

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 : PG76210
Test Specification : FCC 47 CFR PART 15 SUBPART C: Oct., 2010
ANSI C63.4-2009
Issue Date : Jul. 05, 2011

Issue by

A Test Lab Techno Corp.
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Taiwan Accreditation Foundation accreditation number: 1330

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Revision History

Rev.	Issue Date	Revisions	Revised By
00	Jul. 05, 2011	Initial Issue	

Verification of Compliance

Issued Date: 07/05/2011

Product Type : Smartphone
Applicant : HTC Corporation
Address : No. 23, Xinghua Rd., Taoyuan City, Taoyuan County 330,
Taiwan
Trade Name : HTC
Model Number : PG76210
FCC ID : NM8PG76210
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.

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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)

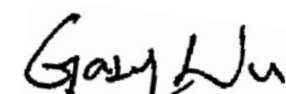
Reviewed By : 
(Testing Engineer) (Gary Wu)

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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 ± 2.24 dB.

Radiated Emission

The measurement uncertainty of 30 MHz - 1GHz is evaluated as ± 3.072 dB.

2 EUT Description

Product	:	Smartphone
Trade Name	:	HTC
Model No.	:	PG76210
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	:	NM8PG76210
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	:	1.5 dBi
RF Output Power	:	IEEE 802.11b: 0.116 W / 20.64 dBm IEEE 802.11g: 0.171 W / 22.32 dBm draft 802.11n Standard-20MHz: 0.164 W / 22.15 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:

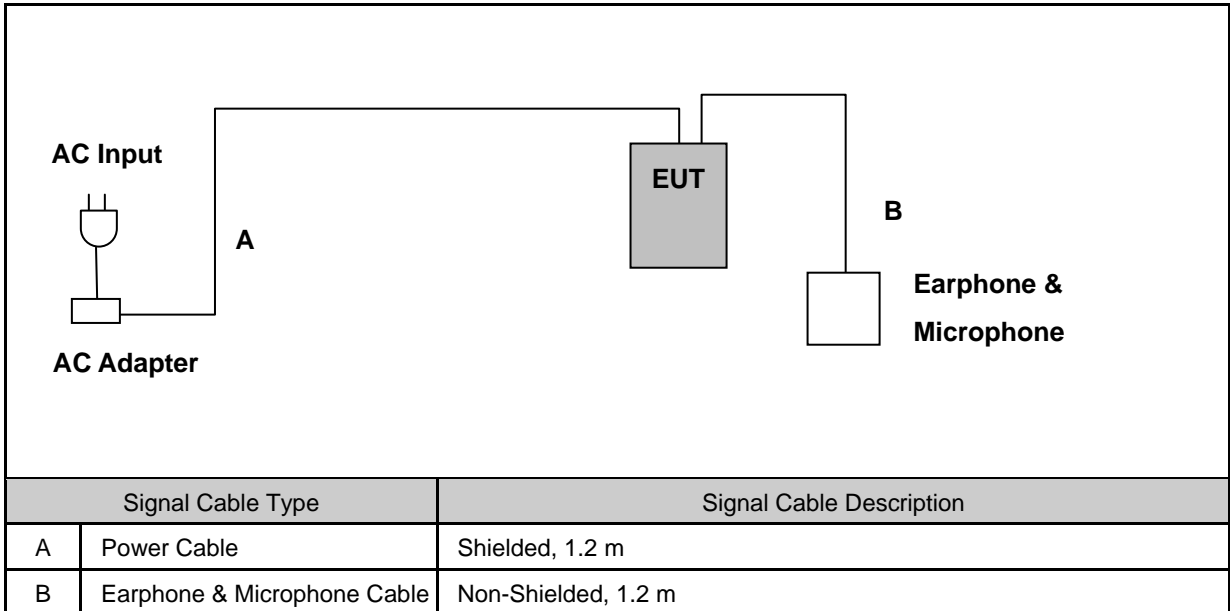
Channel Low (2412MHz), Channel Mid (2437MHz) and Channel High (2462MHz) with 7.2Mbps data rate were chosen for full testing.

3.2. EUT Exercise Software

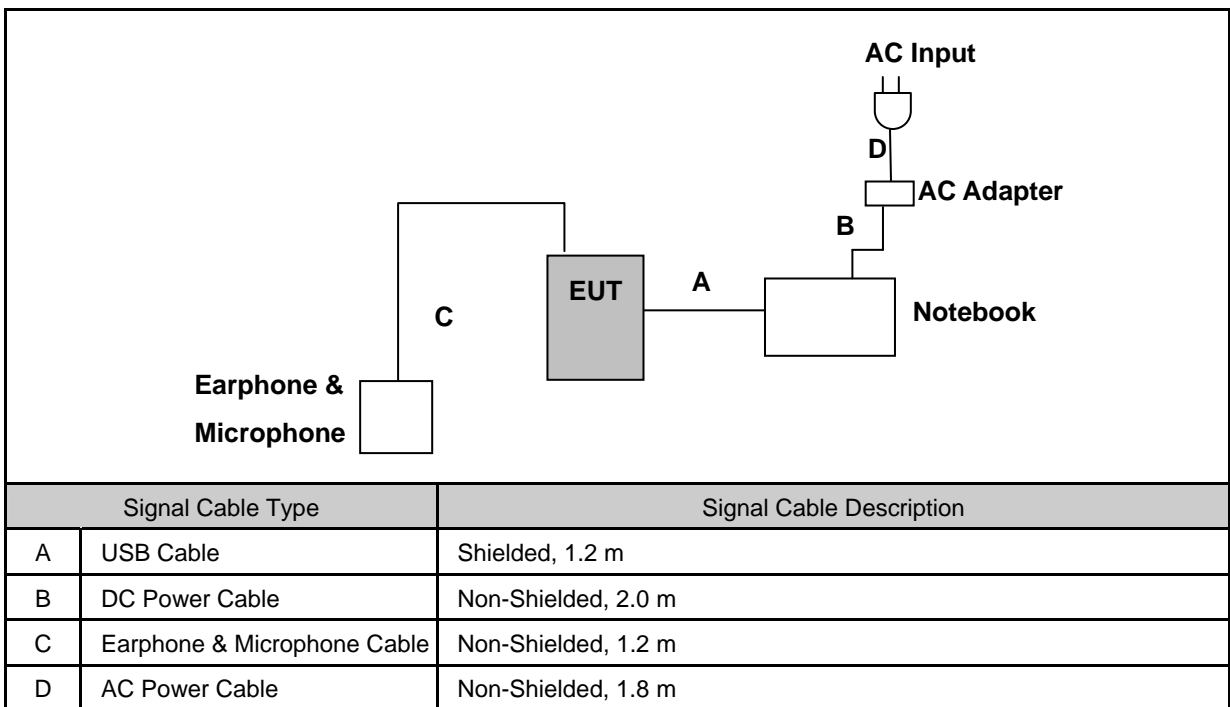
1.	Setup the EUT shown on 3.3.
2.	Turn on the power of all equipment.
3.	Turn on Wi-Fi function link to AP.
4.	EUT run test program.

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

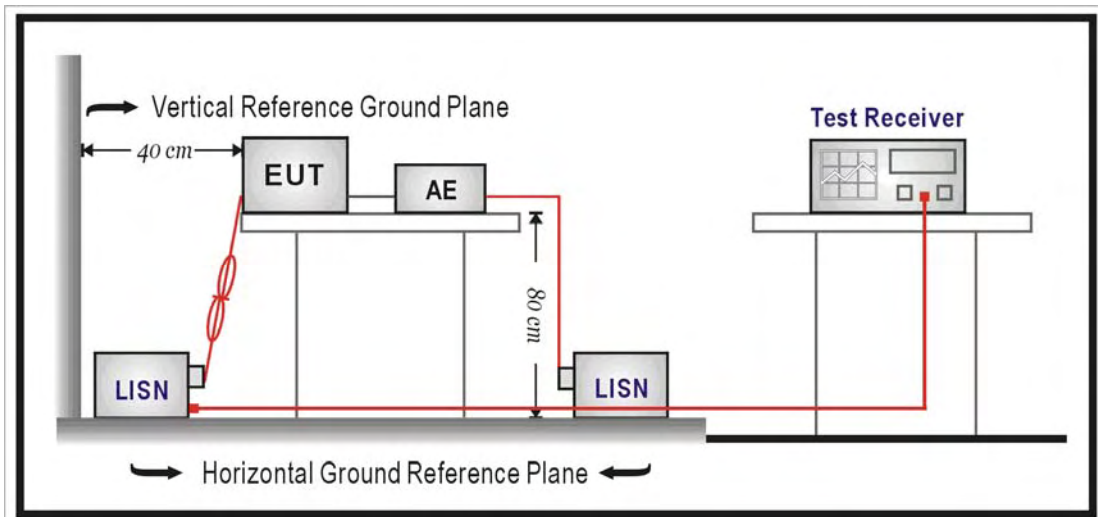
4.2. Test Instruments

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

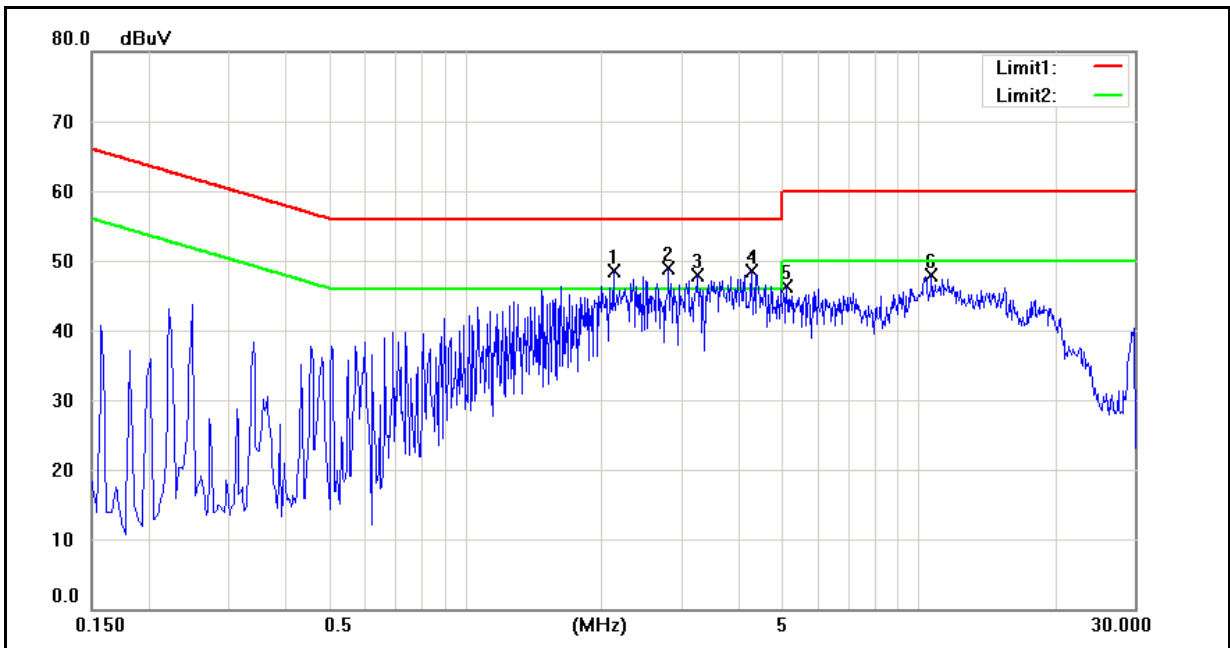
The power line conducted emission measurements were performed in a shielded enclosure. The EUT was assembled on a wooden table which is 80 centimeters high, was placed 40 centimeters from the back wall and at least 1 meter from the sidewall.

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.

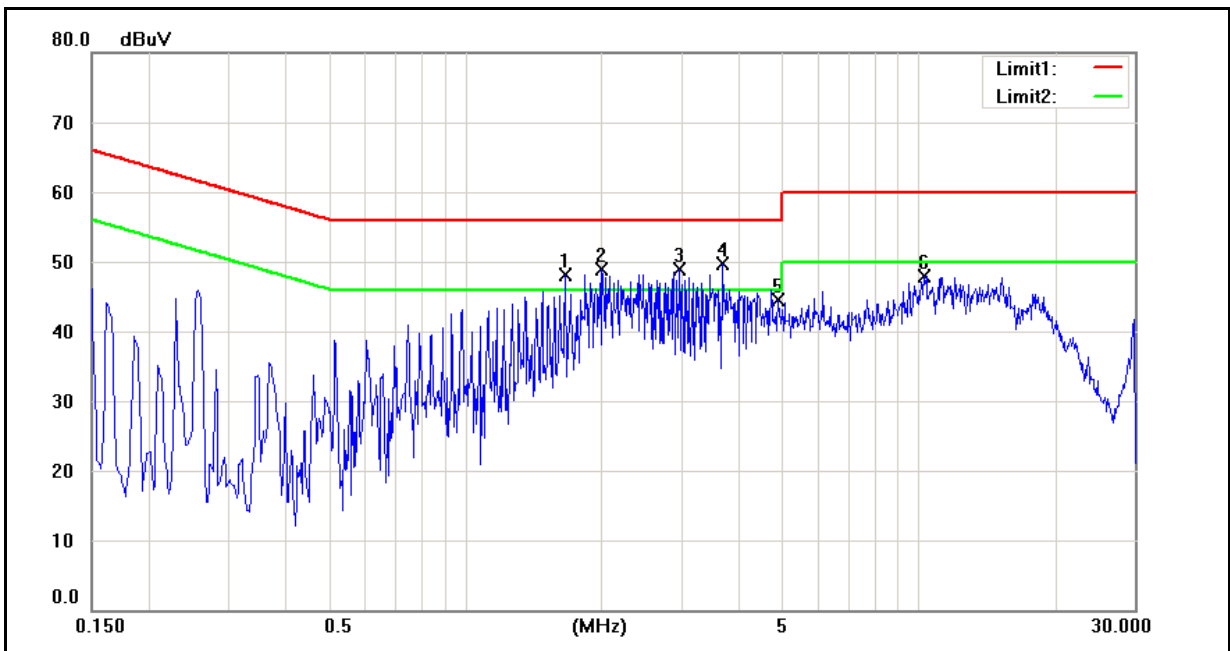
4.5. Test Result

Standard:	FCC Part 15C	Line:	L1
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	PG76210	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 1	Date:	06/29/2011
		Test By:	Gary Wu
Description:			



