

## FCC 47 CFR PART 15 SUBPART C

Product Type : Smartphone  
Applicant : HTC Corporation  
Address : No. 23, Xinghua Rd., Taoyuan City, Taoyuan County 330,  
Taiwan  
Trade Name : HTC  
Model Number : PG76240  
Test Specification : FCC 47 CFR PART 15 SUBPART C: Oct., 2010  
ANSI C63.4-2009  
Issue Date : Jun. 14, 2011

### Issue by

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Taiwan Accreditation Foundation accreditation number: 1330

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**Revision History**

<b>Rev.</b>	<b>Issue Date</b>	<b>Revisions</b>	<b>Revised By</b>
00	Jun. 14, 2011	Initial Issue	

## Verification

Issued Date: 06/14/2011

Product Type : Smartphone  
Applicant : HTC Corporation  
Address : No. 23, Xinghua Rd., Taoyuan City, Taoyuan County 330,  
Taiwan  
Trade Name : HTC  
Model Number : PG76240  
FCC ID : NM8PG76240  
EUT Rated Voltage : DC 5.0V, 1.0A  
Test Voltage : 120 Vac / 60 Hz  
Applicable Standard : FCC 47 CFR PART 15 SUBPART C: Oct., 2010  
ANSI C63.4-2009  
Test Result : Complied  
Performing Lab. : A Test Lab Techno Corp.

No. 140-1, Changan Street, Bade City,  
Taoyuan County 334, Taiwan R.O.C.

Tel : +86-3-2710188 / Fax : +86-3-2710190


Taiwan Accreditation Foundation accreditation number:  
1330

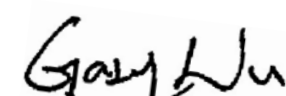


<http://www.atl-lab.com.tw/e-index.htm>

The above equipment was tested by A Test Lab Techno Corp. 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: 2009 and the energy emitted by the sample tested as described in this report is in compliance with the requirements of FCC Rules Part 15.207, 15.209, 15.247 .

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

Approved By :   
(Manager) (Miller Lee )

Reviewed By :   
(Testing Engineer) (Gary Wu)

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## 1 General Information

### 1.1 Summary of Test Result

Standard		Item	Result	Remark
15.247	RSS-GEN			
15.207	7.2.2	AC Power Conducted Emission	PASS	-----
-----	6	Receiver Radiated Emissions	PASS	-----
Standard		Item	Result	Remark
15.247	RSS-210			
15.247(d)	A8.5	Transmitter Radiated Emissions	PASS	-----
15.247(b)(3)	A8.4	Max. Output Power	PASS	-----
15.247(a)(2)	A8.2 (a)	6dB RF Bandwidth	PASS	-----
15.247(e)	A8.2 (b)	Power Spectral Density	PASS	-----
15.247(c)	A8.5	Out of Band Conducted Spurious Emission	PASS	-----
15.247(d)	A8.5	Band Edge Measurement	PASS	-----
15.247(c)	A8.5	Occupied Bandwidth Measurement	PASS	-----
15.203	-	Antenna Requirement	PASS	-----

The test results of this report relate only to the tested sample(s) identified in this report. Manufacturer or whom it may concern should recognize the pass or fail of the test result.

### 1.2 Measurement Uncertainty

#### Conducted Emission

The measurement uncertainty is evaluated as  $\pm 2.24$  dB.

#### Radiated Emission

The measurement uncertainty of 30 MHz - 1GHz is evaluated as  $\pm 3.072$ dB.

## 2 EUT Description

Product	:	Smartphone
Trade Name	:	HTC
Model No.	:	PG76240
Applicant	:	HTC Corporation No. 23, Xinghua Rd., Taoyuan City, Taoyuan County 330, Taiwan
Manufacturer	:	HTC Corporation No. 23, Xinghua Rd., Taoyuan City, Taoyuan County 330, Taiwan
FCC ID	:	NM8PG76240
Frequency Range	:	2412 ~ 2462 MHz
Modulation Type	:	IEEE 802.11b:DSSS(DQPSK, DBPSK) IEEE 802.11g:DSSS(DQPSK, DBPSK)+ OFDM(QPSK, BPSK, 16-QAM, 64-QAM) draft 802.11n Standard-20MHz channel mode: OFDM(QPSK, BPSK, 16-QAM, 64-QAM) 7.2, 14.4, 21.7, 28.9, 43.3, 57.8, 65.0, 72.2 Mbps
Antenna Type	:	PIFA Type
Antenna Gain	:	1.1 dBi
RF Output Power	:	IEEE 802.11b: 0.102 W / 20.10 dBm IEEE 802.11g: 0.168 W / 22.26 dBm draft 802.11n Standard-20MHz: 0.173 W / 22.38 dBm

### 3 Test Methodology

#### 3.1. Mode of Operation

Decision of Test ATL has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Test Mode
Mode 1: IDLE Mode
Mode 2: Normal Operation Mode
Mode 3: IEEE 802.11b Link Mode
Mode 4: IEEE 802.11g Link Mode
Mode 5: draft 802.11n Standard-20MHz Link Mode
Mode 6: Receiver Mode

Software used to control the EUT for staying in continuous transmitting mode was programmed.

After verification, all tests were carried out with the worst case test modes as shown below except radiated spurious emission below 1GHz and power line conducted emissions below 30MHz, which worst case was in normal link mode only.

IEEE 802.11b mode:

Channel Low (2412MHz), Channel Mid (2437MHz) and Channel High (2462MHz) with 11Mbps data rate were chosen for full testing.

IEEE 802.11g mode:

Channel Low (2412MHz), Channel Mid (2437MHz) and Channel High (2462MHz) with 6Mbps data rate were chosen for full testing.

draft 802.11n Standard-20 MHz Channel mode:

Channel Low (2412MHz), Channel Mid (2437MHz) and Channel High (2462MHz) with 6.5Mbps data rate were chosen for full testing.

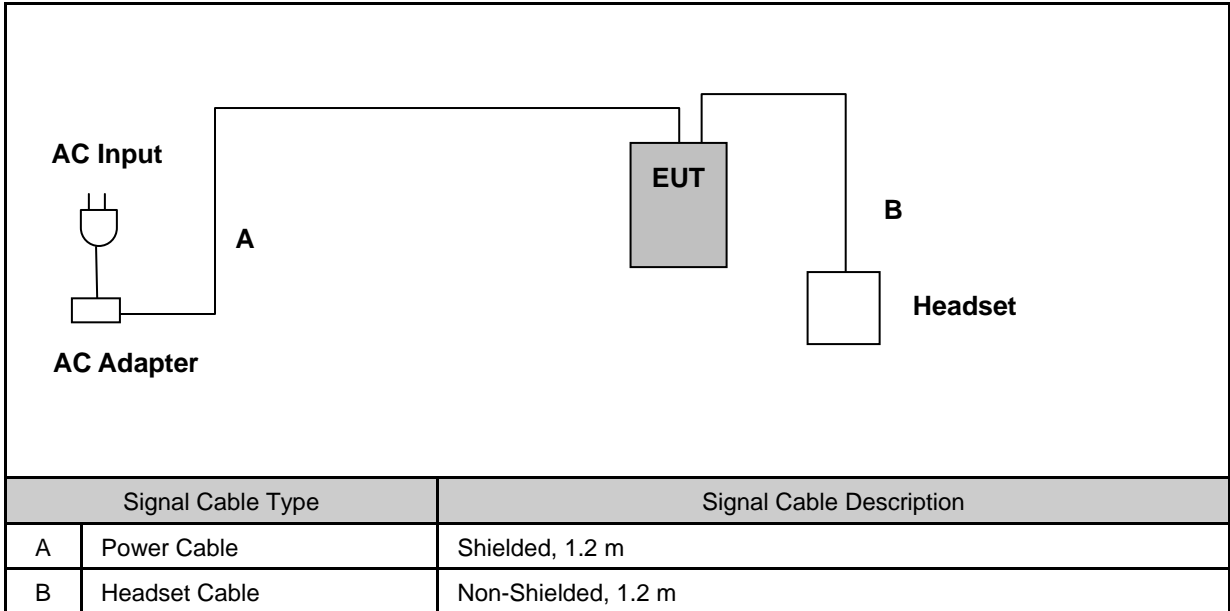
#### 3.2. EUT Exercise Software

1.	Setup the EUT shown on 3.3.
2.	Turn on the power of all equipment.
3.	Turn on Wi-Fi function link to AP.
4.	EUT run test program.

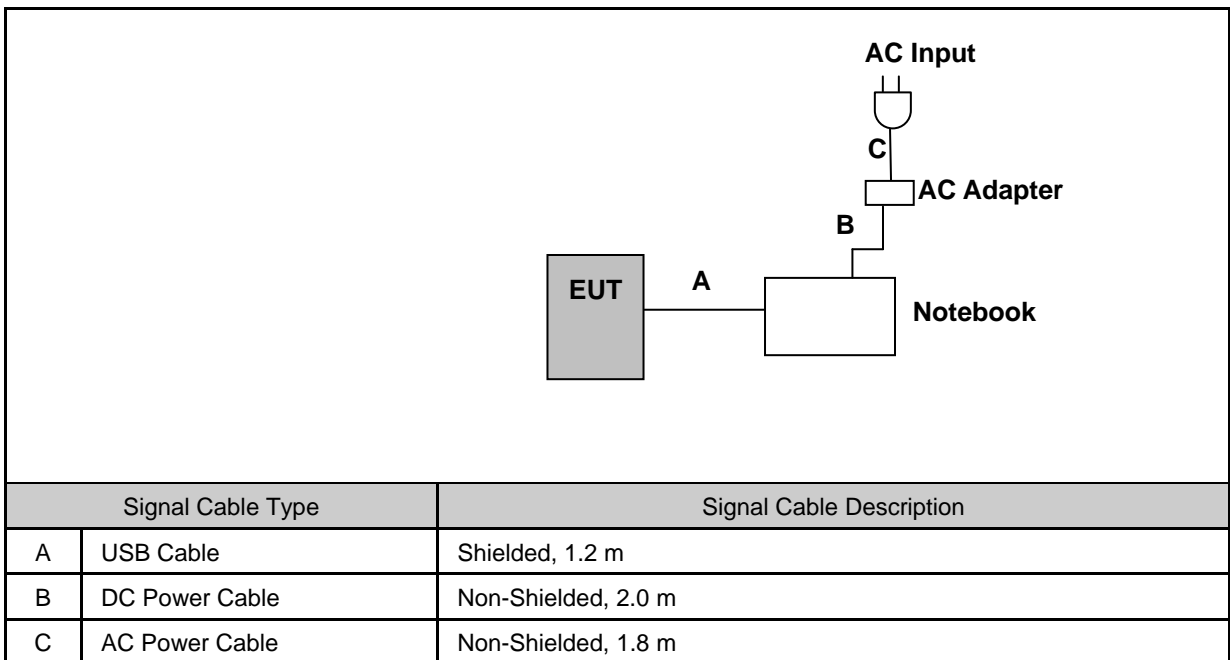


### 3.3. Configuration of Test System Details

#### Conducted Emission



#### Radiated Emission



#### Devices Description

	Product	Manufacturer	Model Number	Serial Number	Power Cord
1.	Notebook	DELL	D830	CN-OHN341-48643-88Q-1221	Non-Shielded, 2.0 m

**3.4. Test Site Environment**

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	26
Humidity (%RH)	25-75	60
Barometric pressure (mbar)	860-1060	950

## 4 Conducted Emission Measurement

### 4.1. Limit

Frequency (MHz)	Quasi-peak	Average
0.15 - 0.5	66 to 56	56 to 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

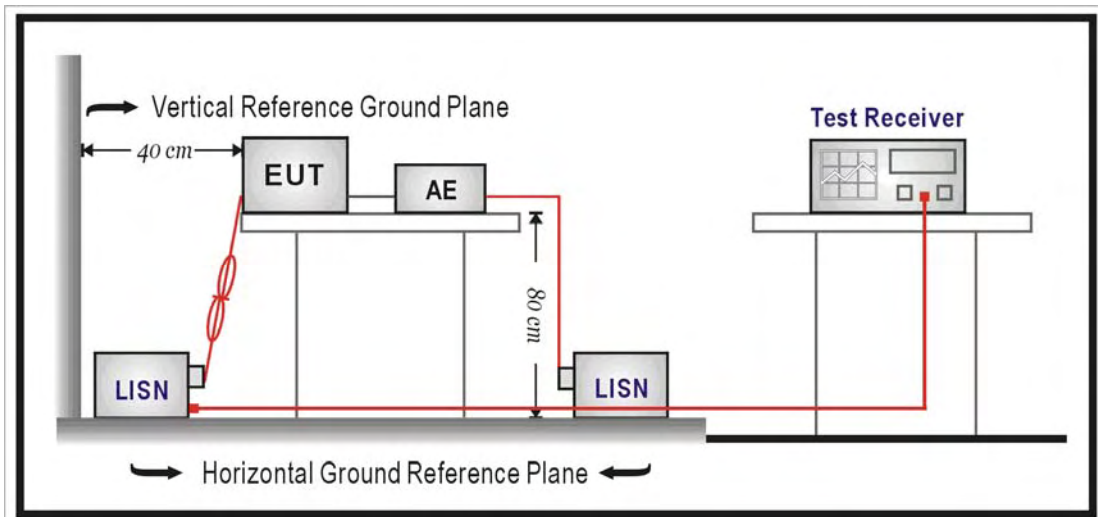
### 4.2. Test Instruments

Describe	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Test Receiver	R&S	ESCI	100367	07/01/2010	(1)
LISN	R&S	ENV216	101040	03/04/2011	(1)
LISN	R&S	ENV216	101041	03/04/2011	(1)
Test Site	ATL	TE05	TE05	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.

NOTE: N.C.R. = No Calibration Request.

### 4.3. Test Setup



#### **4.4. Test Procedure**

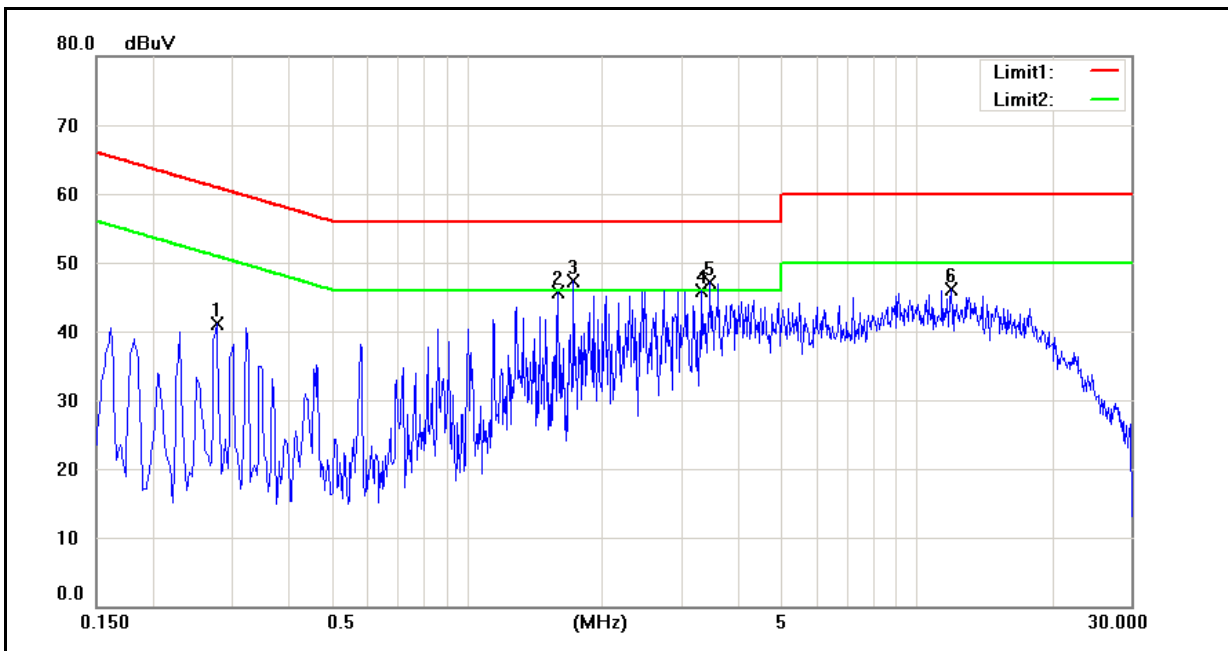
The power line conducted emission measurements were performed in a shielded enclosure. The EUT was assembled on a wooden table which is 80 centimeters high, was placed 40 centimeters from the back wall and at least 1 meter from the sidewall.

