ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 15 SUBPART B &C REQUIREMENT

OF

Wireless XGA TV box

MODEL No.: TV5600

BRAND NAME: GADMEI

FCC ID: VHH-TV5600

REPORT NO: E0706637E

ISSUE DATE: July 23, 2007

Prepared for

GADMEI ELECTRONICS TECHNOLOGY CO., LTD.
Yin Zhan Farm, Qing Cheng District, Qing Yuan City, Guangdong Province, China

Prepared by

SHENZHEN EMTEK CO., LTD

Bldg 69, Majialong Industry Zone, Nanshan District,
Shenzhen, Guangdong, China
TEL: 86-755-26954280
FAX: 86-755-26954282

VERIFICATION OF COMPLIANCE

Applicant:	GADMEI ELECTRONICS TECHNOLOGY CO., LTD. Yin Zhan Farm, Qing Cheng District, Qing Yuan City, Guangdong Province, China
Product Description:	Wireless XGA TV box
Brand Name:	GADMEI
Model Number:	TV5600
File Number:	E0706637E
Date of Test:	July 07, 2007 to July 21, 2007

We hereby certify that:

The above equipment was tested by SHENZHEN EMTEK CO., LTD. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4 (2003) and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rules Part 15.249.

The test results of this report relate only to the tested sample identified in this report.

Approved By

David Lee / Q.A. Manager
SHENZHEN EMTEK CO., LTD.

Table of Contents

1. GENERAL INFORMATION

1.1 Product Description

The GADMEI ELECTRONICS TECHNOLOGY CO., LTD. Model: TV5600 (referred to as the EUT in this report) The EUT is an short range, lower power, Wireless XGA TV box designed as an " Input Device. It is designed by way of utilizing the FM modulation achieves the system operating.

2.4GHz wireless series uses FM modulation technology to provide ISM band wireless audio and video connection, Watch cable TV on additional CRT or LCD monitor in separate rooms via 2.4GHz wireless transmission. Transmits CATV signals via the transmitter or signals from other video equipment such as VCR, DVD, VCD, Satellite receiver, and video camera by wireless, Built-in-433MHz and IR remote give commands over the transmitter and the receiver separately.

A major technical descriptions of EUT is described as following:

A). Operation Frequency:CH1: 2.414GHz, CH2:2.432GHz, CH3: 2.450GHz, CH4: 2.468GHz
B). Modulation: FM
C). Number of Channel: 4
D). Antenna Designation: external
E). Power Supply: DC5V/100mA with Adaptor

1.2 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for FCC ID: VHH-TV5600 filing to comply with Section 15.249 of the FCC Part 15, Subpart B and Subpart C Rules, The composite system (receiver) is compliance with Subpart B is authorized under a DoC procedure.

1.3 Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4 (2003). Radiated testing was performed at an antenna to EUT distance 3 meters. The customer requested FCC tests for a Wireless XGA TV box for DVD Player

1.4 Special Accessories

Not available for this EUT intended for grant.

1.5 Equipment Modifications

Not available for this EUT intended for grant.

1.6 Test Facility

Site Description

EMC Lab. : Accredited by CNAS, 2005.11.02
The certificate is valid until 2010.11
The Laboratory has been assessed and proved to be in compliance with CNAS/CL01:2006(identical to ISO/IEC17025:2005)
The Certificate Registration Number is L2291

Accredited by TUV Rheinland Guangzhou, 2005.1
The certificate is valid until 2008.2
The Laboratory has been assessed according to the requirements ISO/IEC 17025:1999

Accredited by FCC, July 07, 2005
The Certificate Registration Number is 709623.

Accredited by Industry Canada, August 30, 2005
The Certificate Registration Number is 46405-4480

Name of Firm : SHENZHEN EMTEK CO., LTD

Site Location : Bldg 69, Majialong Industry Zone,
Nanshan District, Shenzhen, Guangdong, China

2. System Test Configuration

2.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

2.2 EUT Exercise

The Transmitter was operated in the normal operating mode. the Tx frequency was fixed which was for the purpose of the measurements.