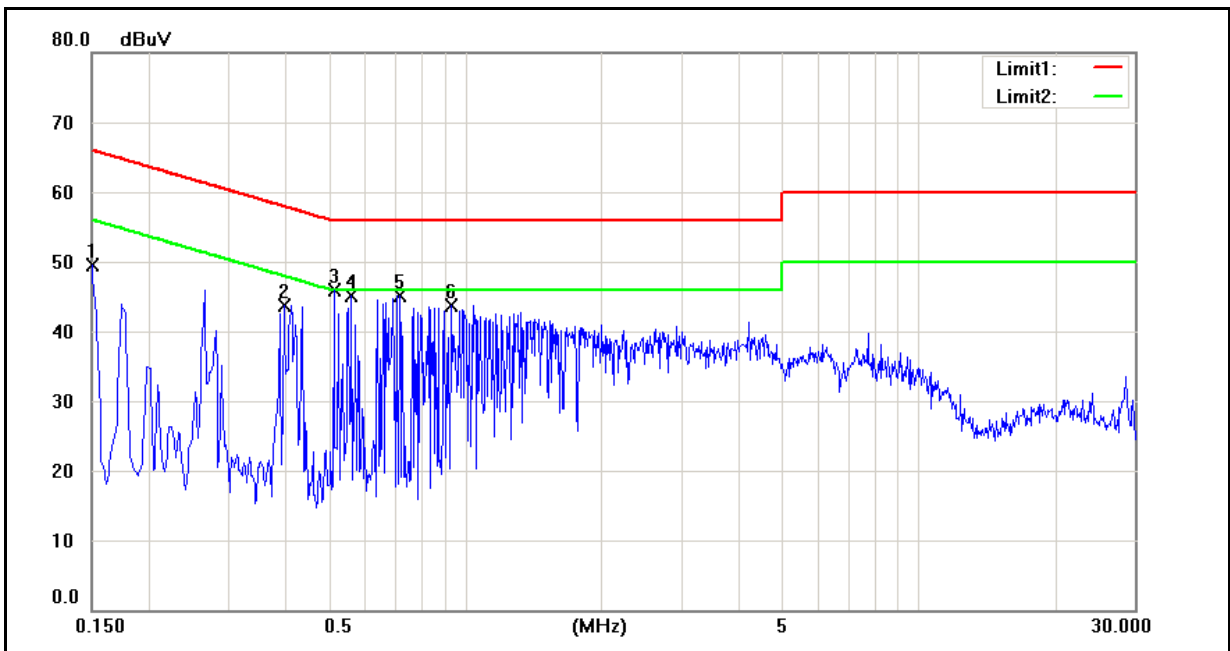
No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	2.1220	32.30	23.48	9.69	41.99	33.17	56.00	46.00	-14.01	-12.83	Pass
2	2.8100	31.03	21.35	9.78	40.81	31.13	56.00	46.00	-15.19	-14.87	Pass
3	3.2740	30.98	20.82	9.80	40.78	30.62	56.00	46.00	-15.22	-15.38	Pass
4	4.2700	30.70	20.65	9.81	40.51	30.46	56.00	46.00	-15.49	-15.54	Pass
5	5.1140	29.23	20.14	9.80	39.03	29.94	60.00	50.00	-20.97	-20.06	Pass
6	10.7100	30.64	22.56	10.25	40.89	32.81	60.00	50.00	-19.11	-17.19	Pass

Standard:	FCC Part 15C	Line:	N
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	PG76210	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 1	Date:	06/29/2011
		Test By:	Gary Wu
Description:			



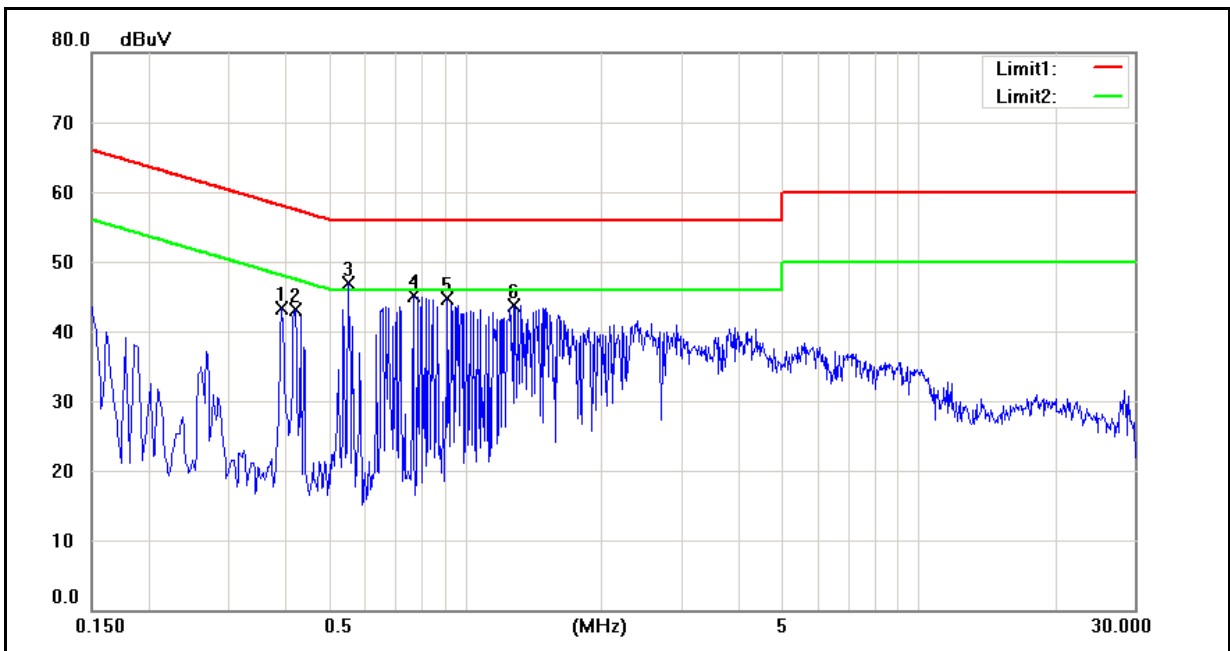
No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	1.6700	30.14	18.31	9.75	39.89	28.06	56.00	46.00	-16.11	-17.94	Pass
2	2.0100	30.61	21.78	9.74	40.35	31.52	56.00	46.00	-15.65	-14.48	Pass
3	2.9740	30.80	19.25	9.87	40.67	29.12	56.00	46.00	-15.33	-16.88	Pass
4	3.6900	30.79	18.94	9.87	40.66	28.81	56.00	46.00	-15.34	-17.19	Pass
5	4.9100	27.18	18.79	9.87	37.05	28.66	56.00	46.00	-18.95	-17.34	Pass
6	10.2940	29.96	21.66	10.27	40.23	31.93	60.00	50.00	-19.77	-18.07	Pass

Standard:	FCC Part 15C	Line:	L1
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	PG76210	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	06/29/2011
		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	35.60	14.56	10.07	45.67	24.63	66.00	56.00	-20.33	-31.37	Pass
2	0.3980	30.31	13.97	9.97	40.28	23.94	57.90	47.90	-17.62	-23.96	Pass
3	0.5140	31.07	8.28	9.92	40.99	18.20	56.00	46.00	-15.01	-27.80	Pass
4	0.5620	30.93	8.99	9.90	40.83	18.89	56.00	46.00	-15.17	-27.11	Pass
5	0.7180	30.20	11.05	9.85	40.05	20.90	56.00	46.00	-15.95	-25.10	Pass
6	0.9380	28.93	10.06	9.76	38.69	19.82	56.00	46.00	-17.31	-26.18	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:	PG76210	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	06/29/2011
		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	0.3940	29.23	9.91	10.05	39.28	19.96	57.98	47.98	-18.70	-28.02	Pass
2	0.4220	29.45	9.26	10.04	39.49	19.30	57.41	47.41	-17.92	-28.11	Pass
3	0.5540	32.01	8.61	9.99	42.00	18.60	56.00	46.00	-14.00	-27.40	Pass
4	0.7700	29.35	7.06	9.90	39.25	16.96	56.00	46.00	-16.75	-29.04	Pass
5	0.9180	29.26	7.36	9.83	39.09	17.19	56.00	46.00	-16.91	-28.81	Pass
6	1.2820	28.69	10.18	9.77	38.46	19.95	56.00	46.00	-17.54	-26.05	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

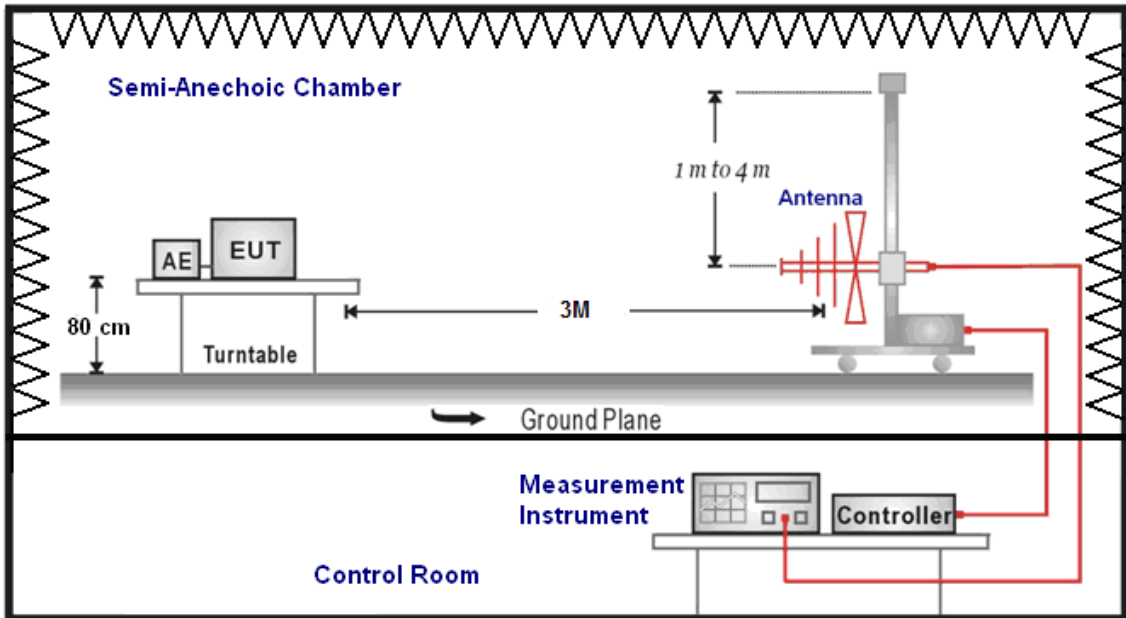
3 Meter Chamber					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY46181986	06/16/2011	(1)
Amplifier	Mini-Circuits	ZKL-1R5+	N/A	05/30/2011	(1)
Amplifier	Mini-Circuits	ZVA-213-S+	N/A	05/30/2011	(1)
RF Pre-selector	Agilent	N9039A	MY46520255	05/16/2011	(1)
Double-Ridged Waveguide Horn	ETS-Lindgren	3117	00128055	08/24/2011	(1)
Trilog-Broadband Antenna	Schwarzbeck Mess-Elektronik	SB AC VULB	9168-419	05/10/2011	(1)
Test Site	ATL	TE09	TE09	05/13/2011	(1)

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

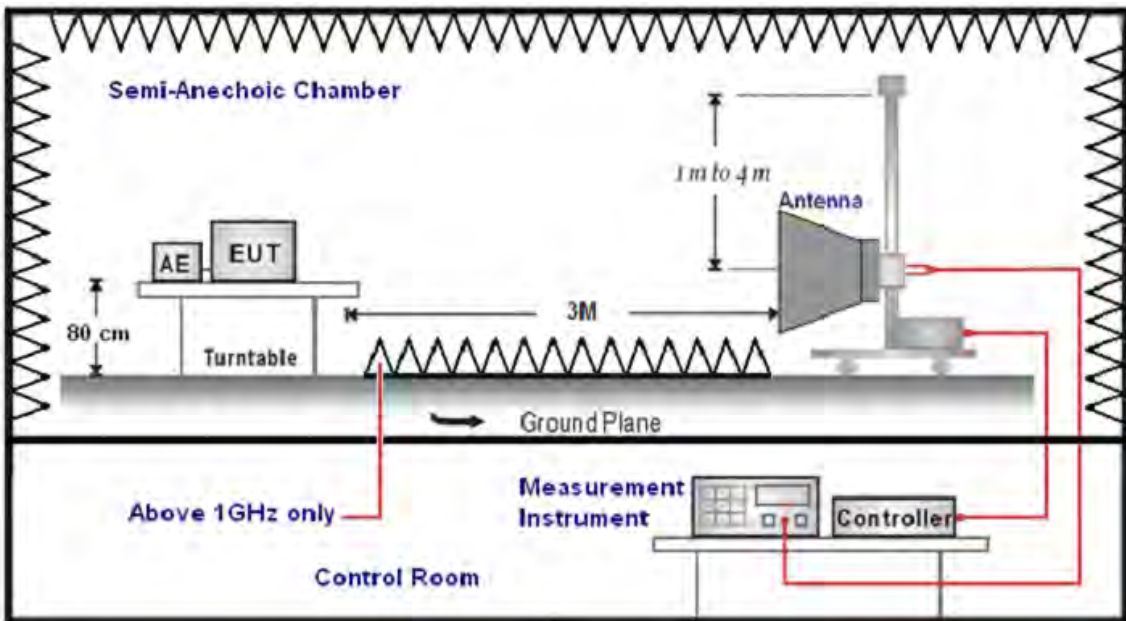
NOTE: N.C.R. = No Calibration Request.