Power was fed to the EUT from the public utility power grid through a line filter and EMCO Model 3162/2 SH Line Impedance Stabilization Networks (LISN). The LISN housing, measuring instrumentation case, ground plane, etc., were electrically bonded together at the same RF potential. The Spectrum analyzer was connected to the AC line through an isolation transformer. The 50-ohm output of the LISN was connected to the spectrum analyzer directly. Conducted emission levels were in the CISPR quasi-peak detection mode. The analyzer's 6 dB bandwidth was set to 9 KHz. No post-detector video filter was used.

The spectrum was scanned from 150 KHz to 30 MHz. The physical arrangement of the test system and associated cabling was varied (within the scope of arrangements likely to be encountered in actual use) to determine the effect on the unit's emanations in amplitude and frequency. All spurious emission frequencies were observed. The highest emission amplitudes relative to the appropriate limit were measured and have been recorded in paragraph 4.1.

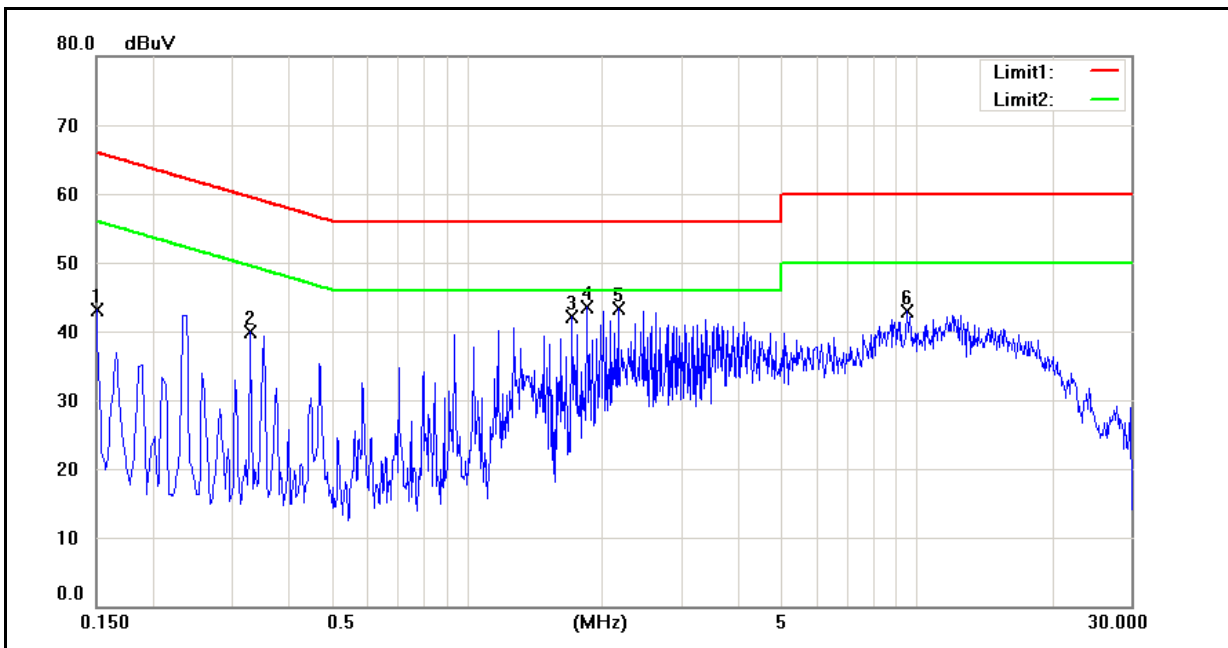
**4.5. Test Result**

Standard:	FCC Part 15C	Line:	L1
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	PG76240	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 1	Date:	06/07/2011
		Test By:	Gary Wu
Description:			



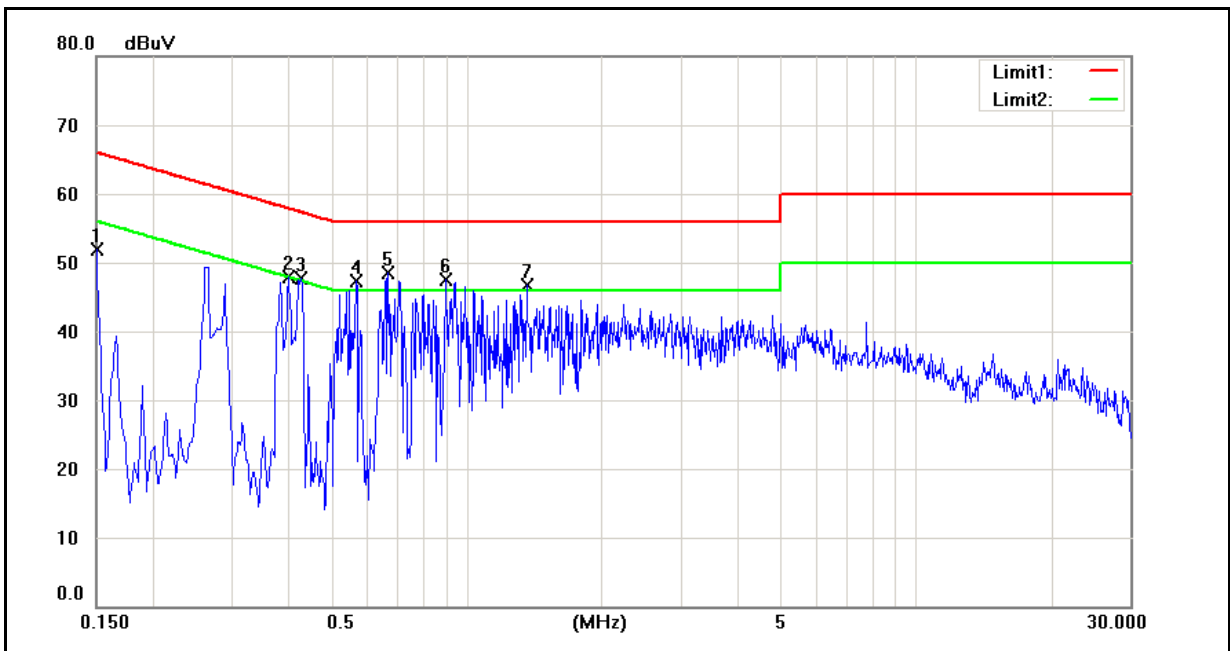
No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.2780	26.88	11.55	10.02	36.90	21.57	60.88	50.88	-23.98	-29.31	Pass
2	1.5980	31.25	21.01	9.69	40.94	30.70	56.00	46.00	-15.06	-15.30	Pass
3	1.7340	30.06	18.99	9.69	39.75	28.68	56.00	46.00	-16.25	-17.32	Pass
4	3.3340	28.18	17.83	9.80	37.98	27.63	56.00	46.00	-18.02	-18.37	Pass
5	3.4860	27.47	16.29	9.79	37.26	26.08	56.00	46.00	-18.74	-19.92	Pass
6	11.9940	28.50	19.50	10.31	38.81	29.81	60.00	50.00	-21.19	-20.19	Pass

Standard:	FCC Part 15C	Line:	N
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	PG76240	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 1	Date:	06/07/2011
		Test By:	Gary Wu
Description:			



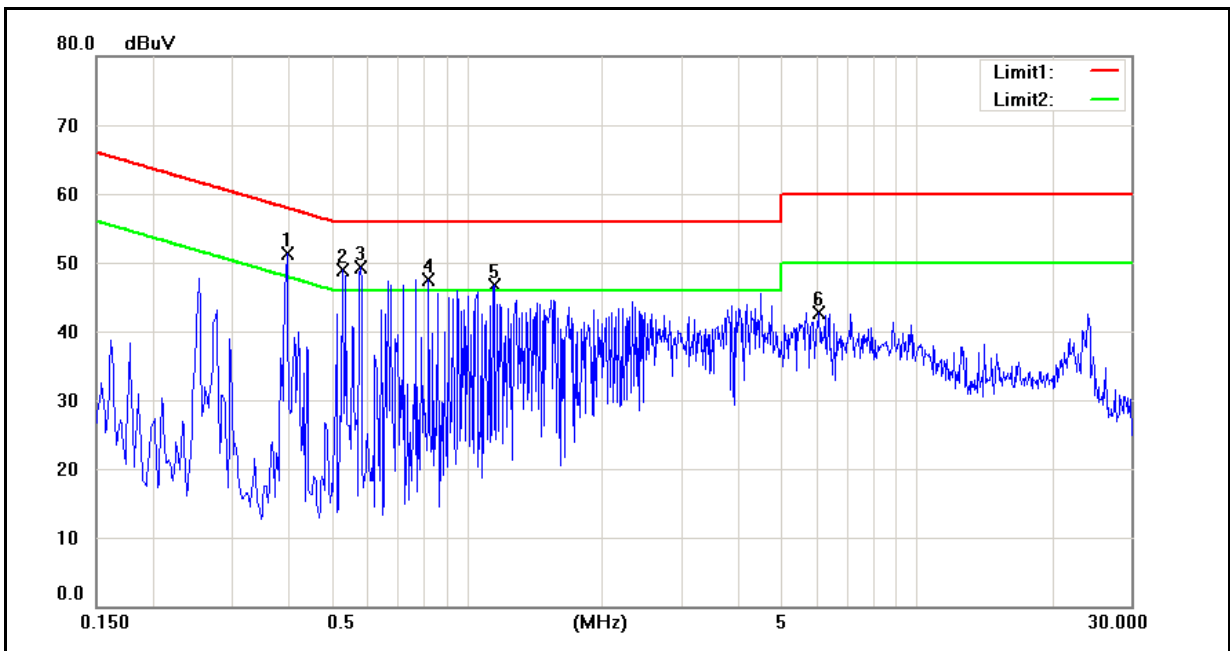
No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1500	28.94	9.56	10.15	39.09	19.71	66.00	56.00	-26.91	-36.29	Pass
2	0.3300	25.63	9.59	10.08	35.71	19.67	59.45	49.45	-23.74	-29.78	Pass
3	1.7140	22.52	9.99	9.75	32.27	19.74	56.00	46.00	-23.73	-26.26	Pass
4	1.8500	21.47	8.78	9.74	31.21	18.52	56.00	46.00	-24.79	-27.48	Pass
5	2.1700	25.23	16.01	9.76	34.99	25.77	56.00	46.00	-21.01	-20.23	Pass
6	9.5260	23.35	15.09	10.18	33.53	25.27	60.00	50.00	-26.47	-24.73	Pass

Standard:	FCC Part 15C	Line:	L1
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	PG76240	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	06/07/2011
		Test By:	Gary Wu
Description:			



No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1500	38.51	16.17	10.07	48.58	26.24	66.00	56.00	-17.42	-29.76	Pass
2	0.4020	33.37	17.42	9.97	43.34	27.39	57.81	47.81	-14.47	-20.42	Pass
3	0.4300	33.46	16.49	9.96	43.42	26.45	57.25	47.25	-13.83	-20.80	Pass
4	0.5700	32.61	13.70	9.90	42.51	23.60	56.00	46.00	-13.49	-22.40	Pass
5	0.6700	32.29	13.72	9.86	42.15	23.58	56.00	46.00	-13.85	-22.42	Pass
6	0.9020	31.70	13.47	9.77	41.47	23.24	56.00	46.00	-14.53	-22.76	Pass
7	1.3660	28.11	13.72	9.69	37.80	23.41	56.00	46.00	-18.20	-22.59	Pass

Standard:	FCC Part 15C	Line:	N
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	PG76240	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	06/07/2011
		Test By:	Gary Wu
Description:			



No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.3980	33.01	12.55	10.05	43.06	22.60	57.90	47.90	-14.84	-25.30	Pass
2	0.5300	34.13	10.58	10.00	44.13	20.58	56.00	46.00	-11.87	-25.42	Pass
3	0.5820	32.82	7.46	9.98	42.80	17.44	56.00	46.00	-13.20	-28.56	Pass
4	0.8220	31.82	7.83	9.87	41.69	17.70	56.00	46.00	-14.31	-28.30	Pass
5	1.1500	30.64	9.17	9.79	40.43	18.96	56.00	46.00	-15.57	-27.04	Pass
6	6.0780	24.21	11.41	9.86	34.07	21.27	60.00	50.00	-25.93	-28.73	Pass



## 5 Radiated Interference Measurement

### 5.1. Limit

Frequency Range (MHz)	Peak (dBuV)
30 to 88	40
88 to 216	43.5
216 to 960	46
Above 960	54

### 5.2. Test Instruments

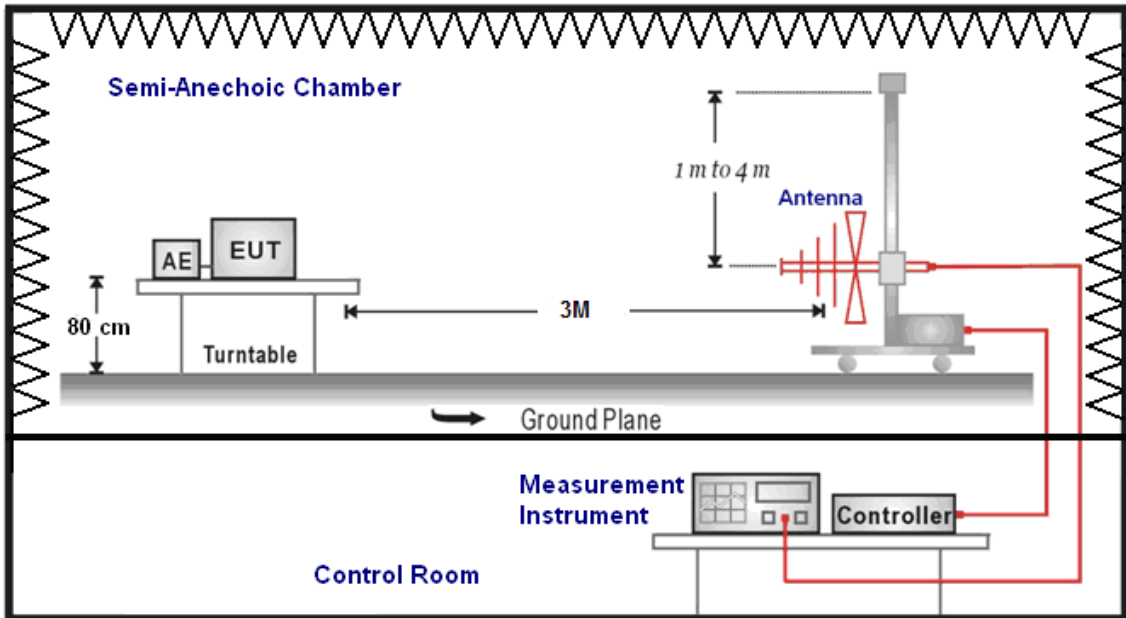
3 Meter Chamber					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
RF Pre-selector	Agilent	N9039A	MY46520256	01/18/2011	(2)
Spectrum Analyzer	Agilent	E4446A	MY46180578	01/18/2011	(1)
Pre Amplifier	Agilent	8449B	3008A02237	02/23/2011	(1)
Pre Amplifier	Agilent	8447D	2944A10961	02/23/2011	(1)
Bi-log Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	9163-270	08/02/2010	(1)
Horn Antenna	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/29/2010	(1)
Horn Antenna	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	06/29/2010	(1)
Test Site	ATL	TE01	888001	07/30/2010	(1)

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.

