

FCC 47 CFR PART 15 SUBPART C

Product Type : WLAN Module
Applicant : Acer Incorporated
Address : 8F, 88, Sec.1, Hsin Tai Wu Rd. Hsichih, Taipei Hsien 221
Taiwan, R.O.C.
Trade Name : acer
Model Number : BCM943225HM
Test Specification : FCC 47 CFR PART 15 SUBPART C: Oct, 2009
Canada RSS-210 ISSUE 7: Jun, 2007
Canada RSS-Gen ISSUE 2: Jun, 2007
ANSI C63.4-2003
Application Purpose : Class II Permissive Change
Issue Date : Mar. 24, 2010

Issue by

A Test Lab Techno Corp.
No. 140-1, Changan Street, Bade City,
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Taiwan Accreditation Foundation accreditation number: 1330

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Revision History

Rev.	Issue Date	Revisions	Revised By
00	Mar. 24, 2010	Initial Issue	

Verification

Issued Date: 2010/03/24

Product Type : WLAN Module
Applicant : Acer Incorporated
Address : 8F, 88, Sec.1, Hsin Tai Wu Rd. Hsichih, Taipei Hsien 221
Taiwan, R.O.C.
Trade Name : acer
Model Number : BCM943225HM
FCC ID : HLZ-BRCM1045
IC ID : 1754F-BRCM1045
EUT Rated Voltage : DC 19, 1.58A
Test Voltage : 120 Vac / 60 Hz
Applicable Standard : FCC 47 CFR PART 15 SUBPART C: Oct, 2009
Canada RSS-210 ISSUE 7: Jun, 2007
Canada RSS-Gen ISSUE 2: Jun, 2007
ANSI C63.4-2003
Application Purpose : Class II Permissive Change
Test Result : Complied
Performed Lab. : A Test Lab Techno Corp.

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



The above equipment has been tested by A Test Lab Techno Corp., and found compliance with the requirements set forth in the Electromagnetic Compatibility Directive 2004/108/EC and technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Approved By : Miller Lee Reviewed By : Gary Wu
(Manager) (Miller Lee) (Testing Engineer) (Gary Wu)

TABLE OF CONTENTS

1	General Information.....	5
2	EUT Description.....	6
3	Test Methodology.....	7
	3.1. Mode of Operation	7
	3.2. EUT Exercise Software.....	7
	3.3. Configuration of Test System Details	7
	3.4. Test Site Environment.....	8
4	Maximum Conducted Output Power Measurement	9
	4.1. Limit	9
	4.2. Test Setup	9
	4.3. Test Instruments.....	9
	4.4. Test Procedure.....	9
	4.5. Test Result	10
5	Transmitter Radiated Emissions Measurement	12
	5.1. Limit	12
	5.2. Test Instruments.....	12
	5.3. Setup.....	13
	5.4. Test Procedure.....	13
	5.5. Test Result	15
6	Band Edges Measurement.....	29
	6.1. Limit	29
	6.2. Test Setup	29
	6.3. Test Instruments.....	29
	6.4. Test Procedure.....	30
	6.5. Test Graphs.....	30
7	Antenna Requirements	39
	7.1. Limit	39
	7.2. Antenna Connector Construction.....	39

1 General Information

1.1 Summary of Test Result

Standard		Item	Result	Remark
15.247	RSS-210			
15.247(b)(3)	A8.4	Max. Output Power	PASS	-----
15.247(d)	A8.5	Transmitter Radiated Emissions	PASS	-----
15.247(d)	A8.5	Band Edge 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	:	WLAN Module
Trade Name	:	acer
Model Number	:	BCM943225HM
Applicant	:	Acer Incorporated 8F, 88, Sec.1, Hsin Tai Wu Rd. Hsichih, Taipei Hsien 221 Taiwan, R.O.C.
Manufacturer	:	Broadcom Corporation 190 Mathilda Place Sunnyvale, CA 94086, U.S.A.
FCC ID	:	HLZ-BRCM1045
IC ID	:	1754F-BRCM1045
Frequency Range	:	IEEE 802.11b / IEEE 802.11g: 2412MHz~2462MHz draft 802.11n Standard-20MHz: 2412MHz~2462MHz draft 802.11n Wide-40MHz: 2422MHz~2452MHz
Modulation Type	:	IEEE 802.11b:DSSS(CCK, DQPSK, DBPSK) IEEE 802.11g:DSSS(CCK, DQPSK, DBPSK)+ OFDM(QPSK, BPSK, 16-QAM, 64-QAM) draft 802.11n Standard-20MHz channel mode: OFDM(6.5,7.2, 13,14.4, 14.44, 19.5,217,26,28.89,28.9,39.43.3,43.33,52,57.78, 57.8, 58.5, 65.0, 72.2, 78, 86.67,104,115.56,117,130 and 144.44 Mbps) draft 802.11n Wide-40MHz channel mode: OFDM(13.5,15,27,30,40.5, 45,54,60,81,90,108,120, 121.5,135,150,162,180,216,240,243,270 and 300 Mbps)
Antenna Type	:	PIFA Type
Antenna Gain	:	Main: -0.71 dBi, Aux: 0.27 dBi
Max. RF Output Power	:	IEEE 802.11b: 0.199 W / 22.98 dBm IEEE 802.11g: 0.400 W / 26.02 dBm draft 802.11n Standard-20MHz: 0.736 W / 28.67 dBm draft 802.11n Wide-40MHz: 0.520 W / 27.16 dBm
Component		
Power Adapter	:	HIPRO, HP-A00301R3 Input: 100-240 Vac, 50-60 Hz, 1 A Output: 19 Vdc, 1.58 A Cable in: Non-Shielded, 1.7 m Cable out: Non-Shielded, 1.5 m
Battery	:	11.1 Vdc, 4400mAh

3 Test Methodology

3.1. Mode of Operation

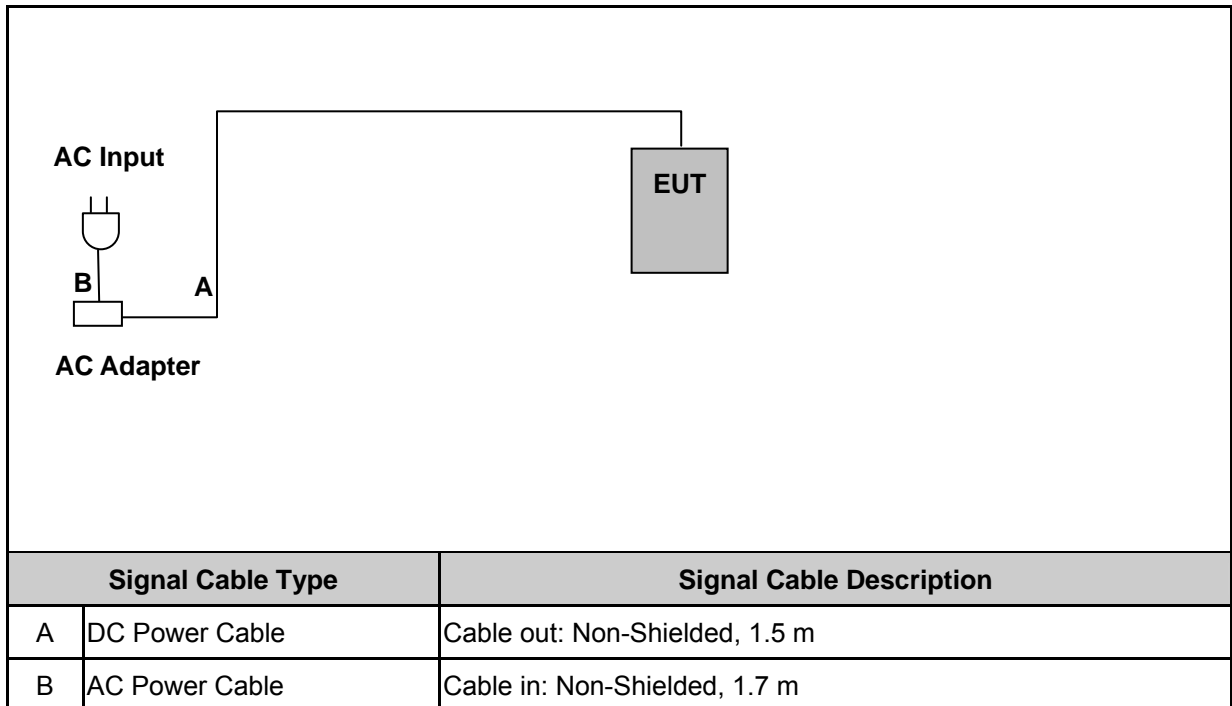
Decision of Test ATL has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Test Mode
Mode 1: Normal Operation Mode
Mode 2: IEEE 802.11b Link Mode
Mode 3: IEEE 802.11g Link Mode
Mode 4: draft 802.11n Standard-20MHz Link Mode
Mode 5: draft 802.11n Wide-40MHz Link Mode
Mode 6: Receiver Mode

3.2. EUT Exercise Software

1.	Turn on the power of all equipment.
2.	EUT run module test program.

3.3. Configuration of Test System Details



3.4. Test Site Environment

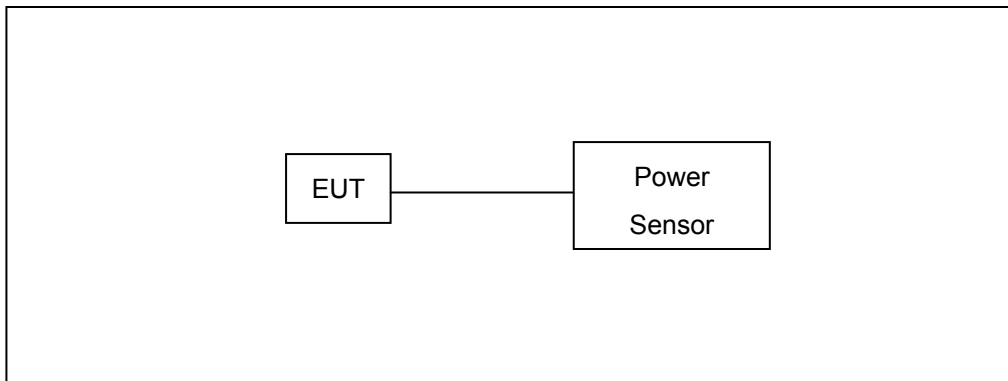
Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	25
Humidity (%RH)	25-75	50
Barometric pressure (mbar)	860-1060	950-1000

4 Maximum Conducted Output Power Measurement

4.1. Limit

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

4.2. Test Setup



4.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Power Sensor	R&S	NRP-Z81	100017	05/17/2009	(2)
Test Site	ATL	TE06	TE06	N.C.R.	-----

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

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

4.4. 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.

4.5. Test Result

Product	WLAN Module					
Test Item	Maximum Conducted Output Power					
Test Mode	Mode 2: IEEE 802.11b Link Mode					
Date of Test	03/17/2010			Test Site	TE06	
Frequency (MHz)	Data Rate	Average		Peak		Limit (dBm)
		(dBm)	(W)	(dBm)	(W)	
2412	1	15.75	0.038	22.99	0.199	< 30
2437	1	15.72	0.037	22.98	0.199	< 30
2462	1	15.57	0.036	22.87	0.194	< 30
2412	11	13.80	0.024	22.98	0.199	< 30
2437	11	13.87	0.024	22.97	0.198	< 30
2462	11	13.40	0.022	22.79	0.190	< 30

Product	WLAN Module					
Test Item	Maximum Conducted Output Power					
Test Mode	Mode 3: IEEE 802.11g Link Mode					
Date of Test	03/17/2010			Test Site	TE06	
Frequency (MHz)	Data Rate	Average		Peak		Limit (dBm)
		(dBm)	(W)	(dBm)	(W)	
2412	6	15.50	0.035	26.02	0.400	< 30
2437	6	15.20	0.033	26.00	0.398	< 30
2462	6	15.10	0.032	25.83	0.383	< 30
2412	54	10.60	0.011	25.62	0.365	< 30
2437	54	10.50	0.011	25.82	0.382	< 30
2462	54	10.40	0.011	25.25	0.335	< 30

Product	WLAN Module													
Test Item	Maximum Conducted Output Power													
Test Mode	Mode 4: draft 802.11n Standard-20MHz Link Mode													
Date of Test	03/17/2010						Test Site	TE06						
Frequency (MHz)	Data Rate	Average						Peak						Limit (dBm)
		ANT 1		ANT 2		Total		ANT 1		ANT 2		Total		
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	
2412	6.5	18.50	0.071	18.35	0.068	21.44	0.139	25.60	0.363	25.10	0.324	28.37	0.687	< 30
2437	6.5	18.36	0.069	18.21	0.066	21.30	0.135	25.71	0.372	25.60	0.363	28.67	0.736	< 30
2462	6.5	18.13	0.065	17.98	0.063	21.07	0.128	24.90	0.309	25.13	0.326	28.03	0.635	< 30
2412	65	13.37	0.022	13.22	0.021	16.31	0.043	25.50	0.355	25.00	0.316	28.27	0.671	< 30
2437	65	13.30	0.021	13.15	0.021	16.24	0.042	25.61	0.364	25.50	0.355	28.57	0.719	< 30
2462	65	13.11	0.020	12.96	0.020	16.05	0.040	24.80	0.302	25.03	0.318	27.93	0.621	< 30

Product	WLAN Module													
Test Item	Maximum Conducted Output Power													
Test Mode	Mode 5: draft 802.11n Wide-40MHz Link Mode													
Date of Test	03/17/2010							Test Site		TE06				
Frequency (MHz)	Data Rate	Average						Peak						Limit (dBm)
		ANT 1		ANT 2		Total		ANT 1		ANT 2		Total		
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	
2422	13.5	10.30	0.011	10.22	0.011	13.27	0.021	23.2	0.209	23.79	0.239	26.52	0.448	< 30
2437	13.5	10.32	0.011	10.17	0.010	13.26	0.021	24.2	0.263	24.1	0.257	27.16	0.520	< 30
2452	13.5	10.20	0.010	10.05	0.010	13.14	0.021	21.82	0.152	22.35	0.172	25.10	0.324	< 30
2422	135	5.30	0.003	5.15	0.003	8.24	0.007	23.1	0.204	23.69	0.234	26.42	0.438	< 30
2437	135	4.90	0.003	4.75	0.003	7.84	0.006	24.13	0.259	24.07	0.255	27.11	0.514	< 30
2452	135	4.89	0.003	4.74	0.003	7.83	0.006	21.72	0.149	22.25	0.168	25.00	0.316	< 30