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:

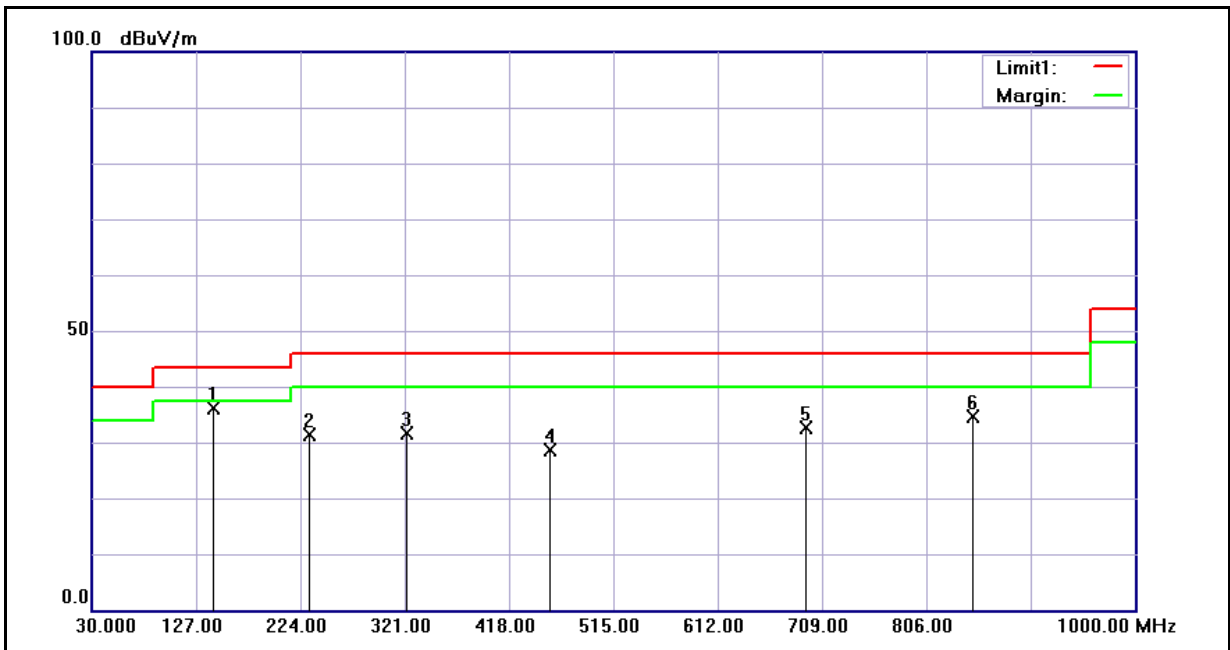
(a) For fundamental frequency : Transmitter Output < +30dBm

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

5.5. Test Result

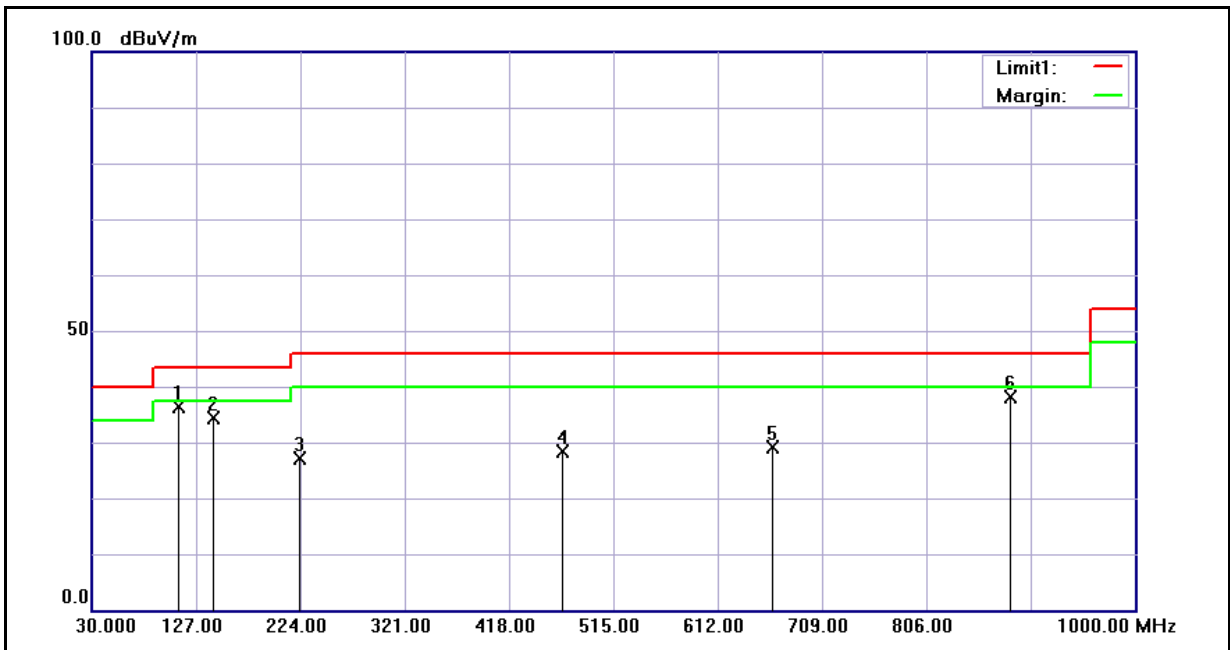
Below 1GHz

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76210	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	06/22/2011
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	144.0000	56.58	-20.55	36.03	43.50	-7.47	QP
2	233.5000	52.69	-21.36	31.33	46.00	-14.67	QP
3	323.0000	49.42	-17.90	31.52	46.00	-14.48	QP
4	456.5000	42.65	-14.11	28.54	46.00	-17.46	QP
5	694.5000	41.59	-9.07	32.52	46.00	-13.48	QP
6	850.0000	7.52	27.05	34.57	46.00	-11.43	QP

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76210	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	06/22/2011
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	111.0000	59.28	-22.96	36.32	43.50	-7.18	QP
2	144.0000	54.99	-20.55	34.44	43.50	-9.06	QP
3	223.5000	49.21	-21.96	27.25	46.00	-18.75	QP
4	467.5000	42.31	-13.82	28.49	46.00	-17.51	QP
5	663.5000	38.73	-9.48	29.25	46.00	-16.75	QP
6	884.5000	10.40	27.74	38.14	46.00	-7.86	QP

Above 1GHz

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PG76210			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 3			Date:	06/22/2011		
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
2722.000	41.31	6.01	47.32	74.00	-26.68	peak	H
3737.000	41.01	8.66	49.67	74.00	-24.33	peak	H
4829.000	45.19	11.51	56.70	74.00	-17.30	peak	H
4829.000	35.29	11.51	46.80	54.00	-7.20	AVG	H
1497.000	47.90	0.85	48.75	74.00	-25.25	peak	V
3737.000	43.18	8.66	51.84	74.00	-22.16	peak	V
5228.000	38.60	12.45	51.05	74.00	-22.95	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PG76210			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 3			Date:	06/22/2011		
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
3198.000	63.90	-15.74	48.16	74.00	-25.84	peak	H
4878.000	67.75	-11.16	56.59	74.00	-17.41	peak	H
4878.000	55.55	-11.16	44.39	54.00	-9.61	AVG	H
6544.000	58.42	-7.29	51.13	74.00	-22.87	peak	H
2239.000	65.37	-17.99	47.38	74.00	-26.62	peak	V
4500.000	60.66	-11.95	48.71	74.00	-25.29	peak	V
6481.000	58.59	-7.40	51.19	74.00	-22.81	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PG76210			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 3			Date:	06/22/2011		
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
3744.000	64.00	-14.49	49.51	74.00	-24.49	peak	H
4927.000	65.20	-11.07	54.13	74.00	-19.87	peak	H
4927.000	54.27	-11.07	43.20	54.00	-10.80	AVG	H
6278.000	58.11	-7.77	50.34	74.00	-23.66	peak	H
3191.000	65.69	-15.75	49.94	74.00	-24.06	peak	V
4927.000	60.73	-11.07	49.66	74.00	-24.34	peak	V
6516.000	58.69	-7.32	51.37	74.00	-22.63	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PG76210			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 4			Date:	06/22/2011		
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
3002.000	64.94	-16.07	48.87	74.00	-25.13	peak	H
4822.000	64.27	-11.29	52.98	74.00	-21.02	peak	H
4822.000	52.59	-11.29	41.30	54.00	-12.70	AVG	H
6614.000	57.94	-7.16	50.78	74.00	-23.22	peak	H
3737.000	65.03	-14.51	50.52	74.00	-23.48	peak	V
5235.000	58.94	-10.37	48.57	74.00	-25.43	peak	V
6565.000	58.09	-7.25	50.84	74.00	-23.16	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PG76210			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 4			Date:	06/22/2011		
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
3198.000	64.73	-15.74	48.99	74.00	-25.01	peak	H
4878.000	62.88	-11.16	51.72	74.00	-22.28	peak	H
6376.000	57.57	-7.59	49.98	74.00	-24.02	peak	H
3737.000	64.39	-14.51	49.88	74.00	-24.12	peak	V
5123.000	59.04	-10.64	48.40	74.00	-25.60	peak	V
6565.000	58.09	-7.25	50.84	74.00	-23.16	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PG76210			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 4			Date:	06/22/2011		
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
3737.000	64.65	-14.51	50.14	74.00	-23.86	peak	H
4927.000	61.38	-11.07	50.31	74.00	-23.69	peak	H
6502.000	57.75	-7.36	50.39	74.00	-23.61	peak	H
3198.000	66.02	-15.74	50.28	74.00	-23.72	peak	V
4500.000	60.75	-11.95	48.80	74.00	-25.20	peak	V
5984.000	57.99	-8.33	49.66	74.00	-24.34	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PG76210			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 5			Date:	06/22/2011		
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
3198.000	64.07	-15.74	48.33	74.00	-25.67	peak	H
4822.000	63.58	-11.29	52.29	74.00	-21.71	peak	H
4822.000	52.03	-11.29	40.74	54.00	-13.26	AVG	H
6481.000	57.48	-7.40	50.08	74.00	-23.92	peak	H
3191.000	66.22	-15.75	50.47	74.00	-23.53	peak	V
3744.000	64.42	-14.49	49.93	74.00	-24.07	peak	V
6166.000	58.44	-7.98	50.46	74.00	-23.54	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PG76210			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 5			Date:	06/22/2011		
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	63.77	-14.49	49.28	74.00	-24.72	peak	H
4878.000	62.56	-11.16	51.40	74.00	-22.60	peak	H
6474.000	58.49	-7.41	51.08	74.00	-22.92	peak	H
3744.000	65.43	-14.49	50.94	74.00	-23.06	peak	V
5739.000	57.73	-9.04	48.69	74.00	-25.31	peak	V
7230.000	56.97	-5.98	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:	PG76210			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 5			Date:	06/22/2011		
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
3184.000	63.28	-15.77	47.51	74.00	-26.49	peak	H
5228.000	60.77	-10.38	50.39	74.00	-23.61	peak	H
6873.000	57.47	-6.72	50.75	74.00	-23.25	peak	H
3198.000	65.19	-15.74	49.45	74.00	-24.55	peak	V
5410.000	58.25	-9.96	48.29	74.00	-25.71	peak	V
6467.000	58.45	-7.42	51.03	74.00	-22.97	peak	V

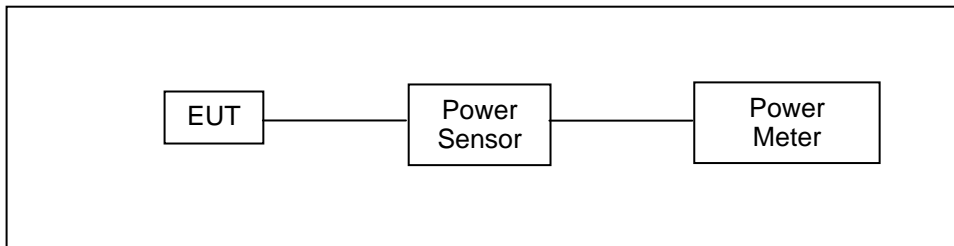
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Test item:	Radiated Emission			Power:	AC 120V/60Hz			
Model Number:	PG76210			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH			
Mode:	Mode 6			Date:	06/22/2011			
Modulation:	draft 802.11n Standard-20MHz			Test By:	Gary Wu			
Frequency:	2437MHz							
Frequency (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
3191.000	62.34	-15.75	46.59	74.00	54.00	-27.41	peak	H
4528.000	59.54	-11.89	47.65	74.00	54.00	-26.35	peak	H
6551.000	56.48	-7.27	49.21	74.00	54.00	-24.79	peak	H
2953.000	60.99	-16.21	44.78	74.00	54.00	-29.22	peak	V
4773.000	59.24	-11.39	47.85	74.00	54.00	-26.15	peak	V
6474.000	57.74	-7.41	50.33	74.00	54.00	-23.67	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	PG76210					
Test Item	Maximum Conducted Output Power					
Test Mode	Mode 3: IEEE 802.11b Link Mode					
Date of Test	06/20/2011			Test Site	TE02	
Frequency (MHz)	Data Rate	Average Power		Peak Power		Limit (dBm)
		(dBm)	(W)	(dBm)	(W)	
2412	1 M	17.96	0.063	20.26	0.106	< 30
2437		17.85	0.061	20.27	0.106	< 30
2462		18.03	0.064	20.31	0.107	< 30
2412	11 M	17.65	0.058	20.45	0.111	< 30
2437		17.69	0.059	20.51	0.112	< 30
2462		17.91	0.062	20.64	0.116	< 30

Model Number	PG76210					
Test Item	Maximum Conducted Output Power					
Test Mode	Mode 4: IEEE 802.11g Link Mode					
Date of Test	06/20/2011			Test Site	TE02	
Frequency (MHz)	Data Rate	Average Power		Peak Power		Limit (dBm)
		(dBm)	(W)	(dBm)	(W)	
2412	6 M	12.87	0.019	21.94	0.156	< 30
2437		12.76	0.019	22.05	0.160	< 30
2462		13.26	0.021	22.32	0.171	< 30
2412	54 M	11.45	0.014	21.61	0.145	< 30
2437		11.47	0.014	21.77	0.150	< 30
2462		11.54	0.014	21.77	0.150	< 30

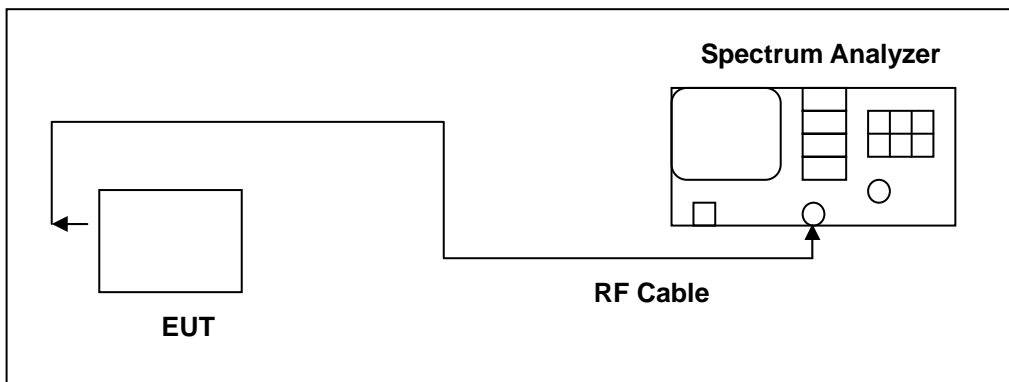
Model Number	PG76210					
Test Item	Maximum Conducted Output Power					
Test Mode	Mode 5: draft 802.11n Standard-20MHz Link Mode					
Date of Test	06/20/2011			Test Site	TE02	
Frequency (MHz)	Data Rate	Average Power		Peak Power		Limit (dBm)
		(dBm)	(W)	(dBm)	(W)	
2412	7.2 M	12.93	0.020	21.90	0.155	< 30
2437		12.81	0.019	22.15	0.164	< 30
2462		13.12	0.021	22.09	0.162	< 30
2412	72.2 M	11.53	0.014	21.77	0.150	< 30
2437		11.53	0.014	21.83	0.152	< 30
2462		11.62	0.015	21.96	0.157	< 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	PG76210		
Test Item	6dB RF Bandwidth		
Test Mode	Mode 3: IEEE 802.11b Link Mode		
Date of Test	06/20/2011	Test Site	TE02
	Frequency (MHz)	Measurement (kHz)	Limit (kHz)
	2412	8000	> 500
	2437	8000	> 500
	2462	7250	> 500

Model Number	PG76210		
Test Item	6dB RF Bandwidth		
Test Mode	Mode 4: IEEE 802.11g Link Mode		
Date of Test	06/20/2011	Test Site	TE06
	Frequency (MHz)	Measurement (kHz)	Limit (kHz)
	2412	15580	> 500
	2437	15330	> 500
	2462	15500	> 500