2.3 Test Procedure

2.3.1 Conducted Emissions

The EUT is a placed on as turn table which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4-2003.Conducted emissions from the EUT measured in the **frequency range between 0.15 MHz and 30MHz** using **CISPR Quasi-Peak and average detector mode**.

2.3.2 Radiated Emissions

The EUT is a placed on as turn table which is 0.8 m above ground plane. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter(EUT) was rotated through three orthogonal axes according to the requirements in Section 13.1.4.1 of ANSI C63.4-2003.

2.4 Limitation

(1) Conducted Emission

Frequency(MHz)	Quasi-peak	Average
0.15-0.5	66-56	56-46
0.5-5.0	56	46
5.0-30.0	60	50

Note:

1. The lower limit shall apply at the transition frequencies
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

(2)Radiated Emissions FCC Rule: 15.249(a)

FCC Part 15, Subpart C Section 15.249. The field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Frequency(MHz)	Filed Strength of Fundamental(at 3m)		Filed Strength of Harmonics(at 3m)	
	PEAK	AVERAGE	PEAK	AVERAGE
902-928	114	94	74.0	54.0
2400-2483.5	114	94	74.0	54.0
5725-5875	114	94	74.0	54.0
24000-24250	128	108	88.0	68.0

Radiated Emissions

FCC Rule: 15.249(d)(e)

FCC Part 15, Subpart C Section 15.209 limit of radiated emission for frequency below 1000GHz. The emissions from an intentional radiator shall not exceed the field strength level specified in the following table:

Frequency (MHz)	Field strength μV/m	Distance(m)	Field strength at 3m dBμV/m
30-88	100	3	40
88-216	150	3	43.5
216-960	200	3	46
Above 960	500	3	54

Remark: 1. Emission level in dBuV/m=20 log (uV/m)
2. Measurement was performed at an antenna to the closed point of EUT distance of meters.

FCC Part 15, Section 15.35(b) limit of radiated emission for frequency above 1000MHz

Frequency(MHz)	Class A(dBμV/m)(at 3m)		Class B(dBμV/m)(at 3m)	
	PEAK	AVERAGE	PEAK	AVERAGE
Above 1000	80.0	60.0	74.0	54.0

2.5 Configuration of Tested System

Fig. 2-1 Configuration of Tested System

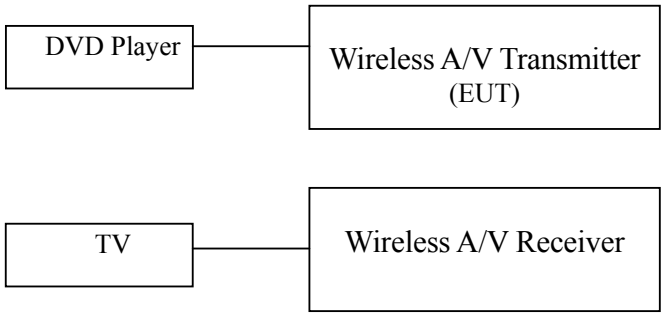


Table 2-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.	Note
1.	Wireless A/V Transmitter & Receiver	GADMEI	GM2400	VHH-GM2400	N/A	***EUT***
2.	TV	Hena	PAVT-108H	N/A	N/A	
3.	DVD Player	Hena	HDVD-998	N/A	N/A	

Note:

(1) Unless otherwise denoted as EUT in『Remark』column , device(s) used in tested system is a support equipment.