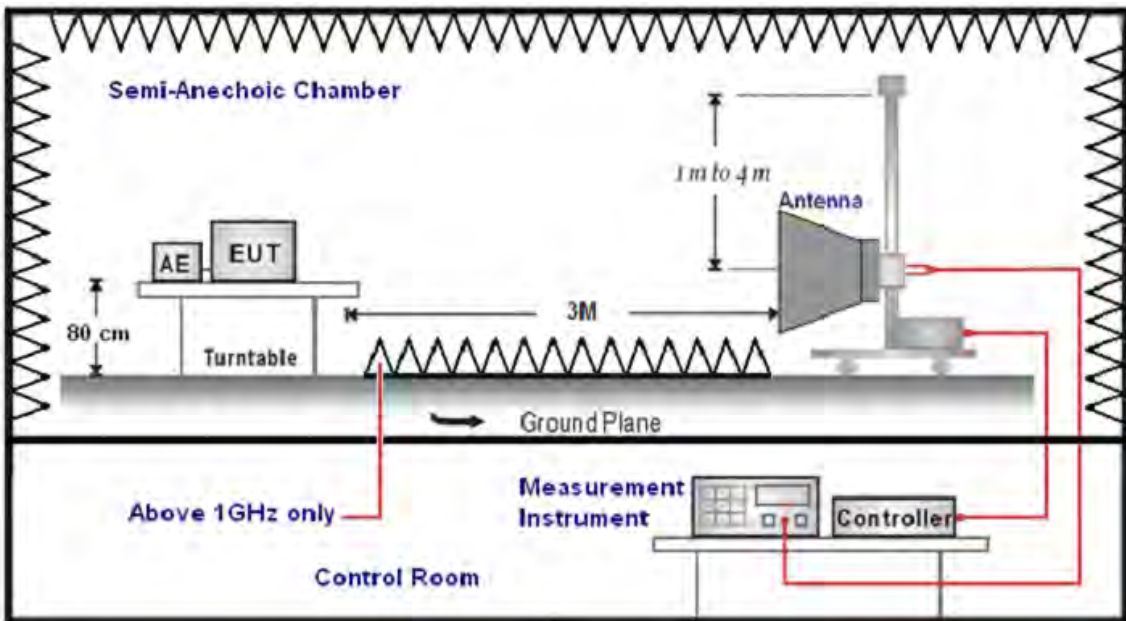
NOTE: N.C.R. = No Calibration Request.

### 5.3. Setup

Below 1GHz



Above 1GHz



## 5.4. Test Procedure

Final radiation measurements were made on a three-meter, Semi Anechoic Chamber. The EUT system was placed on a nonconductive turntable which is 0.8 meters height, top surface 1.0 x 1.5 meter. The spectrum was examined from 250 MHz to 2.5 GHz in order to cover the whole spectrum below 10th harmonic which could generate from the EUT. During the test, EUT was set to transmit continuously & Measurements spectrum range from 30 MHz to 26.5 GHz is investigated.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

A nonconductive material surrounded the EUT to supporting the EUT for standing on three orthogonal planes. At each condition, the EUT was rotated 360 degrees, and the antenna was raised and lowered from one to four meters to find the maximum emission levels. Measurements were taken using both horizontal and vertical antenna polarization.

SCHWARZBECK MESS-ELEKTRONIK Biconilog Antenna (model VULB9163) at 3 Meter and the SCHWARZBECK Double Ridged Guide Antenna (model BBHA9120D&9170) was used in frequencies 1 – 26.5 GHz at a distance of 1 meter. All test results were extrapolated to equivalent signal at 3 meters utilizing an inverse linear distance extrapolation Factor (20dB/decade).

For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

Appropriate preamplifiers were used for improving sensitivity and precautions were taken to avoid overloading or desensitizing the spectrum analyzer. No post – detector video filters were used in the test.

The spectrum analyzer's 6 dB bandwidth was set to 1 MHz, and the analyzer was operated in the peak detection mode, for frequencies both below and up 1 GHz. The average levels were obtained by subtracting the duty cycle correction factor from the peak readings.

The following procedures were used to convert the emission levels measured in decibels referenced to 1 microvolt (dBuV) into field intensity in micro volts pre meter (uV/m).

The actual field intensity in decibels referenced to 1 microvolt in to field intensity in micro volts per meter (dBuV/m).

The actual field intensity in referenced to 1 microvolt per meter (dBuV/m) is determined by algebraically adding the measured reading in dBuV, the antenna factor (dB), and cable loss (dB) and Subtracting the gain of preamplifier (dB) is auto calculate in spectrum analyzer.

(1) Amplitude (dBuV/m) = FI (dBuV) +AF (dBuV) +CL (dBuV)-Gain (dB)

FI= Reading of the field intensity.

AF= Antenna factor.

CL= Cable loss.

P.S Amplitude is auto calculate in spectrum analyzer.

(2) Actual Amplitude (dBuV/m) = Amplitude (dBuV)-Dis(dB)

The FCC specified emission limits were calculated according the EUT operating frequency and by following linear interpolation equations:

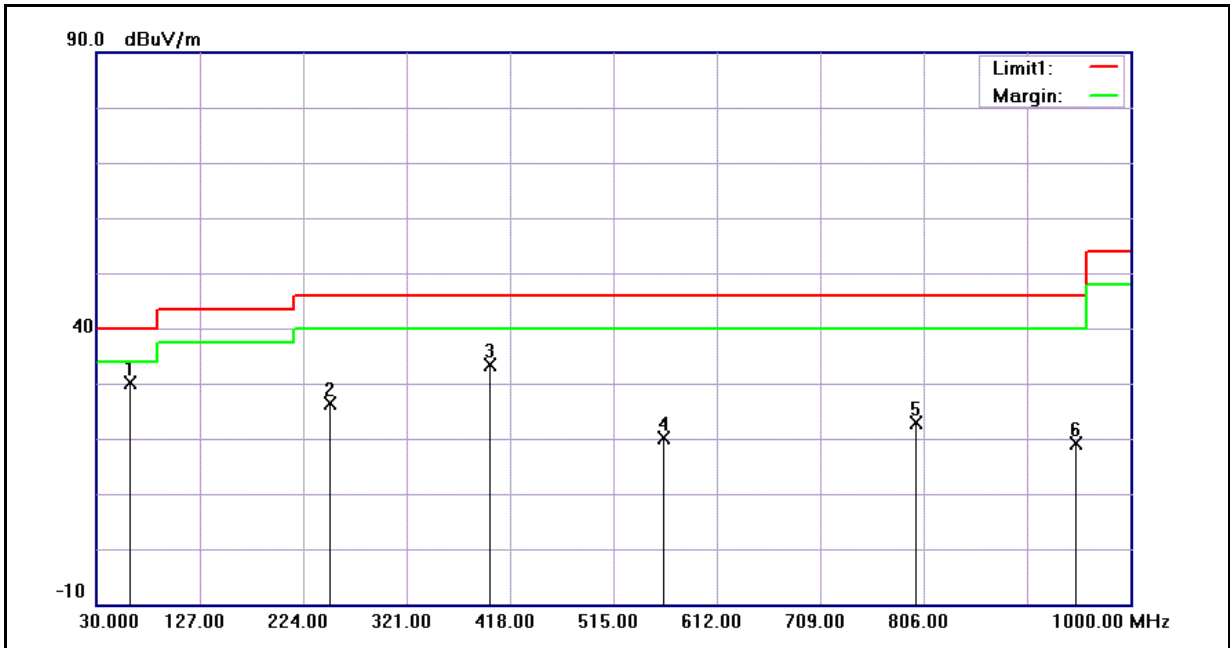
(a) For fundamental frequency : Transmitter Output < +30dBm

(b) For spurious frequency : Spurious emission limits = fundamental emission limit /10

## 5.5. Test Result

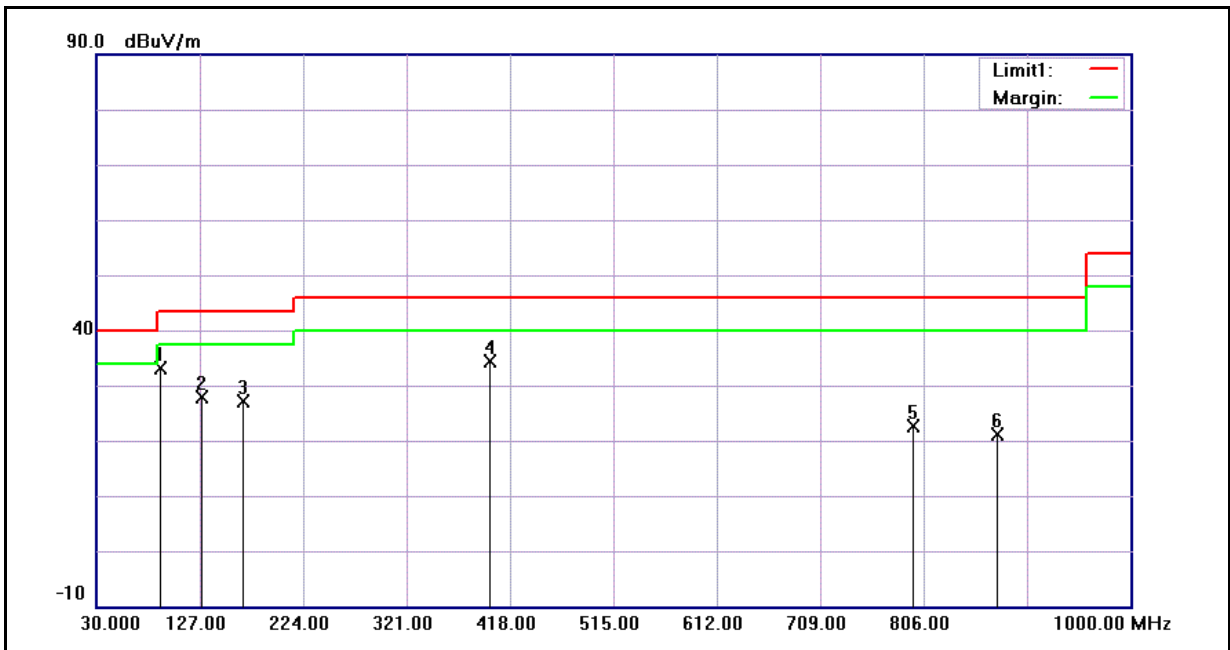
### Below 1GHz

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76240	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	06/02/2011
Ant.Polar.:	Horizontal	Test By:	Gary Wu



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	61.5000	30.20	0.00	30.20	40.00	-9.80	QP
2	250.0000	26.30	0.00	26.30	46.00	-19.70	QP
3	399.5000	33.30	0.00	33.30	46.00	-12.70	QP
4	562.0000	20.20	0.00	20.20	46.00	-25.80	QP
5	799.5000	22.80	0.00	22.80	46.00	-23.20	QP
6	949.0000	19.20	0.00	19.20	46.00	-26.80	QP

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76240	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	06/02/2011
Ant.Polar.:	Vertical	Test By:	Gary Wu



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	91.0000	33.10	0.00	33.10	43.50	-10.40	QP
2	129.0000	27.90	0.00	27.90	43.50	-15.60	QP
3	168.0000	27.20	0.00	27.20	43.50	-16.30	QP
4	399.0000	34.30	0.00	34.30	46.00	-11.70	QP
5	796.5000	22.70	0.00	22.70	46.00	-23.30	QP
6	875.0000	21.20	0.00	21.20	46.00	-24.80	QP

**Above 1GHz**

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76240	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	06/02/2011
Frequency:	2412MHz	Test By:	Gary Wu

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3737.000	40.83	4.32	45.15	74.00	-28.85	peak	H
4824.000	37.93	7.92	45.85	74.00	-28.15	peak	H
6936.000	36.69	14.21	50.90	74.00	-23.10	peak	H
1497.000	50.45	-3.58	46.87	74.00	-27.13	peak	V
4824.000	40.22	7.92	48.14	74.00	-25.86	peak	V
7139.000	36.53	14.78	51.31	74.00	-22.69	peak	V

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76240	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	06/02/2011
Frequency:	2437MHz	Test By:	Gary Wu

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3744.000	41.78	4.35	46.13	74.00	-27.87	peak	H
4874.000	44.13	8.09	52.22	74.00	-21.78	peak	H
4874.000	34.34	8.09	42.43	54.00	-11.57	peak	H
7216.000	36.90	14.98	51.88	74.00	-22.12	peak	H
1497.000	51.26	-3.58	47.68	74.00	-26.32	peak	V
4874.000	41.56	8.09	49.65	74.00	-24.35	peak	V
7118.000	35.98	14.72	50.70	74.00	-23.30	peak	V



Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76240	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	06/02/2011
Frequency:	2462MHz	Test By:	Gary Wu

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
1497.000	47.76	-3.58	44.18	74.00	-29.82	peak	H
4924.000	43.08	8.25	51.33	74.00	-22.67	peak	H
7097.000	35.88	14.67	50.55	74.00	-23.45	peak	H
3751.000	41.72	4.37	46.09	74.00	-27.91	peak	V
4924.000	40.87	8.25	49.12	74.00	-24.88	peak	V
7510.000	35.10	15.75	50.85	74.00	-23.15	peak	V

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76240	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	06/02/2011
Frequency:	2412MHz	Test By:	Gary Wu

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3184.000	41.72	2.70	44.42	74.00	-29.58	peak	H
5249.000	37.47	9.24	46.71	74.00	-27.29	peak	H
6831.000	37.06	13.90	50.96	74.00	-23.04	peak	H
1546.000	49.48	-3.39	46.09	74.00	-27.91	peak	V
6054.000	36.74	10.99	47.73	74.00	-26.27	peak	V
7118.000	36.48	14.72	51.20	74.00	-22.80	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PG76240			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 4			Date:	06/02/2011		
Frequency:	2437MHz			Test By:	Gary Wu		
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3751.000	41.01	4.37	45.38	74.00	-28.62	peak	H
4874.000	39.81	8.09	47.90	74.00	-26.10	peak	H
7216.000	36.77	14.98	51.75	74.00	-22.25	peak	H
1602.000	49.95	-3.20	46.75	74.00	-27.25	peak	V
3002.000	42.42	2.30	44.72	74.00	-29.28	peak	V
7034.000	37.26	14.50	51.76	74.00	-22.24	peak	V

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76240	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	06/02/2011
Frequency:	2462MHz	Test By:	Gary Wu

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3191.000	42.07	2.72	44.79	74.00	-29.21	peak	H
4924.000	39.52	8.25	47.77	74.00	-26.23	peak	H
7013.000	36.80	14.45	51.25	74.00	-22.75	peak	H
3002.000	42.63	2.30	44.93	74.00	-29.07	peak	V
3485.000	42.02	3.37	45.39	74.00	-28.61	peak	V
4924.000	37.63	8.25	45.88	74.00	-28.12	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PG76240			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 5			Date:	06/02/2011		
Frequency:	2412MHz			Test By:	Gary Wu		
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3184.000	41.75	2.70	44.45	74.00	-29.55	peak	H
5361.000	36.52	9.57	46.09	74.00	-27.91	peak	H
7188.000	35.98	14.91	50.89	74.00	-23.11	peak	H
4990.000	37.95	8.47	46.42	74.00	-27.58	peak	V
5235.000	37.85	9.21	47.06	74.00	-26.94	peak	V
6327.000	37.43	12.15	49.58	74.00	-24.42	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PG76240			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 5			Date:	06/02/2011		
Frequency:	2437MHz			Test By:	Gary Wu		
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3184.000	42.84	2.70	45.54	74.00	-28.46	peak	H
4874.000	40.00	8.09	48.09	74.00	-25.91	peak	H
5249.000	38.32	9.24	47.56	74.00	-26.44	peak	H
3002.000	41.30	2.30	43.60	74.00	-30.40	peak	V
5270.000	37.39	9.31	46.70	74.00	-27.30	peak	V
6999.000	36.58	14.41	50.99	74.00	-23.01	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PG76240			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 5			Date:	06/02/2011		
Frequency:	2462MHz			Test By:	Gary Wu		
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3191.000	41.64	2.72	44.36	74.00	-29.64	peak	H
5249.000	37.28	9.24	46.52	74.00	-27.48	peak	H
6985.000	36.96	14.36	51.32	74.00	-22.68	peak	H
1602.000	51.63	-3.20	48.43	74.00	-25.57	peak	V
3002.000	42.42	2.30	44.72	74.00	-29.28	peak	V
6544.000	35.63	13.03	48.66	74.00	-25.34	peak	V

Standard:	FCC Part 15B	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76240	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 6	Date:	06/02/2011
Modulation:	draft 802.11n Standard-20MHz	Test By:	Gary Wu
Frequency:	2437MHz		

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Peak Limit (dBuV/m)	AVG. Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2449.000	40.79	0.02	40.81	74.00	54.00	-33.19	peak	H
4920.000	36.61	8.24	44.85	74.00	54.00	-29.15	peak	H
6313.000	35.83	12.10	47.93	74.00	54.00	-26.07	peak	H
1581.000	47.23	-3.27	43.96	74.00	54.00	-30.04	peak	V
3744.000	38.17	4.35	42.52	74.00	54.00	-31.48	peak	V
5487.000	35.00	9.95	44.95	74.00	54.00	-29.05	peak	V

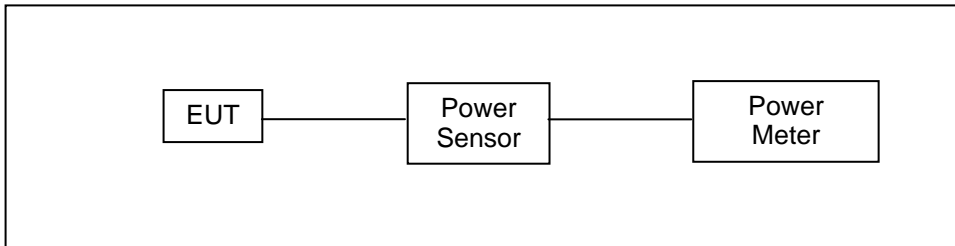


## 6 Maximum Conducted Output Power Measurement

### 6.1. Limit

For systems using digital modulation in the 2400-2483.5MHz, the limit for peak output power is 30dBm.