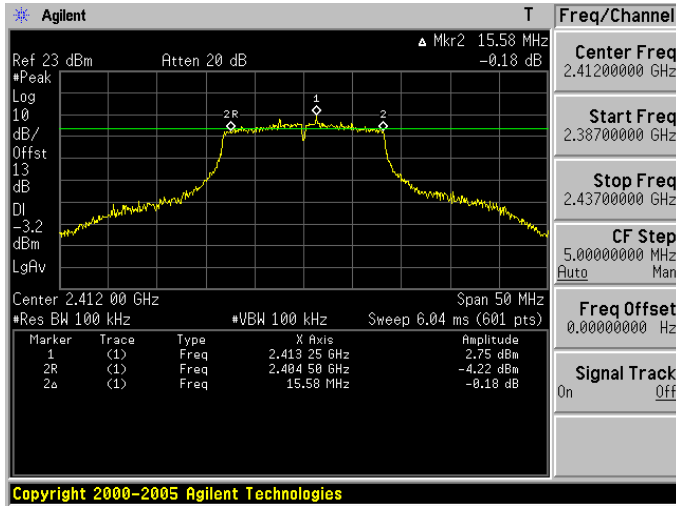
Model Number	PG76210		
Test Item	6dB RF Bandwidth		
Test Mode	Mode 5: draft 802.11n Standard-20MHz Link Mode		
Date of Test	06/20/2011	Test Site	TE02
	Frequency (MHz)	Measurement (kHz)	Limit (kHz)
	2412	15330	> 500
	2437	15250	> 500
	2462	15750	> 500

7.6. Test Graphs

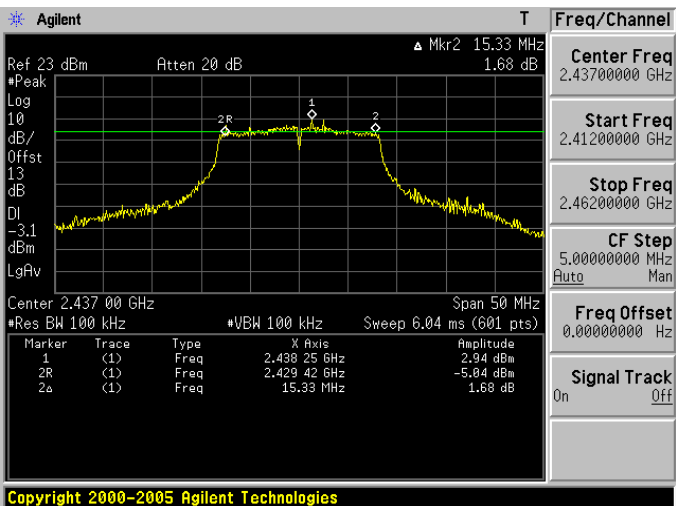
Mode 3: IEEE 802.11b Link Mode																					
2412	<p>Agilent R T Freq/Channel</p> <p>Ref 23 dBm Atten 20 dB Δ Mkr2 8.00 MHz -0.24 dB</p> <p>#Peak</p> <p>Log</p> <p>dB/</p> <p>Offst</p> <p>dB</p> <p>DI</p> <p>dBm</p> <p>LgAv</p> <p>Center 2.412 00 GHz Span 50 MHz</p> <p>#Res BW 100 kHz #VBW 100 kHz Sweep 6.04 ms (601 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>2.414 83 GHz</td> <td>8.52 dBm</td> </tr> <tr> <td>2R</td> <td>(1)</td> <td>Freq</td> <td>2.409 42 GHz</td> <td>2.85 dBm</td> </tr> <tr> <td>2a</td> <td>(1)</td> <td>Freq</td> <td>8.00 MHz</td> <td>-0.24 dB</td> </tr> </tbody> </table> <p>Copyright 2000-2005 Agilent Technologies</p>	Marker	Trace	Type	X Axis	Amplitude	1	(1)	Freq	2.414 83 GHz	8.52 dBm	2R	(1)	Freq	2.409 42 GHz	2.85 dBm	2a	(1)	Freq	8.00 MHz	-0.24 dB
Marker	Trace	Type	X Axis	Amplitude																	
1	(1)	Freq	2.414 83 GHz	8.52 dBm																	
2R	(1)	Freq	2.409 42 GHz	2.85 dBm																	
2a	(1)	Freq	8.00 MHz	-0.24 dB																	
2437	<p>Agilent T Freq/Channel</p> <p>Ref 23 dBm Atten 20 dB Δ Mkr2 8.00 MHz 0.10 dB</p> <p>#Peak</p> <p>Log</p> <p>dB/</p> <p>Offst</p> <p>dB</p> <p>DI</p> <p>dBm</p> <p>LgAv</p> <p>Center 2.437 00 GHz Span 50 MHz</p> <p>#Res BW 100 kHz #VBW 100 kHz Sweep 6.04 ms (601 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>2.439 50 GHz</td> <td>9.41 dBm</td> </tr> <tr> <td>2R</td> <td>(1)</td> <td>Freq</td> <td>2.434 33 GHz</td> <td>2.09 dBm</td> </tr> <tr> <td>2a</td> <td>(1)</td> <td>Freq</td> <td>8.00 MHz</td> <td>0.10 dB</td> </tr> </tbody> </table> <p>Copyright 2000-2005 Agilent Technologies</p>	Marker	Trace	Type	X Axis	Amplitude	1	(1)	Freq	2.439 50 GHz	9.41 dBm	2R	(1)	Freq	2.434 33 GHz	2.09 dBm	2a	(1)	Freq	8.00 MHz	0.10 dB
Marker	Trace	Type	X Axis	Amplitude																	
1	(1)	Freq	2.439 50 GHz	9.41 dBm																	
2R	(1)	Freq	2.434 33 GHz	2.09 dBm																	
2a	(1)	Freq	8.00 MHz	0.10 dB																	
2462	<p>Agilent T Freq/Channel</p> <p>Ref 23 dBm Atten 20 dB Δ Mkr2 7.25 MHz 0.46 dB</p> <p>#Peak</p> <p>Log</p> <p>dB/</p> <p>Offst</p> <p>dB</p> <p>DI</p> <p>dBm</p> <p>LgAv</p> <p>Center 2.462 00 GHz Span 50 MHz</p> <p>#Res BW 100 kHz #VBW 100 kHz Sweep 6.04 ms (601 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>2.462 42 GHz</td> <td>9.76 dBm</td> </tr> <tr> <td>2R</td> <td>(1)</td> <td>Freq</td> <td>2.459 67 GHz</td> <td>2.77 dBm</td> </tr> <tr> <td>2a</td> <td>(1)</td> <td>Freq</td> <td>7.25 MHz</td> <td>0.46 dB</td> </tr> </tbody> </table> <p>Copyright 2000-2005 Agilent Technologies</p>	Marker	Trace	Type	X Axis	Amplitude	1	(1)	Freq	2.462 42 GHz	9.76 dBm	2R	(1)	Freq	2.459 67 GHz	2.77 dBm	2a	(1)	Freq	7.25 MHz	0.46 dB
Marker	Trace	Type	X Axis	Amplitude																	
1	(1)	Freq	2.462 42 GHz	9.76 dBm																	
2R	(1)	Freq	2.459 67 GHz	2.77 dBm																	
2a	(1)	Freq	7.25 MHz	0.46 dB																	

Mode 4: IEEE 802.11g Link Mode

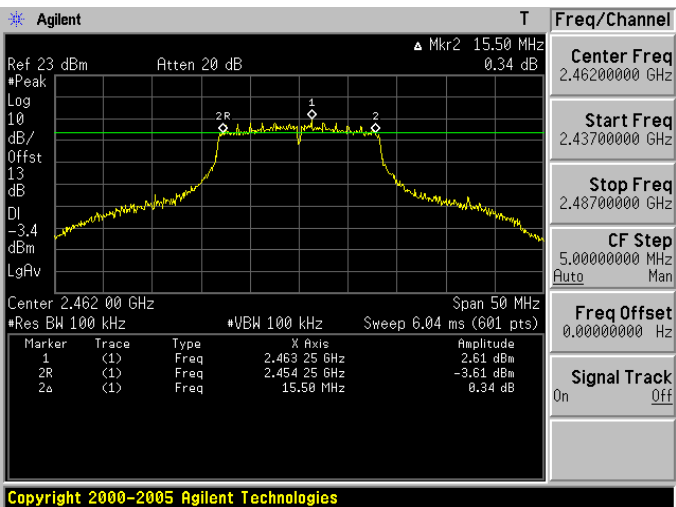
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2437

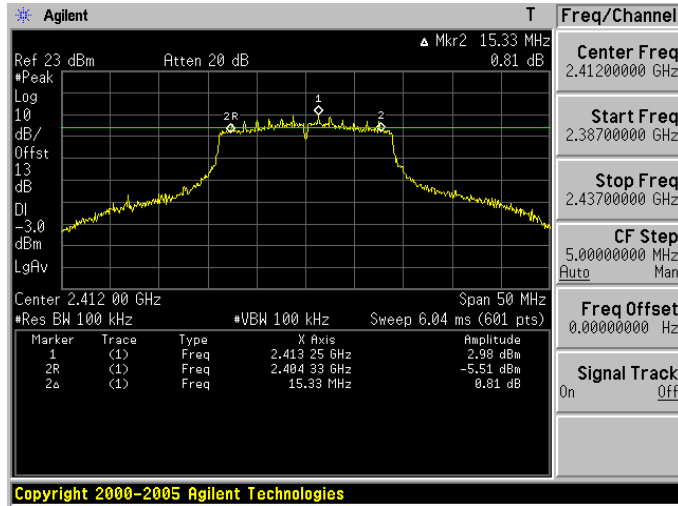


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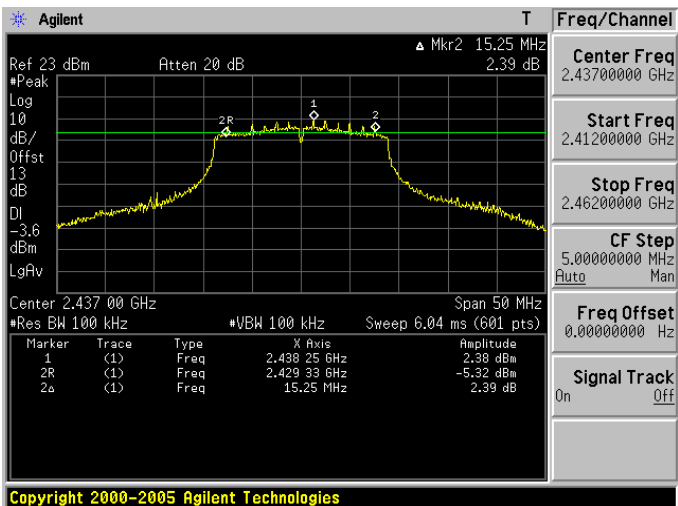


Mode 5: draft 802.11n Standard-20MHz Link Mode

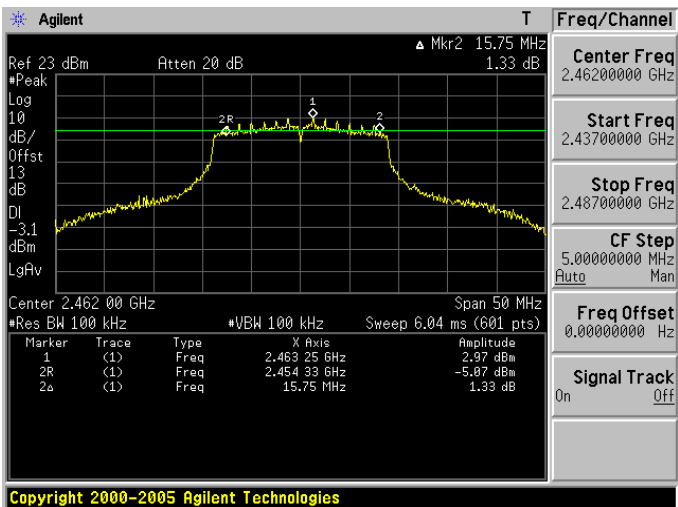
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2437



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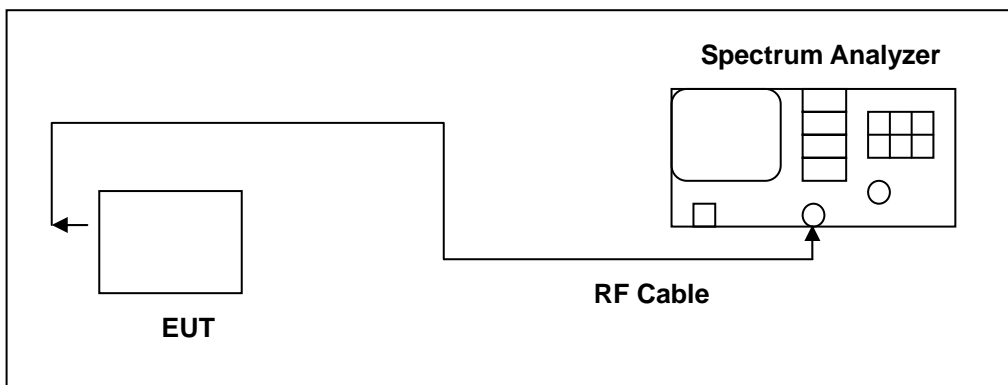


8 Maximum Power Density Measurement

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	PG76210		
Test Item	Maximum Power Density		
Test Mode	Mode 3: IEEE 802.11b Link Mode		
Date of Test	06/20/2011	Test Site	TE02
Frequency (MHz)	Measurement (dBm)	Limit (dBm)	
2412	-3.60	< 8	
2437	-4.71	< 8	
2462	-3.57	< 8	

Model Number	PG76210		
Test Item	Maximum Power Density		
Test Mode	Mode 4: IEEE 802.11g Link Mode		
Date of Test	06/20/2011	Test Site	TE02
Frequency (MHz)	Measurement (dBm)	Limit (dBm)	
2412	-11.12	< 8	
2437	-10.95	< 8	
2462	-11.36	< 8	

Model Number	PG76210		
Test Item	Maximum Power Density		
Test Mode	Mode 5: draft 802.11n Standard-20MHz Link Mode		
Date of Test	06/20/2011	Test Site	TE02
Frequency (MHz)	Measurement (dBm)	Limit (dBm)	
2412	-10.22	< 8	
2437	-11.28	< 8	
2462	-10.76	< 8	

8.6. Test Graphs

Mode 3: IEEE 802.11b Link Mode	
2412	<p>Agilent T</p> <p>Ref 23 dBm Atten 20 dB Mkr1 2.413 424 0 GHz -3.60 dBm</p> <p>Center 2.413 333 3 GHz Span 300 kHz #Res BW 3 kHz #VBW 10 kHz #Sweep 100 s (601 pts)</p> <p>Copyright 2000-2005 Agilent Technologies</p> <p>Freq/Channel</p> <p>Center Freq 2.41333333 GHz</p> <p>Start Freq 2.41318333 GHz</p> <p>Stop Freq 2.41348333 GHz</p> <p>CF Step 30.0000000 kHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
2437	<p>Agilent R L</p> <p>Ref 23 dBm Atten 20 dB Mkr1 2.439 839 1 GHz -4.71 dBm</p> <p>Center 2.439 966 7 GHz Span 300 kHz #Res BW 3 kHz #VBW 10 kHz #Sweep 100 s (601 pts)</p> <p>Copyright 2000-2005 Agilent Technologies</p> <p>Freq/Channel</p> <p>Center Freq 2.43966667 GHz</p> <p>Start Freq 2.43981667 GHz</p> <p>Stop Freq 2.44011667 GHz</p> <p>CF Step 30.0000000 kHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
2462	<p>Agilent T</p> <p>Ref 23 dBm Atten 20 dB Mkr1 2.463 679 5 GHz -3.57 dBm</p> <p>Center 2.463 600 0 GHz Span 300 kHz #Res BW 3 kHz #VBW 10 kHz #Sweep 100 s (601 pts)</p> <p>Copyright 2000-2005 Agilent Technologies</p> <p>Freq/Channel</p> <p>Center Freq 2.46360000 GHz</p> <p>Start Freq 2.46345000 GHz</p> <p>Stop Freq 2.46375000 GHz</p> <p>CF Step 30.0000000 kHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>