5 Transmitter Radiated Emissions Measurement

5.1. Limit

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

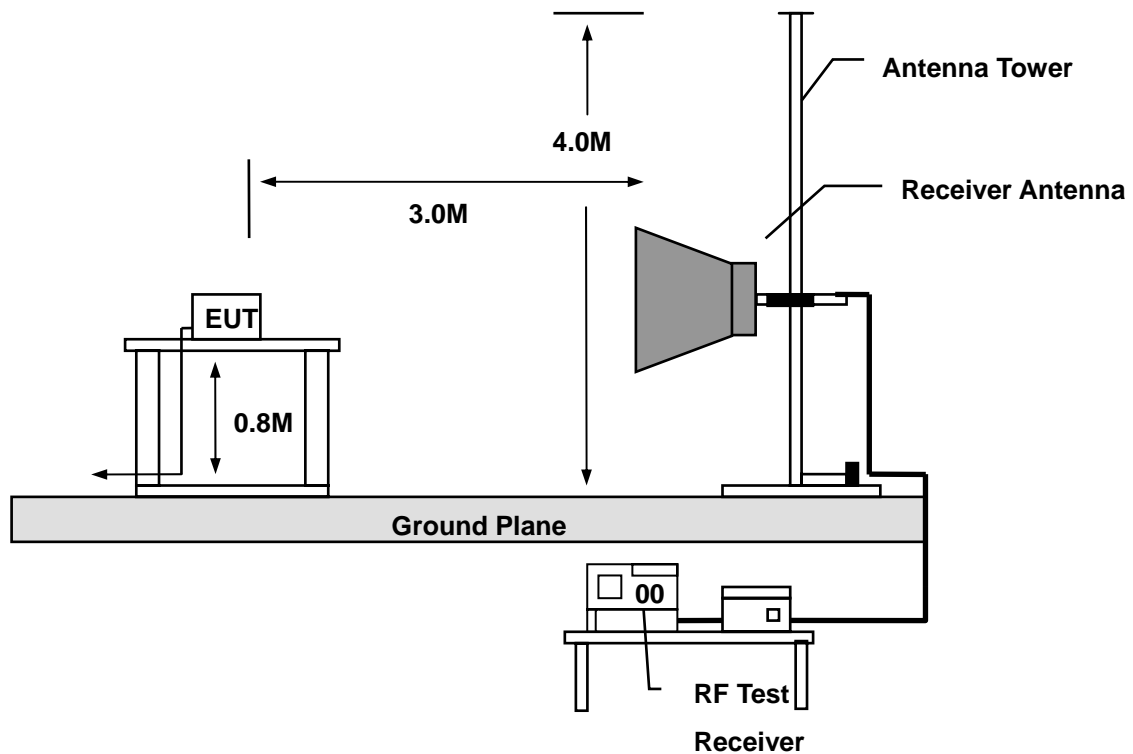
5.2. Test Instruments

3 Meter Chamber					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
RF Pre-selector	Agilent	N9039A	MY46520256	01/27/2009	(2)
Spectrum Analyzer	Agilent	E4446A	MY46180578	01/20/2009	(2)
Pre Amplifier	Agilent	8449B	3008A02237	07/01/2009	(1)
Pre Amplifier	Agilent	8447D	2944A10961	06/30/2009	(1)
Broadband Antenna (30MHz~1GHz)	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	9163-270	06/23/2009	(2)
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	07/01/2009	(2)
Horn Antenna (18~40GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	06/30/2009	(2)
Test Site	ATL	TE01	TE01	N.C.R.	-----

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

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

5.3. Setup



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 (mode 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 per 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 decibels 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.

$$(1) \text{ Amplitude (dBuV/m) = FI (dBuV) +AF (dBuV) +CL (dBuV)-Gain (dB)}$$

FI= Reading of the field intensity.

AF= Antenna factor.

CL= Cable loss.

P.S Amplitude is auto calculate in spectrum analyzer.

$$(2) \text{ Actual Amplitude (dBuV/m) = Amplitude (dBuV)-Dis(dB)}$$

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

Product	WLAN Module						
Test Item	Transmitter Radiated Emissions						
Test Mode	Mode 1: Normal Operation Mode						
Date of Test	03/18/2010				Test Site	TE02	
Freq	Polarization (V/H)	Rd_level (dBuV)	Factor	Level (dBuV/m)	Limit (dBuV/m)	Over	detector
30.000	V	38.26	-13.32	24.94	40.00	-15.06	QP
70.905	V	40.24	-16.68	23.56	40.00	-16.44	QP
92.775	V	42.67	-12.55	30.12	43.50	-13.38	QP
138.810	V	41.34	-16.26	25.08	43.50	-18.42	QP
199.155	V	40.13	-13.16	26.97	43.50	-16.53	QP
216.300	V	41.97	-12.63	29.34	46.00	-16.66	QP
333.110	V	40.32	-9.32	31.00	46.00	-15.00	QP
431.838	V	37.25	-8.03	29.22	46.00	-16.78	QP
504.680	V	28.64	-6.76	21.88	46.00	-24.12	QP
634.712	V	30.24	-4.37	25.87	46.00	-20.13	QP
733.741	V	28.64	-3.36	25.28	46.00	-20.72	QP
885.445	V	27.31	-0.18	27.13	46.00	-18.87	QP
30.135	H	36.16	-13.32	22.84	40.00	-17.16	QP
57.270	H	31.57	-12.36	19.21	40.00	-20.79	QP
92.640	H	37.16	-12.57	24.59	43.50	-18.91	QP
144.075	H	40.19	-16.21	23.98	43.50	-19.52	QP
199.155	H	41.57	-13.16	28.41	43.50	-15.09	QP
266.385	H	41.97	-11.00	30.97	46.00	-15.03	QP
331.906	H	35.13	-9.36	25.77	46.00	-20.23	QP
431.838	H	31.57	-8.03	23.54	46.00	-22.46	QP
510.700	H	27.65	-6.74	20.91	46.00	-25.09	QP
647.354	H	26.87	-4.32	22.55	46.00	-23.45	QP
744.276	H	30.19	-3.14	27.05	46.00	-18.95	QP
891.465	H	28.47	-0.75	27.72	46.00	-18.28	QP

Above 1GHz

Product	WLAN Module						
Test Item	Transmitter Radiated Emissions						
Test Mode	Mode 2: IEEE 802.11b Link Mode				Frequency	2412MHz	
Date of Test	03/18/2010				Test Site	TE02	
Freq	Polarization (V/H)	Rd_level (dBuV)	Factor	Level (dBuV/m)	Limit (dBuV/m)	Over	detector
2319.200	V	57.46	0.27	57.73	74.00	-16.27	peak
2319.200	V	39.87	0.27	40.14	54.00	-13.86	AVG
2700.000	V	40.25	22.58	62.83	74.00	-11.17	peak
2700.000	V	18.38	22.58	40.96	54.00	-13.04	AVG
4824.000	V	35.90	7.48	43.38	74.00	-30.62	peak
9295.550	V	36.49	16.84	53.33	74.00	-20.67	peak
9295.550	V	23.41	16.84	40.25	54.00	-13.75	AVG
14148.000	V	27.03	28.37	55.40	74.00	-18.60	peak
14148.000	V	14.03	28.37	42.40	54.00	-11.60	AVG
17920.000	V	26.58	34.38	60.96	74.00	-13.04	peak
17920.000	V	5.04	34.38	39.42	54.00	-14.58	AVG
18021.250	V	36.24	23.28	59.52	74.00	-14.48	peak
18021.250	V	17.45	23.28	40.73	54.00	-13.27	AVG
21510.500	V	36.12	21.35	57.47	74.00	-16.53	peak
21510.500	V	18.18	21.35	39.53	54.00	-14.47	AVG
25526.750	V	39.46	18.96	58.42	74.00	-15.58	peak
25526.750	V	20.53	18.96	39.49	54.00	-14.51	AVG
2276.700	H	56.88	0.45	57.33	74.00	-16.67	peak
2276.700	H	39.58	0.45	40.03	54.00	-13.97	AVG
2700.000	H	40.32	22.58	62.90	74.00	-11.10	peak
2700.000	H	18.37	22.58	40.95	54.00	-13.05	AVG
4824.000	H	35.62	7.48	43.10	74.00	-30.90	peak
9839.400	H	35.28	17.85	53.13	74.00	-20.87	peak
9839.400	H	23.45	17.85	41.30	54.00	-12.70	AVG
13912.000	H	26.96	28.07	55.03	74.00	-18.97	peak
13912.000	H	14.34	28.07	42.41	54.00	-11.59	AVG
17912.000	H	26.61	34.43	61.04	74.00	-12.96	peak
17912.000	H	4.71	34.43	39.14	54.00	-14.86	AVG
18063.750	H	36.19	23.26	59.45	74.00	-14.55	peak
18063.750	H	16.79	23.26	40.05	54.00	-13.95	AVG
21544.500	H	36.74	21.33	58.07	74.00	-15.93	peak
21544.500	H	17.48	21.33	38.81	54.00	-15.19	AVG
25382.250	H	39.14	19.06	58.20	74.00	-15.80	peak
25382.250	H	19.59	19.06	38.65	54.00	-15.35	AVG

Product	WLAN Module						
Test Item	Transmitter Radiated Emissions						
Test Mode	Mode 2: IEEE 802.11b Link Mode				Frequency	2437MHz	
Date of Test	03/18/2010				Test Site	TE02	
Freq	Polarization (V/H)	Rd_level (dBuV)	Factor	Level (dBuV/m)	Limit (dBuV/m)	Over	detector
2291.150	V	57.12	0.41	57.53	74.00	-16.47	peak
2291.150	V	39.57	0.41	39.98	54.00	-14.02	AVG
2700.000	V	40.37	22.58	62.95	74.00	-11.05	peak
2700.000	V	18.39	22.58	40.97	54.00	-13.03	AVG
4874.000	V	36.88	7.72	44.60	74.00	-29.40	peak
9583.900	V	36.34	17.33	53.67	74.00	-20.33	peak
9583.900	V	23.45	17.33	40.78	54.00	-13.22	AVG
13916.000	V	27.21	28.07	55.28	74.00	-18.72	peak
13916.000	V	15.03	28.07	43.10	54.00	-10.90	AVG
17992.000	V	25.94	34.97	60.91	74.00	-13.09	peak
17992.000	V	4.98	34.97	39.95	54.00	-14.05	AVG
19007.250	V	35.55	23.08	58.63	74.00	-15.37	peak
19007.250	V	16.01	23.08	39.09	54.00	-14.91	AVG
21519.000	V	36.15	21.34	57.49	74.00	-16.51	peak
21519.000	V	17.46	21.34	38.80	54.00	-15.20	AVG
25488.500	V	39.19	19.00	58.19	74.00	-15.81	peak
25488.500	V	20.04	19.00	39.04	54.00	-14.96	AVG
2364.250	H	57.07	0.21	57.28	74.00	-16.72	peak
2364.250	H	39.56	0.21	39.77	54.00	-14.23	AVG
2700.000	H	39.91	22.58	62.49	74.00	-11.51	peak
2700.000	H	18.64	22.58	41.22	54.00	-12.78	AVG
4874.000	H	36.18	7.72	43.90	74.00	-30.10	peak
9419.650	H	36.19	17.06	53.25	74.00	-20.75	peak
9419.650	H	23.57	17.06	40.63	54.00	-13.37	AVG
13904.000	H	26.93	28.07	55.00	74.00	-19.00	peak
13904.000	H	14.13	28.07	42.20	54.00	-11.80	AVG
17904.000	H	26.28	34.48	60.76	74.00	-13.24	peak
17904.000	H	4.71	34.48	39.19	54.00	-14.81	AVG
19003.000	H	35.75	23.08	58.83	74.00	-15.17	peak
19003.000	H	16.62	23.08	39.70	54.00	-14.30	AVG
21502.000	H	35.43	21.36	56.79	74.00	-17.21	peak
21502.000	H	16.83	21.36	38.19	54.00	-15.81	AVG
25501.250	H	39.15	18.98	58.13	74.00	-15.87	peak
25501.250	H	20.08	18.98	39.06	54.00	-14.94	AVG

Product	WLAN Module						
Test Item	Transmitter Radiated Emissions						
Test Mode	Mode 2: IEEE 802.11b Link Mode				Frequency	2462MHz	
Date of Test	03/18/2010				Test Site	TE02	
Freq	Polarization (V/H)	Rd_level (dBuV)	Factor	Level (dBuV/m)	Limit (dBuV/m)	Over	detector
2334.500	V	57.14	0.27	57.41	74.00	-16.59	peak
2334.500	V	39.74	0.27	40.01	54.00	-13.99	AVG
2700.000	V	39.72	22.58	62.30	74.00	-11.70	peak
2700.000	V	18.34	22.58	40.92	54.00	-13.08	AVG
4924.000	V	36.51	7.65	44.16	74.00	-29.84	peak
9361.250	V	36.41	16.98	53.39	74.00	-20.61	peak
9361.250	V	23.67	16.98	40.65	54.00	-13.35	AVG
13804.000	V	27.57	27.41	54.98	74.00	-19.02	peak
13804.000	V	14.11	27.41	41.52	54.00	-12.48	AVG
17984.000	V	25.94	34.81	60.75	74.00	-13.25	peak
17984.000	V	4.03	34.81	38.84	54.00	-15.16	AVG
18140.250	V	36.46	23.23	59.69	74.00	-14.31	peak
18140.250	V	16.03	23.23	39.26	54.00	-14.74	AVG
21548.750	V	36.03	21.33	57.36	74.00	-16.64	peak
21548.750	V	16.55	21.33	37.88	54.00	-16.12	AVG
25509.750	V	39.07	18.98	58.05	74.00	-15.95	peak
25509.750	V	20.26	18.98	39.24	54.00	-14.76	AVG
2400.800	H	57.18	0.12	57.30	74.00	-16.70	peak
2400.800	H	40.21	0.12	40.33	54.00	-13.67	AVG
2700.000	H	40.02	22.58	62.60	74.00	-11.40	peak
2700.000	H	18.37	22.58	40.95	54.00	-13.05	AVG
4924.000	H	35.66	7.65	43.31	74.00	-30.69	peak
9835.750	H	35.47	17.83	53.30	74.00	-20.70	peak
9835.750	H	23.13	17.83	40.96	54.00	-13.04	AVG
13900.000	H	26.61	28.07	54.68	74.00	-19.32	peak
13900.000	H	14.13	28.07	42.20	54.00	-11.80	AVG
17924.000	H	26.52	34.35	60.87	74.00	-13.13	peak
17924.000	H	4.98	34.35	39.33	54.00	-14.67	AVG
18042.500	H	35.64	23.27	58.91	74.00	-15.09	peak
18042.500	H	17.56	23.27	40.83	54.00	-13.17	AVG
21519.000	H	36.33	21.34	57.67	74.00	-16.33	peak
21519.000	H	17.04	21.34	38.38	54.00	-15.62	AVG
25539.500	H	39.12	18.95	58.07	74.00	-15.93	peak
25539.500	H	20.01	18.95	38.96	54.00	-15.04	AVG