### 6.2. Test Setup



### 6.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Single Channel PK Power Sensor	Agilent	N1911A	MY45101619	07/19/2010	(1)
Wideband Power Meter	Agilent	N1921A	MY45241957	07/19/2010	(1)
Test Site	ATL	TE02	TE02	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.

NOTE: N.C.R. = No Calibration Request.

### 6.4. Test Procedure

The tests below are run with the EUT's transmitter set at high power in TX mode. The EUT is needed to force selection of output power level and channel number. While testing, EUT was set to transmit continuously. Remove the Subjective device's antenna and connect the RF output port to power sensor. The maximum peak output power shall not exceed 1 watt.

Use a direct connection between the antenna port of transmitter and the power sensor, for prevent the power sensor input attenuation 40-50 dB. Set the RBW Bandwidth of the emission or use a channel power meter mode.

For antennas with gains of 6 dBi or less, maximum allowed transmitter output is 1 watt (+30 dBm). For antennas with gains greater than 6 dBi, transmitter output level must be decreased by an amount equal to  $(\text{GAIN} - 6)/3$  dBm.

The antenna port of the EUT was connected to the input of a power sensor. Power was read directly and cable loss correction was added to the reading to obtain power at the EUT antenna terminals.

**6.5. Test Result**

Model Number	PG76240					
Test Item	Maximum Conducted Output Power					
Test Mode	Mode 3: IEEE 802.11b Link Mode					
Date of Test	06/03/2011			Test Site	TE02	
Frequency (MHz)	Data Rate	Average Power		Peak Power		Limit (dBm)
		(dBm)	(W)	(dBm)	(W)	
2412	1 M	16.61	0.046	18.92	0.078	< 30
2437		16.65	0.046	19.24	0.084	< 30
2462		17.13	0.052	19.84	0.096	< 30
2412	11 M	16.48	0.044	19.50	0.089	< 30
2437		16.53	0.045	19.63	0.092	< 30
2462		16.94	0.049	<b>20.10</b>	<b>0.102</b>	< 30

Model Number	PG76240					
Test Item	Maximum Conducted Output Power					
Test Mode	Mode 4: IEEE 802.11g Link Mode					
Date of Test	06/03/2011			Test Site	TE02	
Frequency (MHz)	Data Rate	Average Power		Peak Power		Limit (dBm)
		(dBm)	(W)	(dBm)	(W)	
2412	6 M	12.14	0.016	21.80	0.151	< 30
2437		11.92	0.016	21.89	0.155	< 30
2462		12.31	0.017	<b>22.26</b>	<b>0.168</b>	< 30
2412	54 M	10.63	0.012	21.14	0.130	< 30
2437		10.52	0.011	21.56	0.143	< 30
2462		10.83	0.012	21.63	0.146	< 30

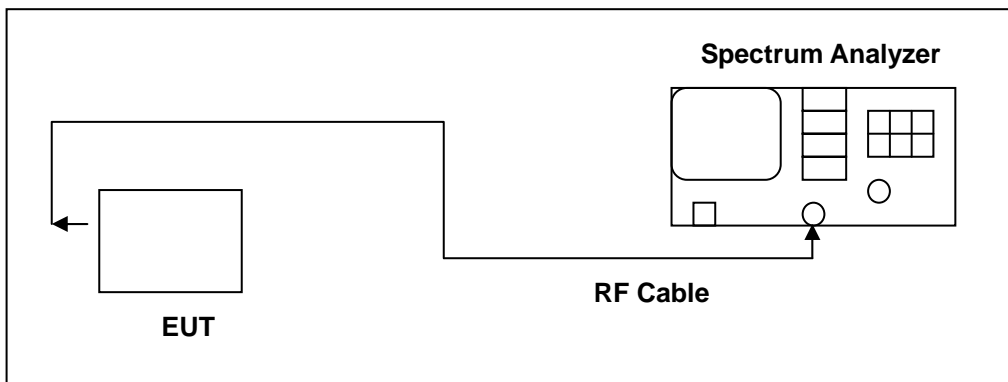
Model Number	PG76240					
Test Item	Maximum Conducted Output Power					
Test Mode	Mode 5: draft 802.11n Standard-20MHz Link Mode					
Date of Test	06/03/2011			Test Site	TE02	
Frequency (MHz)	Data Rate	Average Power		Peak Power		Limit (dBm)
		(dBm)	(W)	(dBm)	(W)	
2412	7.2 M	12.02	0.016	21.51	0.142	< 30
2437		11.82	0.015	21.98	0.158	< 30
2462		12.32	0.017	<b>22.38</b>	<b>0.173</b>	< 30
2412	72.2 M	10.64	0.012	21.29	0.135	< 30
2437		10.55	0.011	21.54	0.143	< 30
2462		10.82	0.012	21.75	0.150	< 30

## 7 6dB RF Bandwidth Measurement

### 7.1. Limit

Systems using digital modulation techniques may operate in the 2400–2483.5 MHz bands. The minimum 6 dB band-width shall be at least 500 kHz.

### 7.2. Test Setup



### 7.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY46181986	05/16/2011	(2)
Test Site	ATL	TE02	TE02	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.

NOTE: N.C.R. = No Calibration Request.

### 7.4. Test Procedure

The EUT was setup to ANSI C63.4, 2009; tested to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

The antenna port of the EUT was connected to the input of a spectrum analyzer. Analyzer RES BW was set to 100 kHz. For each RF output channel investigated, the spectrum analyzer center frequency was set to the channel carrier. A peak output reading was taken, a DISPLAY line was drawn 6 dB lower than peak level. The 6 dB bandwidth was determined from where the channel output spectrum intersected the display line.

The test was performed at 3 channels (Channel 1, 6, 11)

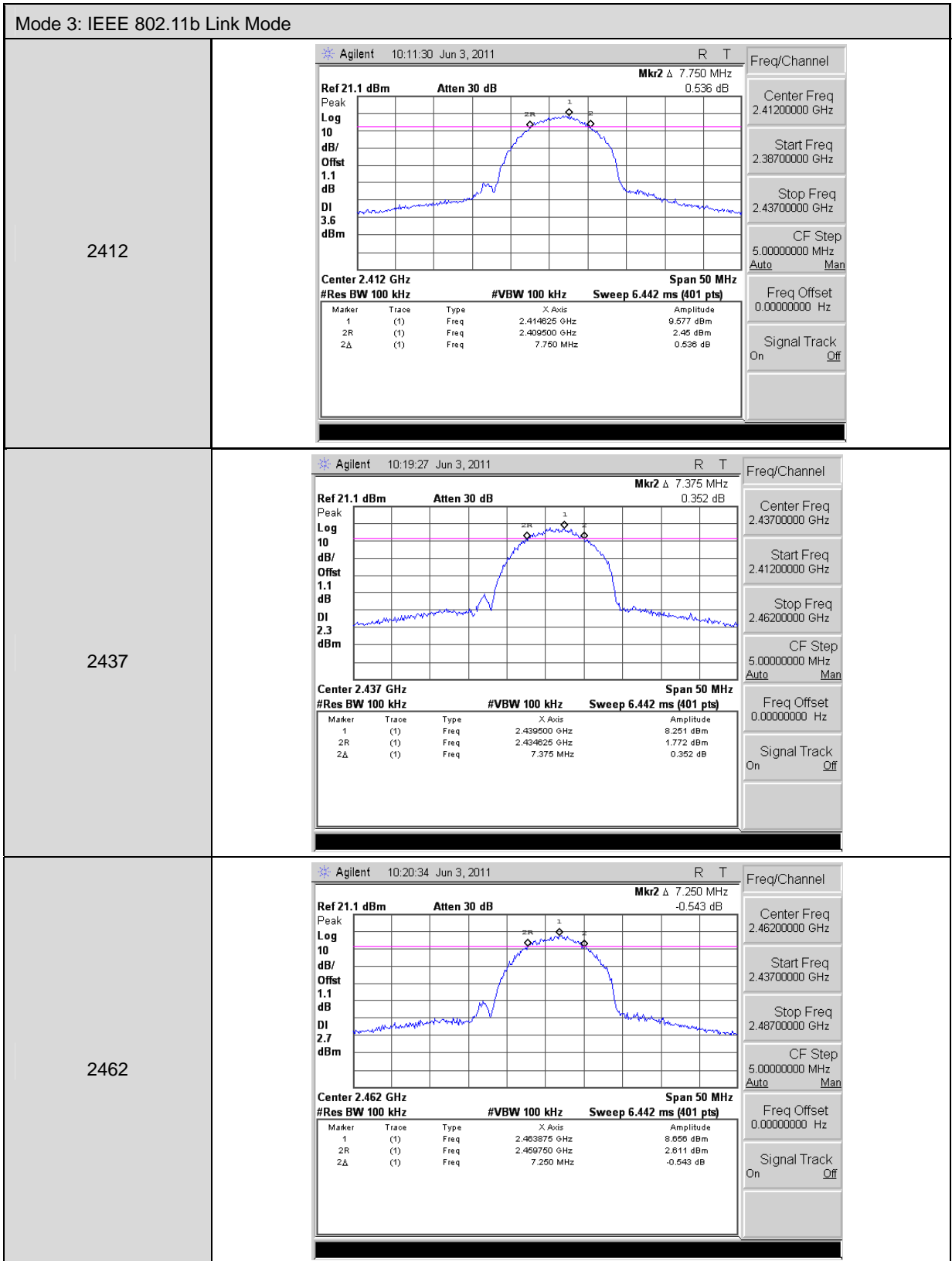
**7.5. Test Result**

Model Number	PG76240		
Test Item	6dB RF Bandwidth		
Test Mode	Mode 3: IEEE 802.11b Link Mode		
Date of Test	06/03/2011	Test Site	TE02
	Frequency (MHz)	Measurement (kHz)	Limit (kHz)
	2412	7750	> 500
	2437	7375	> 500
	2462	7250	> 500

Model Number	PG76240		
Test Item	6dB RF Bandwidth		
Test Mode	Mode 4: IEEE 802.11g Link Mode		
Date of Test	06/03/2011	Test Site	TE06
	Frequency (MHz)	Measurement (kHz)	Limit (kHz)
	2412	15375	> 500
	2437	15375	> 500
	2462	15500	> 500

Model Number	PG76240		
Test Item	6dB RF Bandwidth		
Test Mode	Mode 5: draft 802.11n Standard-20MHz Link Mode		
Date of Test	06/03/2011	Test Site	TE02
	Frequency (MHz)	Measurement (kHz)	Limit (kHz)
	2412	17250	> 500
	2437	16125	> 500
	2462	16750	> 500

**7.6. Test Graphs**



Mode 4: IEEE 802.11g Link Mode

2412	<p>Agilent 10:27:10 Jun 3, 2011</p> <p>Ref 21.1 dBm Atten 30 dB Mkr2 Δ 15.375 MHz 0.882 dB</p> <p>Center 2.412 GHz Span 50 MHz</p> <table border="1"> <thead> <tr> <th>Marker</th> <th>Trace</th> <th>Type</th> <th>X Axis</th> <th>Amplitude</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>(1)</td> <td>Freq</td> <td>2.410750 GHz</td> <td>6.297 dBm</td> </tr> <tr> <td>2R</td> <td>(1)</td> <td>Freq</td> <td>2.404375 GHz</td> <td>-1.429 dBm</td> </tr> <tr> <td>2Δ</td> <td>(1)</td> <td>Freq</td> <td>15.375 MHz</td> <td>0.882 dB</td> </tr> </tbody> </table>	Marker	Trace	Type	X Axis	Amplitude	1	(1)	Freq	2.410750 GHz	6.297 dBm	2R	(1)	Freq	2.404375 GHz	-1.429 dBm	2Δ	(1)	Freq	15.375 MHz	0.882 dB
Marker	Trace	Type	X Axis	Amplitude																	
1	(1)	Freq	2.410750 GHz	6.297 dBm																	
2R	(1)	Freq	2.404375 GHz	-1.429 dBm																	
2Δ	(1)	Freq	15.375 MHz	0.882 dB																	
2437	<p>Agilent 10:26:08 Jun 3, 2011</p> <p>Ref 21.1 dBm Atten 30 dB Mkr2 Δ 15.375 MHz -0.904 dB</p> <p>Center 2.437 GHz Span 50 MHz</p> <table border="1"> <thead> <tr> <th>Marker</th> <th>Trace</th> <th>Type</th> <th>X Axis</th> <th>Amplitude</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>(1)</td> <td>Freq</td> <td>2.438250 GHz</td> <td>6.792 dBm</td> </tr> <tr> <td>2R</td> <td>(1)</td> <td>Freq</td> <td>2.429250 GHz</td> <td>0.42 dBm</td> </tr> <tr> <td>2Δ</td> <td>(1)</td> <td>Freq</td> <td>15.375 MHz</td> <td>-0.904 dB</td> </tr> </tbody> </table>	Marker	Trace	Type	X Axis	Amplitude	1	(1)	Freq	2.438250 GHz	6.792 dBm	2R	(1)	Freq	2.429250 GHz	0.42 dBm	2Δ	(1)	Freq	15.375 MHz	-0.904 dB
Marker	Trace	Type	X Axis	Amplitude																	
1	(1)	Freq	2.438250 GHz	6.792 dBm																	
2R	(1)	Freq	2.429250 GHz	0.42 dBm																	
2Δ	(1)	Freq	15.375 MHz	-0.904 dB																	
2462	<p>Agilent 10:24:24 Jun 3, 2011</p> <p>Ref 21.1 dBm Atten 30 dB Mkr2 Δ 15.500 MHz -1.268 dB</p> <p>Center 2.462 GHz Span 50 MHz</p> <table border="1"> <thead> <tr> <th>Marker</th> <th>Trace</th> <th>Type</th> <th>X Axis</th> <th>Amplitude</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>(1)</td> <td>Freq</td> <td>2.463250 GHz</td> <td>7.05 dBm</td> </tr> <tr> <td>2R</td> <td>(1)</td> <td>Freq</td> <td>2.454125 GHz</td> <td>0.43 dBm</td> </tr> <tr> <td>2Δ</td> <td>(1)</td> <td>Freq</td> <td>15.500 MHz</td> <td>-1.268 dB</td> </tr> </tbody> </table>	Marker	Trace	Type	X Axis	Amplitude	1	(1)	Freq	2.463250 GHz	7.05 dBm	2R	(1)	Freq	2.454125 GHz	0.43 dBm	2Δ	(1)	Freq	15.500 MHz	-1.268 dB
Marker	Trace	Type	X Axis	Amplitude																	
1	(1)	Freq	2.463250 GHz	7.05 dBm																	
2R	(1)	Freq	2.454125 GHz	0.43 dBm																	
2Δ	(1)	Freq	15.500 MHz	-1.268 dB																	