Mode 4: IEEE 802.11g Link Mode

2412	<p>Agilent T Freq/Channel</p> <p>Ref 23 dBm Atten 20 dB Mkr1 2.411 330 5 GHz -11.12 dBm</p> <p>Center Freq 2.4113667 GHz</p> <p>Start Freq 2.41121667 GHz</p> <p>Stop Freq 2.41151667 GHz</p> <p>CF Step 30.0000000 kHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Center 2.411 366 7 GHz Span 300 kHz</p> <p>#Res BW 3 kHz #VBW 10 kHz #Sweep 100 s (601 pts)</p> <p>Copyright 2000-2005 Agilent Technologies</p>
2437	<p>Agilent T Freq/Channel</p> <p>Ref 23 dBm Atten 20 dB Mkr1 2.436 330 0 GHz -10.95 dBm</p> <p>Center Freq 2.4363667 GHz</p> <p>Start Freq 2.43621667 GHz</p> <p>Stop Freq 2.43651667 GHz</p> <p>CF Step 30.0000000 kHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Center 2.436 366 7 GHz Span 300 kHz</p> <p>#Res BW 3 kHz #VBW 10 kHz #Sweep 100 s (601 pts)</p> <p>Copyright 2000-2005 Agilent Technologies</p>
2462	<p>Agilent R T Freq/Channel</p> <p>Ref 23 dBm Atten 20 dB Mkr1 2.459 461 6 GHz -11.36 dBm</p> <p>Center Freq 2.4594667 GHz</p> <p>Start Freq 2.45931667 GHz</p> <p>Stop Freq 2.45961667 GHz</p> <p>CF Step 30.0000000 kHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Center 2.459 466 7 GHz Span 300 kHz</p> <p>#Res BW 3 kHz #VBW 10 kHz #Sweep 100 s (601 pts)</p> <p>Copyright 2000-2005 Agilent Technologies</p>

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

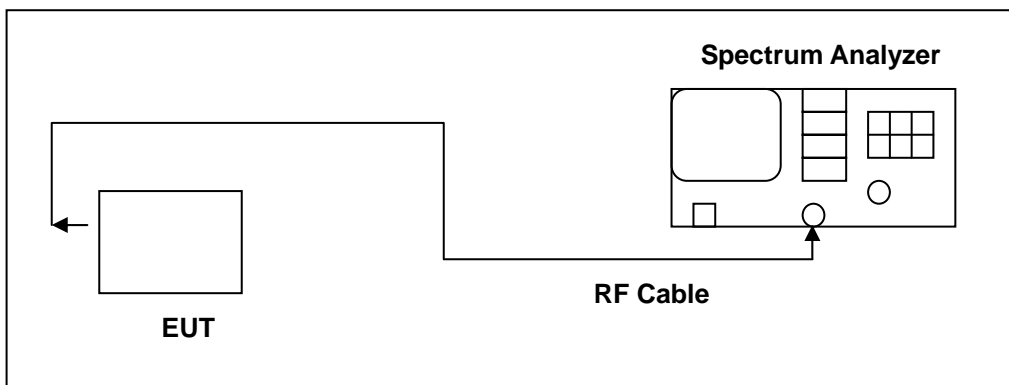
<p>2412</p>	<p>Agilent T Freq/Channel Ref 23 dBm Atten 20 dB Mkr1 2.413 206 7 GHz #Peak -10.22 dBm Log 10 dB/ Offst 13 dB DI 8.0 dBm LgAv V1 S2 S3 FC AA E(f): f>50k Swp Center 2.413 233 3 GHz Span 300 kHz #Res BW 3 kHz #VBW 10 kHz #Sweep 100 s (601 pts) Copyright 2000-2005 Agilent Technologies</p>
<p>2437</p>	<p>Agilent T Freq/Channel Ref 23 dBm Atten 20 dB Mkr1 2.437 298 7 GHz #Peak -11.28 dBm Log 10 dB/ Offst 13 dB DI 8.0 dBm LgAv V1 S2 S3 FC AA E(f): f>50k Swp Center 2.437 333 3 GHz Span 300 kHz #Res BW 3 kHz #VBW 10 kHz #Sweep 100 s (601 pts) Copyright 2000-2005 Agilent Technologies</p>
<p>2462</p>	<p>Agilent T Freq/Channel Ref 23 dBm Atten 20 dB Mkr1 2.460 482 2 GHz #Peak -10.76 dBm Log 10 dB/ Offst 13 dB DI 8.0 dBm LgAv V1 S2 S3 FC AA E(f): f>50k Swp Center 2.460 466 7 GHz Span 300 kHz #Res BW 3 kHz #VBW 10 kHz #Sweep 100 s (601 pts) Copyright 2000-2005 Agilent Technologies</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)

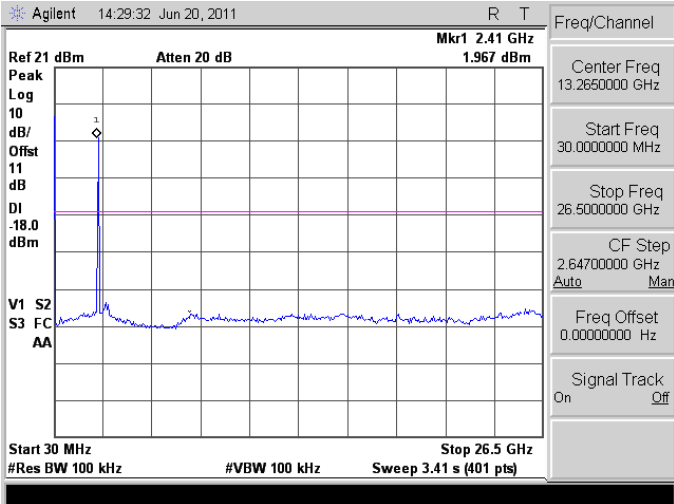
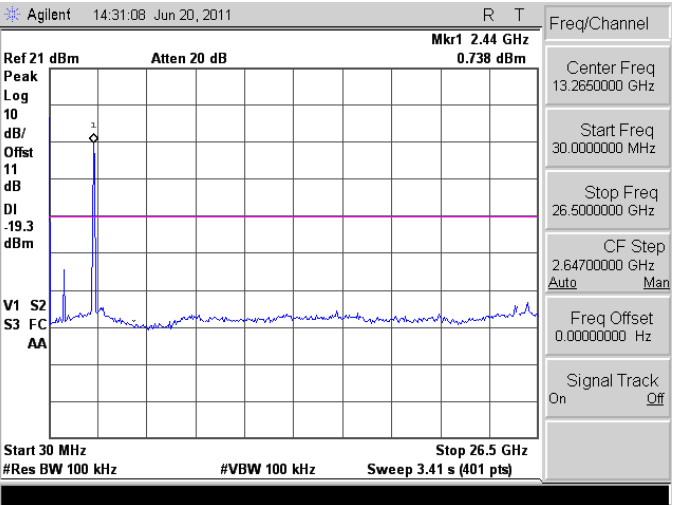
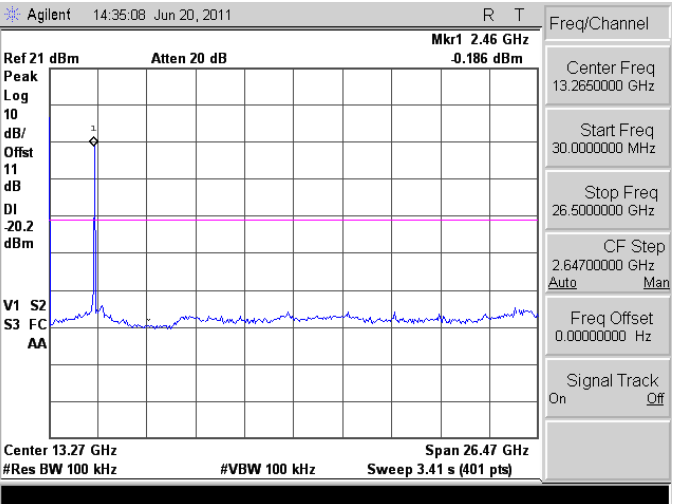
9.5. Test Graphs

Mode 3: IEEE 802.11b Link Mode	
2412	
2437	
2462	

Mode 4: IEEE 802.11g Link Mode

2412	<p>Agilent 14:25:19 Jun 20, 2011 R T</p> <p>Ref 21 dBm Atten 20 dB Mkr1 2.41 GHz 0.795 dBm</p> <p>Peak Log 10 dB/Offst 11 dB DI -19.2 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>
2437	<p>Agilent 14:27:17 Jun 20, 2011 R T</p> <p>Ref 21 dBm Atten 20 dB Mkr1 2.44 GHz -0.584 dBm</p> <p>Peak Log 10 dB/Offst 11 dB DI -20.6 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>
2462	<p>Agilent 14:27:46 Jun 20, 2011 R T</p> <p>Ref 21 dBm Atten 20 dB Mkr1 2.46 GHz 1.081 dBm</p> <p>Peak Log 10 dB/Offst 11 dB DI -18.9 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

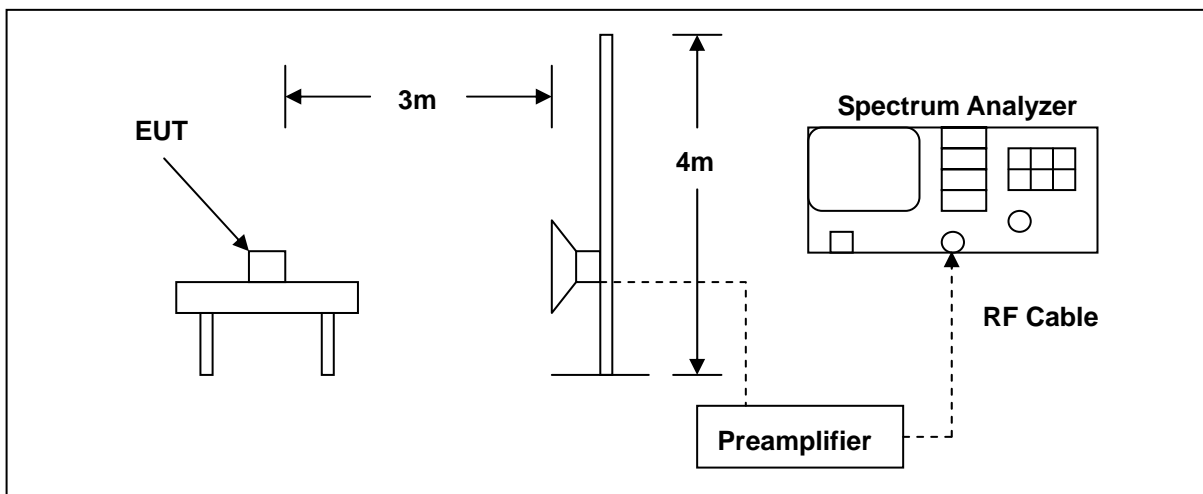
<p>2412</p>	
<p>2437</p>	
<p>2462</p>	

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

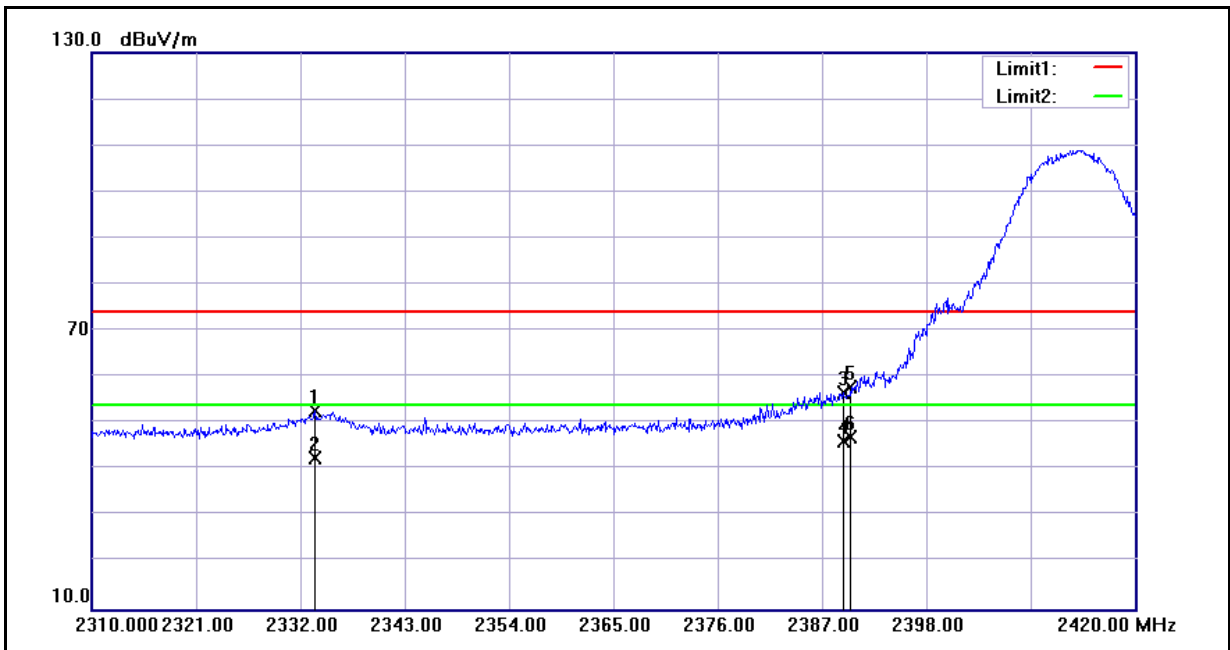
The transmitter was configured with the worst case antenna and setup to transmit at the highest channel. Then the field strength was measured at 2483.5 MHz.

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.