Product	WLAN Module						
Test Item	Transmitter Radiated Emissions						
Test Mode	Mode 3: IEEE 802.11g Link Mode				Frequency	2412Hz	
Date of Test	03/18/2010				Test Site	TE02	
Freq	Polarization (V/H)	Rd_level (dBuV)	Factor	Level (dBuV/m)	Limit (dBuV/m)	Over	detector
2189.150	V	56.95	0.42	57.37	74.00	-16.63	peak
2189.150	V	39.57	0.42	39.99	54.00	-14.01	AVG
2700.000	V	39.49	22.58	62.07	74.00	-11.93	peak
2700.000	V	18.36	22.58	40.94	54.00	-13.06	AVG
4824.000	V	35.42	7.48	42.90	74.00	-31.10	peak
9755.450	V	35.57	17.71	53.28	74.00	-20.72	peak
9755.450	V	23.52	17.71	41.23	54.00	-12.77	AVG
14076.000	V	26.79	28.33	55.12	74.00	-18.88	peak
14076.000	V	14.67	28.33	43.00	54.00	-11.00	AVG
17996.000	V	25.26	35.04	60.30	74.00	-13.70	peak
17996.000	V	5.00	35.04	40.04	54.00	-13.96	AVG
18913.750	V	35.97	23.14	59.11	74.00	-14.89	peak
18913.750	V	16.51	23.14	39.65	54.00	-14.35	AVG
21506.250	V	35.82	21.35	57.17	74.00	-16.83	peak
21506.250	V	16.70	21.35	38.05	54.00	-15.95	AVG
25441.750	V	39.10	19.02	58.12	74.00	-15.88	peak
25441.750	V	19.97	19.02	38.99	54.00	-15.01	AVG
2293.700	H	57.30	0.46	57.76	74.00	-16.24	peak
2293.700	H	40.31	0.46	40.77	54.00	-13.23	AVG
2700.000	H	39.93	22.58	62.51	74.00	-11.49	peak
2700.000	H	18.74	22.58	41.32	54.00	-12.68	AVG
4824.000	H	37.44	7.48	44.92	74.00	-29.08	peak
9799.250	H	36.08	17.67	53.75	74.00	-20.25	peak
9799.250	H	23.32	17.67	40.99	54.00	-13.01	AVG
14496.000	H	27.83	27.38	55.21	74.00	-18.79	peak
14496.000	H	13.91	27.38	41.29	54.00	-12.71	AVG
17924.000	H	26.54	34.35	60.89	74.00	-13.11	peak
17924.000	H	4.46	34.35	38.81	54.00	-15.19	AVG
18658.750	H	35.93	23.09	59.02	74.00	-14.98	peak
18658.750	H	15.83	23.09	38.92	54.00	-15.08	AVG
21519.000	H	35.60	21.34	56.94	74.00	-17.06	peak
21519.000	H	16.69	21.34	38.03	54.00	-15.97	AVG
25480.000	H	38.83	18.99	57.82	74.00	-16.18	peak
25480.000	H	20.31	18.99	39.30	54.00	-14.70	AVG

Product	WLAN Module						
Test Item	Transmitter Radiated Emissions						
Test Mode	Mode 3: IEEE 802.11g Link Mode				Frequency	2437MHz	
Date of Test	03/18/2010				Test Site	TE02	
Freq	Polarization (V/H)	Rd_level (dBuV)	Factor	Level (dBuV/m)	Limit (dBuV/m)	Over	detector
2364.250	V	58.14	0.21	58.35	74.00	-15.65	peak
2364.250	V	40.03	0.21	40.24	54.00	-13.76	AVG
2700.000	V	40.32	22.58	62.90	74.00	-11.10	peak
2700.000	V	18.33	22.58	40.91	54.00	-13.09	AVG
4874.000	V	36.38	7.72	44.10	74.00	-29.90	peak
8799.150	V	37.09	16.15	53.24	74.00	-20.76	peak
8799.150	V	23.13	16.15	39.28	54.00	-14.72	AVG
14112.000	V	26.26	28.43	54.69	74.00	-19.31	peak
14112.000	V	14.04	28.43	42.47	54.00	-11.53	AVG
17996.000	V	26.24	35.04	61.28	74.00	-12.72	peak
17996.000	V	5.11	35.04	40.15	54.00	-13.85	AVG
18012.750	V	35.55	23.29	58.84	74.00	-15.16	peak
18012.750	V	16.72	23.29	40.01	54.00	-13.99	AVG
22020.500	V	36.01	21.11	57.12	74.00	-16.88	peak
22020.500	V	15.75	21.11	36.86	54.00	-17.14	AVG
25492.750	V	38.77	18.99	57.76	74.00	-16.24	peak
25492.750	V	20.25	18.99	39.24	54.00	-14.76	AVG
2298.800	H	57.31	0.53	57.84	74.00	-16.16	peak
2298.800	H	39.57	0.53	40.10	54.00	-13.90	AVG
2700.000	H	40.69	22.58	63.27	74.00	-10.73	peak
2700.000	H	18.26	22.58	40.84	54.00	-13.16	AVG
4874.000	H	35.92	7.72	43.64	74.00	-30.36	peak
9850.350	H	35.39	17.89	53.28	74.00	-20.72	peak
9850.350	H	23.64	17.89	41.53	54.00	-12.47	AVG
13768.000	H	27.90	27.61	55.51	74.00	-18.49	peak
13768.000	H	14.78	27.61	42.39	54.00	-11.61	AVG
17924.000	H	27.09	34.35	61.44	74.00	-12.56	peak
17924.000	H	4.00	34.35	38.35	54.00	-15.65	AVG
18718.250	H	35.92	23.11	59.03	74.00	-14.97	peak
18718.250	H	16.41	23.11	39.52	54.00	-14.48	AVG
21544.500	H	35.91	21.33	57.24	74.00	-16.76	peak
21544.500	H	16.76	21.33	38.09	54.00	-15.91	AVG
25454.500	H	38.78	19.01	57.79	74.00	-16.21	peak
25454.500	H	20.00	19.01	39.01	54.00	-14.99	AVG

Product	WLAN Module						
Test Item	Transmitter Radiated Emissions						
Test Mode	Mode 3: IEEE 802.11g Link Mode				Frequency	2462MHz	
Date of Test	03/18/2010				Test Site	TE02	
Freq	Polarization (V/H)	Rd_level (dBuV)	Factor	Level (dBuV/m)	Limit (dBuV/m)	Over	detector
2378.700	V	57.46	0.15	57.61	74.00	-16.39	peak
2378.700	V	39.97	0.15	40.12	54.00	-13.88	AVG
2700.000	V	40.05	22.58	62.63	74.00	-11.37	peak
2700.000	V	18.15	22.58	40.73	54.00	-13.27	AVG
4924.000	V	35.38	7.65	43.03	74.00	-30.97	peak
9375.850	V	36.32	17.02	53.34	74.00	-20.66	peak
9375.850	V	23.34	17.02	40.36	54.00	-13.64	AVG
13920.000	V	27.33	28.08	55.41	74.00	-18.59	peak
13920.000	V	14.03	28.08	42.11	54.00	-11.89	AVG
18000.000	V	25.31	35.11	60.42	74.00	-13.58	peak
18000.000	V	5.00	35.11	40.11	54.00	-13.89	AVG
18097.750	V	35.36	23.24	58.60	74.00	-15.40	peak
18097.750	V	16.81	23.24	40.05	54.00	-13.95	AVG
21510.500	V	35.59	21.35	56.94	74.00	-17.06	peak
21510.500	V	16.96	21.35	38.31	54.00	-15.69	AVG
25433.250	V	39.07	19.02	58.09	74.00	-15.91	peak
25433.250	V	19.79	19.02	38.81	54.00	-15.19	AVG
2235.900	H	57.25	0.45	57.70	74.00	-16.30	peak
2235.900	H	39.67	0.45	40.12	54.00	-13.88	AVG
2700.000	H	39.99	22.58	62.57	74.00	-11.43	peak
2700.000	H	18.28	22.58	40.86	54.00	-13.14	AVG
4924.000	H	35.56	7.65	43.21	74.00	-30.79	peak
9594.850	H	36.42	17.40	53.82	74.00	-20.18	peak
9594.850	H	23.33	17.40	40.73	54.00	-13.27	AVG
13900.000	H	26.77	28.07	54.84	74.00	-19.16	peak
13900.000	H	14.20	28.07	42.27	54.00	-11.73	AVG
17888.000	H	26.56	34.14	60.70	74.00	-13.30	peak
17888.000	H	4.81	34.14	38.95	54.00	-15.05	AVG
18191.250	H	35.46	23.22	58.68	74.00	-15.32	peak
18191.250	H	15.99	23.22	39.21	54.00	-14.79	AVG
21514.750	H	35.41	21.35	56.76	74.00	-17.24	peak
21514.750	H	16.72	21.35	38.07	54.00	-15.93	AVG
25492.750	H	38.94	18.99	57.93	74.00	-16.07	peak
25492.750	H	20.47	18.99	39.46	54.00	-14.54	AVG

Product	WLAN Module						
Test Item	Transmitter Radiated Emissions						
Test Mode	Mode 4: draft 802.11n Standard-20MHz Link Mode				Frequency	2412MHz	
Date of Test	03/18/2010				Test Site	TE02	
Freq	Polarization (V/H)	Rd_level (dBuV)	Factor	Level (dBuV/m)	Limit (dBuV/m)	Over	detector
2283.500	V	57.73	0.44	58.17	74.00	-15.83	peak
2283.500	V	39.24	0.44	39.68	54.00	-14.32	AVG
2700.000	V	40.11	22.58	62.69	74.00	-11.31	peak
2700.000	V	18.36	22.58	40.94	54.00	-13.06	AVG
4824.000	V	37.11	7.48	44.59	74.00	-29.41	peak
9919.700	V	35.41	17.78	53.19	74.00	-20.81	peak
9919.700	V	23.54	17.78	41.32	54.00	-12.68	AVG
13928.000	V	27.50	28.07	55.57	74.00	-18.43	peak
13928.000	V	14.42	28.07	42.49	54.00	-11.51	AVG
17976.000	V	26.02	34.68	60.70	74.00	-13.30	peak
17976.000	V	4.83	34.68	39.51	54.00	-14.49	AVG
19007.250	V	35.46	23.08	58.54	74.00	-15.46	peak
19007.250	V	16.49	23.08	39.57	54.00	-14.43	AVG
21510.500	V	35.68	21.35	57.03	74.00	-16.97	peak
21510.500	V	16.80	21.35	38.15	54.00	-15.85	AVG
25509.750	V	39.30	18.98	58.28	74.00	-15.72	peak
25509.750	V	20.50	18.98	39.48	54.00	-14.52	AVG
2249.500	H	57.77	0.49	58.26	74.00	-15.74	peak
2249.500	H	40.13	0.49	40.62	54.00	-13.38	AVG
2700.000	H	40.46	22.58	63.04	74.00	-10.96	peak
2700.000	H	17.65	22.58	40.23	54.00	-13.77	AVG
4824.000	H	35.78	7.48	43.26	74.00	-30.74	peak
9919.700	H	35.73	17.78	53.51	74.00	-20.49	peak
9919.700	H	23.64	17.78	41.42	54.00	-12.58	AVG
13908.000	H	26.85	28.07	54.92	74.00	-19.08	peak
13908.000	H	14.16	28.07	42.23	54.00	-11.77	AVG
17932.000	H	26.88	34.30	61.18	74.00	-12.82	peak
17932.000	H	4.98	34.30	39.28	54.00	-14.72	AVG
18845.750	H	36.14	23.15	59.29	74.00	-14.71	peak
18845.750	H	16.16	23.15	39.31	54.00	-14.69	AVG
21540.250	H	34.91	21.34	56.25	74.00	-17.75	peak
21540.250	H	16.07	21.34	37.41	54.00	-16.59	AVG
25505.500	H	39.12	18.98	58.10	74.00	-15.90	peak
25505.500	H	20.38	18.98	39.36	54.00	-14.64	AVG