Mode 5: draft 802.11n Standard-20MHz Link Mode

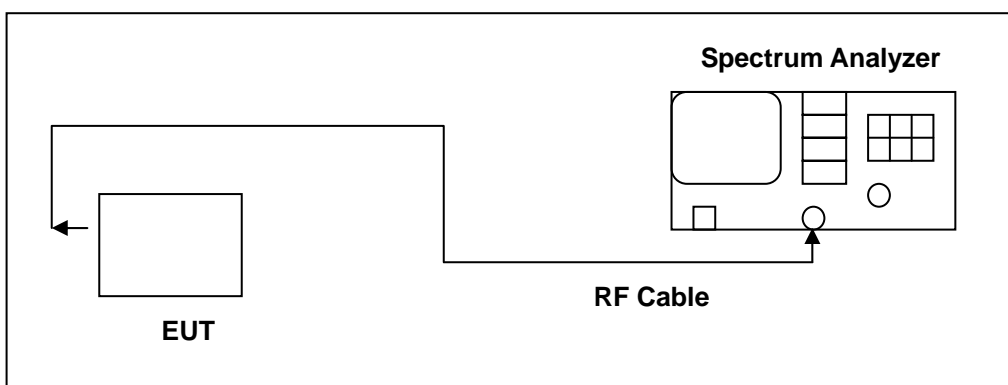
2412	<p>Agilent 10:28:36 Jun 3, 2011</p> <p>Ref 21.1 dBm Atten 30 dB Mkr2 Δ 17.250 MHz 0.348 dB</p> <p>Center 2.412 GHz Span 50 MHz #Res BW 100 kHz #VBW 100 kHz Sweep 6.442 ms (401 pts)</p> <table border="1"> <thead> <tr> <th>Marker</th> <th>Trace</th> <th>Type</th> <th>X Axis</th> <th>Amplitude</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>(1)</td> <td>Freq</td> <td>2.407000 GHz</td> <td>4.917 dBm</td> </tr> <tr> <td>2R</td> <td>(1)</td> <td>Freq</td> <td>2.403375 GHz</td> <td>-1.851 dBm</td> </tr> <tr> <td>2Δ</td> <td>(1)</td> <td>Freq</td> <td>17.250 MHz</td> <td>0.348 dB</td> </tr> </tbody> </table>	Marker	Trace	Type	X Axis	Amplitude	1	(1)	Freq	2.407000 GHz	4.917 dBm	2R	(1)	Freq	2.403375 GHz	-1.851 dBm	2Δ	(1)	Freq	17.250 MHz	0.348 dB
Marker	Trace	Type	X Axis	Amplitude																	
1	(1)	Freq	2.407000 GHz	4.917 dBm																	
2R	(1)	Freq	2.403375 GHz	-1.851 dBm																	
2Δ	(1)	Freq	17.250 MHz	0.348 dB																	
2437	<p>Agilent 10:31:52 Jun 3, 2011</p> <p>Ref 21.1 dBm Atten 30 dB Mkr2 Δ 16.125 MHz -0.43 dB</p> <p>Center 2.437 GHz Span 50 MHz #Res BW 100 kHz #VBW 100 kHz Sweep 6.442 ms (401 pts)</p> <table border="1"> <thead> <tr> <th>Marker</th> <th>Trace</th> <th>Type</th> <th>X Axis</th> <th>Amplitude</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>(1)</td> <td>Freq</td> <td>2.434500 GHz</td> <td>5.824 dBm</td> </tr> <tr> <td>2R</td> <td>(1)</td> <td>Freq</td> <td>2.428625 GHz</td> <td>-0.477 dBm</td> </tr> <tr> <td>2Δ</td> <td>(1)</td> <td>Freq</td> <td>16.125 MHz</td> <td>-0.43 dB</td> </tr> </tbody> </table>	Marker	Trace	Type	X Axis	Amplitude	1	(1)	Freq	2.434500 GHz	5.824 dBm	2R	(1)	Freq	2.428625 GHz	-0.477 dBm	2Δ	(1)	Freq	16.125 MHz	-0.43 dB
Marker	Trace	Type	X Axis	Amplitude																	
1	(1)	Freq	2.434500 GHz	5.824 dBm																	
2R	(1)	Freq	2.428625 GHz	-0.477 dBm																	
2Δ	(1)	Freq	16.125 MHz	-0.43 dB																	
2462	<p>Agilent 10:32:51 Jun 3, 2011</p> <p>Ref 21.1 dBm Atten 30 dB Mkr2 Δ 16.750 MHz 0.091 dB</p> <p>Center 2.462 GHz Span 50 MHz #Res BW 100 kHz #VBW 100 kHz Sweep 6.442 ms (401 pts)</p> <table border="1"> <thead> <tr> <th>Marker</th> <th>Trace</th> <th>Type</th> <th>X Axis</th> <th>Amplitude</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>(1)</td> <td>Freq</td> <td>2.468250 GHz</td> <td>5.609 dBm</td> </tr> <tr> <td>2R</td> <td>(1)</td> <td>Freq</td> <td>2.463500 GHz</td> <td>-1.402 dBm</td> </tr> <tr> <td>2Δ</td> <td>(1)</td> <td>Freq</td> <td>16.750 MHz</td> <td>0.091 dB</td> </tr> </tbody> </table>	Marker	Trace	Type	X Axis	Amplitude	1	(1)	Freq	2.468250 GHz	5.609 dBm	2R	(1)	Freq	2.463500 GHz	-1.402 dBm	2Δ	(1)	Freq	16.750 MHz	0.091 dB
Marker	Trace	Type	X Axis	Amplitude																	
1	(1)	Freq	2.468250 GHz	5.609 dBm																	
2R	(1)	Freq	2.463500 GHz	-1.402 dBm																	
2Δ	(1)	Freq	16.750 MHz	0.091 dB																	

## 8 Maximum Power Density Measurement

### 8.1. Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

### 8.2. Test Setup



### 8.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY46181986	05/16/2011	(2)
Test Site	ATL	TE02	TE02	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.

NOTE: N.C.R. = No Calibration Request.

### 8.4. Test Procedure

The EUT was setup to ANSI C63.4, 2009; tested to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

The spectrum analyzer RES BW was set to 3 kHz. The START and STOP frequencies were set to the band edges of the maximum output pass band. If there is no clear maximum amplitude in any given portion of the band, it may be necessary to make measurements at a number of bands defined by several START and STOP frequency pairs. The specification calls for a 1 second interval at each 3 kHz bandwidth; total SWEEP TIME is calculated as follows:

$$\text{SWEEP TIME (SEC)} = (\text{Fstop, kHz} - \text{Fstart, kHz}) / 3 \text{ kHz}$$

Antenna output of the EUT was coupled directly to spectrum analyzer; if an external attenuator and/or cable was used, these losses are compensated for with the analyzer OFFSET function.



**8.5. Test Result**

Model Number	PG76240		
Test Item	Maximum Power Density		
Test Mode	Mode 3: IEEE 802.11b Link Mode		
Date of Test	06/03/2011	Test Site	TE02
Frequency (MHz)	Measurement (dBm)	Limit (dBm)	
2412	-4.093	< 8	
2437	-3.932	< 8	
2462	-4.634	< 8	

Model Number	PG76240		
Test Item	Maximum Power Density		
Test Mode	Mode 4: IEEE 802.11g Link Mode		
Date of Test	06/03/2011	Test Site	TE02
Frequency (MHz)	Measurement (dBm)	Limit (dBm)	
2412	-6.400	< 8	
2437	-7.107	< 8	
2462	-6.606	< 8	

Model Number	PG76240		
Test Item	Maximum Power Density		
Test Mode	Mode 5: draft 802.11n Standard-20MHz Link Mode		
Date of Test	06/03/2011	Test Site	TE02
Frequency (MHz)	Measurement (dBm)	Limit (dBm)	
2412	-6.871	< 8	
2437	-7.034	< 8	
2462	-6.438	< 8	

**8.6. Test Graphs**

Mode 3: IEEE 802.11b Link Mode	
2412	<p>Agilent 10:43:36 Jun 3, 2011</p> <p>Ref 21.1 dBm Atten 30 dB Mkr1 2.41342475 GHz 4.093 dBm</p> <p>Center 2.413 GHz Span 300 kHz #Res BW 3 kHz #VBW 10 kHz #Sweep 100 s (401 pts)</p>
2437	<p>Agilent 10:46:40 Jun 3, 2011</p> <p>Ref 21.1 dBm Atten 30 dB Mkr1 2.43942475 GHz 3.932 dBm</p> <p>Center 2.439 GHz Span 300 kHz #Res BW 3 kHz #VBW 10 kHz #Sweep 100 s (401 pts)</p>
2462	<p>Agilent 10:49:51 Jun 3, 2011</p> <p>Ref 21.1 dBm Atten 30 dB Mkr1 2.46249475 GHz 4.634 dBm</p> <p>Center 2.462 GHz Span 300 kHz #Res BW 3 kHz #VBW 10 kHz #Sweep 100 s (401 pts)</p>

Mode 4: IEEE 802.11g Link Mode

2412	<p>Agilent 10:52:50 Jun 3, 2011 R T</p> <p>Ref 21.1 dBm Atten 30 dB Mkr1 2.41321350 GHz</p> <p>Peak 10 dB/Offst 1.1 dB DI 8.0 dBm</p> <p>V1 S2 S3 FC AA</p> <p>Center 2.413 GHz Span 300 kHz #Res BW 3 kHz #VBW 10 kHz #Sweep 100 s (401 pts)</p> <p>Freq/Channel Center Freq 2.41320000 GHz Start Freq 2.41305000 GHz Stop Freq 2.41335000 GHz CF Step 30.00000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>
2437	<p>Agilent 10:55:18 Jun 3, 2011 R T</p> <p>Ref 21.1 dBm Atten 30 dB Mkr1 2.43758950 GHz</p> <p>Peak 10 dB/Offst 1.1 dB DI 8.0 dBm</p> <p>V1 S2 S3 FC AA</p> <p>Center 2.438 GHz Span 300 kHz #Res BW 3 kHz #VBW 10 kHz #Sweep 100 s (401 pts)</p> <p>Freq/Channel Center Freq 2.43760000 GHz Start Freq 2.43745000 GHz Stop Freq 2.43775000 GHz CF Step 30.00000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>
2462	<p>Agilent 10:58:03 Jun 3, 2011 R T</p> <p>Ref 21.1 dBm Atten 30 dB Mkr1 2.46321325 GHz</p> <p>Peak 10 dB/Offst 1.1 dB DI 8.0 dBm</p> <p>V1 S2 S3 FC AA</p> <p>Center 2.463 GHz Span 300 kHz #Res BW 3 kHz #VBW 10 kHz #Sweep 100 s (401 pts)</p> <p>Freq/Channel Center Freq 2.46325000 GHz Start Freq 2.46310000 GHz Stop Freq 2.46340000 GHz CF Step 30.00000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>

Mode 5: draft 802.11n Standard-20MHz Link Mode

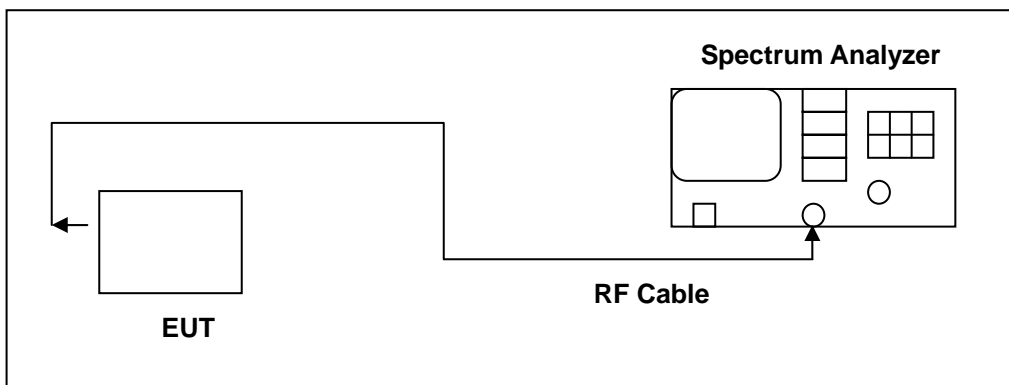
2412	<p>Agilent 11:01:12 Jun 3, 2011 R T</p> <p>Ref 21.1 dBm Atten 30 dB Mkr1 2.41167975 GHz -6.871 dBm</p> <p>Center 2.412 GHz Span 300 kHz #Res BW 3 kHz #VBW 10 kHz #Sweep 100 s (401 pts)</p>
2437	<p>Agilent 11:04:48 Jun 3, 2011 R T</p> <p>Ref 21.1 dBm Atten 30 dB Mkr1 2.43323200 GHz -7.034 dBm</p> <p>Center 2.433 GHz Span 300 kHz #Res BW 3 kHz #VBW 10 kHz #Sweep 100 s (401 pts)</p>
2462	<p>Agilent 11:10:06 Jun 3, 2011 R T</p> <p>Ref 21.1 dBm Atten 30 dB Mkr1 2.46298175 GHz -6.438 dBm</p> <p>Center 2.463 GHz Span 300 kHz #Res BW 3 kHz #VBW 10 kHz #Sweep 100 s (401 pts)</p>

## 9 Out of Band Conducted Emissions Measurement

### 9.1. Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power

### 9.2. Test Setup



### 9.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY46181986	05/16/2011	(2)
Test Site	ATL	TE02	TE02	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.

NOTE: N.C.R. = No Calibration Request.

### 9.4. Test Procedure

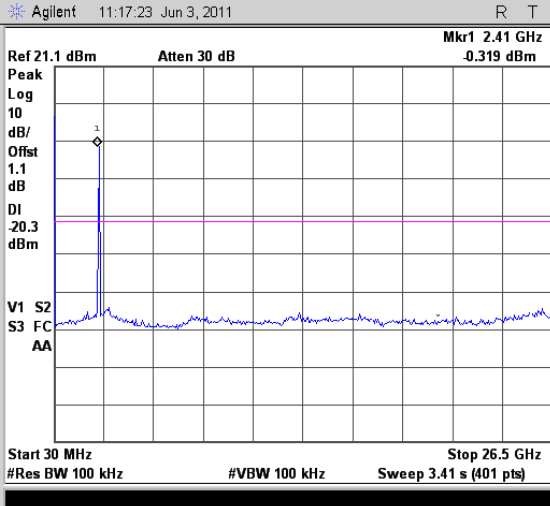
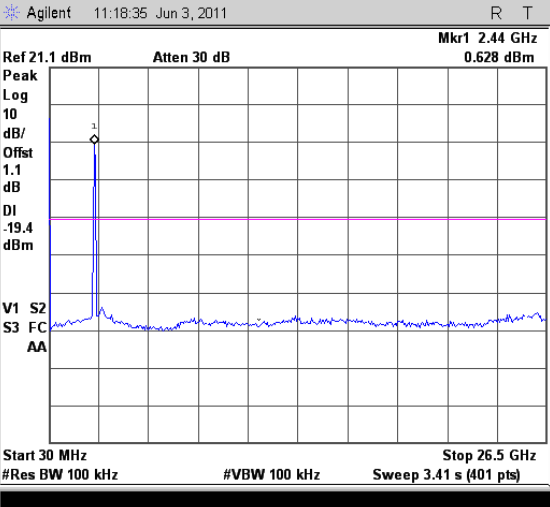
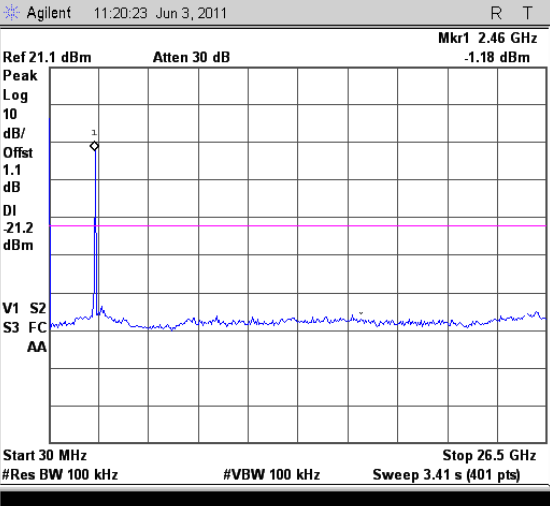
In any 100 kHz bandwidth outside the EUT pass band, the RF power produced by the modulation products of the spreading sequence, the information sequence, and the carrier frequency shall be at least 20 dB below that of the maximum in-band 100 kHz emission, antenna output of the EUT was coupled directly to spectrum analyzer; if an external attenuator and/or cable was used, these losses are compensated for with the analyzer OFFSET function.