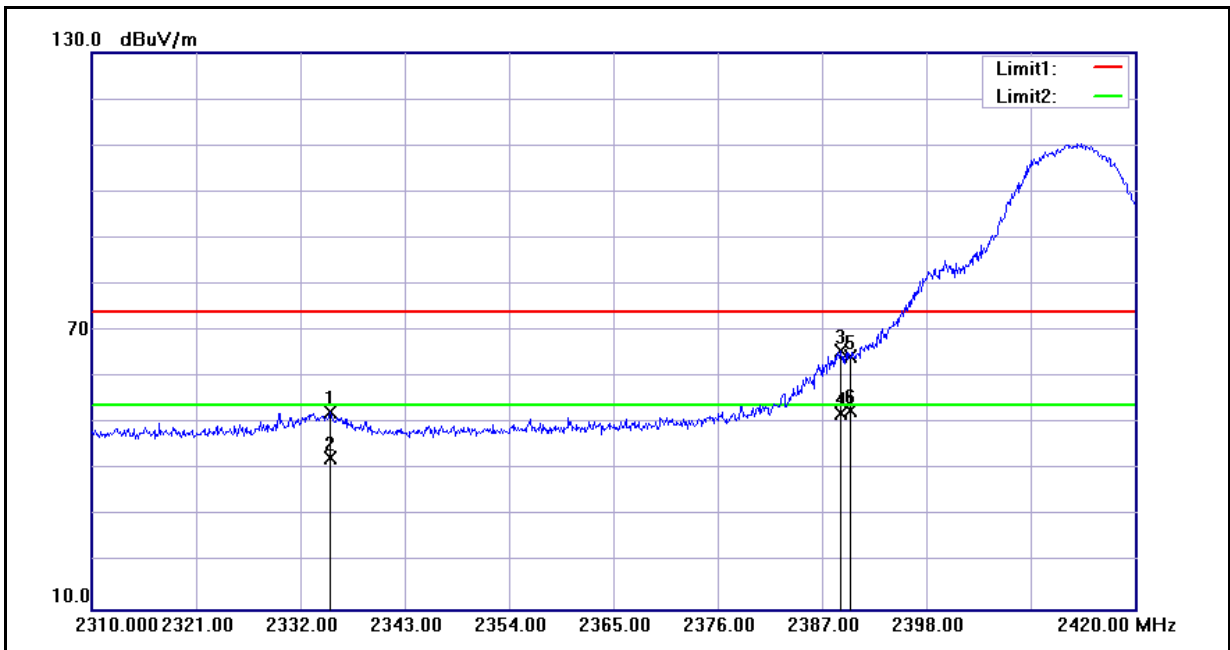
10.5.Test Result

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76210	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	06/22/2011
Frequency:	2412 MHz	Test By:	Gary Wu
Ant.Polar.:	Horizontal		



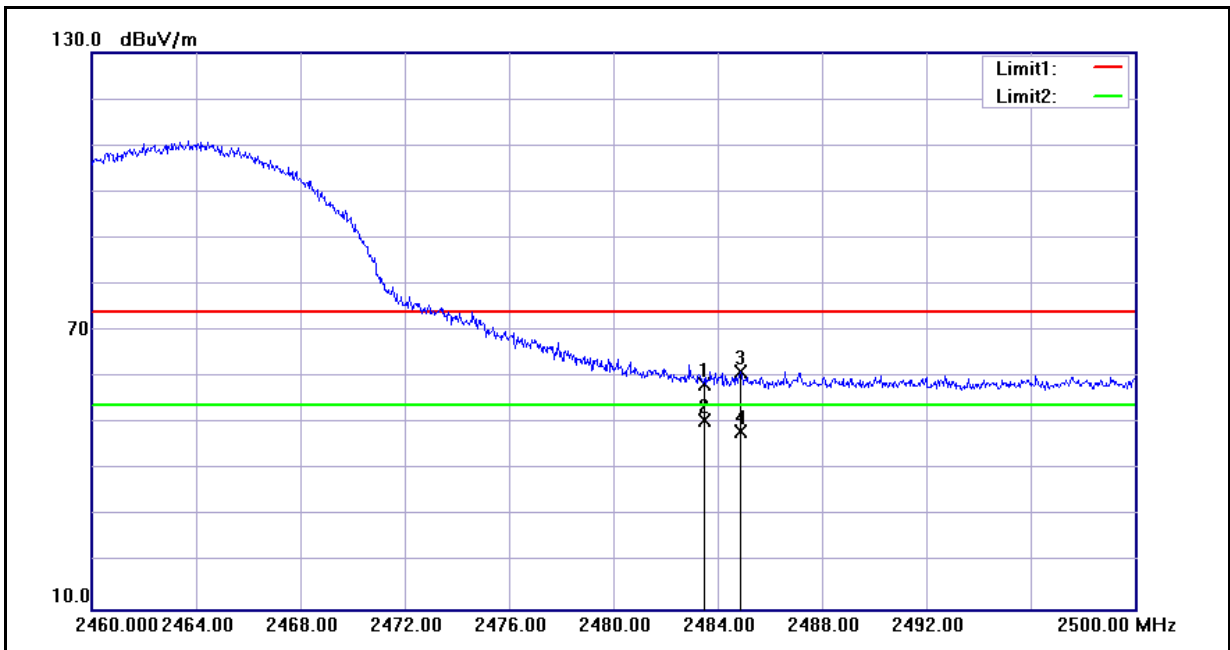
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2333.540	70.46	-17.85	52.61	74.00	-21.39	peak
2	2333.540	60.46	-17.85	42.61	54.00	-11.39	AVG
3	2389.200	74.51	-17.78	56.73	74.00	-17.27	peak
4	2389.200	63.94	-17.78	46.16	54.00	-7.84	AVG
5	2390.000	75.65	-17.78	57.87	74.00	-16.13	peak
6	2390.000	64.69	-17.78	46.91	54.00	-7.09	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76210	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	06/22/2011
Frequency:	2412 MHz	Test By:	Gary Wu
Ant.Polar.:	Vertical		



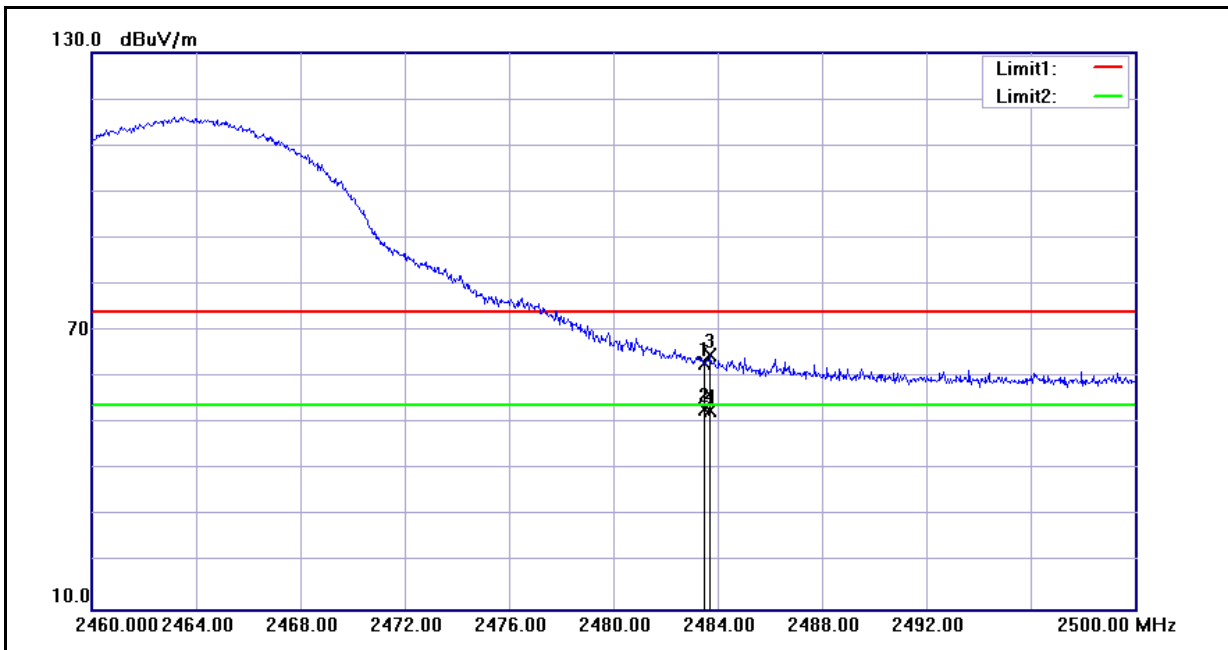
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2335.190	70.41	-17.85	52.56	74.00	-21.44	peak
2	2335.190	60.48	-17.85	42.63	54.00	-11.37	AVG
3	2388.980	83.39	-17.78	65.61	74.00	-8.39	peak
4	2388.980	69.99	-17.78	52.21	54.00	-1.79	AVG
5	2390.000	82.21	-17.78	64.43	74.00	-9.57	peak
6	2390.000	70.65	-17.78	52.87	54.00	-1.13	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76210	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	06/22/2011
Frequency:	2462 MHz	Test By:	Gary Wu
Ant.Polar.:	Horizontal		



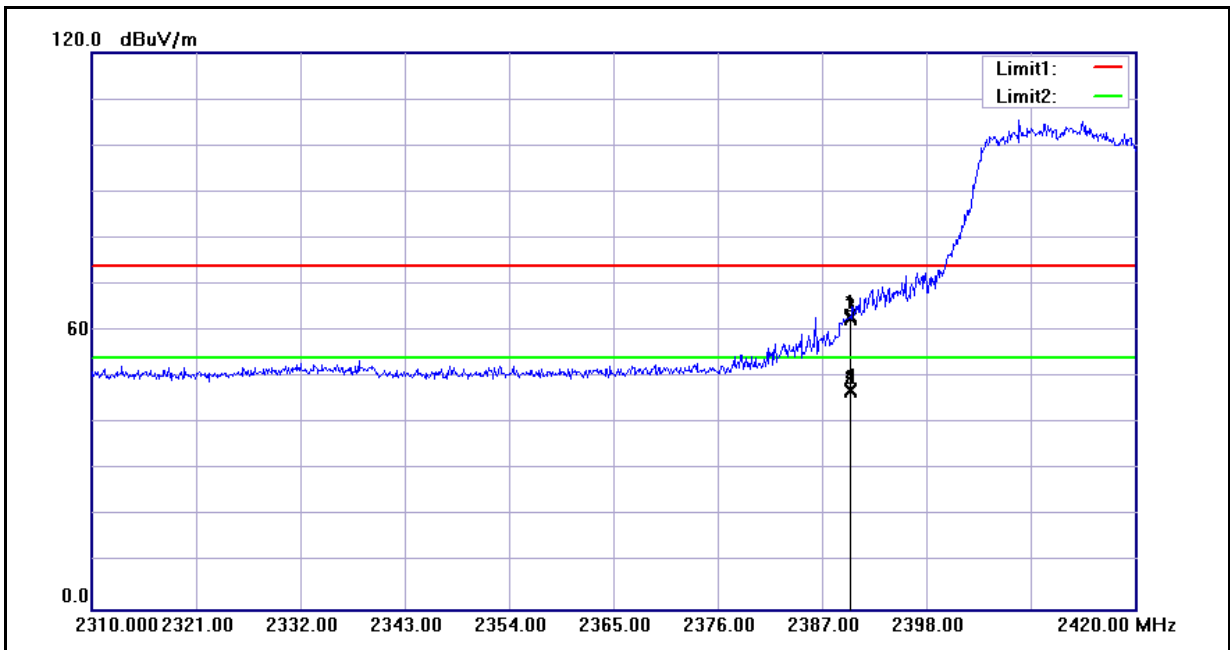
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	76.04	-17.65	58.39	74.00	-15.61	peak
2	2483.500	68.44	-17.65	50.79	54.00	-3.21	AVG
3	2484.880	78.95	-17.65	61.30	74.00	-12.70	peak
4	2484.880	65.89	-17.65	48.24	54.00	-5.76	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76210	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	06/22/2011
Frequency:	2462 MHz	Test By:	Gary Wu
Ant.Polar.:	Vertical		



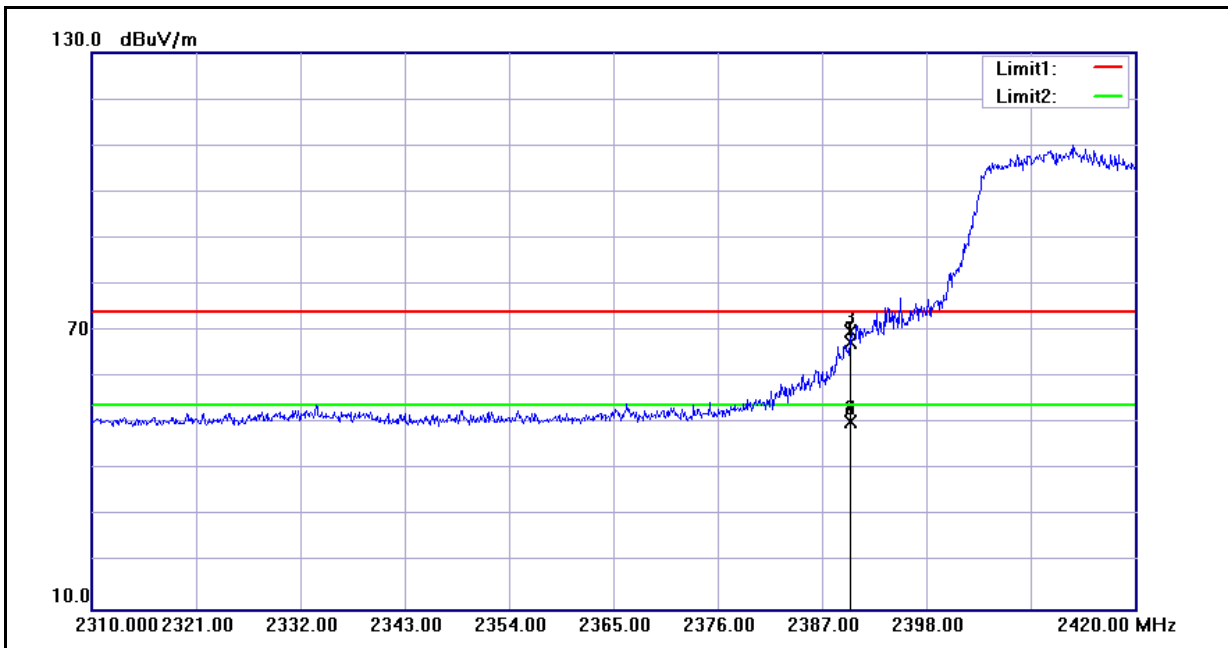
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	80.46	-17.65	62.81	74.00	-11.19	peak
2	2483.500	70.69	-17.65	53.04	54.00	-0.96	AVG
3	2483.720	82.39	-17.65	64.74	74.00	-9.26	peak
4	2483.720	70.41	-17.65	52.76	54.00	-1.24	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76210	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	06/22/2011
Frequency:	2412 MHz	Test By:	Gary Wu
Ant.Polar.:	Horizontal		