Product	WLAN Module						
Test Item	Transmitter Radiated Emissions						
Test Mode	Mode 4: draft 802.11n Standard-20MHz Link Mode				Frequency	2437MHz	
Date of Test	03/18/2010				Test Site	TE02	
Freq	Polarization (V/H)	Rd_level (dBuV)	Factor	Level (dBuV/m)	Limit (dBuV/m)	Over	detector
2284.350	V	56.55	0.43	56.98	74.00	-17.02	peak
2284.350	V	40.24	0.43	40.67	54.00	-13.33	AVG
2700.000	V	40.18	22.58	62.76	74.00	-11.24	peak
2700.000	V	18.51	22.58	41.09	54.00	-12.91	AVG
4874.000	V	36.05	7.72	43.77	74.00	-30.23	peak
9872.250	V	35.29	17.84	53.13	74.00	-20.87	peak
9872.250	V	23.62	17.84	41.46	54.00	-12.54	AVG
14112.000	V	27.05	28.43	55.48	74.00	-18.52	peak
14112.000	V	14.75	28.43	43.18	54.00	-10.82	AVG
17940.000	V	26.48	34.25	60.73	74.00	-13.27	peak
17940.000	V	4.71	34.25	38.96	54.00	-15.04	AVG
18021.250	V	35.19	23.28	58.47	74.00	-15.53	peak
18021.250	V	16.64	23.28	39.92	54.00	-14.08	AVG
21536.000	V	35.53	21.34	56.87	74.00	-17.13	peak
21536.000	V	16.46	21.34	37.80	54.00	-16.20	AVG
25467.250	V	38.39	19.00	57.39	74.00	-16.61	peak
25467.250	V	20.10	19.00	39.10	54.00	-14.90	AVG
2257.150	H	57.36	0.46	57.82	74.00	-16.18	peak
2257.150	H	40.24	0.46	40.70	54.00	-13.30	AVG
2703.650	H	40.83	21.89	62.72	74.00	-11.28	peak
2703.650	H	18.25	21.89	40.14	54.00	-13.86	AVG
4874.000	H	36.03	7.72	43.75	74.00	-30.25	peak
9952.550	H	35.65	17.78	53.43	74.00	-20.57	peak
9952.550	H	23.54	17.78	41.32	54.00	-12.68	AVG
14140.000	H	26.40	28.38	54.78	74.00	-19.22	peak
14140.000	H	15.24	28.38	43.62	54.00	-10.38	AVG
17996.000	H	25.17	35.04	60.21	74.00	-13.79	peak
17996.000	H	4.13	35.04	39.17	54.00	-14.83	AVG
18042.500	H	35.38	23.27	58.65	74.00	-15.35	peak
18042.500	H	16.86	23.27	40.13	54.00	-13.87	AVG
21510.500	H	35.11	21.35	56.46	74.00	-17.54	peak
21510.500	H	16.60	21.35	37.95	54.00	-16.05	AVG
25535.250	H	39.19	18.96	58.15	74.00	-15.85	peak
25535.250	H	20.43	18.96	39.39	54.00	-14.61	AVG

Product	WLAN Module						
Test Item	Transmitter Radiated Emissions						
Test Mode	Mode 4: draft 802.11n Standard-20MHz Link Mode				Frequency	2462MHz	
Date of Test	03/18/2010				Test Site	TE02	
Freq	Polarization (V/H)	Rd_level (dBuV)	Factor	Level (dBuV/m)	Limit (dBuV/m)	Over	detector
2275.000	V	56.88	0.44	57.32	74.00	-16.68	peak
2275.000	V	39.95	0.44	40.39	54.00	-13.61	AVG
2700.000	V	40.72	22.58	63.30	74.00	-10.70	peak
2700.000	V	18.36	22.58	40.94	54.00	-13.06	AVG
4924.000	V	36.43	7.65	44.08	74.00	-29.92	peak
9916.050	V	35.98	17.78	53.76	74.00	-20.24	peak
9916.050	V	23.54	17.78	41.32	54.00	-12.68	AVG
14256.000	V	27.20	28.21	55.41	74.00	-18.59	peak
14256.000	V	15.33	28.21	43.54	54.00	-10.46	AVG
17904.000	V	26.12	34.48	60.60	74.00	-13.40	peak
17904.000	V	4.09	34.48	38.57	54.00	-15.43	AVG
18076.500	V	35.70	23.26	58.96	74.00	-15.04	peak
18076.500	V	16.04	23.26	39.30	54.00	-14.70	AVG
22105.500	V	35.74	21.06	56.80	74.00	-17.20	peak
22105.500	V	15.21	21.06	36.27	54.00	-17.73	AVG
25565.000	V	38.94	18.94	57.88	74.00	-16.12	peak
25565.000	V	19.93	18.94	38.87	54.00	-15.13	AVG
2282.650	H	57.36	0.44	57.80	74.00	-16.20	peak
2282.650	H	40.06	0.44	40.50	54.00	-13.50	AVG
2700.000	H	40.30	22.58	62.88	74.00	-11.12	peak
2700.000	H	18.23	22.58	40.81	54.00	-13.19	AVG
4924.000	H	35.08	7.65	42.73	74.00	-31.27	peak
9678.800	H	37.13	17.23	54.36	74.00	-19.64	peak
9678.800	H	23.64	17.23	40.87	54.00	-13.13	AVG
13928.000	H	26.84	28.07	54.91	74.00	-19.09	peak
13928.000	H	14.14	28.07	42.21	54.00	-11.79	AVG
17980.000	H	26.82	34.75	61.57	74.00	-12.43	peak
17980.000	H	5.03	34.75	39.78	54.00	-14.22	AVG
19011.500	H	35.95	23.07	59.02	74.00	-14.98	peak
19011.500	H	16.49	23.07	39.56	54.00	-14.44	AVG
21502.000	H	35.29	21.36	56.65	74.00	-17.35	peak
21502.000	H	17.32	21.36	38.68	54.00	-15.32	AVG
25433.250	H	39.22	19.02	58.24	74.00	-15.76	peak
25433.250	H	19.83	19.02	38.85	54.00	-15.15	AVG

Product	WLAN Module						
Test Item	Transmitter Radiated Emissions						
Test Mode	Mode 5: draft 802.11n Wide-40MHz Link Mode				Frequency	2422MHz	
Date of Test	03/18/2010				Test Site	TE02	
Freq	Polarization (V/H)	Rd_level (dBuV)	Factor	Level (dBuV/m)	Limit (dBuV/m)	Over	detector
2280.100	V	57.11	0.46	57.57	74.00	-16.43	peak
2280.100	V	39.45	0.46	39.91	54.00	-14.09	AVG
2700.000	V	40.83	22.58	63.41	74.00	-10.59	peak
2700.000	V	18.62	22.58	41.20	54.00	-12.80	AVG
4844.000	V	36.81	7.67	44.48	74.00	-29.52	peak
9470.750	V	36.27	16.91	53.18	74.00	-20.82	peak
9470.750	V	23.54	16.91	40.45	54.00	-13.55	AVG
13940.000	V	27.27	28.08	55.35	74.00	-18.65	peak
13940.000	V	15.44	28.08	43.52	54.00	-10.48	AVG
17992.000	V	26.28	34.97	61.25	74.00	-12.75	peak
17992.000	V	3.94	34.97	38.91	54.00	-15.09	AVG
18131.750	V	36.35	23.23	59.58	74.00	-14.42	peak
18131.750	V	16.60	23.23	39.83	54.00	-14.17	AVG
21514.750	V	35.70	21.35	57.05	74.00	-16.95	peak
21514.750	V	17.47	21.35	38.82	54.00	-15.18	AVG
25522.500	V	38.78	18.97	57.75	74.00	-16.25	peak
25522.500	V	20.68	18.97	39.65	54.00	-14.35	AVG
2310.700	H	57.32	0.38	57.70	74.00	-16.30	peak
2310.700	H	39.23	0.38	39.61	54.00	-14.39	AVG
2700.000	H	40.22	22.58	62.80	74.00	-11.20	peak
2700.000	H	18.35	22.58	40.93	54.00	-13.07	AVG
4844.000	H	35.73	7.67	43.40	74.00	-30.60	peak
9872.250	H	35.28	17.84	53.12	74.00	-20.88	peak
9872.250	H	23.24	17.84	41.08	54.00	-12.92	AVG
13900.000	H	26.74	28.07	54.81	74.00	-19.19	peak
13900.000	H	14.84	28.07	42.91	54.00	-11.09	AVG
17964.000	H	26.20	34.45	60.65	74.00	-13.35	peak
17964.000	H	4.21	34.45	38.66	54.00	-15.34	AVG
18828.750	H	35.45	23.15	58.60	74.00	-15.40	peak
18828.750	H	16.91	23.15	40.06	54.00	-13.94	AVG
21561.500	H	35.17	21.32	56.49	74.00	-17.51	peak
21561.500	H	16.18	21.32	37.50	54.00	-16.50	AVG
25671.250	H	39.02	18.85	57.87	74.00	-16.13	peak
25671.250	H	19.58	18.85	38.43	54.00	-15.57	AVG

Product	WLAN Module						
Test Item	Transmitter Radiated Emissions						
Test Mode	Mode 5: draft 802.11n Wide-40MHz Link Mode				Frequency	2437MHz	
Date of Test	03/18/2010				Test Site	TE02	
Freq	Polarization (V/H)	Rd_level (dBuV)	Factor	Level (dBuV/m)	Limit (dBuV/m)	Over	detector
2214.650	V	57.11	0.37	57.48	74.00	-16.52	peak
2214.650	V	39.89	0.37	40.26	54.00	-13.74	AVG
2700.000	V	39.62	22.58	62.20	74.00	-11.80	peak
2700.000	V	18.32	22.58	40.90	54.00	-13.10	AVG
4874.000	V	35.86	7.72	43.58	74.00	-30.42	peak
9861.300	V	35.51	17.87	53.38	74.00	-20.62	peak
9861.300	V	23.35	17.87	41.22	54.00	-12.78	AVG
13900.000	V	26.80	28.07	54.87	74.00	-19.13	peak
13900.000	V	14.78	28.07	42.85	54.00	-11.15	AVG
17996.000	V	25.44	35.04	60.48	74.00	-13.52	peak
17996.000	V	3.81	35.04	38.85	54.00	-15.15	AVG
18879.750	V	35.34	23.15	58.49	74.00	-15.51	peak
18879.750	V	16.37	23.15	39.52	54.00	-14.48	AVG
21523.250	V	36.28	21.34	57.62	74.00	-16.38	peak
21523.250	V	16.37	21.34	37.71	54.00	-16.29	AVG
25463.000	V	39.04	19.01	58.05	74.00	-15.95	peak
25463.000	V	19.74	19.01	38.75	54.00	-15.25	AVG
2280.100	H	56.67	0.46	57.13	74.00	-16.87	peak
2280.100	H	39.65	0.46	40.11	54.00	-13.89	AVG
2700.000	H	40.00	22.58	62.58	74.00	-11.42	peak
2700.000	H	18.31	22.58	40.89	54.00	-13.11	AVG
4874.000	H	36.17	7.72	43.89	74.00	-30.11	peak
9218.900	H	36.85	16.33	53.18	74.00	-20.82	peak
9218.900	H	23.25	16.33	39.58	54.00	-14.42	AVG
13972.000	H	26.83	28.14	54.97	74.00	-19.03	peak
13972.000	H	14.45	28.14	42.59	54.00	-11.41	AVG
17980.000	H	25.82	34.75	60.57	74.00	-13.43	peak
17980.000	H	4.11	34.75	38.86	54.00	-15.14	AVG
18068.000	H	35.12	23.25	58.37	74.00	-15.63	peak
18068.000	H	16.24	23.25	39.49	54.00	-14.51	AVG
21506.250	H	35.26	21.35	56.61	74.00	-17.39	peak
21506.250	H	16.81	21.35	38.16	54.00	-15.84	AVG
25403.500	H	38.76	19.04	57.80	74.00	-16.20	peak
25403.500	H	19.48	19.04	38.52	54.00	-15.48	AVG

Product	WLAN Module						
Test Item	Transmitter Radiated Emissions						
Test Mode	Mode 5: draft 802.11n Wide-40MHz Link Mode				Frequency	2452MHz	
Date of Test	03/18/2010				Test Site	TE02	
Freq	Polarization (V/H)	Rd_level (dBuV)	Factor	Level (dBuV/m)	Limit (dBuV/m)	Over	detector
2299.650	V	56.54	0.54	57.08	74.00	-16.92	peak
2299.650	V	39.60	0.54	40.14	54.00	-13.86	AVG
2700.000	V	39.96	22.58	62.54	74.00	-11.46	peak
2700.000	V	18.32	22.58	40.90	54.00	-13.10	AVG
4904.000	V	35.93	7.71	43.64	74.00	-30.36	peak
9445.200	V	36.07	17.02	53.09	74.00	-20.91	peak
9445.200	V	23.32	17.02	40.34	54.00	-13.66	AVG
14108.000	V	26.68	28.43	55.11	74.00	-18.89	peak
14108.000	V	14.13	28.43	42.56	54.00	-11.44	AVG
17984.000	V	25.84	34.81	60.65	74.00	-13.35	peak
17984.000	V	4.03	34.81	38.84	54.00	-15.16	AVG
18684.250	V	35.50	23.10	58.60	74.00	-15.40	peak
18684.250	V	16.29	23.10	39.39	54.00	-14.61	AVG
21612.500	V	34.86	21.28	56.14	74.00	-17.86	peak
21612.500	V	15.54	21.28	36.82	54.00	-17.18	AVG
25505.500	V	39.86	18.98	58.84	74.00	-15.16	peak
25505.500	V	20.68	18.98	39.66	54.00	-14.34	AVG
2366.800	H	57.03	0.19	57.22	74.00	-16.78	peak
2366.800	H	39.87	0.19	40.06	54.00	-13.94	AVG
2700.000	H	39.68	22.58	62.26	74.00	-11.74	peak
2700.000	H	18.35	22.58	40.93	54.00	-13.07	AVG
4904.000	H	36.92	7.71	44.63	74.00	-29.37	peak
9317.450	H	37.13	16.90	54.03	74.00	-19.97	peak
9317.450	H	23.41	16.90	40.31	54.00	-13.69	AVG
13924.000	H	26.59	28.08	54.67	74.00	-19.33	peak
13924.000	H	15.13	28.08	43.21	54.00	-10.79	AVG
17904.000	H	26.52	34.48	61.00	74.00	-13.00	peak
17904.000	H	4.83	34.48	39.31	54.00	-14.69	AVG
18667.250	H	35.91	23.10	59.01	74.00	-14.99	peak
18667.250	H	16.86	23.10	39.96	54.00	-14.04	AVG
21506.250	H	35.91	21.35	57.26	74.00	-16.74	peak
21506.250	H	16.91	21.35	38.26	54.00	-15.74	AVG
25535.250	H	40.09	18.96	59.05	74.00	-14.95	peak
25535.250	H	20.62	18.96	39.58	54.00	-14.42	AVG