All other types of emissions from the EUT shall meet the general limits for radiated frequencies outside the pass band. The test was performed at 3 channels (Channel 1, 6, 11)

**9.5. Test Graphs**

Mode 3: IEEE 802.11b Link Mode	
2412	
2437	
2462	

Mode 4: IEEE 802.11g Link Mode

<p>2412</p>	 <p>Agilent 11:17:23 Jun 3, 2011 R T</p> <p>Ref 21.1 dBm Atten 30 dB Mkr1 2.41 GHz -0.319 dBm</p> <p>Peak Log 10 dB/Offst 1.1 dB DI -20.3 dBm V1 S2 S3 FC AA</p> <p>Start 30 MHz Stop 26.5 GHz #Res BW 100 kHz #VBW 100 kHz Sweep 3.41 s (401 pts)</p> <p>Freq/Channel Center Freq 13.2650000 GHz Start Freq 30.0000000 MHz Stop Freq 26.5000000 GHz CF Step 2.64700000 GHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>
<p>2437</p>	 <p>Agilent 11:18:35 Jun 3, 2011 R T</p> <p>Ref 21.1 dBm Atten 30 dB Mkr1 2.44 GHz 0.628 dBm</p> <p>Peak Log 10 dB/Offst 1.1 dB DI -19.4 dBm V1 S2 S3 FC AA</p> <p>Start 30 MHz Stop 26.5 GHz #Res BW 100 kHz #VBW 100 kHz Sweep 3.41 s (401 pts)</p> <p>Freq/Channel Center Freq 13.2650000 GHz Start Freq 30.0000000 MHz Stop Freq 26.5000000 GHz CF Step 2.64700000 GHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>
<p>2462</p>	 <p>Agilent 11:20:23 Jun 3, 2011 R T</p> <p>Ref 21.1 dBm Atten 30 dB Mkr1 2.46 GHz -1.18 dBm</p> <p>Peak Log 10 dB/Offst 1.1 dB DI -21.2 dBm V1 S2 S3 FC AA</p> <p>Start 30 MHz Stop 26.5 GHz #Res BW 100 kHz #VBW 100 kHz Sweep 3.41 s (401 pts)</p> <p>Freq/Channel Center Freq 13.2650000 GHz Start Freq 30.0000000 MHz Stop Freq 26.5000000 GHz CF Step 2.64700000 GHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>

Mode 5: draft 802.11n Standard-20MHz Link Mode

<p>2412</p>	<p>Agilent 11:15:14 Jun 3, 2011 R T</p> <p>Ref 21.1 dBm Atten 30 dB Mkr1 2.41 GHz 2.573 dBm</p> <p>Peak Log 10 dB/Offst 1.1 dB DI -17.4 dBm V1 S2 S3 FC AA</p> <p>Start 30 MHz #Res BW 100 kHz #VBW 100 kHz Stop 26.5 GHz Sweep 3.41 s (401 pts)</p> <p>Freq/Channel Center Freq 13.2650000 GHz Start Freq 30.0000000 MHz Stop Freq 26.5000000 GHz CF Step 2.64700000 GHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>
<p>2437</p>	<p>Agilent 11:14:25 Jun 3, 2011 R T</p> <p>Ref 21.1 dBm Atten 30 dB Mkr1 2.44 GHz 1.364 dBm</p> <p>Peak Log 10 dB/Offst 1.1 dB DI -18.6 dBm V1 S2 S3 FC AA</p> <p>Start 30 MHz #Res BW 100 kHz #VBW 100 kHz Stop 26.5 GHz Sweep 3.41 s (401 pts)</p> <p>Freq/Channel Center Freq 13.2650000 GHz Start Freq 30.0000000 MHz Stop Freq 26.5000000 GHz CF Step 2.64700000 GHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>
<p>2462</p>	<p>Agilent 11:13:21 Jun 3, 2011 R T</p> <p>Ref 21.1 dBm Atten 30 dB Mkr1 2.46 GHz 1.25 dBm</p> <p>Peak Log 10 dB/Offst 1.1 dB DI -18.8 dBm V1 S2 S3 FC AA</p> <p>Start 30 MHz #Res BW 100 kHz #VBW 100 kHz Stop 26.5 GHz Sweep 3.41 s (401 pts)</p> <p>Freq/Channel Center Freq 13.2650000 GHz Start Freq 30.0000000 MHz Stop Freq 26.5000000 GHz CF Step 2.64700000 GHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>

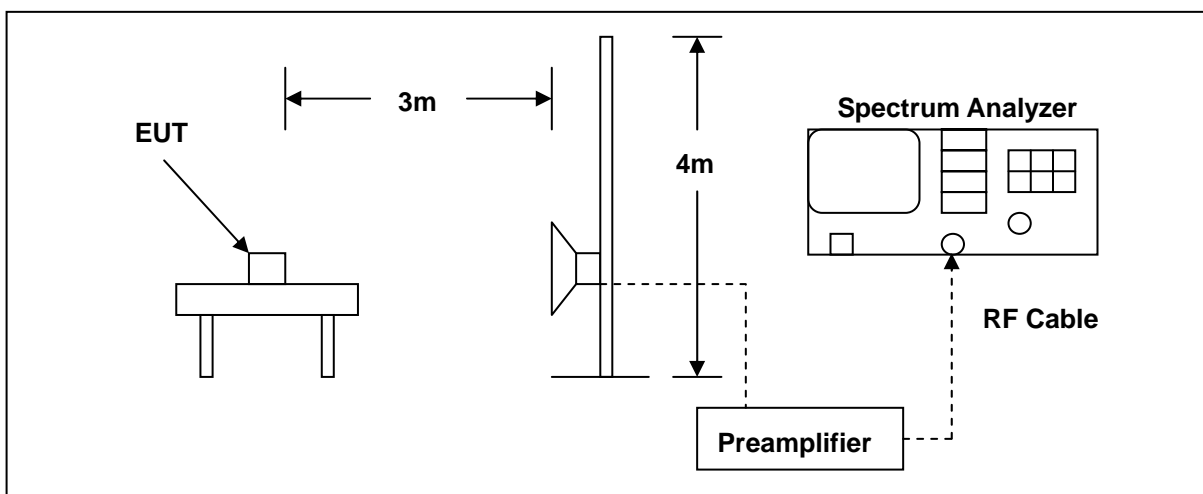


## 10 Band Edges Measurement

### 10.1.Limit

In any 100 kHz bandwidth outside the intentional radiation frequency band, the radio frequency power shall be at least 20 dB below the highest level of the radiated power. In addition, radiated emissions which fall in the restricted bands must also comply with the radiated emission limits.

### 10.2.Test Setup



### 10.3.Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4408B	MY45107753	06/24/2010	(1)
Pre Amplifier	Agilent	8449B	3008A02237	02/23/2011	(1)
Horn Antenna	SCHWARZBECK MESS-ELEKTRONIK	9120D	9120D-550	06/29/2010	(1)
Test Site	ATL	TE01	888001	07/30/2010	-----

Remark: <sup>(1)</sup> Calibration period 1 year. <sup>(2)</sup> Calibration period 2 years.

NOTE: N.C.R. = No Calibration Request.

#### **10.4. Test Procedure**

The EUT was setup to ANSI C63.4, 2009; tested to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

The emissions on the harmonics frequencies, the limits, and the margin of compliance are presented. These tests were made when the transmitter was in full radiated power. The additional test was performed to show compliance with the requirement at the band-edge frequency 2483.5 MHz and up to 2500 MHz and at 2390.0 MHz.

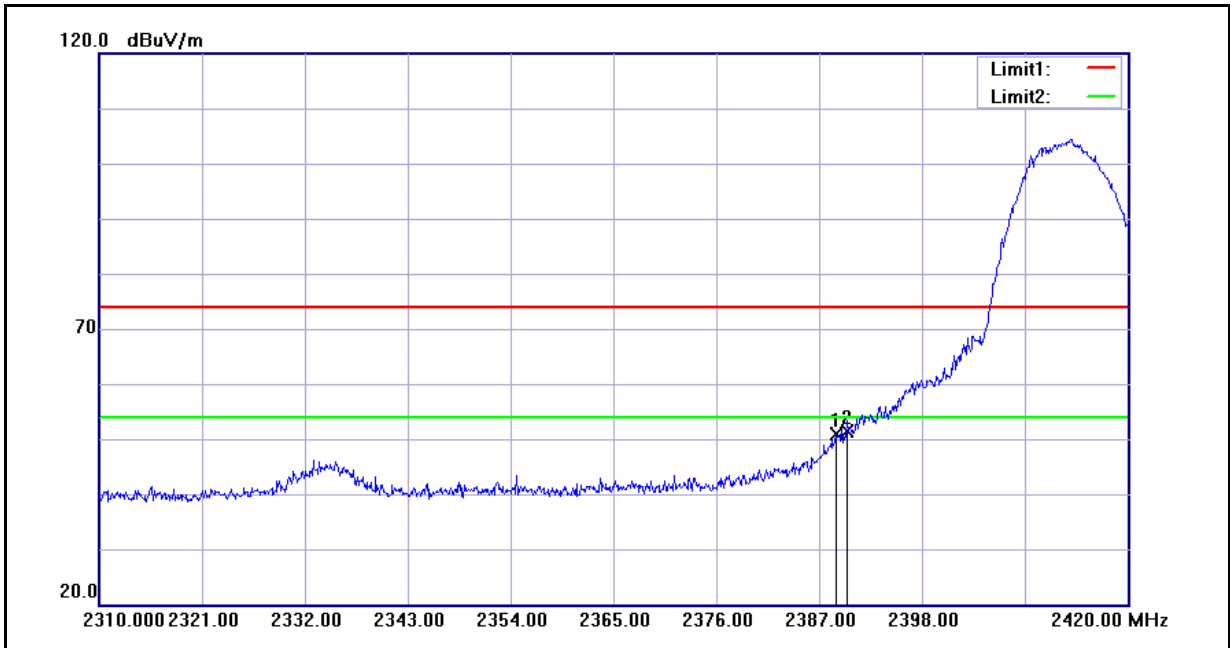
The transmitter was configured with the worst case antenna and setup to transmit at the highest channel. Then the field strength was measured at 2483.5 MHz.

The transmitter was then configured with the worst case antenna and setup to transmit at the lowest channel. Then the field strength was measured at 2390.0 MHz. These tests were performed at 4 different bit rates.

For measurements the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

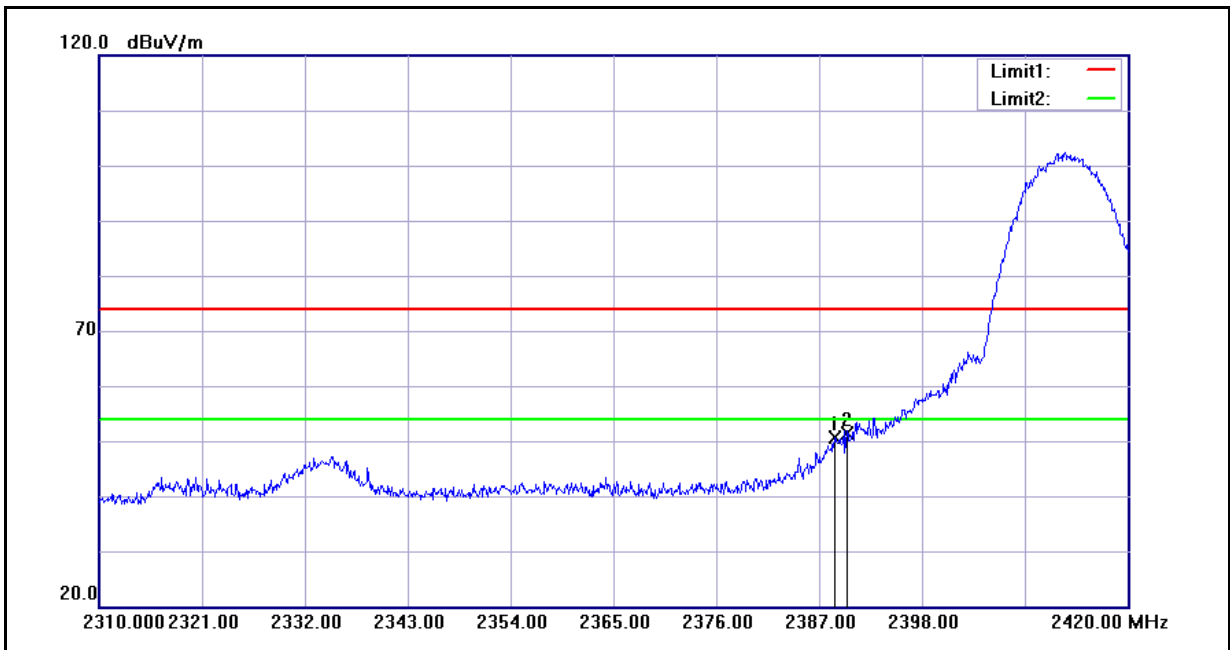
**10.5.Test Result**

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76240	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	06/02/2011
Frequency:	2412 MHz	Test By:	Gary Wu
Ant.Polar.:	Horizontal		



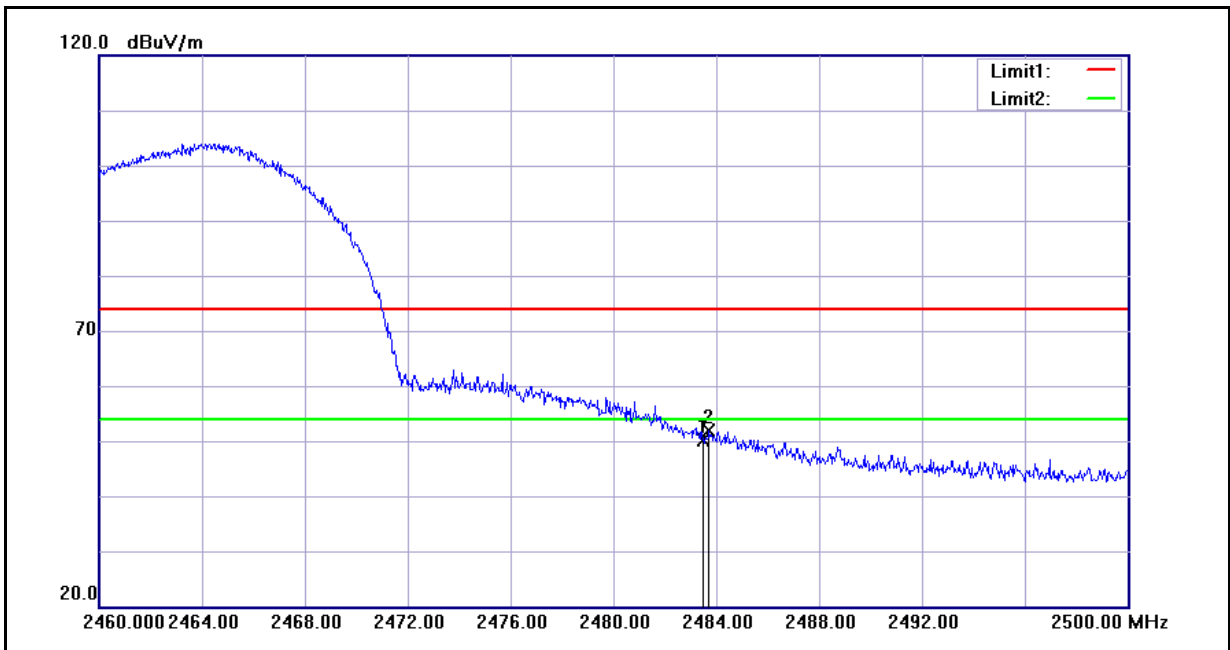
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2388.760	51.18	-0.22	50.96	74.00	-23.04	peak
2	2390.000	51.60	-0.22	51.38	74.00	-22.62	peak

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76240	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	06/02/2011
Frequency:	2412 MHz	Test By:	Gary Wu
Ant.Polar.:	Vertical		



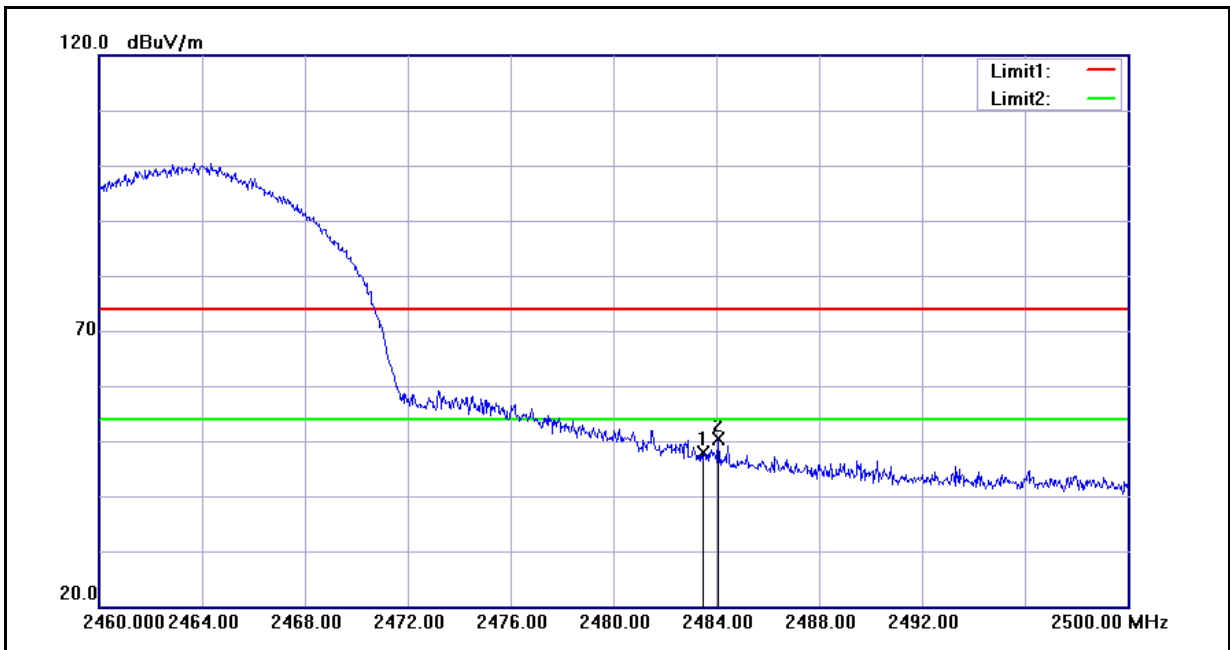
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2388.650	50.90	-0.22	50.68	74.00	-23.32	peak
2	2390.000	51.49	-0.22	51.27	74.00	-22.73	peak