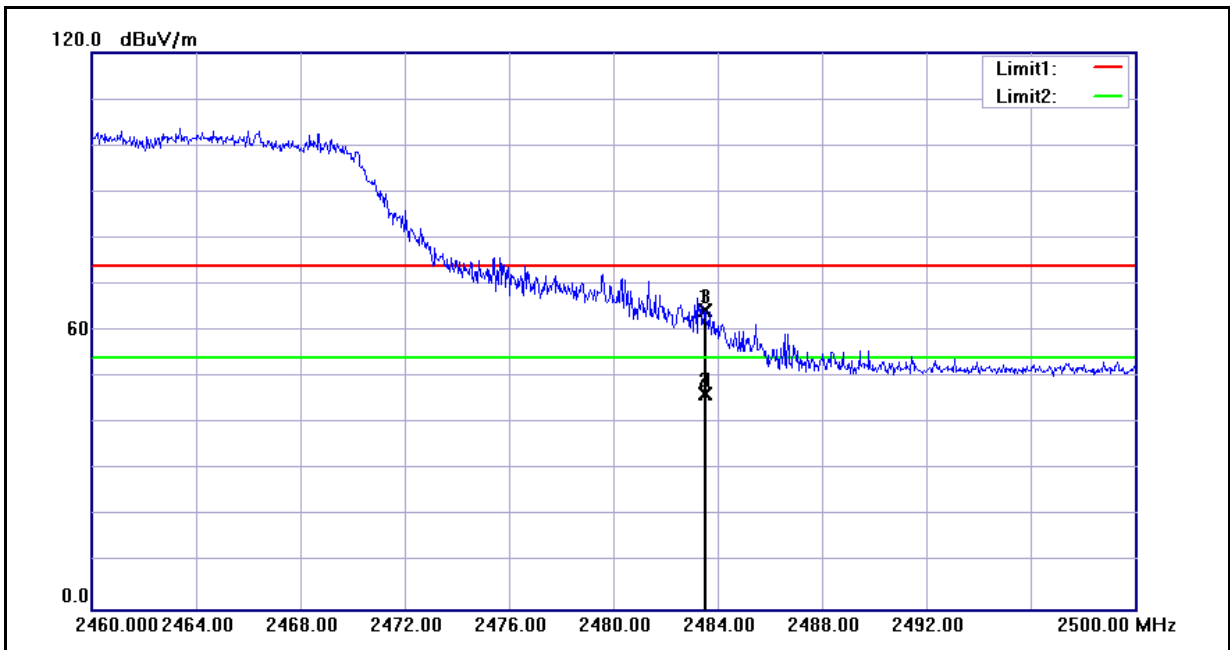
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.970	58.01	5.12	63.13	74.00	-10.87	peak
2	2389.970	41.94	5.12	47.06	54.00	-6.94	AVG
3	2390.000	57.44	5.12	62.56	74.00	-11.44	peak
4	2390.000	42.01	5.12	47.13	54.00	-6.87	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76210	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	06/22/2011
Frequency:	2412 MHz	Test By:	Gary Wu
Ant.Polar.:	Vertical		



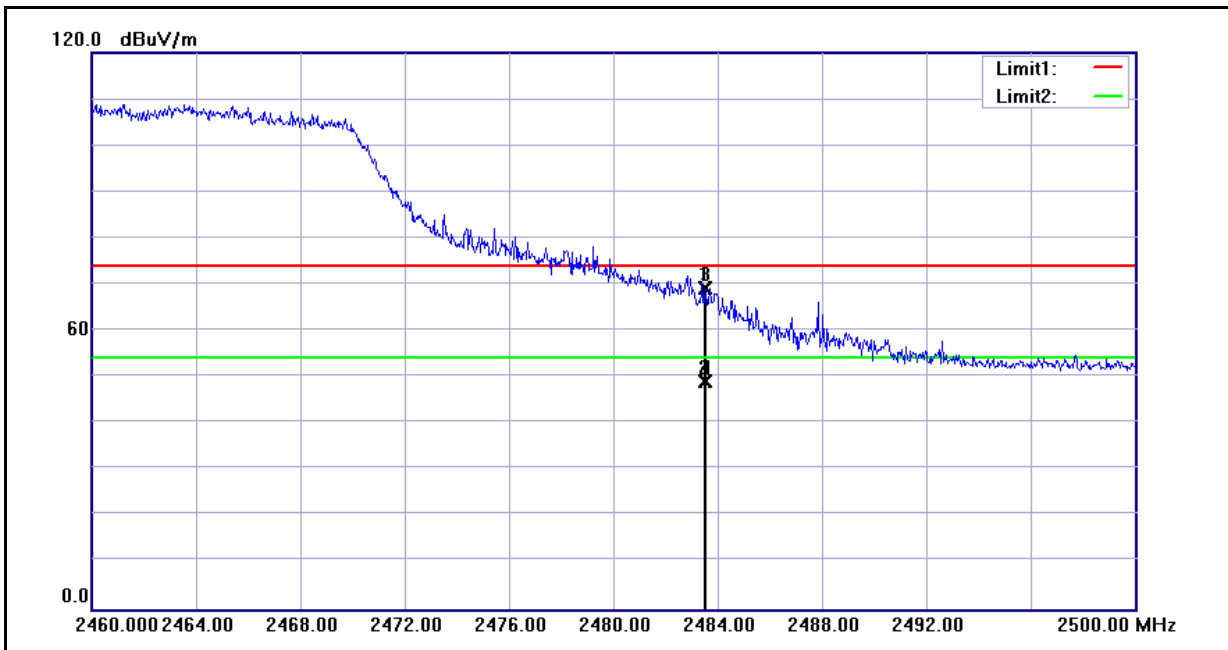
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.970	62.48	5.12	67.60	74.00	-6.40	peak
2	2389.970	45.35	5.12	50.47	54.00	-3.53	AVG
3	2390.000	64.66	5.12	69.78	74.00	-4.22	peak
4	2390.000	45.38	5.12	50.50	54.00	-3.50	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76210	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	06/22/2011
Frequency:	2462 MHz	Test By:	Gary Wu
Ant.Polar.:	Horizontal		



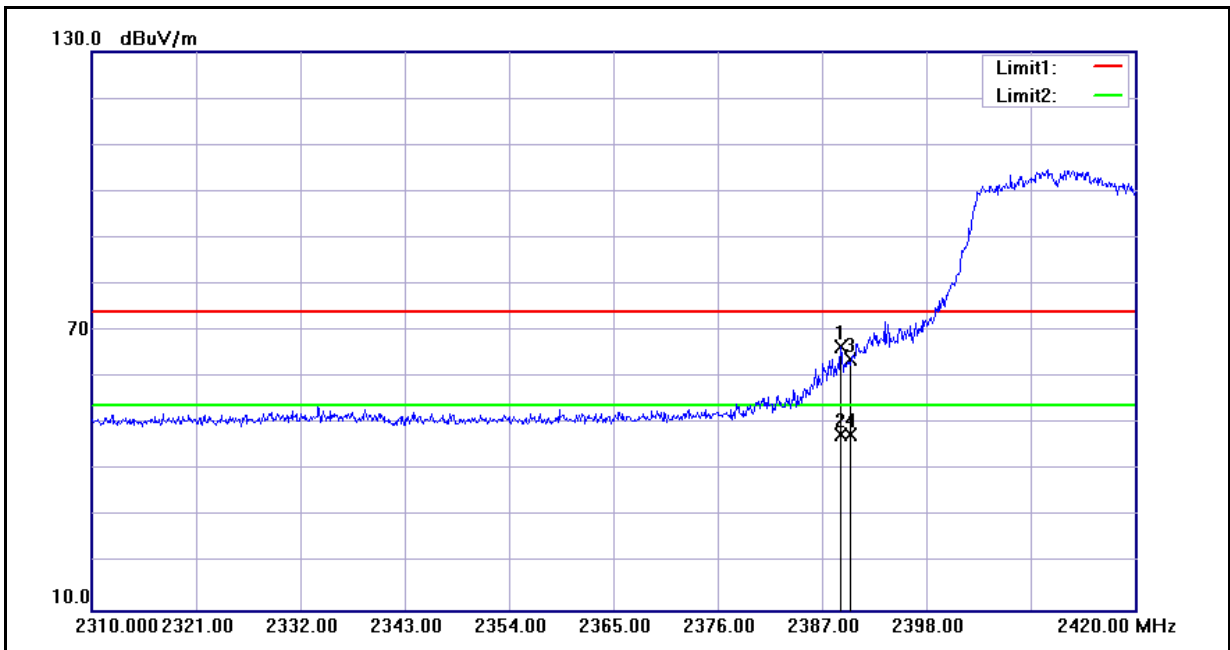
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	59.06	5.31	64.37	74.00	-9.63	peak
2	2483.500	41.09	5.31	46.40	54.00	-7.60	AVG
3	2483.520	59.06	5.31	64.37	74.00	-9.63	peak
4	2483.520	41.08	5.31	46.39	54.00	-7.61	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76210	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	06/22/2011
Frequency:	2462 MHz	Test By:	Gary Wu
Ant.Polar.:	Vertical		



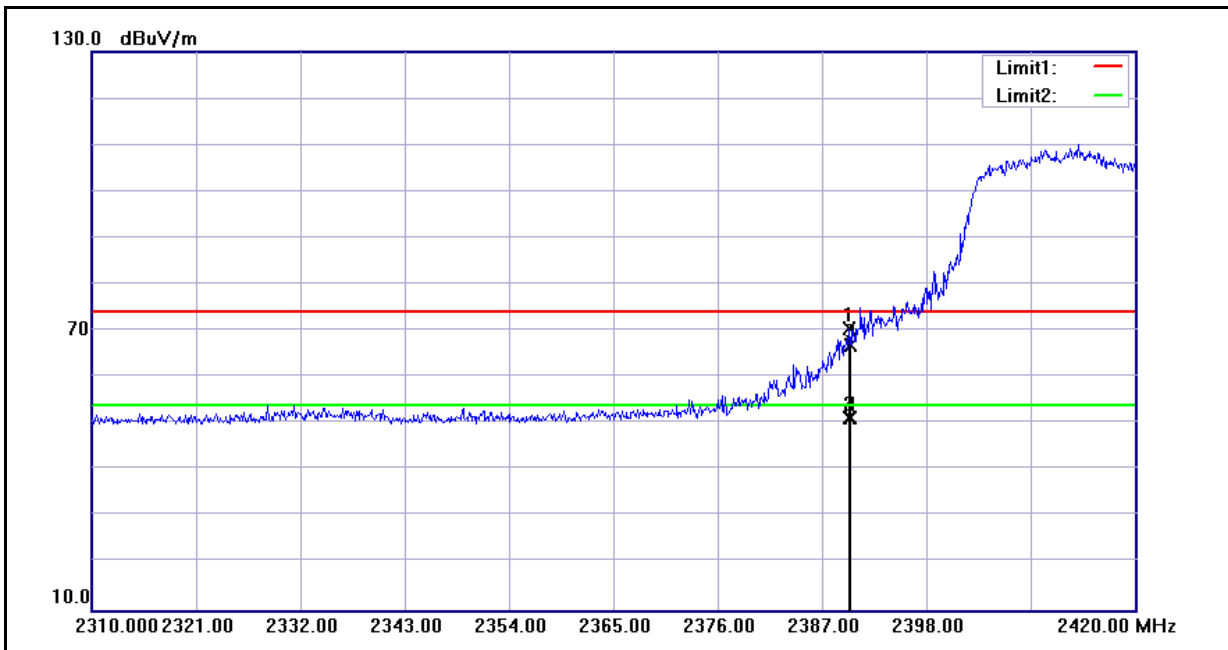
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	63.90	5.31	69.21	74.00	-4.79	peak
2	2483.500	43.82	5.31	49.13	54.00	-4.87	AVG
3	2483.520	63.90	5.31	69.21	74.00	-4.79	peak
4	2483.520	43.69	5.31	49.00	54.00	-5.00	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76210	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5	Date:	06/22/2011
Frequency:	2412 MHz	Test By:	Gary Wu
Ant.Polar.:	Horizontal		



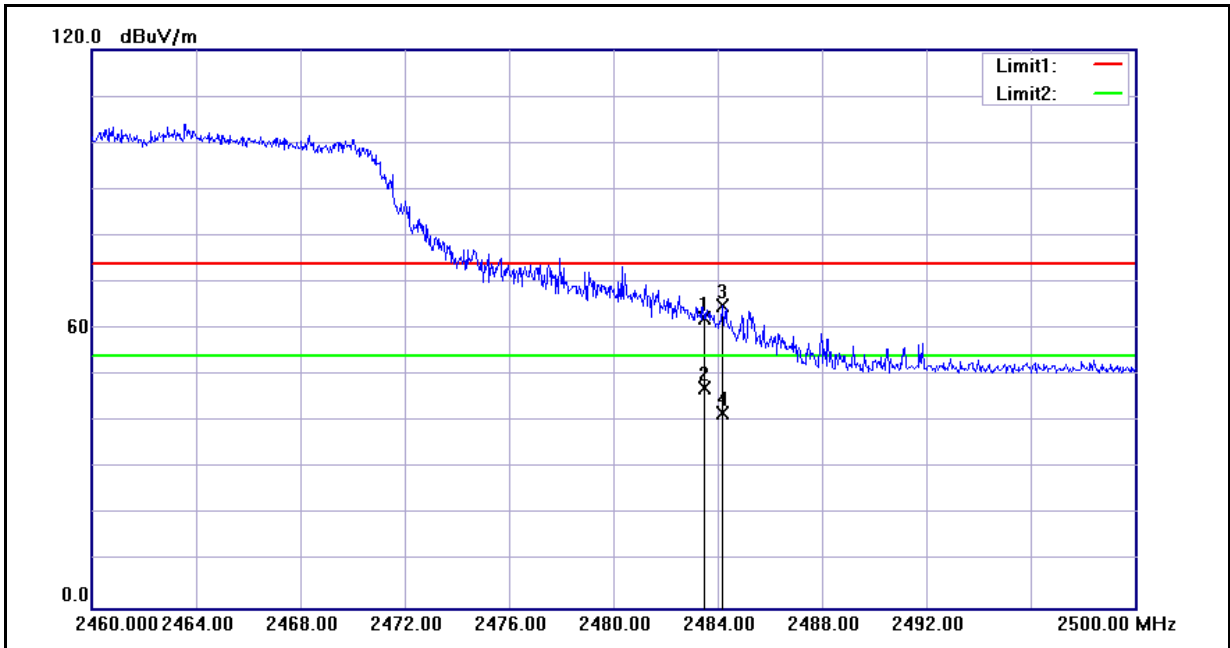
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2388.980	61.45	5.12	66.57	74.00	-7.43	peak
2	2388.980	42.62	5.12	47.74	54.00	-6.26	AVG
3	2390.000	58.84	5.12	63.96	74.00	-10.04	peak
4	2390.000	42.65	5.12	47.77	54.00	-6.23	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76210	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5	Date:	06/22/2011
Frequency:	2412 MHz	Test By:	Gary Wu
Ant.Polar.:	Vertical		