2.5 Configuration of Tested System

Fig. 2-1 Configuration of Tested System

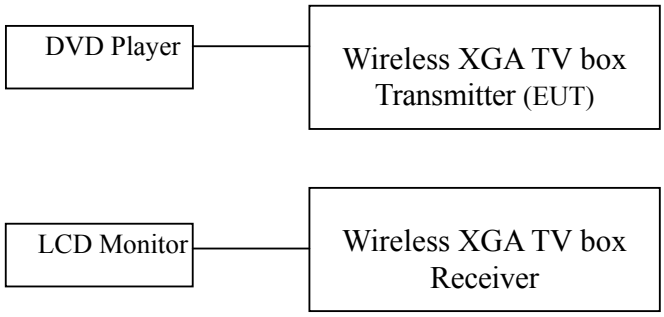


Table 2-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.	Note
1.	Wireless XGA TV box	GADMEI	TV5600	VHH-TV5600	N/A	***EUT***
2.	LCD Monitor	Sony	SDM-S53	N/A	N/A	
3.	DVD Player	Hena	HDVD-998	N/A	N/A	

Note:

(1) Unless otherwise denoted as EUT in『Remark』column , device(s) used in tested system is a support equipment.

3. Summary Of Test Results

FCC Rules	,Description Of Test	Result
§ 15.207	Conducted Emission	Compliant
§ 15.249 (a),(b),(d),(e), § 15.209	Radiated Emission	Compliant
§ 15.203	Antenna Requirement	Compliant

4. Description of test modes

The EUT (Wireless XGA TV box) has been tested under normal operating condition.
Three channels of EUT (the lowest channel, the middle channel and the highest channel) have been chosen for testing under Normal Operating condition. In this report, all the measured datum of the three channels have been reported. No software used to control the EUT for staying in continuous transmitting mode for testing.

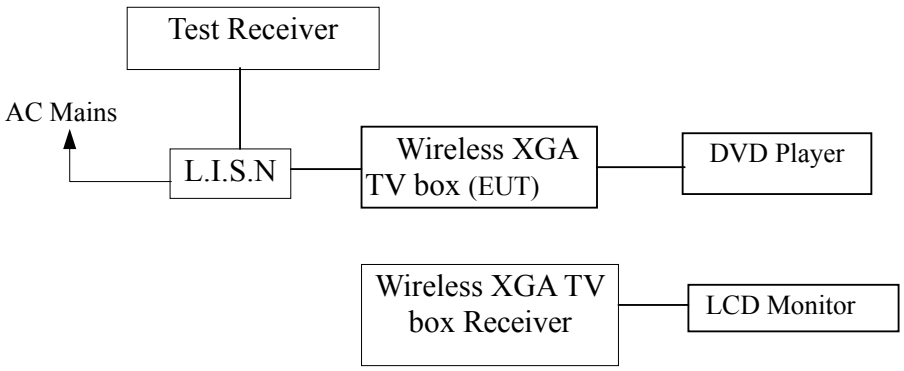
Channel	Frequency(MHz)
1	2414MHz
2	2432MHz
4	2468MHz

5. Conducted Emissions Test

5.1 Measurement Procedure:

1. The EUT was placed on a table which is 0.8m above ground plane.
2. Maximum procedure was performed on the three highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete.

5.2 Test SET-UP (Block Diagram of Configuration)



5.3 Measurement Equipment Used:

Conducted Emission Test Site # 4					
EQUIPMENT TYPE	**MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**LAST CAL.**	**CAL DUE.**
Test Receiver	Rohde & Schwarz	ESCS30	828985/018	05/29/2007	05/29/2008
L.I.S.N	Rohde & Schwarz	ESH2-Z5	834549/005	05/29/2007	05/29/2008
L.I.S.N	Rohde & Schwarz	ESH2-Z5	834549/005	05/29/2007	05/29/2008
50ΩCoaxial Switch	Anritsu	MP59B	M20531	05/29/2007	05/29/2008

5.4 Measurement Result:

Date of Test:	July 14, 2007	Temperature:	22℃
Frequency Detector:	0.15~30MHz	Humidity:	50%
Test Result:	PASS	Test Mode:	CH1(2414MHz)