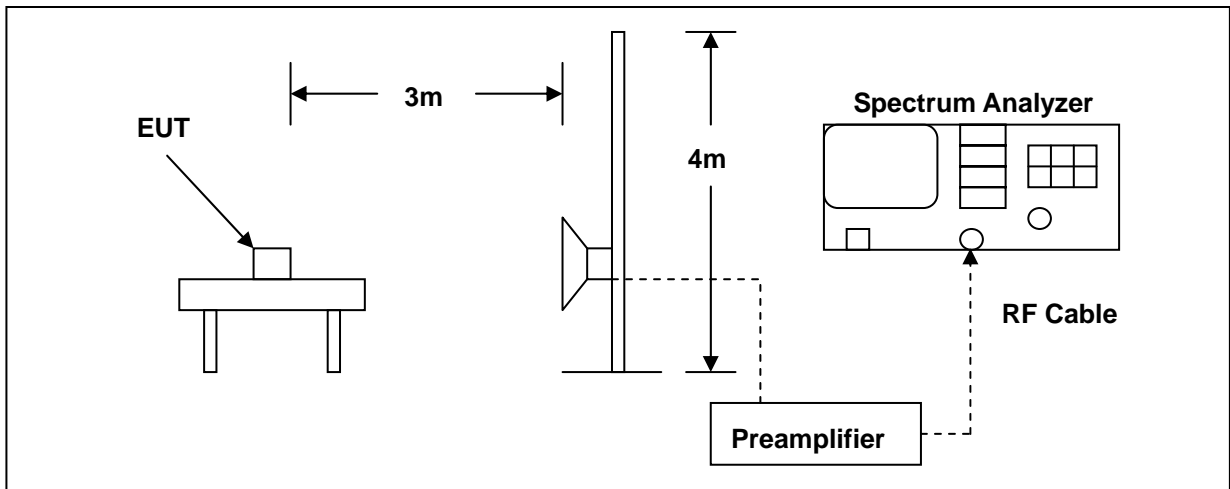
Product	WLAN Module						
Test Item	Transmitter Radiated Emissions						
Test Mode	Mode 6: Receiver Mode						
Date of Test	03/18/2010				Test Site	TE02	
Freq	Polarization (V/H)	Rd_level (dBuV)	Factor	Level (dBuV/m)	Limit (dBuV/m)	Over	detector
2302.200	V	56.33	0.52	56.85	74.00	-17.15	peak
2302.200	V	39.67	0.52	40.19	54.00	-13.81	AVG
2700.000	V	39.49	22.58	62.07	74.00	-11.93	peak
2700.000	V	18.39	22.58	40.97	54.00	-13.03	AVG
9609.450	V	35.93	17.32	53.25	74.00	-20.75	peak
9609.450	V	23.38	17.32	40.70	54.00	-13.30	AVG
14268.000	V	26.10	28.19	54.29	74.00	-19.71	peak
14268.000	V	14.52	28.19	42.71	54.00	-11.29	AVG
17996.000	V	25.26	35.04	60.30	74.00	-13.70	peak
17996.000	V	7.23	35.04	42.27	54.00	-11.73	AVG
18701.250	V	35.50	23.11	58.61	74.00	-15.39	peak
18701.250	V	17.10	23.11	40.21	54.00	-13.79	AVG
21961.000	V	35.39	21.14	56.53	74.00	-17.47	peak
21961.000	V	18.24	21.14	39.38	54.00	-14.62	AVG
26045.250	V	37.70	18.52	56.22	74.00	-17.78	peak
26045.250	V	20.93	18.52	39.45	54.00	-14.55	AVG
2534.250	H	57.29	0.46	57.75	74.00	-16.25	peak
2534.250	H	40.38	0.46	40.84	54.00	-13.16	AVG
2700.000	H	39.93	22.58	62.51	74.00	-11.49	peak
2700.000	H	18.74	22.58	41.32	54.00	-12.68	AVG
9572.950	H	36.08	17.27	53.35	74.00	-20.65	peak
9572.950	H	23.39	17.27	40.66	54.00	-13.34	AVG
14152.000	H	25.73	28.37	54.10	74.00	-19.90	peak
14152.000	H	13.82	28.37	42.19	54.00	-11.81	AVG
17924.000	H	26.54	34.35	60.89	74.00	-13.11	peak
17924.000	H	6.98	34.35	41.33	54.00	-12.67	AVG
18854.250	H	35.09	23.15	58.24	74.00	-15.76	peak
18854.250	H	17.23	23.15	40.38	54.00	-13.62	AVG
21234.250	H	36.08	21.45	57.53	74.00	-16.47	peak
21234.250	H	17.97	21.45	39.42	54.00	-14.58	AVG
25543.750	H	38.76	18.95	57.71	74.00	-16.29	peak
25543.750	H	20.33	18.95	39.28	54.00	-14.72	AVG

6 Band Edges Measurement

6.1. 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.

6.2. Test Setup



6.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4408B	MY45107753	01/27/2009	(2)
Pre Amplifier	Agilent	8449B	3008A02237	07/01/2009	(1)
Horn Antenna	SCHWARZBECK MESS-ELEKTRONIK	9120D	9120D-550	07/01/2009	(2)
Test Site	ATL	TE06	TE06	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 EUT was setup to ANSI C63.4, 2003; tested to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

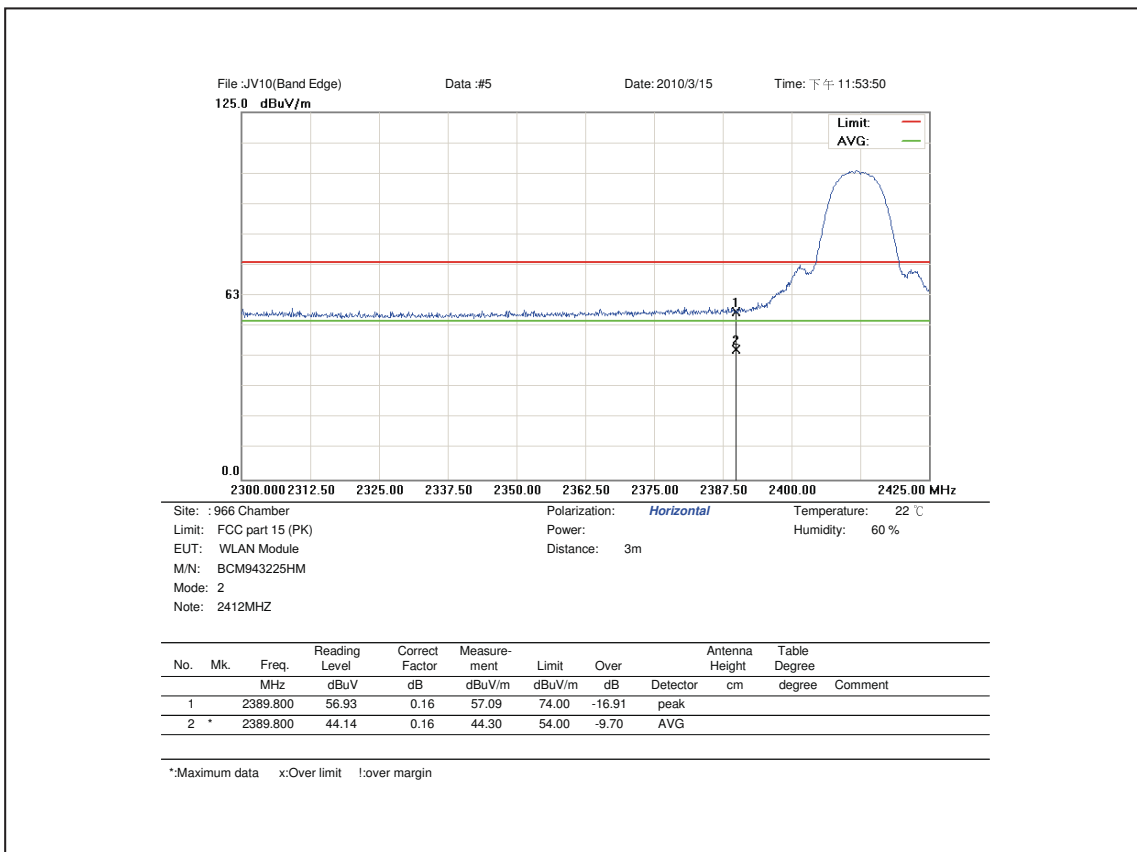
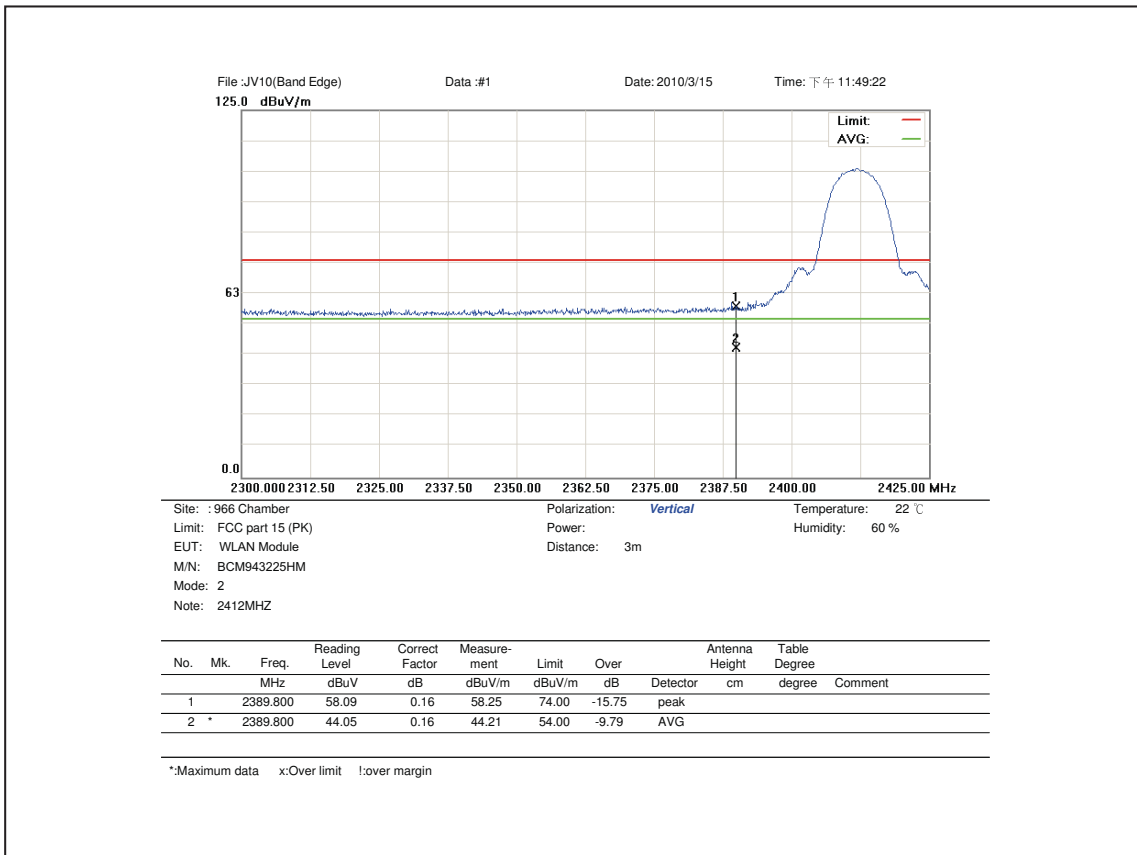
The emissions on the harmonics frequencies, the limits, and the margin of compliance are presented. These tests were made when the transmitter was in full radiated power. The additional test was performed to show compliance with the requirement at the band-edge frequency 2483.5 MHz and up to 2500 MHz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