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76240	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	06/02/2011
Frequency:	2462 MHz	Test By:	Gary Wu
Ant.Polar.:	Horizontal		



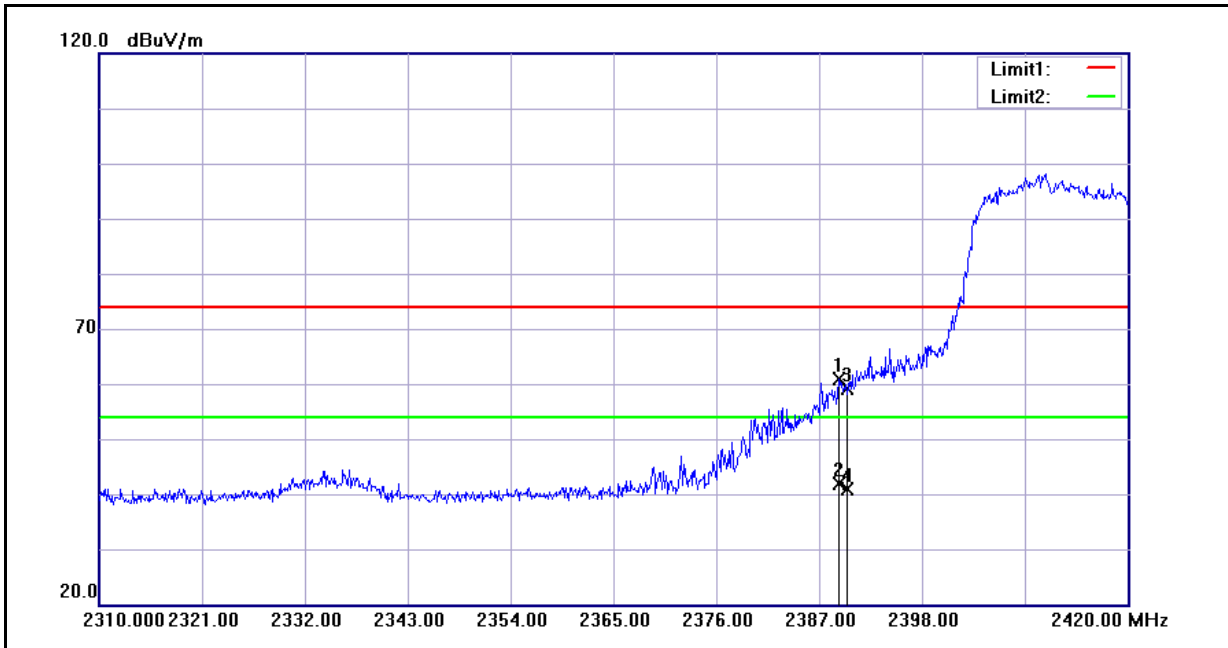
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	49.97	0.16	50.13	74.00	-23.87	peak
2	2483.720	51.62	0.16	51.78	74.00	-22.22	peak

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76240	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	06/02/2011
Frequency:	2462 MHz	Test By:	Gary Wu
Ant.Polar.:	Vertical		



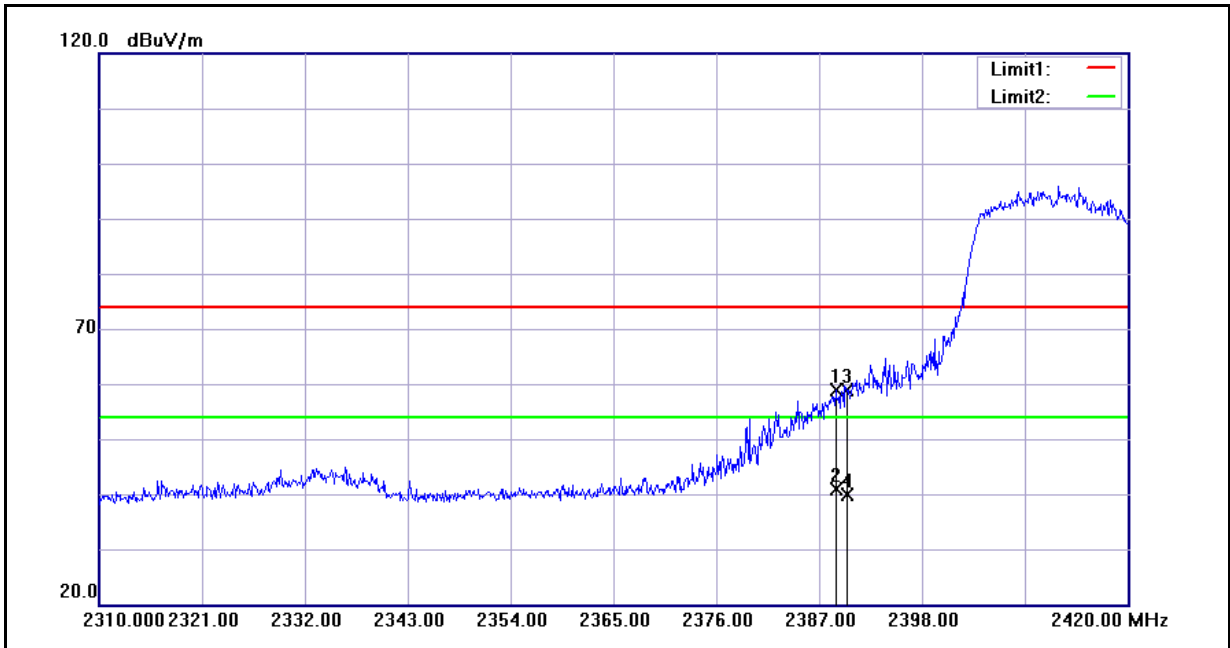
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	47.81	0.16	47.97	74.00	-26.03	peak
2	2484.080	50.17	0.16	50.33	74.00	-23.67	peak

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76240	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	06/02/2011
Frequency:	2412 MHz	Test By:	Gary Wu
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.090	60.99	-0.22	60.77	74.00	-13.23	peak
2	2389.090	42.19	-0.22	41.97	54.00	-12.03	AVG
3	2390.000	59.40	-0.22	59.18	74.00	-14.82	peak
4	2390.000	40.98	-0.22	40.76	54.00	-13.24	AVG

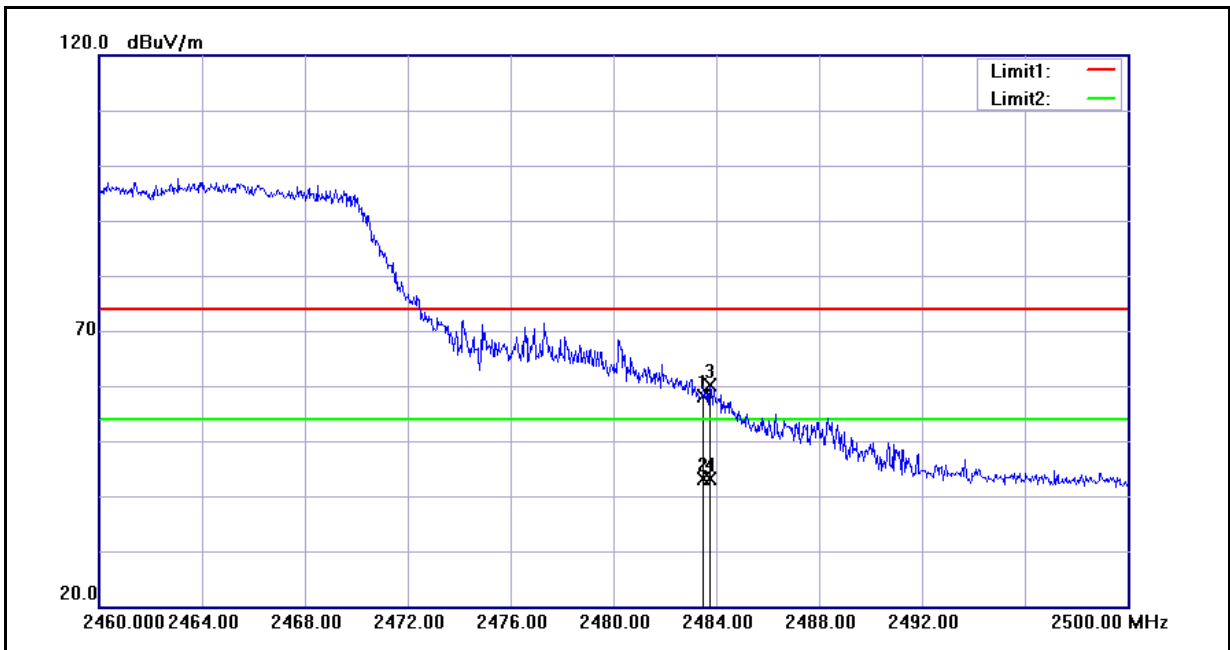
Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76240	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	06/02/2011
Frequency:	2412 MHz	Test By:	Gary Wu
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2388.760	59.00	-0.22	58.78	74.00	-15.22	peak
2	2388.760	40.98	-0.22	40.76	54.00	-13.24	AVG
3	2390.000	59.18	-0.22	58.96	74.00	-15.04	peak
4	2390.000	40.13	-0.22	39.91	54.00	-14.09	AVG

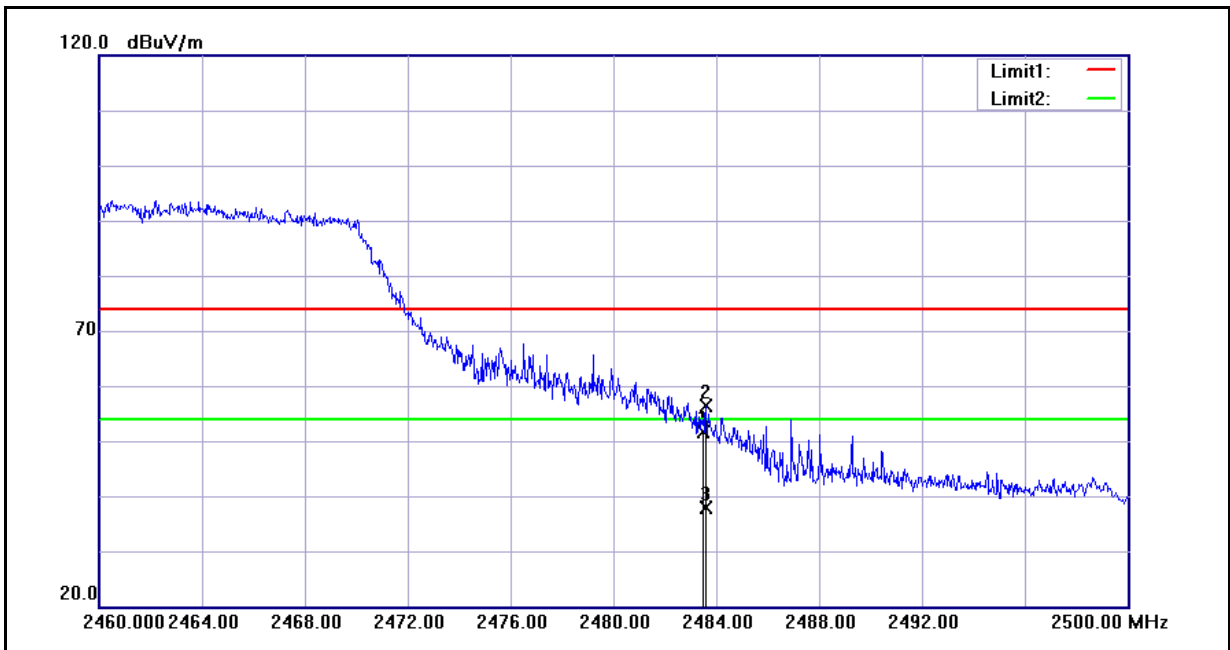


Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76240	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	06/02/2011
Frequency:	2462 MHz	Test By:	Gary Wu
Ant.Polar.:	Horizontal		



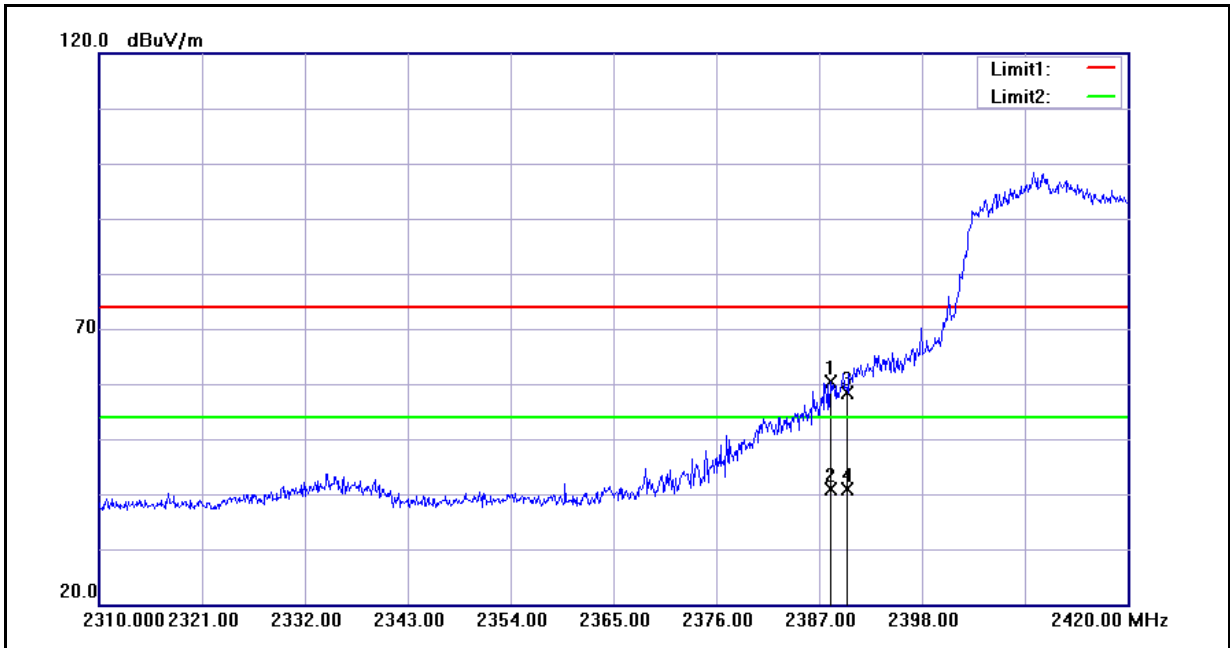
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	57.98	0.16	58.14	74.00	-15.86	peak
2	2483.500	43.08	0.16	43.24	54.00	-10.76	AVG
3	2483.760	59.87	0.16	60.03	74.00	-13.97	peak
4	2483.760	43.09	0.16	43.25	54.00	-10.75	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76240	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	06/02/2011
Frequency:	2462 MHz	Test By:	Gary Wu
Ant.Polar.:	Vertical		



