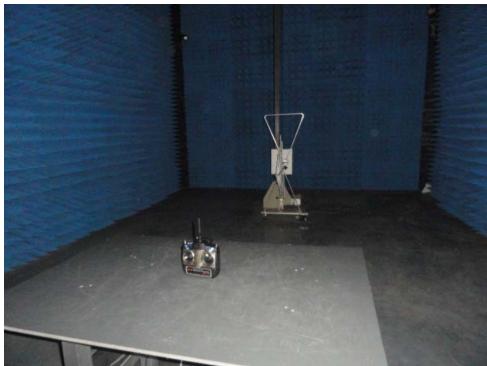
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15.0 Photo of testing

15.1 Emission Radiated test View--





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15.2 Photo for the EUT

Outside View (Model: X-6)





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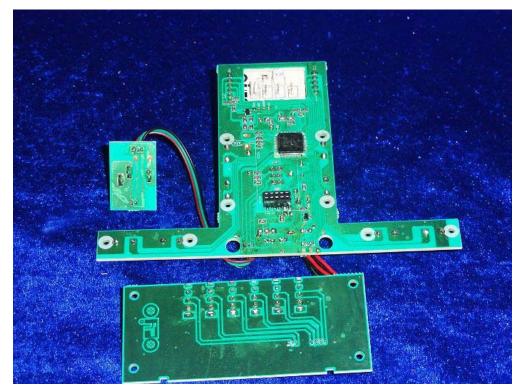
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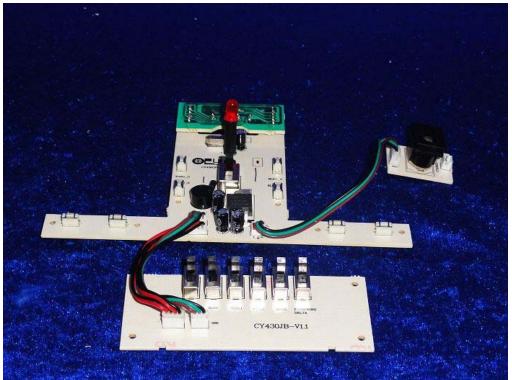
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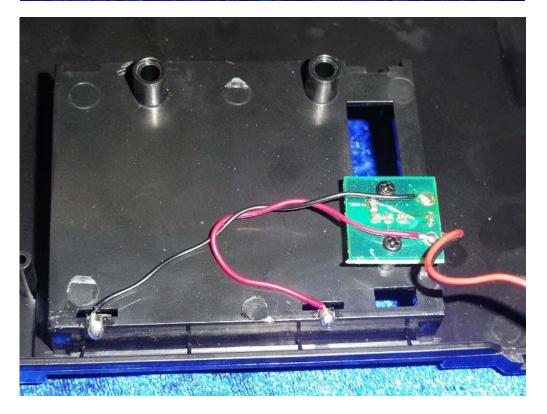
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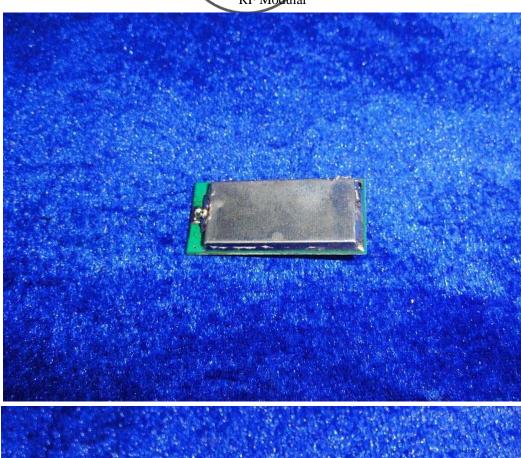
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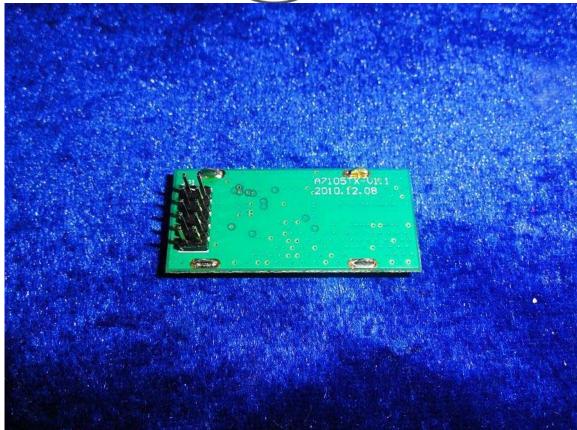
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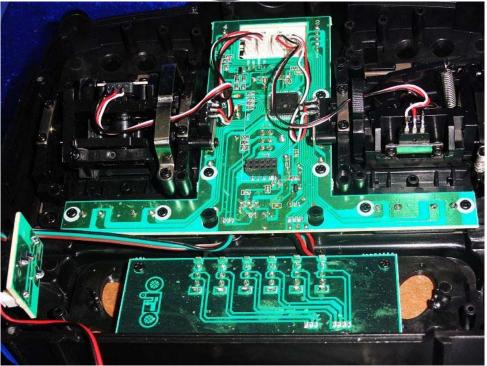
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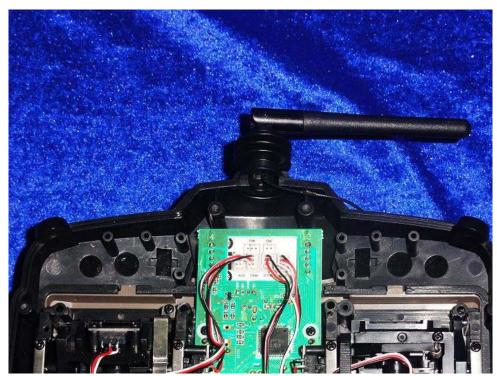
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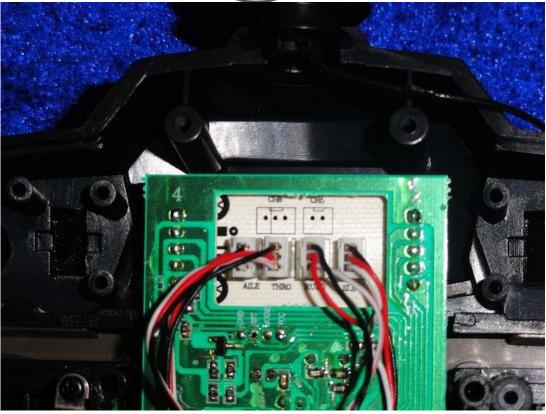
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