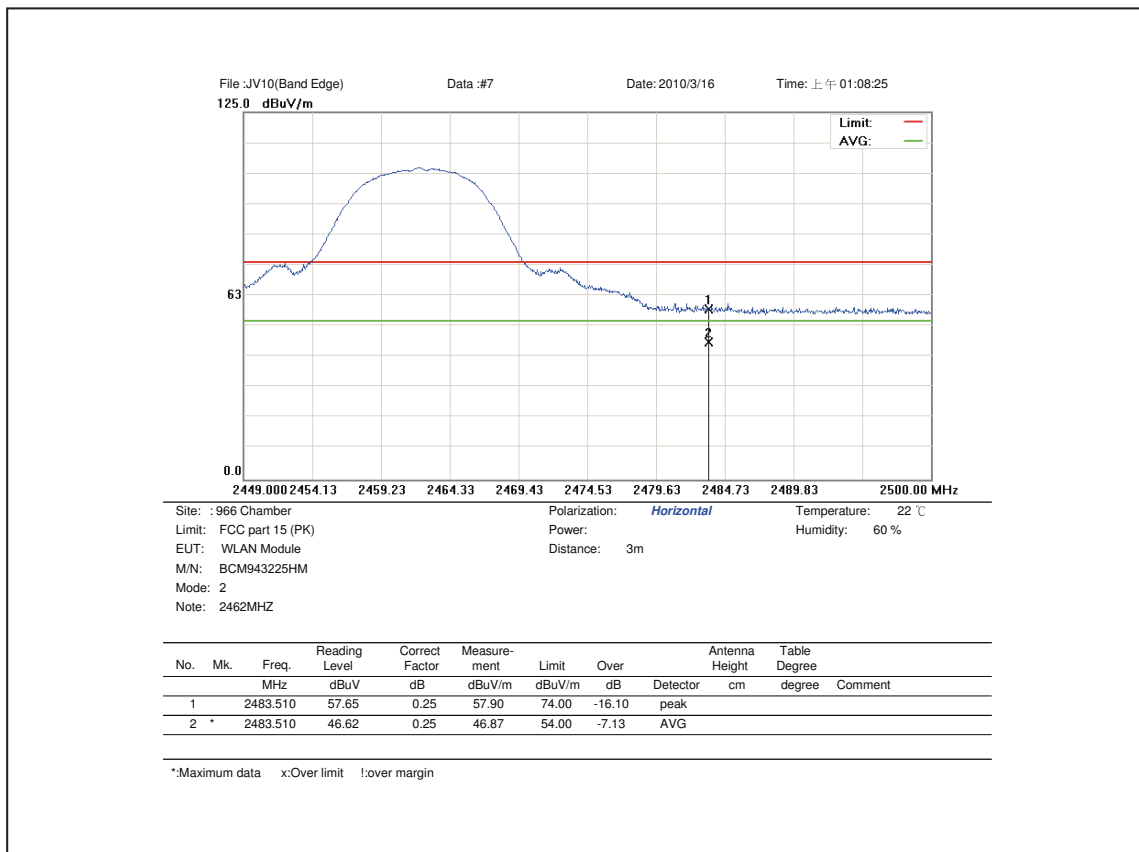
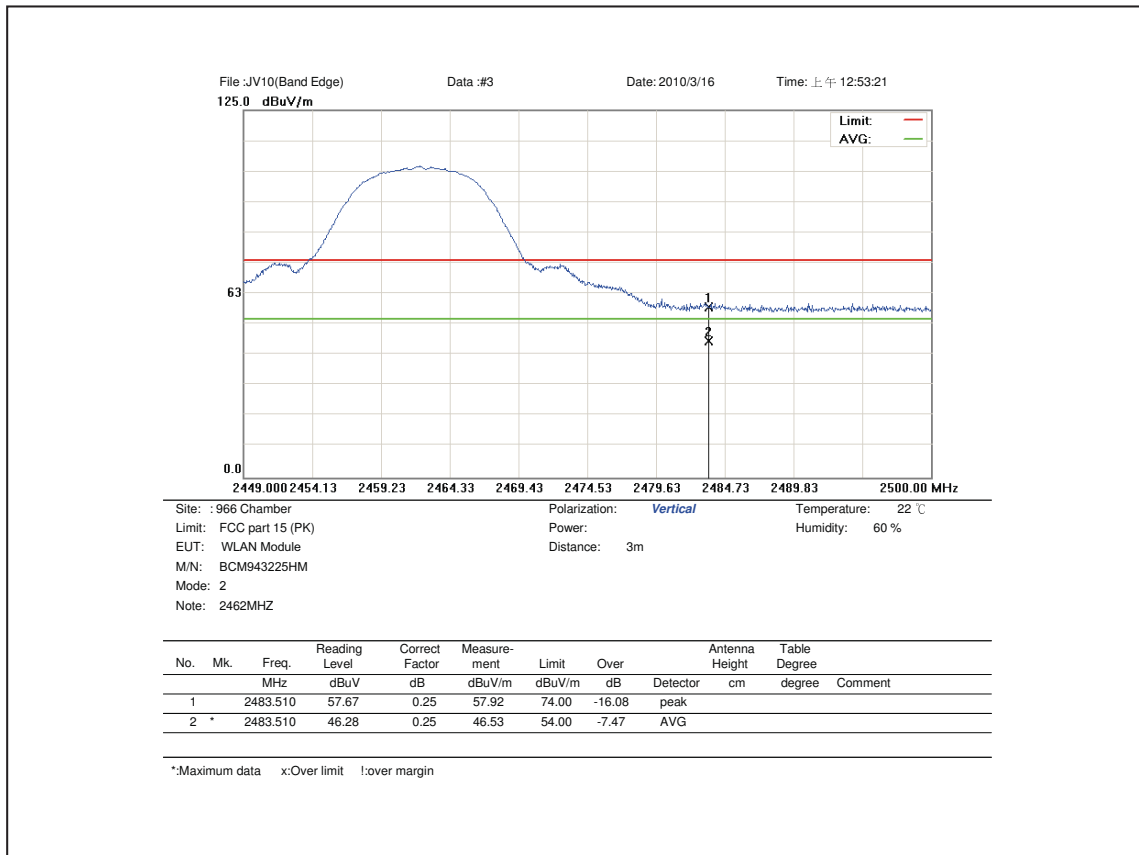
The transmitter was configured with the worst case antenna and setup to transmit at the highest channel. Then the field strength was measured at 2483.5 MHz.

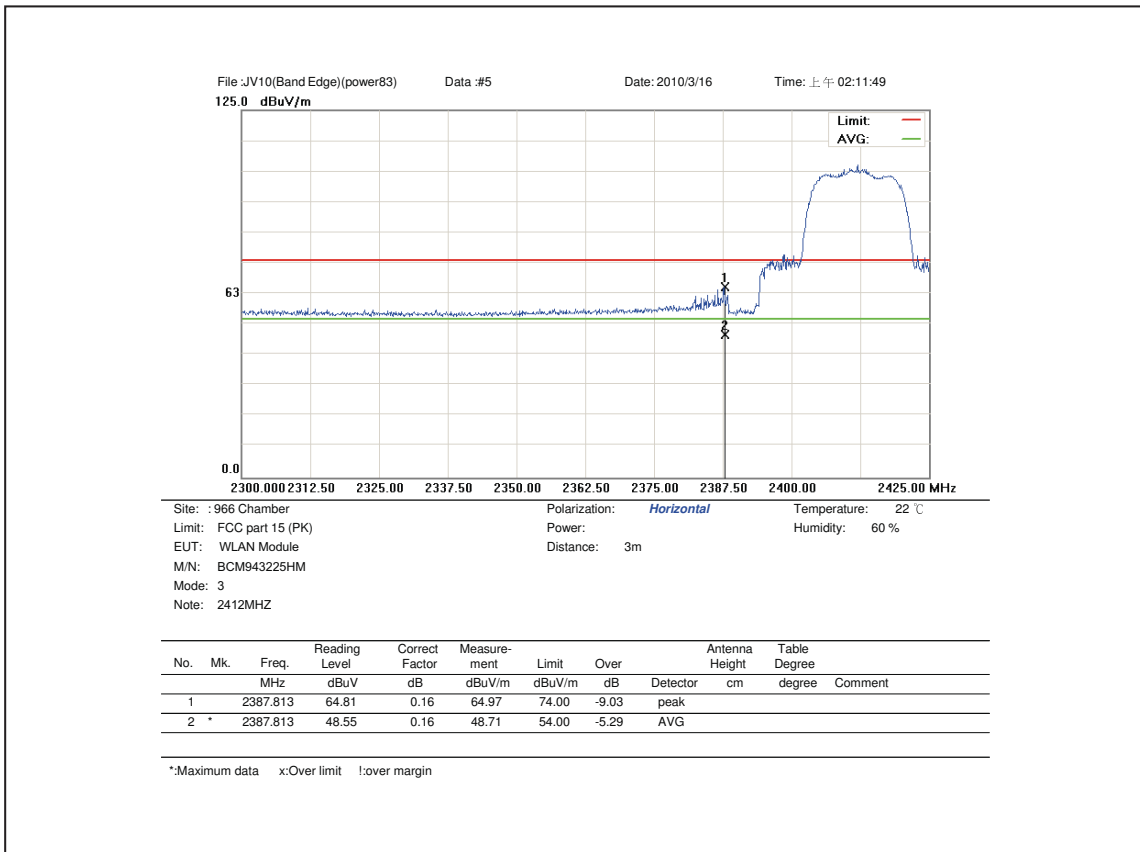
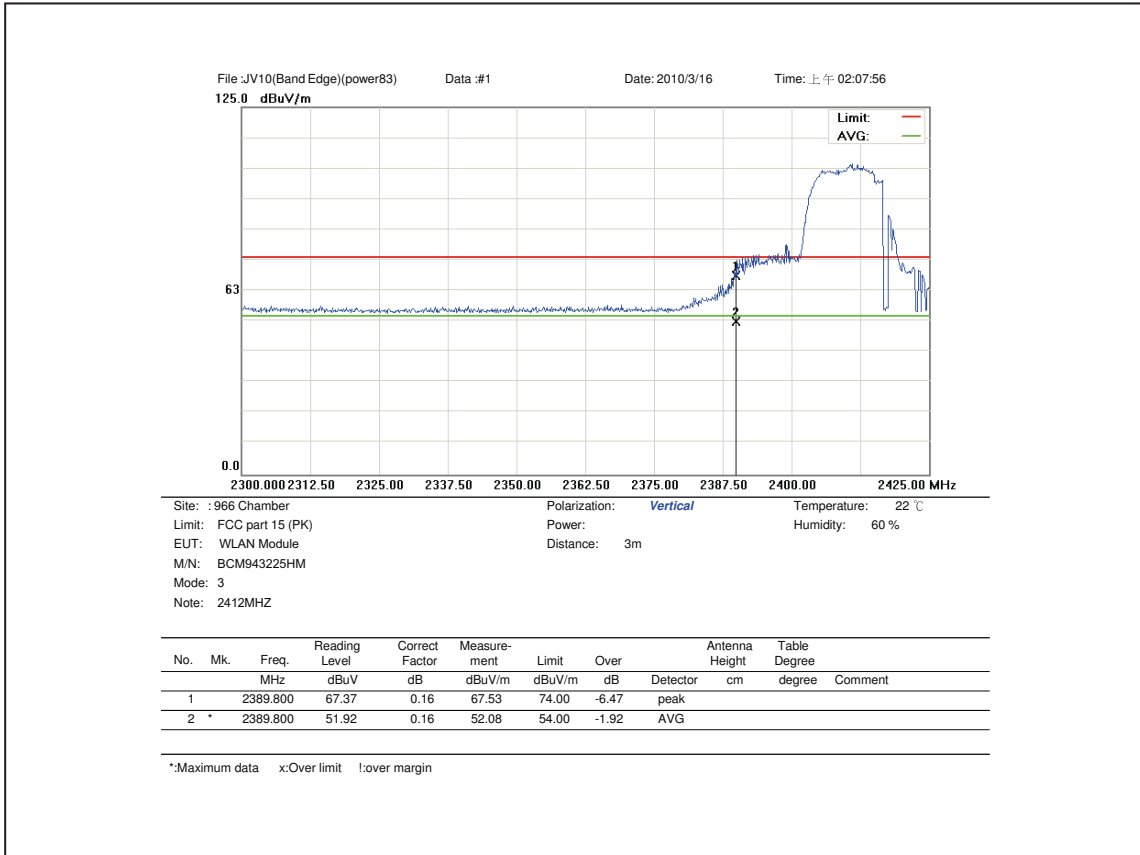
The transmitter was then configured with the worst case antenna and setup to transmit at the lowest channel. Then the field strength was measured at 2390.0 MHz. These tests were performed at 4 different bit rates.

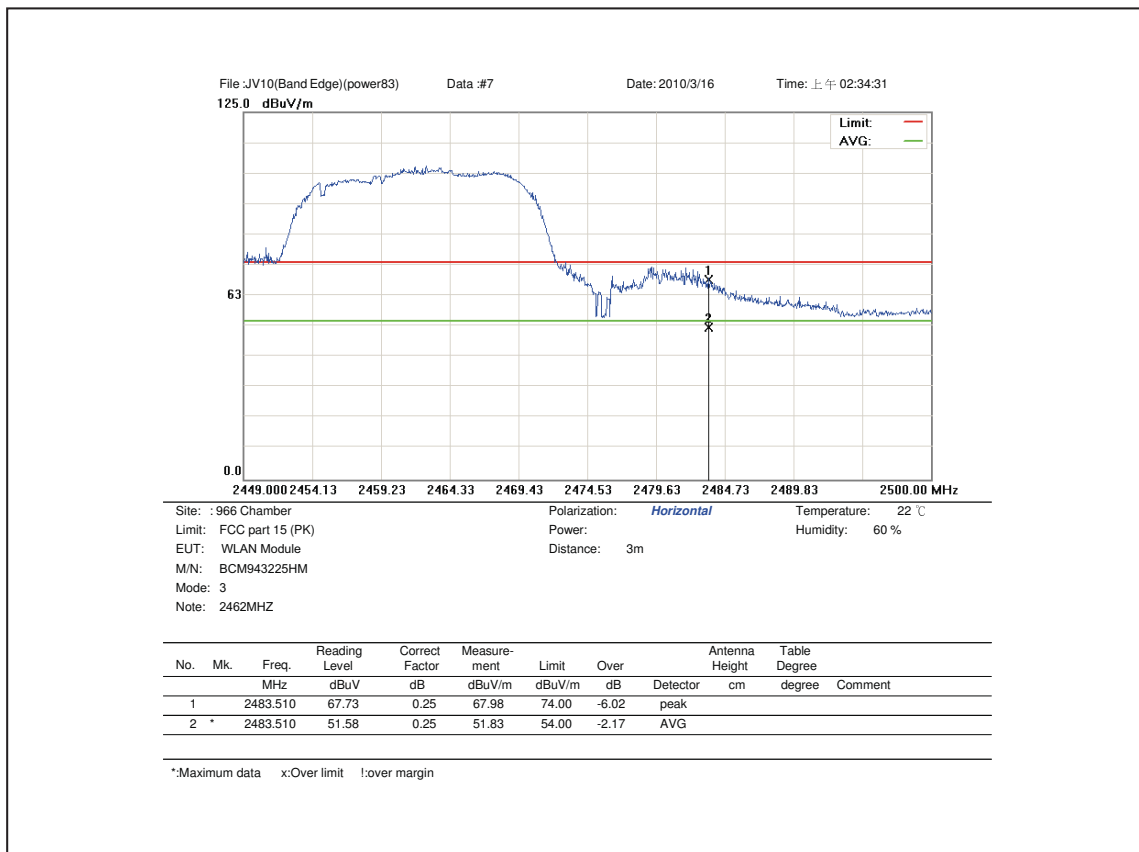
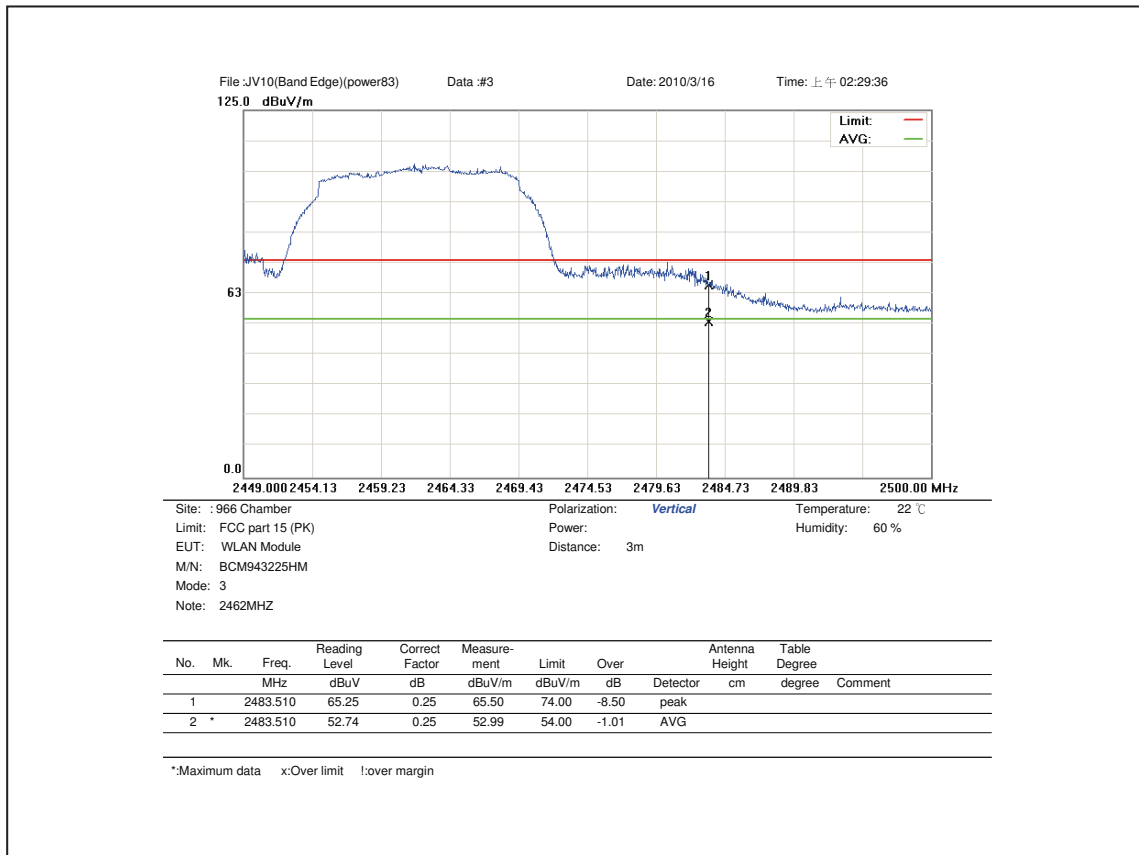
6.5. Test Graphs