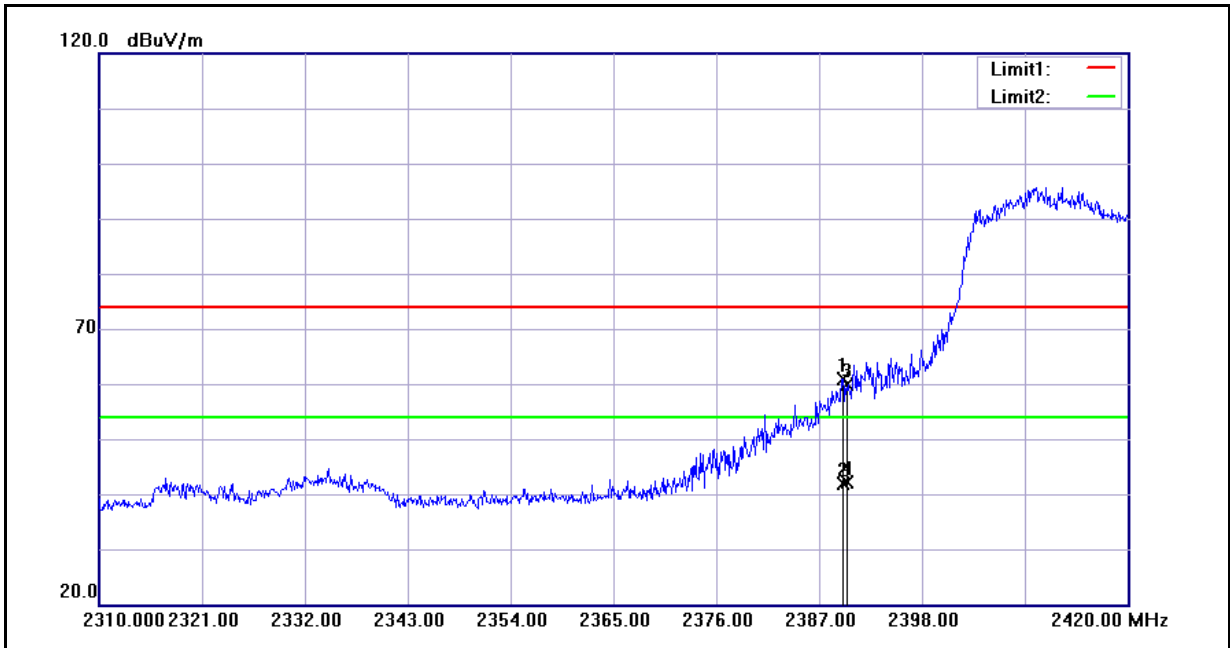
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	51.40	0.16	51.56	74.00	-22.44	peak
2	2483.600	56.17	0.16	56.33	74.00	-17.67	peak
3	2483.600	37.61	0.16	37.77	54.00	-16.23	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76240	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5	Date:	06/02/2011
Frequency:	2412 MHz	Test By:	Gary Wu
Ant.Polar.:	Horizontal		



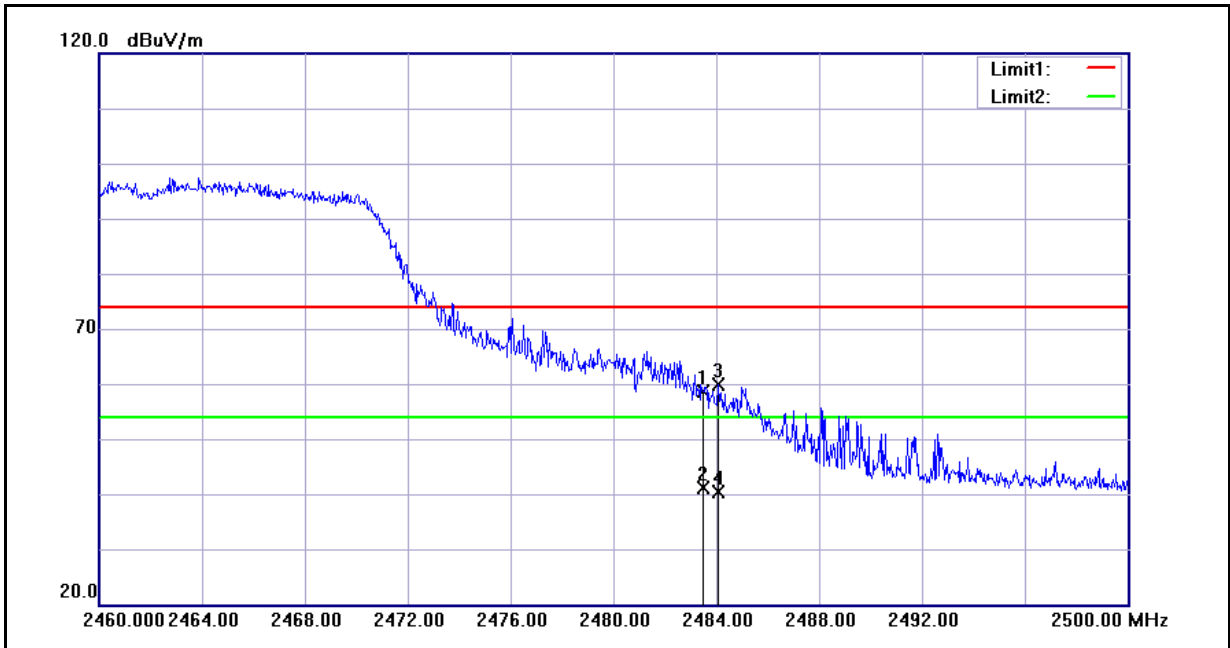
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2388.210	60.72	-0.22	60.50	74.00	-13.50	peak
2	2388.210	41.02	-0.22	40.80	54.00	-13.20	AVG
3	2390.000	58.64	-0.22	58.42	74.00	-15.58	peak
4	2390.000	41.00	-0.22	40.78	54.00	-13.22	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76240	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5	Date:	06/02/2011
Frequency:	2412 MHz	Test By:	Gary Wu
Ant.Polar.:	Vertical		



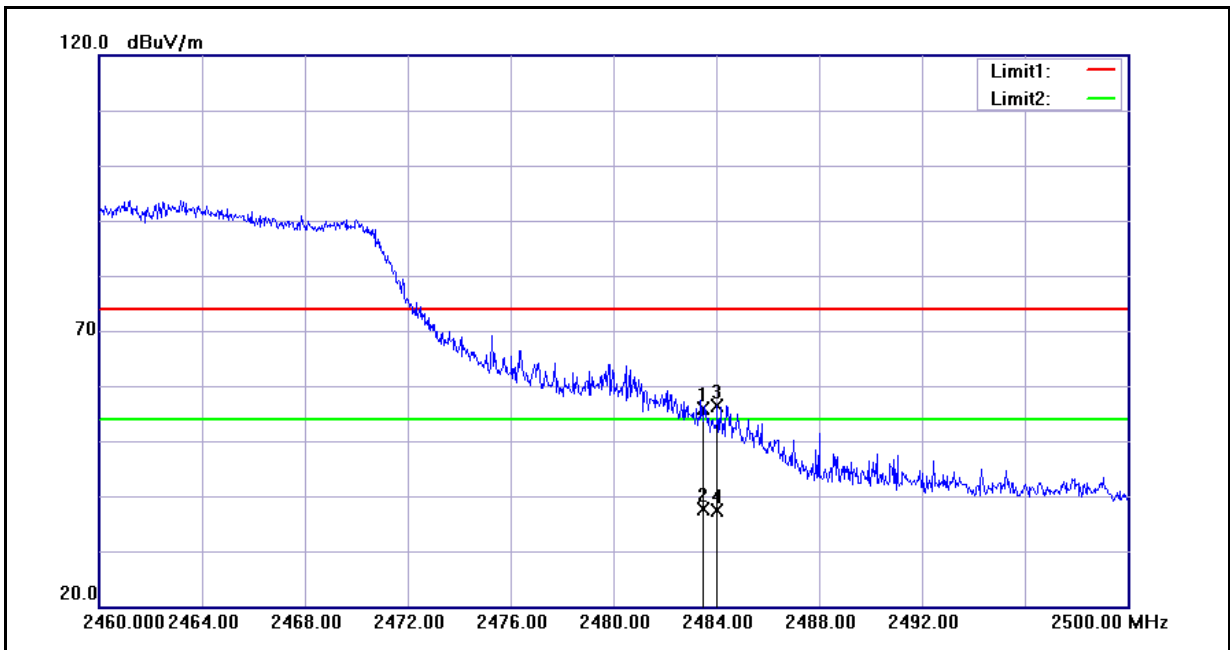
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.530	61.14	-0.22	60.92	74.00	-13.08	peak
2	2389.530	41.99	-0.22	41.77	54.00	-12.23	AVG
3	2390.000	60.14	-0.22	59.92	74.00	-14.08	peak
4	2390.000	42.46	-0.22	42.24	54.00	-11.76	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76240	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5	Date:	06/02/2011
Frequency:	2462 MHz	Test By:	Gary Wu
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	58.35	0.16	58.51	74.00	-15.49	peak
2	2483.500	40.95	0.16	41.11	54.00	-12.89	AVG
3	2484.080	59.75	0.16	59.91	74.00	-14.09	peak
4	2484.080	40.20	0.16	40.36	54.00	-13.64	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76240	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5	Date:	06/02/2011
Frequency:	2462 MHz	Test By:	Gary Wu
Ant.Polar.:	Vertical		



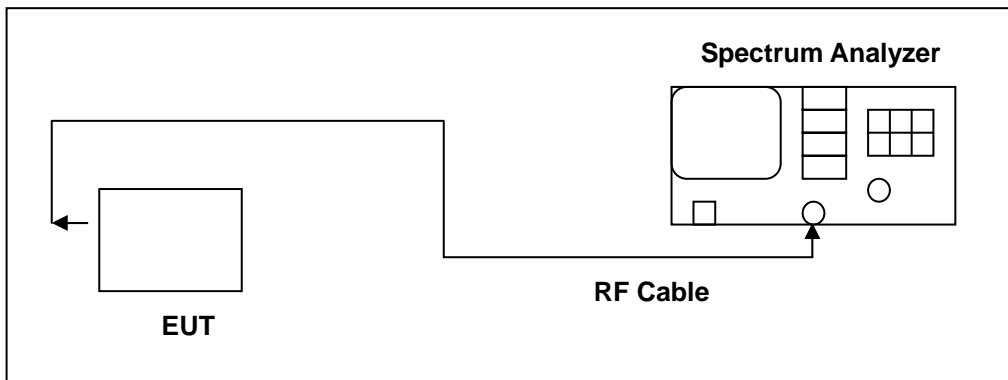
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	55.65	0.16	55.81	74.00	-18.19	peak
2	2483.500	37.50	0.16	37.66	54.00	-16.34	AVG
3	2484.040	56.22	0.16	56.38	74.00	-17.62	peak
4	2484.040	37.19	0.16	37.35	54.00	-16.65	AVG

## 11 99 % Occupied Bandwidth Measurement

### 11.1.Limit

N/A

### 11.2.Test Setup



### 11.3.Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY46181986	05/16/2011	(2)
Test Site	ATL	TE02	TE02	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.

NOTE: N.C.R. = No Calibration Request.

### 11.4.Test Procedure

The transmitter shall be operated at its maximum carrier power measured under normal test conditions. The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts. The resolution bandwidth shall be set to as close to 1% of the selected span as is possible without being below 1%. The video bandwidth shall be set to 3 times the resolution bandwidth. Video averaging is not permitted. Where practical, a sampling detector shall be used since a peak or, peak hold, may produce a wider bandwidth than actual.

The trace data points are recovered and are directly summed in linear terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached and that frequency recorded. The process is repeated for the highest frequency data points. This frequency is recorded.

**11.5.Test Result**

Model Number	PG76240		
Test Item	99 % Occupied Bandwidth		
Test Mode	Mode 3: IEEE 802.11b Link Mode		
Date of Test	06/03/2011	Test Site	TE02
	Frequency (MHz)	Measurement (kHz)	Limit (kHz)
	2412	11441.2	-----
	2437	11369.6	-----
	2462	11296.9	-----

Model Number	PG76240		
Test Item	99 % Occupied Bandwidth		
Test Mode	Mode 4: IEEE 802.11g Link Mode		
Date of Test	06/03/2011	Test Site	TE02
	Frequency (MHz)	Measurement (kHz)	Limit (kHz)
	2412	16652.6	-----
	2437	16742.3	-----
	2462	16743.7	-----

Model Number	PG76240		
Test Item	99 % Occupied Bandwidth		
Test Mode	Mode 5: draft 802.11n Standard-20MHz Link Mode		
Date of Test	06/03/2011	Test Site	TE02
	Frequency (MHz)	Measurement (kHz)	Limit (kHz)
	2412	17814.4	-----
	2437	17826.6	-----
	2462	17977.5	-----



**11.6. Test Graphs**

Mode 3: IEEE 802.11b Link Mode	
2412	<p>Agilent 10:38:15 Jun 3, 2011</p> <p>Ch Freq 2.412 GHz</p> <p>Center Freq 2.4120000 GHz</p> <p>Start Freq 2.38700000 GHz</p> <p>Stop Freq 2.43700000 GHz</p> <p>CF Step 5.00000000 MHz</p> <p>Freq Offset 0.00000000 Hz</p> <p>Occupied Bandwidth 11.4412 MHz</p> <p>Occ BW % Pwr 99.00 %</p> <p>Transmit Freq Error 1.428 MHz</p> <p>x dB Bandwidth 14.465 MHz*</p>
2437	<p>Agilent 10:37:56 Jun 3, 2011</p> <p>Ch Freq 2.437 GHz</p> <p>Center Freq 2.4370000 GHz</p> <p>Start Freq 2.41200000 GHz</p> <p>Stop Freq 2.46200000 GHz</p> <p>CF Step 5.00000000 MHz</p> <p>Freq Offset 0.00000000 Hz</p> <p>Occupied Bandwidth 11.3696 MHz</p> <p>Occ BW % Pwr 99.00 %</p> <p>Transmit Freq Error 1.338 MHz</p> <p>x dB Bandwidth 14.046 MHz*</p>
2462	<p>Agilent 10:37:31 Jun 3, 2011</p> <p>Ch Freq 2.462 GHz</p> <p>Center Freq 2.4620000 GHz</p> <p>Start Freq 2.43700000 GHz</p> <p>Stop Freq 2.48700000 GHz</p> <p>CF Step 5.00000000 MHz</p> <p>Freq Offset 0.00000000 Hz</p> <p>Occupied Bandwidth 11.2969 MHz</p> <p>Occ BW % Pwr 99.00 %</p> <p>Transmit Freq Error 1.358 MHz</p> <p>x dB Bandwidth 14.283 MHz*</p>

Mode 4: IEEE 802.11g Link Mode

<p>2412</p>	
<p>2437</p>	
<p>2462</p>	

Mode 5: draft 802.11n Standard-20MHz Link Mode

<p>2412</p>	<p>Agilent 10:35:41 Jun 3, 2011 R T</p> <p>Ch Freq 2.412 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 21.1 dBm Atten 30 dB</p> <p>#Samp Log 10 dB/ Offst 1.1 dB</p> <p>Center 2.412 GHz Span 50 MHz #Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts)</p> <p><b>Occupied Bandwidth</b> 17.8144 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -52.201 kHz x dB Bandwidth 25.959 MHz*</p> <p>Freq/Channel Center Freq 2.41200000 GHz Start Freq 2.38700000 GHz Stop Freq 2.43700000 GHz CF Step 5.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>
<p>2437</p>	<p>Agilent 10:35:18 Jun 3, 2011 R T</p> <p>Ch Freq 2.437 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 21.1 dBm Atten 30 dB</p> <p>#Samp Log 10 dB/ Offst 1.1 dB</p> <p>Center 2.437 GHz Span 50 MHz #Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts)</p> <p><b>Occupied Bandwidth</b> 17.8266 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -62.023 kHz x dB Bandwidth 26.683 MHz*</p> <p>Freq/Channel Center Freq 2.43700000 GHz Start Freq 2.41200000 GHz Stop Freq 2.46200000 GHz CF Step 5.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>
<p>2462</p>	<p>Agilent 10:34:31 Jun 3, 2011 R T</p> <p>Ch Freq 2.462 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 21.1 dBm Atten 30 dB</p> <p>#Samp Log 10 dB/ Offst 1.1 dB</p> <p>Center 2.462 GHz Span 50 MHz #Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts)</p> <p><b>Occupied Bandwidth</b> 17.9775 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -90.425 kHz x dB Bandwidth 28.328 MHz*</p> <p>Freq/Channel Center Freq 2.46200000 GHz Start Freq 2.43700000 GHz Stop Freq 2.48700000 GHz CF Step 5.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>

## **12 Antenna Measurement**

### **12.1.Limit**

For intentional device, according to 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 15.247 (b), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

### **12.2.Antenna Connector Construction**

The antenna used in this product is **PIFA antenna**. And the maximum Gain of this antenna is only **1.1 dBi**.