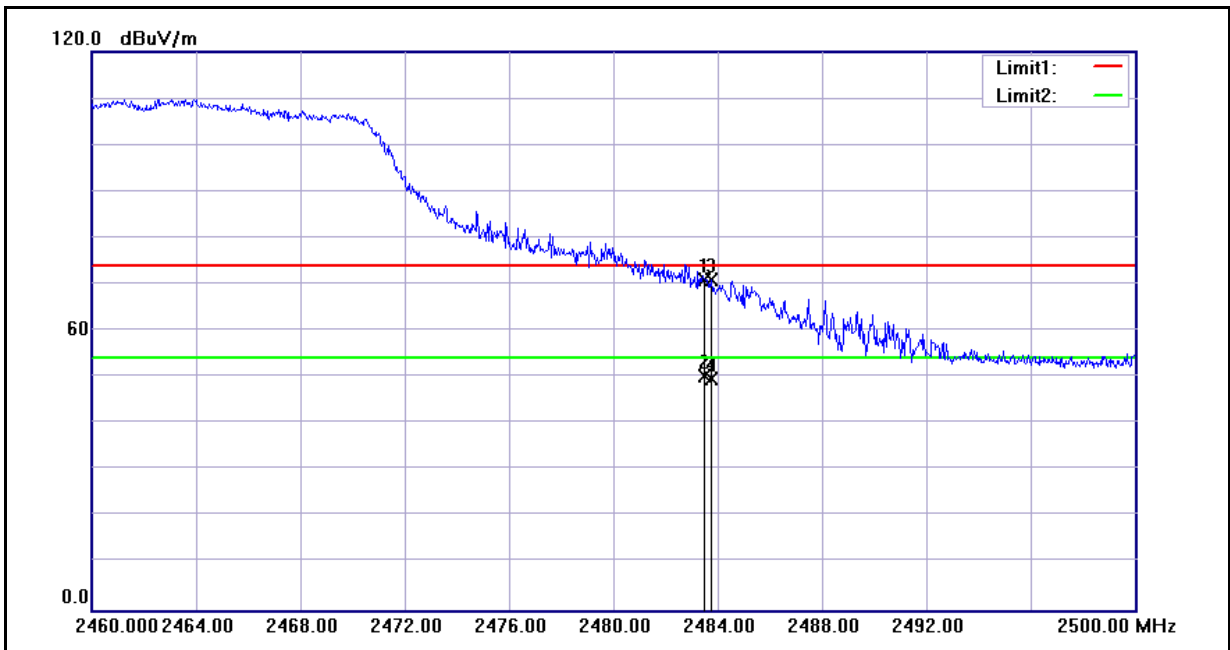
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.860	65.22	5.12	70.34	74.00	-3.66	peak
2	2389.860	46.01	5.12	51.13	54.00	-2.87	AVG
3	2390.000	61.67	5.12	66.79	74.00	-7.21	peak
4	2390.000	46.19	5.12	51.31	54.00	-2.69	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76210	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5	Date:	06/22/2011
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	56.92	5.31	62.23	74.00	-11.77	peak
2	2483.500	41.95	5.31	47.26	54.00	-6.74	AVG
3	2484.160	59.54	5.31	64.85	74.00	-9.15	peak
4	2484.160	36.43	5.31	41.74	54.00	-12.26	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PG76210	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5	Date:	06/22/2011
Frequency:	2462 MHz	Test By:	Gary Wu
Ant.Polar.:	Vertical		



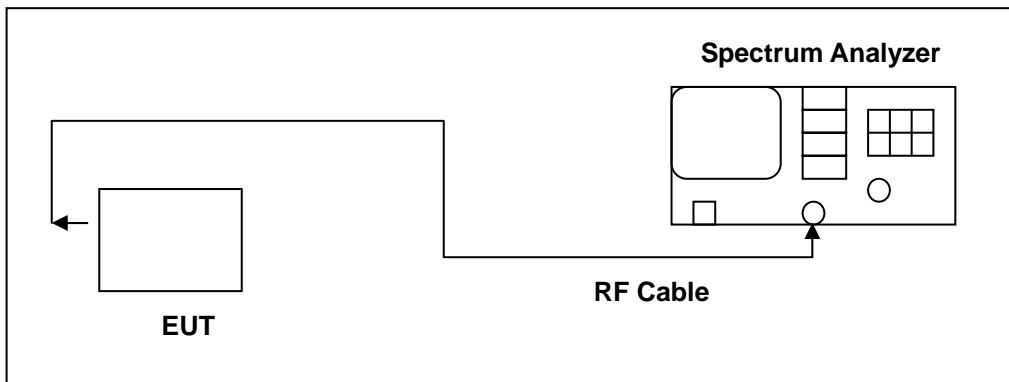
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	65.62	5.31	70.93	74.00	-3.07	peak
2	2483.500	44.90	5.31	50.21	54.00	-3.79	AVG
3	2483.760	65.58	5.31	70.89	74.00	-3.11	peak
4	2483.760	44.46	5.31	49.77	54.00	-4.23	AVG

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.

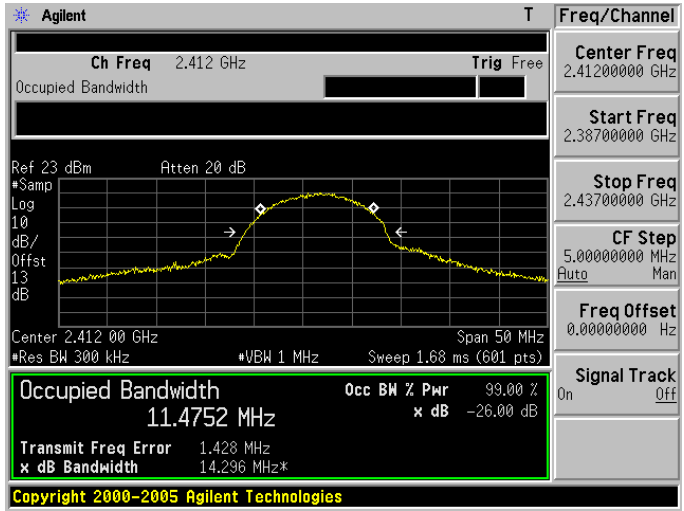
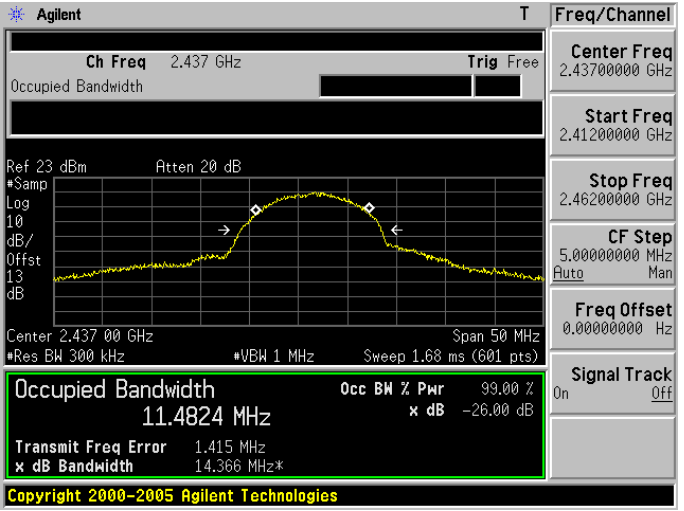
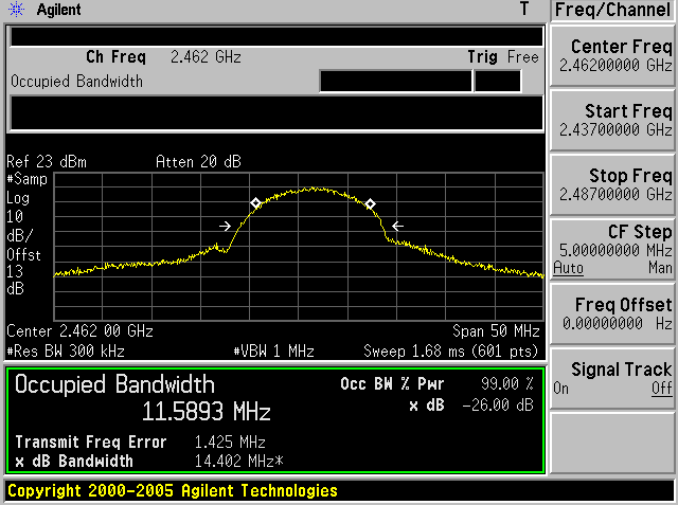
11.5.Test Result

Model Number	PG76210		
Test Item	99 % Occupied Bandwidth		
Test Mode	Mode 3: IEEE 802.11b Link Mode		
Date of Test	06/20/2011	Test Site	TE02
	Frequency (MHz)	Measurement (kHz)	Limit (kHz)
	2412	11.4752	-----
	2437	11.4824	-----
	2462	11.5893	-----

Model Number	PG76210		
Test Item	99 % Occupied Bandwidth		
Test Mode	Mode 4: IEEE 802.11g Link Mode		
Date of Test	06/20/2011	Test Site	TE02
	Frequency (MHz)	Measurement (kHz)	Limit (kHz)
	2412	17.4696	-----
	2437	17.2324	-----
	2462	17.2093	-----

Model Number	PG76210		
Test Item	99 % Occupied Bandwidth		
Test Mode	Mode 5: draft 802.11n Standard-20MHz Link Mode		
Date of Test	06/20/2011	Test Site	TE02
	Frequency (MHz)	Measurement (kHz)	Limit (kHz)
	2412	18.3471	-----
	2437	18.1764	-----
	2462	18.2918	-----

11.6. Test Graphs

Mode 3: IEEE 802.11b Link Mode	
2412	 <p>Agilent T</p> <p>Ch Freq 2.412 GHz Trig Free</p> <p>Center 2.412 00 GHz Span 50 MHz</p> <p>Res BW 300 kHz VBW 1 MHz Sweep 1.68 ms (601 pts)</p> <p>Occupied Bandwidth 11.4752 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 1.428 MHz x dB Bandwidth 14.296 MHz*</p> <p>Copyright 2000-2005 Agilent Technologies</p>
2437	 <p>Agilent T</p> <p>Ch Freq 2.437 GHz Trig Free</p> <p>Center 2.437 00 GHz Span 50 MHz</p> <p>Res BW 300 kHz VBW 1 MHz Sweep 1.68 ms (601 pts)</p> <p>Occupied Bandwidth 11.4824 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 1.415 MHz x dB Bandwidth 14.366 MHz*</p> <p>Copyright 2000-2005 Agilent Technologies</p>
2462	 <p>Agilent T</p> <p>Ch Freq 2.462 GHz Trig Free</p> <p>Center 2.462 00 GHz Span 50 MHz</p> <p>Res BW 300 kHz VBW 1 MHz Sweep 1.68 ms (601 pts)</p> <p>Occupied Bandwidth 11.5893 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 1.425 MHz x dB Bandwidth 14.402 MHz*</p> <p>Copyright 2000-2005 Agilent Technologies</p>

Mode 4: IEEE 802.11g Link Mode

2412	<p>Agilent T</p> <p>Ch Freq 2.412 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 23 dBm Atten 20 dB</p> <p>#Samp 10</p> <p>Log</p> <p>dB/ 13</p> <p>Offst 13</p> <p>dB</p> <p>Center 2.412 00 GHz Span 50 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 1.68 ms (601 pts)</p> <p>Occupied Bandwidth 17.4696 MHz</p> <p>Occ BW % Pwr 99.00 %</p> <p>x dB -26.00 dB</p> <p>Transmit Freq Error 183.263 kHz</p> <p>x dB Bandwidth 30.204 MHz*</p> <p>Copyright 2000-2005 Agilent Technologies</p> <p>Freq/Channel</p> <p>Center Freq 2.41200000 GHz</p> <p>Start Freq 2.38700000 GHz</p> <p>Stop Freq 2.43700000 GHz</p> <p>CF Step 5.00000000 MHz</p> <p>Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
2437	<p>Agilent T</p> <p>Ch Freq 2.437 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 23 dBm Atten 20 dB</p> <p>#Samp 10</p> <p>Log</p> <p>dB/ 13</p> <p>Offst 13</p> <p>dB</p> <p>Center 2.437 00 GHz Span 50 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 1.68 ms (601 pts)</p> <p>Occupied Bandwidth 17.2324 MHz</p> <p>Occ BW % Pwr 99.00 %</p> <p>x dB -26.00 dB</p> <p>Transmit Freq Error 134.989 kHz</p> <p>x dB Bandwidth 29.760 MHz*</p> <p>Copyright 2000-2005 Agilent Technologies</p> <p>Freq/Channel</p> <p>Center Freq 2.43700000 GHz</p> <p>Start Freq 2.41200000 GHz</p> <p>Stop Freq 2.46200000 GHz</p> <p>CF Step 5.00000000 MHz</p> <p>Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
2462	<p>Agilent T</p> <p>Ch Freq 2.462 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 23 dBm Atten 20 dB</p> <p>#Samp 10</p> <p>Log</p> <p>dB/ 13</p> <p>Offst 13</p> <p>dB</p> <p>Center 2.462 00 GHz Span 50 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 1.68 ms (601 pts)</p> <p>Occupied Bandwidth 17.2093 MHz</p> <p>Occ BW % Pwr 99.00 %</p> <p>x dB -26.00 dB</p> <p>Transmit Freq Error 35.249 kHz</p> <p>x dB Bandwidth 32.083 MHz*</p> <p>Copyright 2000-2005 Agilent Technologies</p> <p>Freq/Channel</p> <p>Center Freq 2.46200000 GHz</p> <p>Start Freq 2.43700000 GHz</p> <p>Stop Freq 2.48700000 GHz</p> <p>CF Step 5.00000000 MHz</p> <p>Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>

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

2412	<p>Agilent T</p> <p>Ch Freq 2.412 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 23 dBm Atten 20 dB</p> <p>*Samp Log 10 dB/Offst 13 dB</p> <p>Center 2.412 00 GHz Span 50 MHz</p> <p>*Res BW 300 kHz *VBW 1 MHz Sweep 1.68 ms (601 pts)</p> <p>Occupied Bandwidth 18.3471 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 160.548 kHz</p> <p>x dB Bandwidth 31.958 MHz*</p> <p>Copyright 2000-2005 Agilent Technologies</p> <p>Freq/Channel</p> <p>Center Freq 2.41200000 GHz</p> <p>Start Freq 2.38700000 GHz</p> <p>Stop Freq 2.43700000 GHz</p> <p>CF Step 5.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
2437	<p>Agilent T</p> <p>Ch Freq 2.437 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 23 dBm Atten 20 dB</p> <p>*Samp Log 10 dB/Offst 13 dB</p> <p>Center 2.437 00 GHz Span 50 MHz</p> <p>*Res BW 300 kHz *VBW 1 MHz Sweep 1.68 ms (601 pts)</p> <p>Occupied Bandwidth 18.1764 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 84.690 kHz</p> <p>x dB Bandwidth 32.820 MHz*</p> <p>Copyright 2000-2005 Agilent Technologies</p> <p>Freq/Channel</p> <p>Center Freq 2.43700000 GHz</p> <p>Start Freq 2.41200000 GHz</p> <p>Stop Freq 2.46200000 GHz</p> <p>CF Step 5.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
2462	<p>Agilent T</p> <p>Ch Freq 2.462 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 23 dBm Atten 20 dB</p> <p>*Samp Log 10 dB/Offst 13 dB</p> <p>Center 2.462 00 GHz Span 50 MHz</p> <p>*Res BW 300 kHz *VBW 1 MHz Sweep 1.68 ms (601 pts)</p> <p>Occupied Bandwidth 18.2918 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 55.759 kHz</p> <p>x dB Bandwidth 33.888 MHz*</p> <p>Copyright 2000-2005 Agilent Technologies</p> <p>Freq/Channel</p> <p>Center Freq 2.46200000 GHz</p> <p>Start Freq 2.43700000 GHz</p> <p>Stop Freq 2.48700000 GHz</p> <p>CF Step 5.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>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 **1.5 dBi**.