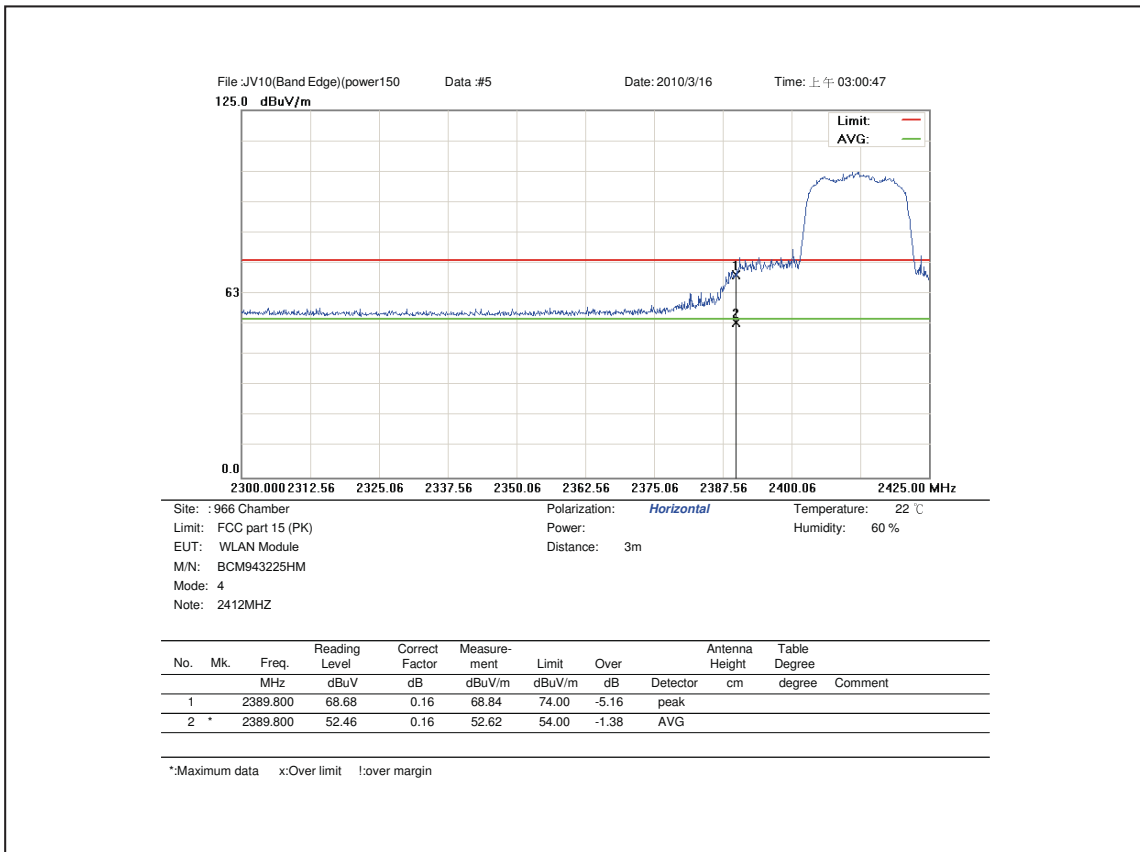
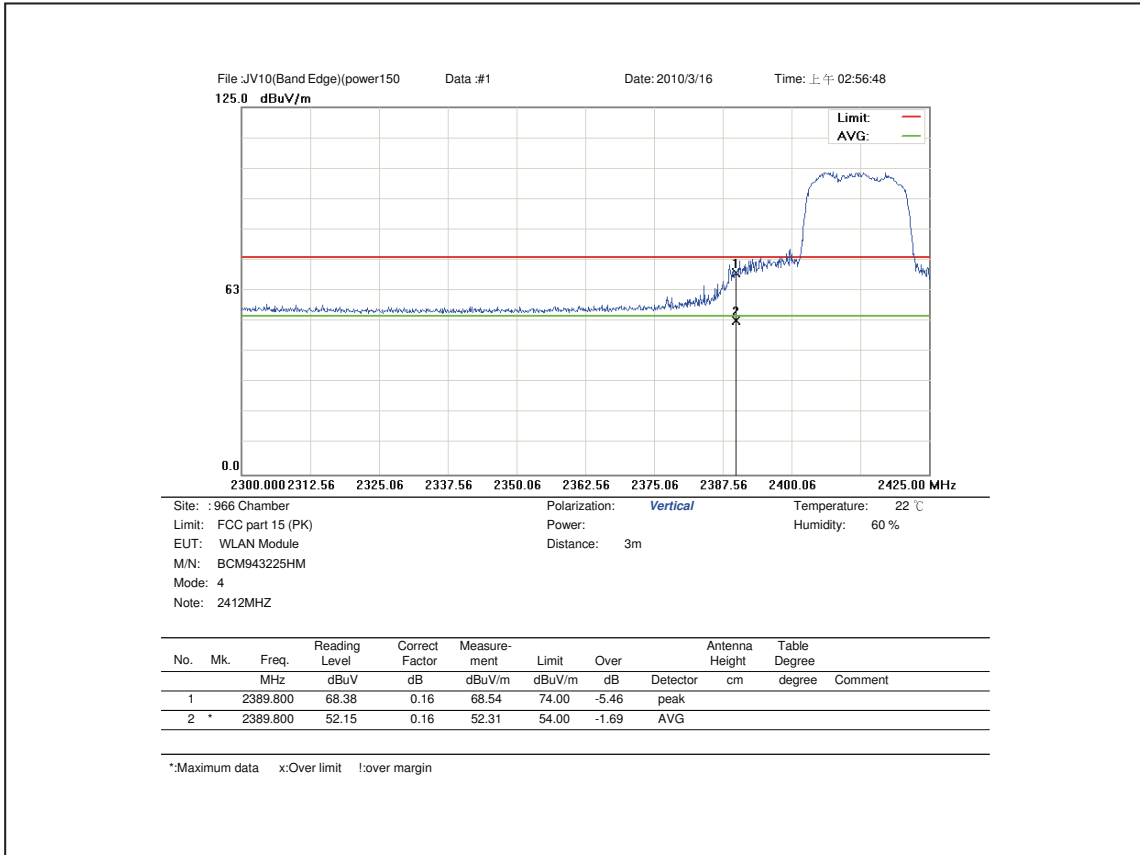
Product	WLAN Module		
Test Item	Band Edges		
Test Mode	Mode 2: IEEE 802.11b Link Mode Mode 3: IEEE 802.11g Link Mode Mode 4: draft 802.11n Standard-20MHz Link Mode Mode 5: draft 802.11n Wide-40MHz Link Mode		
Date of Test	03/15~ 03/16/2010	Test Site	TE02

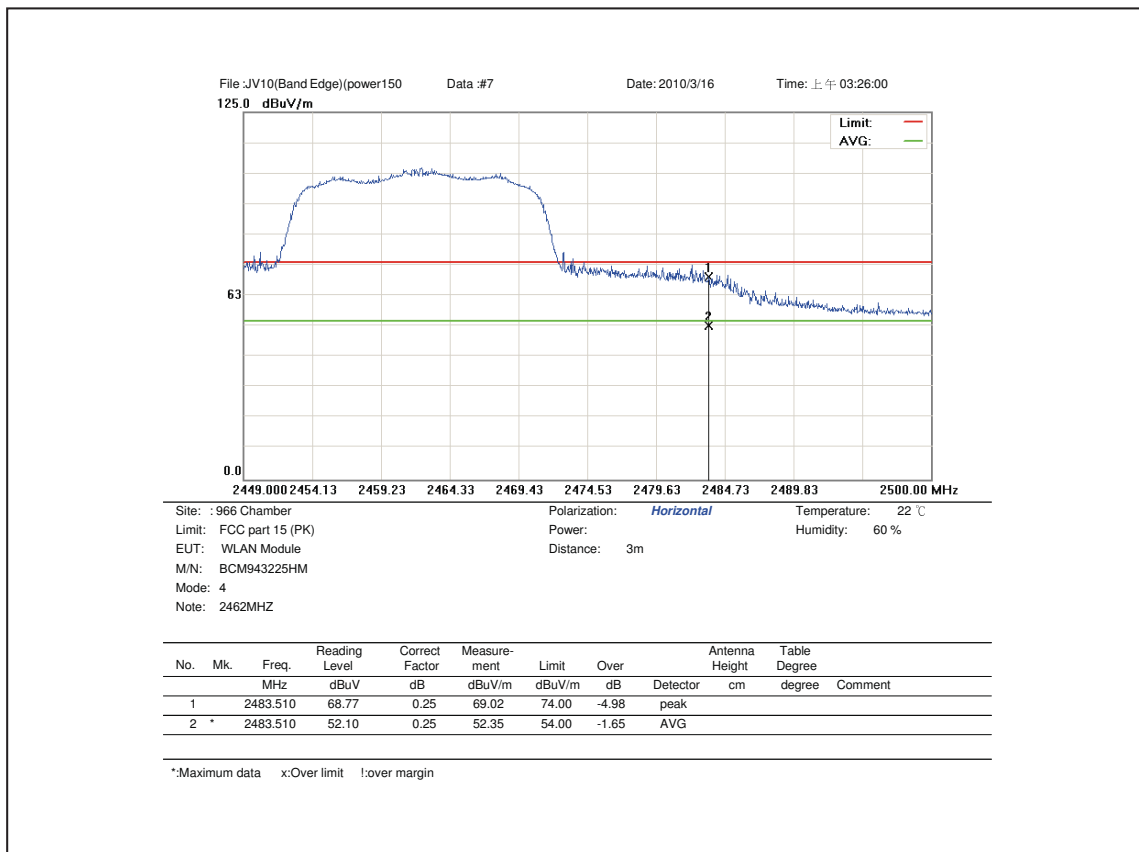
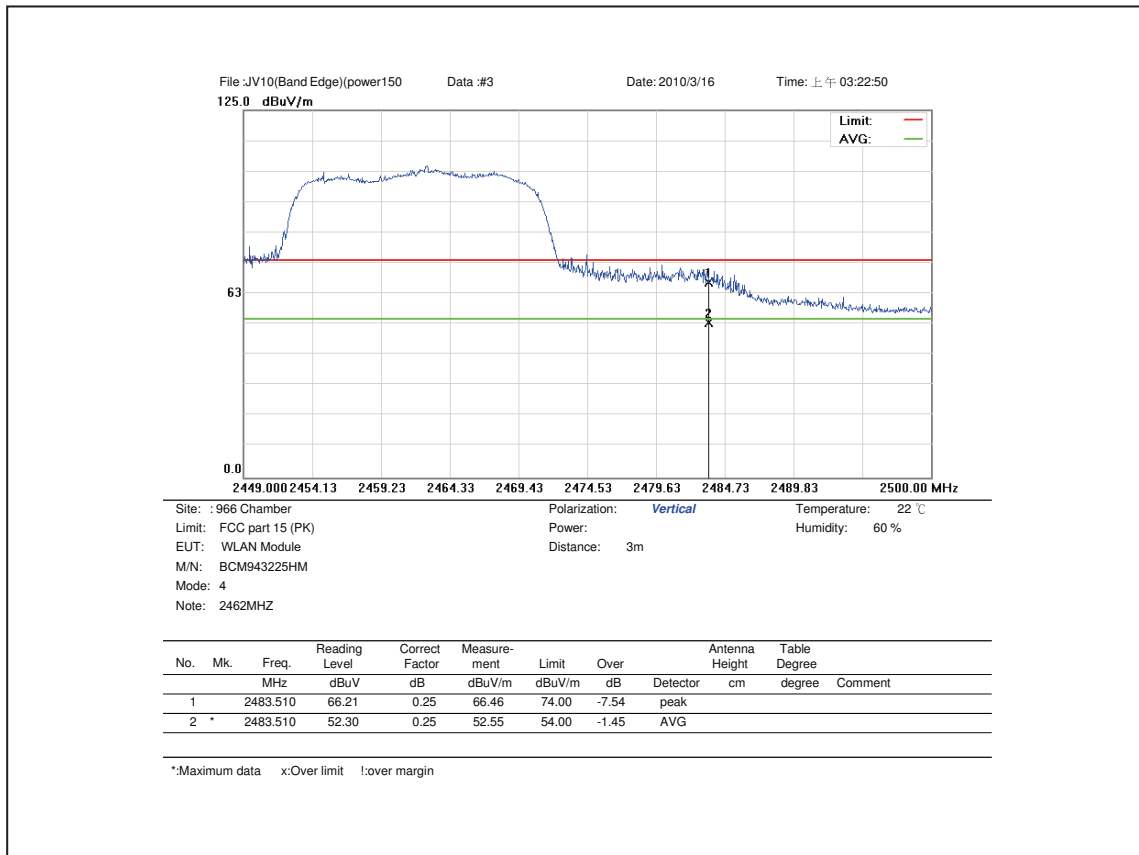