Test Line	Frequency MHz	Emission Level QP dB(μV)	Emission Level AV dB(μV)	Limits QP dB(μV)	Limits AV dB(μV)	Margin QP dB(μV)	Margin AV dB(μV)
Neutral	0.157	55.92	46.80	65.62	55.62	-9.70	-8.82
	0.223	56.90	46.90	62.71	52.71	-5.81	-5.81
	0.276	53.50	43.10	60.94	50.94	-7.44	-7.84
	0.470	52.60	41.50	56.51	46.51	-3.91	-5.01
	0.750	42.60	39.32	56.00	46.00	-13.40	-6.68
	9.250	43.60	36.40	60.00	50.00	-16.40	-13.60
Line	0.157	56.92	46.98	65.62	55.62	-8.70	-8.64
	0.220	55.91	43.90	62.82	52.82	-6.91	-8.92
	0.270	56.20	41.20	61.12	51.12	-4.92	-9.92
	0.472	51.01	41.32	56.48	46.48	-5.47	-5.16
	0.721	42.10	38.42	56.00	46.00	-13.90	-7.58
	9.521	44.50	37.40	60.00	50.00	-15.50	-12.60

Date of Test:	July 14, 2007	Temperature:	22℃
Frequency Detector:	0.15~30MHz	Humidity:	50%
Test Result:	PASS	Test Mode:	CH3(2432MHz)

Test Line	Frequency MHz	Emission Level QP dB(μV)	Emission Level AV dB(μV)	Limits QP dB(μV)	Limits AV dB(μV)	Margin QP dB(μV)	Margin AV dB(μV)
Neutral	0.156	56.84	48.50	65.73	55.73	-8.89	-7.23
	0.197	57.92	46.80	63.74	53.74	-5.82	-6.94
	0.210	52.39	42.60	63.21	53.21	-10.82	-10.61
	0.287	56.50	43.69	60.61	50.61	-4.11	-6.92
	0.476	52.60	40.70	56.41	46.41	-3.81	-5.71
	0.757	42.50	37.50	56.00	46.00	-13.50	-8.50
Line	0.156	57.78	46.13	65.73	55.73	-7.95	-9.60
	0.197	56.42	46.32	63.74	53.74	-7.32	-7.42
	0.210	53.14	43.78	63.21	53.21	-10.07	-9.43
	0.287	57.62	44.10	60.61	50.61	-2.99	-6.51
	0.476	53.76	41.52	56.41	46.41	-2.65	-4.89
	0.758	41.50	38.40	56.00	46.00	-14.50	-7.60

Date of Test:	July 14, 2007	Temperature:	22℃
Frequency Detector:	0.15~30MHz	Humidity:	50%
Test Result:	PASS	Test Mode:	CH4(2468MHz)

Test Line	Frequency MHz	Emission Level QP dB(μV)	Emission Level AV dB(μV)	Limits QP dB(μV)	Limits AV dB(μV)	Margin QP dB(μV)	Margin AV dB(μV)
Neutral	0.200	56.10	48.62	63.61	53.61	-7.51	-4.99
	0.245	52.91	45.21	61.92	51.92	-9.01	-6.71
	0.330	51.60	45.20	59.45	49.45	-7.85	-4.25
	0.410	48.92	42.10	57.65	47.65	-8.73	-5.55
	0.470	46.87	39.50	56.51	46.51	-9.64	-7.01
	9.250	41.70	38.40	60.00	50.00	-18.30	-11.60
Line	0.201	57.50	47.60	63.57	53.57	-6.07	-5.97
	0.243	53.90	46.81	61.99	51.99	-8.09	-5.18
	0.330	51.20	45.10	59.45	49.45	-8.25	-4.35
	0.412	47.54	41.50	57.61	47.61	-10.07	-6.11
	0.470	46.10	38.50	56.51	46.51	-10.41	-8.01
	9.250	41.55	38.62	60.00	50.00	-18.45	-11.38