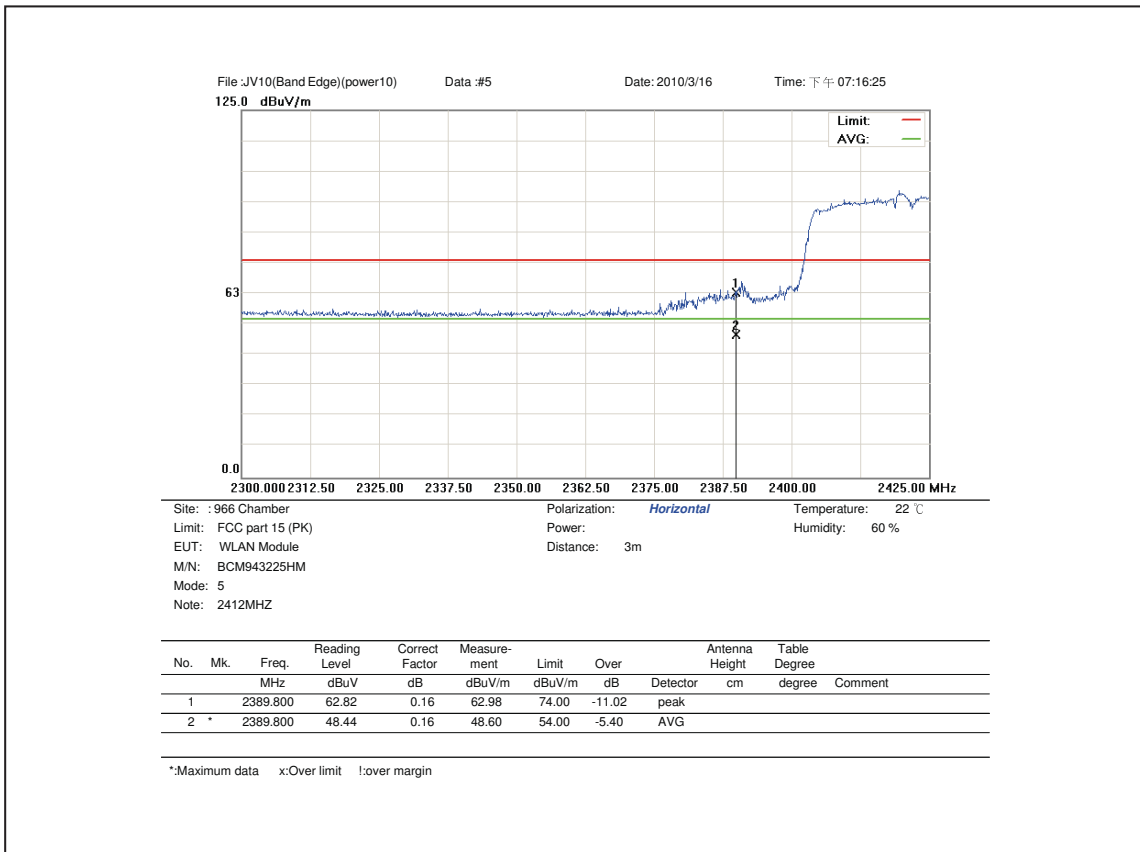
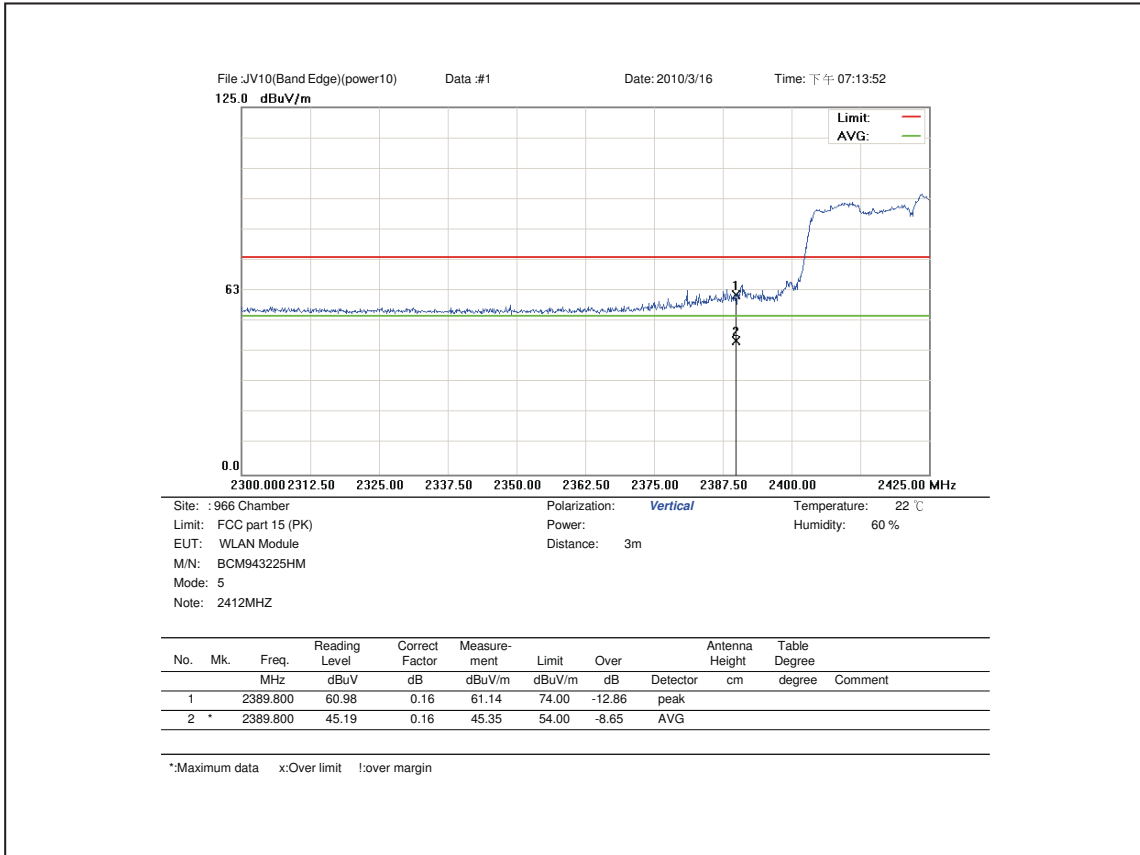


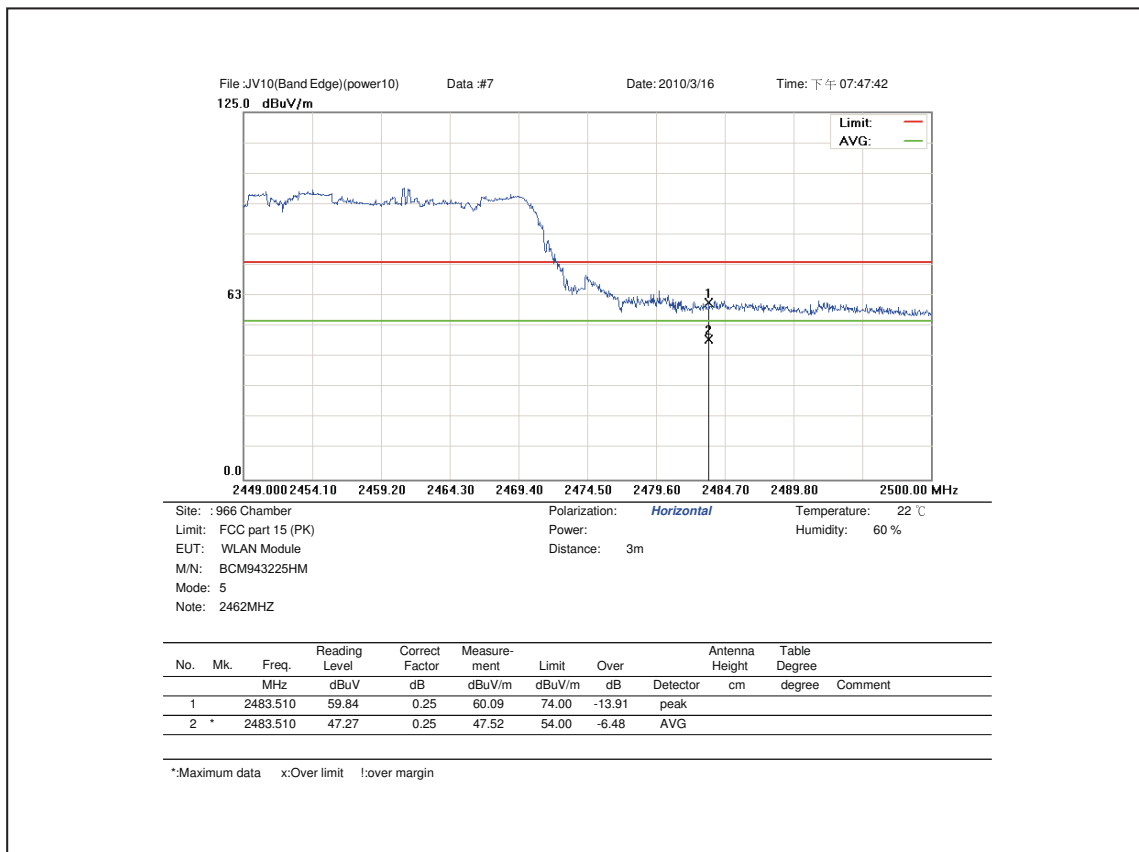
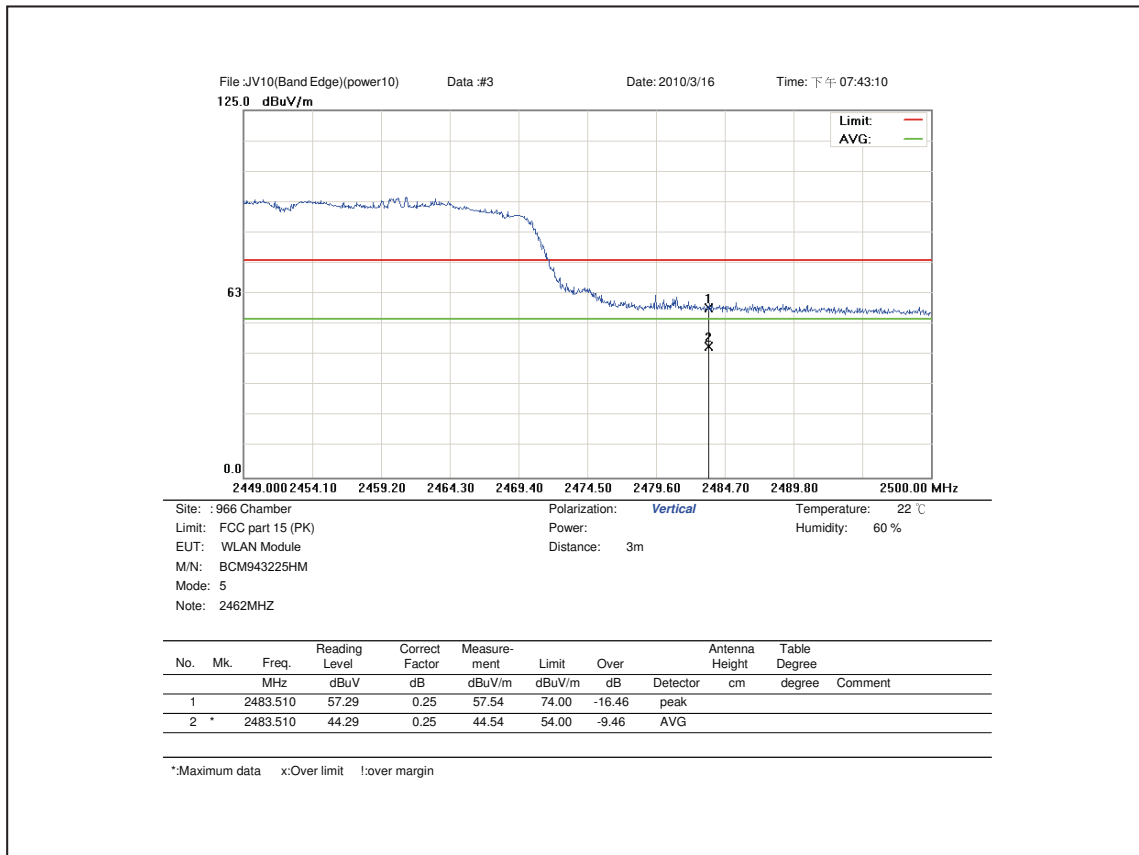












7 Antenna Requirements

7.1. 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.

7.2. Antenna Connector Construction

The antenna used in this product is **PIFA antenna**. The gain of the **main antenna is -0.71dBi and aux antenna is 0.27dBi**.