5.5 Conducted Measurement Photos:

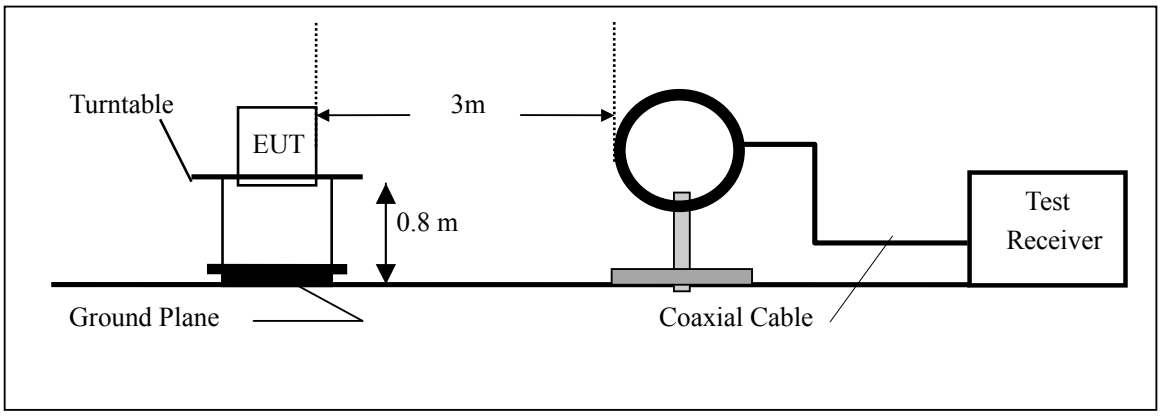
6. Radiated Emission Test

6.1 Measurement Procedure

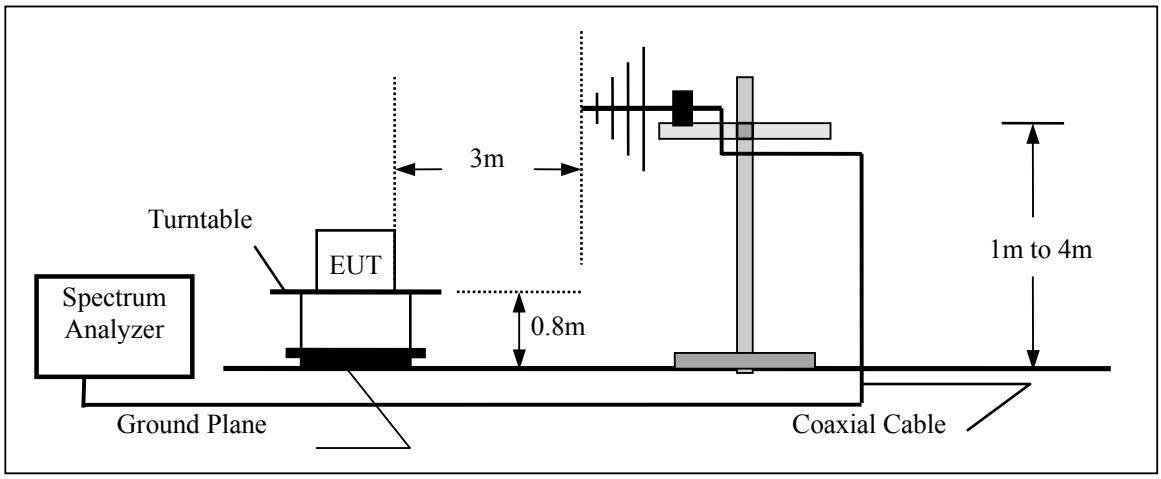
1 The EUT was placed on a turn table which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
4. Repeat above procedures until all frequency measured were complete.

6.2 Test SET-UP (Block Diagram of Configuration)

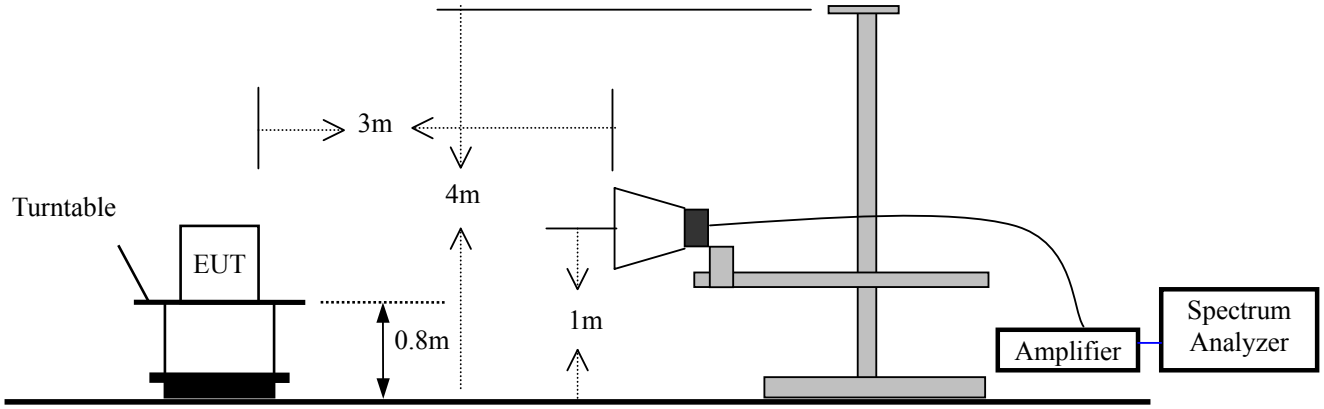
(A) Radiated Emission Test Set-Up, Frequency Below 30MHz



(B) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(C) Radiated Emission Test Set-Up, Frequency above 1000MHz



6.3 Measurement Equipment Used:

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Rohde & Schwarz	FSP7	839511/010	05/29/2007	05/29/2008
Spectrum Analyzer	HP	E4407B	839840481	05/29/2007	05/29/2008
EMI Test Receiver	Rohde & Schwarz	ESCS30	828985/018	05/29/2007	05/29/2008
Pre-Amplifier	HP	8447D	2944A07999	05/29/2007	05/29/2008
Bilog Antenna	Schwarzbeck	VULB9163	142	05/29/2007	05/29/2008
Loop Antenna	ARA	PLA-1030/B	1029	05/29/2007	05/29/2008
Horn Antenna	Electro-Metrics	EM-6961	103314	05/29/2007	05/29/2008
Horn Antenna	Schwarzbeck	BBHA 9120	D143	05/29/2007	05/29/2008

6.4 Out of Band Radiated Measurement Result

Operation Mode:	RX Mode	Test Date :	July 15,2007
Frequency Range:	30~1000MHz	Temperature :	28 ℃
Test Result:	PASS	Humidity :	65 %
Measured Distance:	3m	Test By:	Andy

Freq. (MHz)	Ant.Pol. H/V	Emission Level (dBuV)	Limit 3m (dBuV/m)	Margin (dB)	Note
111.480	V	36.80	43.50	-6.70	PK
132.580	V	35.94	43.50	-7.56	PK
163.820	V	40.86	43.50	-2.64	PK
383.612	V	38.70	46.00	-7.30	PK
431.590	V	37.97	46.00	-8.03	PK
130.880	H	37.80	43.50	-5.70	PK
163.010	H	38.15	43.50	-5.35	PK
260.150	H	34.68	43.50	-8.82	PK
381.250	H	42.11	46.00	-3.89	PK
456.800	H	40.56	46.00	-5.44	PK
705.501	H	42.81	46.00	-3.19	PK

Note: (1) All Readings are Peak Value.
(2) Emission Level= Reading Level+Probe Factor +Cable Loss
(3) The average measurement was not performed when the peak measured data under the limit of average detection.

No others harmonics emissions are higher than 20dB below the limits of 47 CFR Part 15.209.

Operation Mode:	TX (2414MHz)	Test Date :	July 15,2007
Frequency Range:	1-25GHz	Temperature :	28 ℃
Test Result:	PASS	Humidity :	65 %
Measured Distance:	3m	Test By:	Andy

Freq.	Ant.Pol.	Emission Level(dBuV)		Limit 3m(dBuV/m)		Margin(dB)	
(GHz)	H/V	PK	AV	PK	AV	PK	AV
2.414(F)	V	92.10	89.21	114	94	-21.90	-4.79
4.828	V	53.21	48.50	74	54	-20.79	-5.50
7.242	V	54.12	49.50	74	54	-19.88	-4.50
9.656	V	44.10	40.10	74	54	-29.90	-13.90
12.070	V	40.50	37.21	74	54	-33.50	-16.79
2.414(F)	H	91.50	86.50	114	94	-22.50	-7.50
4.828	H	51.20	47.21	74	54	-22.80	-6.79
7.242	H	53.50	49.10	74	54	-20.50	-4.90
9.656	H	43.50	38.15	74	54	-30.50	-15.85
12.070	H	39.56	36.45	74	54	-34.44	-17.55

Note: (1) All Readings are Peak Value and AV.
(2) Emission Level= Reading Level+Probe Factor +Cable Loss
(3) The average measurement was not performed when the peak measured data under the limit of average detection.

No others harmonics emissions are higher than 20dB below the limits of 47 CFR Part 15.249.

device

Operation Mode:	TX(2432MHz)	Test Date :	July 15,2007
Frequency Range:	1-25GHz	Temperature :	28 ℃
Test Result:	PASS	Humidity :	65 %
Measured Distance:	3m	Test By:	Andy

Freq.	Ant.Pol.	Emission Level(dBuV)		Limit 3m(dBuV/m)		Margin(dB)	
(GHz)	H/V	PK	AV	PK	AV	PK	AV
2.432(F)	V	91.50	87.50	114	94	-22.50	-6.50
4.864	V	50.85	47.54	74	54	-23.15	-6.46
7.296	V	51.50	48.50	74	54	-22.50	-5.50
9.728	V	47.52	43.19	74	54	-26.48	-10.81
12.160	V	43.87	39.40	74	54	-30.13	-14.60
2.432(F)	H	90.57	86.40	114	94	-23.43	-7.60
4.864	H	51.20	48.50	74	54	-22.80	-5.50
7.296	H	52.80	48.63	74	54	-21.20	-5.37
9.728	H	44.15	41.62	74	54	-29.85	-12.38
12.160	H	42.89	38.20	74	54	-31.11	-15.80

Note: (1) All Readings are Peak Value and AV.
(2) Emission Level= Reading Level+Probe Factor +Cable Loss
(3) The average measurement was not performed when the peak measured data under the limit of average detection.

No others harmonics emissions are higher than 20dB below the limits of 47 CFR Part 15.249.

Operation Mode:	TX(2468MHz)	Test Date :	July 15,2007
Frequency Range:	1-25GHz	Temperature :	28 ℃
Test Result:	PASS	Humidity :	65 %
Measured Distance:	3m	Test By:	Andy

Freq.	Ant.Pol.	Emission Level(dBuV)		Limit 3m(dBuV/m)		Margin(dB)	
(GHz)	H/V	PK	AV	PK	AV	PK	AV
2.468(F)	V	91.50	87.56	114	94	-22.50	-6.44
4.936	V	51.24	47.91	74	54	-22.76	-6.09
7.404	V	52.34	48.80	74	54	-21.66	-5.20
9.872	V	44.80	41.50	74	54	-29.20	-12.50
12.340	V	41.58	38.72	74	54	-32.42	-15.28
2.468(F)	H	90.15	87.10	114	94	-23.85	-6.90
4.936	H	51.50	47.56	74	54	-22.50	-6.44
7.404	H	52.56	47.60	74	54	-21.44	-6.40
9.872	H	43.50	42.62	74	54	-30.50	-11.38
12.340	H	41.50	38.52	74	54	-32.50	-15.48

Note: (1) All Readings are Peak Value and AV.
(2) Emission Level= Reading Level+Probe Factor +Cable Loss
(3) The average measurement was not performed when the peak measured data under the limit of average detection.

No others harmonics emissions are higher than 20dB below the limits of 47 CFR Part 15.249.

6.5 Radiated Measurement Photos:

7. Antenna Application

7.1 Antenna requirement

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible part shall be used with the device, The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section, The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

7.2 Antenna construction and directional gain

An external specify type antenna was used.